Make Life Easy

Library Manual

Closed-Loop Stepper System

AiCA-D Series

Thank you for purchasing an Autonics product.
This user manual contains information about the product and its proper use,
and should be kept in a place where it will be easy to access.

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Autonics

Preface

Thank you for purchasing Autonics product.

Please familiarize yourself with the information contained in the Safety Considerations section before using this product.

This manual contains information about the product and its proper use, and should be kept in a place where it will be easy to access.

User Manual Guide

Please familiarize yourself with the information in this manual before using the product.

- This manual provides detailed information on the product's features. It does not offer any guarantee concerning matters beyond the scope of this manual.
- This manual may not be edited or reproduced in either part or whole without permission.
- This manual is not provided as part of the product package.
  Visit our web site (www.autonics.com) to download a copy.
- The manual's content may vary depending on changes to the product's software and other unforeseen developments within Autonics, and is subject to change without prior notice.
  Upgrade notice is provided through out website.
- We contrived to describe this manual more easily and correctly. However, if there are any corrections or questions, please notify us these on our website.

User Manual Symbols

Symbol	Description
 Note	Supplementary information for a particular feature.
 Warning	Failure to follow instructions can result in serious injury or death.
 Caution	Failure to follow instructions can lead to a minor injury or product damage.
 Ex.	An example of the concerned feature's use.
※1	Annotation mark.

Safety Precautions

- Following these safety precautions will ensure the safe and proper use of the product and help prevent accidents, as well as minimizing possible hazards.
- Safety precautions are categorized as Warnings and Cautions, as defined below:

Warning	**Warning**	Failure to follow the instructions may lead to a serious injury or accident.

Caution	**Caution**	Failure to follow the instructions may lead to a minor injury or accident.

Warning

- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
  Failure to follow this instruction may result in fire, personal injury, or economic loss.
- Do not connect, repair, or inspect the unit while connected to a power source.
  Failure to follow this instruction may result in electric shock, or fire.
- Install the unit after considering counter plan against power failure.
  Failure to follow this instruction may result in personal injury, or economic loss.
- Re-supply power after min. 20 sec from disconnected power.
  Failure to follow this instruction may result in product damage or malfunction.
- Check 'Connections' before wiring.
  Failure to follow this instruction may result in fire.
- For installing the unit, ground it exclusively and use over AWG 18 (0.75mm^2) ground cable.
  Failure to follow this instruction may result in electric shock.
- Do not disassemble or modify the unit.
  Failure to follow this instruction may result in fire.
- Insulate the connector not to be exposed.
  Failure to follow this instruction may result in electric shock.
- Install the driver in the grounded housing or ground it directly.
  Failure to follow this instruction may result in personal injury, or fire.
- Do not touch the unit during or after operation for a while.
  Failure to follow this instruction may result in electric shock, or burn due to high temperature of the surface.
- Do not remove the connector during or after operation for a while.
  Failure to follow this instruction may result in electric shock, or product damage.
- Emergency stop directly when error occurs.
  Failure to follow this instruction may result in fire, or personal injury.

Caution

- When connecting the power input, use AWG 18 (0.75mm^2) cable or over.
- Install over-current prevention device (e.g. the current breaker, etc) to connect the driver with power.
  Failure to follow this instruction may result in fire.
- Check the control input signal before supplying power to the driver.
  Failure to follow this instruction may result in personal injury or product damage by unexpected signal.
- Install a safety device to maintain the vertical position after turn off the power of this driver.
  Failure to follow this instruction may result in personal injury or product damage by releasing holding torque of the motor.
- Use the unit within the rated specifications.
  Failure to follow this instruction may result in fire or product damage.
- Use dry cloth to clean the unit, and do not use water or organic solvent.
  Failure to follow this instruction may result in electric shock or fire.
- Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.
  Failure to follow this instruction may result in fire or explosion.
- The driver may overheat depending on the environment.
  Install the unit in the well ventilated place and forced cooling with a cooling fan.
  Failure to follow this instruction may result in product damage and degradation.
- Keep metal chip, dust, and wire residue from flowing into the unit.
  Failure to follow this instruction may result in fire or product damage.
- Use the designated motor only.
  Failure to follow this instruction may result in fire or product damage.

Cautions during Use

- Follow instructions in 'Cautions during Use'.
  Otherwise, it may cause unexpected accidents.
- Re-supply power after min. 1 sec from disconnected power.
- When the signal input voltage is exceeded the rated voltage, connect additional resistance at the outside.
- To extend the motor+encoder cable, use the designated the cable.
- Install the unit vertically on the alarm/status display part upper side.
- For heat radiation of the driver, install a fan.
- In case communication is unstable due to the noise generated by supplied power or peripheral device, use ferrite core at communication line.
- It is recommended to use 485 converter with the separate power.
  (Autonics product, SCM-38I, recommended)
- The thickness of cable should be same or thicker than the below specifications when connecting the cable for the connector.
  ① CN1 (power connector): AWG18
  ② CN2 (motor+encoder connector): AWG22, AWG24
  ③ CN3 (I/O connector): AWG28
- Keep the distance between power cable and signal cable more than 10cm.
- Motor vibration and noise can occur in specific frequency period.
  ①Change motor installation method or attach the damper.
  ② Use and set the gain value.
- For using motor, it is recommended to maintenance and inspection regularly.
  ①Unwinding bolts and connection parts for the unit installation and load connection
  ②Strange sound from ball bearing of the unit
  ③Damage and stress of lead cable of the unit
  ④Connection error with motor
  ⑤Inconsistency between the axis of motor output and the center, concentric (eccentric, declination)
  of the load, etc.
- This product does not prepare protection function for a motor.
- This unit may be used in the following environments.
  ① Indoors (in the environment condition rated in 'Specifications')
  ② Altitude max. 2,000m
  ③ Pollution degree 2
  ④ Installation category II

Table of Contents

1 Reset

1.1 autaica_Open

This function, autaica_Open, is for connecting to communication.

(1) Function

```
int autaica_Open(
int PortNum,
int BaudRate,
int Parity,
int Stopbit
);
```

(2) Parameter

- PortNum: Enter serial port number to be connected.
- BaudRate: Enter baudrate of serial port.

Type	Input	Description	Constant value
AICA_BAUDRATE	AICA_BAUD_9600	9,600bps	9600
	AICA_BAUD_19200	19,200bps	19200
	AICA_BAUD_38400	38,400bps	38400
	AICA_BAUD_57600	57,600bps	57600
	AICA_BAUD_115200	115,200bps	115200

- Parity: Enter parity bit.

Type	Input	Description	Constant value
AICA_PARITY	AICA_PARITY_NONE	None	0
	AICA_PARITY_EVEN	Even	1
	AICA_PARITY_ODD	Odd	2

- Stopbit: Enter stop bit.

Type	Input	Description	Constant value
AICA_STOPBIT	AICA_STOPBIT_1	STOP BIT 1	0
	AICA_STOPBIT_2	STOP BIT 2	1

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

1.2 autaica_SetBaudrate

This function, autaica_SetBaudrate, is for changing baud rate.

(1) Function

```
int autaica_SetBaudrate(
int PortNum,
char nNodeId,
int iBaudrate
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

1.3 autaica_SetParity

This function, autaica_SetParity, is for changing parity bit.

(1) Function

```
int autaica_SetParity(
int PortNum,
char nNodeId,
int iParity
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

- iParity: Enter parity bit. (0: None, 1: Even, 2: Odd)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

1.4 autaica_SetStopbit

This function, autaica_SetStopbit, is for changing stop bit.

(1) Function

```
int autaica_SetBaudrate(
int PortNum,
char nNodeId,
int iStopbit
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

- iStopbit: Enter stop bit to be changed. (0: 1, 1: 2)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

1.5 autaica_SetResponseTime

This function, autaica_SetResponseTime, is for setting response time.

(1) Function

```
int autaica_SetResponseTime(
int PortNum,
char nNodeId,
int iTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

- iTime: Select the response wait time (1 to 99) of the drive.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

1.6 autaica_SetReset

This function, autaica_SetReset is for setting reset.

(1) Function

int autaica_SetReset(
int PortNum,
char nNodeId
);

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

1.7 autaica_SetALMReset

This function, autaica_SetALMReset, is for resetting alarms.

(1) Function

```
int autaica_SetALMReset(
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

1.8 autaica_ClrActualPos

This function, autaica_ClrActualPos, is for resetting actual coordinate value (actual motor position coordinate) as “0”.

(1) Function

```
int autaica_ClrActualPos(
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

1.9 autaica_ClrLogicalPos

This function, autaica_ClrActualPos is for resetting command position coordinate value (motor position coordinate by command) as “0”.

(1) Function

```
int autaica_ClrLogicalPos(
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

2 Stop, End

2.1 autaica_Close

This function, autaica_Close, is for disconnecting communication.

(1) Function

```
int autaica_Close(
int PortNum
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

2.2 autaica_InstantStop

This function, autaica_InstantStop, is for instant stopping without acceleration/deceleration.

(1) Function

```
int autaica_InstantStop(
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

2.3 autaica_SlowStop

This function, autaica_SlowStop, is for decelerating and stopping according to the set deceleration time.

(1) Function

```
int autaica_SlowStop(
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

2.4 autaica_SetEmgStop

This function, autaica_SetEmgStop, is for emergency stopping and generating emergency stop alarm.

(1) Function

```
int autaica_SetEmgStop(
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3 Parameter

3.1 General settings

3.1.1 autaica_SetLmtStopMod

This function, autaica_SetLmtStopMod, is for setting limit stop mode.

(1) Function

```
int autaica_SetLmtStopMod(
int PortNum,
char nNodeId,
BOOL bInstant
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
- bInstant: Select stop method. (0: instant stop, 1: deceleration stop)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.2 autaica_SetSCurve

This function, autaica_SetSCurve, is for setting to use S Curve(S curve acceleration/deceleration) for AiCA drive.

(1) Function

```
int autaica_SetSCurve (
int PortNum,
char nNodeId,
BOOL bEnable
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bEnable: Select enable/disable of S Curve(S curve acceleration/deceleration). (0: Disable, 1: Enable)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.3 autaica_SetInputFilter

This function, autaica_SetInputFilter, is for setting software filter of I/O except “IN7 to IN8”, “±Limit”, “ORG”, “SD”.

(1) Function

```
int autaica_SetInputFilter (
int PortNum,
char nNodeId,
BOOL bFilter
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bFilter: Select software filter value. (0: 10ms, 1: 1.5ms)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.4 autaica_SetSofLmtEnable

This function, autaica_SetSofLmtEnable, is for setting enable/disable of Software Limit(software limit).

(1) Function

```
int autaica_SetSofLmtEnable (
int PortNum,
char nNodeId,
BOOL bEnable
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bEnable: Select enable/disable of Software Limit(software limit). (0: Disable, 1: Enable)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.5 autaica_SetPowHomStart

This function, autaica_SetPowHomStart, is for home search automatically when power is ON.

(1) Function

```
int autaica_SetPowHomStart (
int PortNum,
char nNodeId,
BOOL bEnable
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bEnable: Select enable/disable of the command for home search automatically when power is ON. (0: Disable, 1: Enable)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.6 autaica_SetPowPgmStart

This function, autaica_SetPowPgmStart, is for starting by the registered porgram when power is ON.

(1) Function

```
int autaica_SetPowPgmStart (
int PortNum,
char nNodeId,
BOOL bEnable
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bEnable: Select enable/disable of the command for starting program automatically when power is ON. (0: Disable, 1: Enable)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.7 autaica_SetInputStart

This function, autaica_SetInputStart, is for setting start signal to drive the set drive mode (index/ program mode)of AiCA.

(1) Function

```
int autaica_SetInputStart (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Select start signal level of index/program mode. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.8 autaica_SetInputStep0 / autaica_SetInputStep1

This function, autaica_SetInputStep0, is for setting Step0/+Run/+Jog (designate step 0/+continuous/+jog) input signal.

This function, autaica_SetInputStep1, is for setting Step1/-Run/-Jog(designate step 1/-continuous/-jog) input signal.

(1) Function: autaica_SetInputStep0

```
int autaica_SetInputStep0 (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Function: autaica_SetInputStep1

```
int autaica_SetInputStep1 (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Select each logic level of Step0, 1/±Run/±Jog(designate step 0, 1/±continuous/±jog) (0: Low, 1: High)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.9 autaica_SetInputStep2 / autaica_SetInputStep3

This function, autaica_SetInputStep2, is for setting Step2/SSP0(designate step 2/start drive speed 0) input signal.

This function, autaica_SetInputStep3, is for setting Step3/SSP1(designate step 3/start drive speed 1) input signal.

(1) Function: autaica_SetInputStep2

```
int autaica_SetInputStep2 (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Function: autaica_SetInputStep3

```
int autaica_SetInputStep3 (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Select each logic level of Step2, 3/SSP0, 1(designate step 2, 3/start drive speed 0, 1).
  (0: Low, 1: High)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.10 autaica_SetInputStep4 / autaica_SetInputStep5

This function, autaica_SetInputStep4, is for setting Step4/MSP0(designate step 4/max. drive speed 0) input signal.

This function, autaica_SetInputStep5, is for setting Step5/MSP1(designate step 5/max. drive speed 1) input signal.

(1) Function: autaica_SetInputStep4

```
int autaica_SetInputStep4 (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Function: autaica_SetInputStep5

```
int autaica_SetInputStep5 (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Select each logic level of Step4, 5/MSP0, 1(designate step 4, 5/max. drive speed 0, 1).
  (0: Low, 1: High)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.11 autaica_SetInputMODE0 / autaica_SetInputMODE1

This function, autaica_SetInputMODE0, is for setting MD0/HMD0(drive mode 0/home search mode 0) input signal.

This function, autaica_SetInputMODE1, is for setting MD1/HMD1(drive mode 1/home search mode 1) input signal.

(1) Function: autaica_SetInputMODE0

```
int autaica_SetInputMode0 (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Function: autaica_SetInputMODE1

```
int autaica_SetInputMode1 (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Select each logic level of MD0, 1/HMD0, 1(drive mode 0, 1/home search mode 0, 1).
  (0: Low, 1: High)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.12 autaica_ SetInitAngularDir

This function, autaica_SetInitAngularDir, is for selecting Initial Angular Dir direction.

(1) Function

```
int autaica_SetInitAngularDir (
int PortNum,
char nNodeId,
BOOL bMode
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bMode: Select Initial Angular Dir direction. (0: CW, 1: CCW)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.13 autaica_SetInputPAUSE

This function, autaica_SetInputPAUSE, is for setting pause input signal.

(1) Function

```
int autaica_SetInputPAUSE (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Select signal level of pause. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.14 autaica_SetInputSTOP

This function, autaica_SetInputSTOP, is for setting stop input signal.

(1) Function

```
int autaica_SetInputSTOP (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- bActLev: Select signal level of stop. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.15 autaica_SetInputEMG

This function, autaica_SetInputEMG, is for setting EMG(emergency stop) input signal.

(1) Function

```
int autaica_SetInputEMG (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Select signal level of EMG(emergency stop). (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.16 autaica_SetInputHOME

This function, autaica_SetInputHOME, is for setting home(home search) input signal.

(1) Function

```
int autaica_SetInputHOME (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Select signal level of Home(home search). (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.17 autaica_SetInputALMReset

This function, autaica_SetInputALMReset, is for setting alarm reset input signal.

(1) Function

```
int autaica_SetInputALMReset (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Select signal level of alarm reset. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.18 autaica_SetInputServoOn

This function, autaica_SetInputServoOn, is for setting Servo ON/OFF input signal.

(1) Function

```
int autaica_SetInputServoOn (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- bActLev: Select signal level of Servo ON/OFF signal level. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.19 autaica_SetLmtActLev

This function, autaica_SetLmtActLev, is for setting ±Limit(± hardware limit) input signal.

(1) Function

```
int autaica_SetLmtActLev (
int PortNum,
char nNodeId,
BOOL bLmtActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bLmtActLev: Select signal level of ±Limit(±hardware limit). (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.20 autaica_SetInputLev0 to autaica_SetInputLev8

This function, autaica_SetInputLev0 to autaica_SetInputLev8, is for setting IN0 to IN8(general input 0 to 8) input signal.

(1) Function

```
int autaica_SetInputLev0 to 8 (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Select signal level of IN0 to IN8(general input 0 to 8). (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.21 autaica_SetSDMode

This function, autaica_SetSDMode, is for setting SD(deceleration mode) input signal.

(1) Function

```
int autaica_SetSDMode (
int PortNum,
char nNodeId,
BOOL bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Select signal level of SD(deceleration mode). (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.22 autaica_SetMotorDir

This function, autaica_SetMotorDir, is for setting motro rotation direction.

(1) Function

```
int autaica_SetMotorDir (
int PortNum,
char nNodeId,
BOOL bDir
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bDir: Select motor rotation direction. (0: CW, 1: CCW)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.23 autaica_SetOutputMode

This function, autaica_SetOutputMode, is for setting output mode during alarm.

(1) Function

```
int autaica_SetOutputMode (
int PortNum,
char nNodeId,
BOOL bMode
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bMode: Select the output mode during alarm. (0: Maintain, 1: Reset)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.24 autaica_GetLmtStopMod

This function, autaica_GetLmtStopMod, is for loading the set value of parameter limit stop mode.

(1) Function

```
int autaica_GetLmtStopMod (
int PortNum,
char nNodeId,
BOOL *bInstant
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bInstant: Load the set value of parameter limit stop mode. (0: Instant, 1: Slow)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.25 autaica_GetSCurve

This function, autaica_GetSCurve, is for loading the enable/disable value of S Curve(S curve acceleration/deceleration) of the set parameter.

(1) Function

```
int autaica_GetSCurve (
int PortNum,
char nNodeId,
BOOL *bEnable
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bInstant: Load the enable/disable value of S Curve(S curve acceleration/deceleration). (0: Disable, 1: Enable)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.26 autaica_GetInputFilter

This function, autaica_GetInputFilter, is for loading the filter value of I/O Input software of the set parameter.

(1) Function

```
int autaica_GetInputFilter (
int PortNum,
char nNodeId,
BOOL *bFilter
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bFilter: Load filter value of I/O Input software. (0: 10ms, 1: 1.5ms)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.27 autaica_GetSofLmtEnable

This function, autaica_GetSofLmtEnable, is for loading the enable/disable value of Software Limit(software limit) of the set parameter.

(1) Function

```
int autaica_GetSofLmtEnable (
int PortNum,
char nNodeId,
BOOL *bEnable
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bEnable: Load the enable/disable value of Software Limit(software limit). (0: Disable, 1: Enable)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.28 autaica_GetPowHomStart

This function, autaica_GetPowHomStart, is for loading the enable/disable value of home search automatically when power is ON of the set parameter.

(1) Function

```
int autaica_GetPowHomStart (
int PortNum,
char nNodeId,
BOOL *bEnable
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bEnable: Load the enable/disable value of home search automatically when power is ON. (0: Disable, 1: Enable)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.29 autaica_GetPowPgmStart

This function, autaica_GetPowPgmStart, is for loading the enable/disable value of program starts automatically of the set parameter.

(1) Function

```
int autaica_GetPowPgmStart (
int PortNum,
char nNodeId,
BOOL *bEnable
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bEnable: Load the enable/disable value of program starts automatically. (0: Disable, 1: Enable)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.30 autaica_GetInputStart

This function, autaica_GetInputStart, is for loading the level value of start(drive start) input signal input signal of the set parameter.

(1) Function

```
int autaica_GetInputStart (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of start(drive start) input signal. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.31 autaica_GetInputStep0 / autaica_GetInputStep1

This function, autaica_GetInputStep0, is for loading the level value of Step0/+Run/+Jog (designate step 0/+continuous/+jog) input signal of the set parameter.

This function, autaica_GetInputStep1, is for loading the level value of Step1/-Run/-Jog (designate step 1/-continuous/-jog) input signal of the set parameter.

(1) Function: autaica_GetInputStep0

```
int autaica_GetInputStep0 (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Function: autaica_GetInputStep1

```
int autaica_GetInputStep1 (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the signal level value of Step0, 1/±Run/±Jog(designate step 0, 1/±continuous/±jog) input signal. (0: Low, 1: High)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.32 autaica_GetInputStep2 / autaica_GetInputStep3

This function, autaica_GetInputStep2, is for loading the level value of Step2/SSP0(designate step 2/start drive speed 0) input signal of the set parameter.

This function, autaica_GetInputStep3, is for loading the level value of Step3/SSP1(designate step 3/start drive speed 1) input signal of the set parameter.

(1) Function: autaica_GetInputStep2

```
int autaica_GetInputStep2 (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Function: autaica_GetInputStep3

```
int autaica_GetInputStep3 (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of Step2, 3/SSP0, 1(designate step 2, 3/start drive speed 0, 1) input signal. (0: Low, 1: High)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.33 autaica_GetInputStep4 / autaica_GetInputStep5

This function, autaica_GetInputStep4, is for loading the level value of Step4/MSP0(designate step 4/max. drive speed 0) input signal of the set parameter.

This function, autaica_GetInputStep5, is for loading the level value of Step5/MSP1(designate step 5/max. drive speed 1) input signal of the set parameter.

(1) Function: autaica_GetInputStep4

```
int autaica_GetInputStep4 (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Function: autaica_GetInputStep5

```
int autaica_GetInputStep5 (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of Step4, 5/MSP0, 1(designate step 4, 5/max. drive speed 0, 1) input signal. (0: Low, 1: High)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.34 autaica_GetInputMODE0 / autaica_GetInputMODE1

This function, autaica_GetInputMODE0, is for loading the level value of MD0/HMD0(drive mode 0/home search mode 0) input signal of the set parameter.

This function, autaica_GetInputMODE1, is for loading the level value of MD1/HMD1(drive mode 1/home search mode 1) input signal of the set parameter.

(1) Function: autaica_GetInputMODE0

```
int autaica_GetInputMODE0 (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Function: autaica_GetInputStep5

```
int autaica_GetInputMODE1 (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of MD0, 1/HMD0, 1(drive mode 0, 1/home search mode 0, 1) input signal (0: Low, 1: High)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.35 autaica_Get InitAngularDir

This function, autaica_GetInitAngularDir, is for loading the direction of Initial Angular Dir.

(1) Function

```
Int autaica_GetInitAngularDir (
int PortNum,
char nNodeId,
BOOL * bMode
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bMode: Load the direction of Initial Angular Dir. (0: CW, 1: CCW)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.36 autaica_GetInputPAUSE

This function, autaica_GetInputPAUSE, is for loading the level value of pause input signal of the set parameter.

(1) Function

```
int autaica_GetInputPAUSE (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of pause input signal. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.37 autaica_GetInputSTOP

This function, autaica_GetInputSTOP, is for loading the level value of stop input signal of the set parameter.

(1) Function

```
int autaica_GetInputSTOP (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of stop input signal. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.38 autaica_GetInputEMG

This function, autaica_GetInputEMG, is for loading the level value of EMG(emergency stop) input signal of the set parameter.

(1) Function

```
int autaica_GetInputEMG (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of EMG(emergency stop) input signal. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.39 autaica_GetInputHOME

This function, autaica_GetInputHOME, is for loading the level value of home (home search) input signal of the set parameter.

(1) Function

```
int autaica_GetInputHOME (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of Home(home search) input signal. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.40 autaica_GetInputALMReset

This function, autaica_GetInputALMReset, is for loading the level value of alarm reset input signal of the set parameter.

(1) Function

```
int autaica_GetInputALMReset (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of alarm reset input signal. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.41 autaica_GetInputServoOn

This function, autaica_GetInputServoOn, is for loading the level value of Servo ON/OFF input signal of the set parameter.

(1) Function

```
int autaica_GetInputServoOn (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of Servo ON/OFF input signal. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.42 autaica_GetLmtActLev

This function, autaica_GetLmtActLev, is for loading the level value of ±Limit(±hardware limit) input signal of the set parameter.

(1) Function

```
int autaica_GetLmtActLev (
int PortNum,
char nNodeId,
BOOL * bLevel
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bLevel: Load the level value of ±Limit(±hardware limit) input signal. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.43 autaica_GetInputLev0 to autaica_GetInputLev8

This function, autaica_GetInputLev0 to autaica_GetInputLev8, is for loading the level value of IN0 to IN8(general input 0 to 8) input signal.

(1) Function

```
int autaica_GetInputLev0 to 8 (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of IN0 to IN8(general input 0 to 8) input signal. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.44 autaica_GetSDMode

This function, autaica_GetSDMode , is for loading the level value of SD(deceleration mode) input signal.

(1) Function

```
int autaica_GetSDMode (
int PortNum,
char nNodeId,
BOOL * bActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load the level value of SD(deceleration mode) input signal. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.45 autaica_GetMotorDir

This function, autaica_GetMotorDir , is for loading the set value of motor rotation direction.

(1) Function

```
int autaica_GetMotorDir (
int PortNum,
char nNodeId,
BOOL * bDir
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bDir: Load the set value of motor rotation direction. (0: CW, 1: CCW)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.46 autaica_GetOutputMode

This function,autaica_GetOutputMode, is for loading the set value of output mode during alarm.

(1) Function

```
int autaica_GetOutputMode (
int PortNum,
char nNodeId,
BOOL * bMode
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bMode: Load the set value of output mode during alarm. (0: Maintain, 1: Reset)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.1.47 autaica_GetBitSetGroup

This function,autaica_GetBitSetGroup, is for loading all data set values of the bit setting group.

(1) Function

```
int autaica_GetBitSetGroup (
int PortNum,
char nNodeId,
AICA_BITSET *pActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bActLev: Load all data set values of bit setting group.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2 Operation setting

3.2.1 autaica_SetInitStartSpd

This function,autaica_SetInitStartSpd, is for setting initial value of start drive speed (pps) for jog mode, continuous mode, absolute/relative position drive.

(1) Function

```
int autaica_SetInitStartSpd(
int PortNum,
char nNodeId,
long lStartSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lStartSpd: Set start drive speed. (Set range: 1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.2 autaica_SetInitMaxSpd

This function,autaica_SetInitMaxSpd, is for setting initial value of max. drive speed (pps) for jog mode, continuous mode, absolute/relative position drive.

(1) Function

```
int autaica_SetInitMaxSpd(
int PortNum,
char nNodeId,
long lMaxSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- IMaxSpd: Set max. drive speed. (Set range: 1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.3 autaica_SetInitAccTime

This function,autaica_SetInitAccTime, is for setting initial value of acceleration time for jog mode, continuous mode, absolute/relative position drive.

(1) Function

```
int autaica_SetInitAccTime (
int PortNum,
char nNodeId,
int iAccTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iAccTime: Set acceleration time. (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.4 autaica_SetInitDecTime

This function,autaica_SetInitAccTime, is for setting initial value of deceleration time for jog mode, continuous mode, absolute/relative position drive.

(1) Function

```
int autaica_SetInitDecTime (
int PortNum,
char nNodeId,
int iDecTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iDecTime: Set deceleration time. (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.5 autaica_SetInitPosition

This function,autaica_SetInitPosition, is for setting initial value of position(target position) for absolute/relative position drive.

(1) Function

```
int autaica_SetInitPosition (
int PortNum,
char nNodeId,
long lPos
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lPos: Set position(target position). (Set range: -2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.6 autaica_SetInitPgmStep

This function, autaica_SetInitPgmStep, is for setting initial value of start step for index mode, program mode drive.

(1) Function

```
int autaica_SetInitPgmStep (
int PortNum,
char nNodeId,
int iStep
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iStep: Set start step. (Set range: 0 to 255)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.7 autaica_SetInitDrvSet

This function, autaica_SetInitDrvSet, is for setting initial value of start drive speed (pps), max. drive speed (pps), acceleration time(msec), deceleration time(msec) for jog mode, continuous mode, absolute/relative position drive.

(1) Function

```
int autaica_SetInitDrvSet (
int PortNum,
char nNodeId,
long lStartSpd,
long lMaxSpd,
int iAccTime,
int iDecTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lStartSpd: Set start drive speed. (Set range: 1 to 600,000)
- lMaxSpd: Set max. drive speed. (Set range: 1 to 600,000)
- iAccTime: Set acceleration time. (Set range: 1 to 10,000)
- iDecTime: Set deceleration time. (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.8 autaica_ SetMotorGain

This function, autaica_SetMotorGain, is for selecting Motor Gain.

(1) Function

```
int autaica_SetMotorGain (
int PortNum,
char nNodeId,
int iMGain
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iMGain: Select the gain of level. (Set range: 0 to 30, FINE Gain: 31)

  FINE Gain(31) is available to set P, I Gain as desired.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.9 autaica_ SetMotorGainP

This function, autaica_SetMotorGainP, is for setting P Gain of Motor Gain when iMGain of autaica_SetMotorGain function is set as FINE Gain.

(1) Function

```
int autaica_SetMotorGainP (
int PortNum,
char nNodeId,
int iMGainP
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iMGainP: Set the P Gain value as desired. (Set range: 0.000 to 32.000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.10 autaica_ SetMotorGainI

This function, autaica_SetMotorGainI, is for setting I Gain of Motor Gain when iMGain of autaica_SetMotorGain function is set as FINE Gain.

(1) Function

```
int autaica_SetMotorGainI (
int PortNum,
char nNodeId,
double iMGainI
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iMGainI: Set the I Gain value as desired. (Set range: 0.000 to 32.000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.11 autaica_SetStrSpdChg

This function, autaica_SetStrSpdChg, is for overriding start drive speed (pps) during drive.

(1) Function

```
int autaica_SetStrSpdChg (
int PortNum,
char nNodeId,
long lStartSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lStartSpd: Set start drive speed. (Set range: 1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.12 autaica_SetMaxSpdChg

This function, autaica_SetMaxSpdChg, is for overriding max. drive speed (pps) during drive.

(1) Function

```
int autaica_SetMaxSpdChg (
int PortNum,
char nNodeId,
long lMaxSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- lMaxSpd: Set max. drive speed. (Set range: 1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.13 autaica_GetInitStartSpd

This function, autaica_GetInitStartSpd, is for loading the initial value of the set start drive speed (pps).

(1) Function

```
int autaica_GetInitStartSpd (
int PortNum,
char nNodeId,
long *IStartSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- IStartSpd: Load start drive speed. (Set range: 1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.14 autaica_GetInitMaxSpd

This function, autaica_GetInitMaxSpd, is for loading the initial value of the set max. drive speed (pps).

(1) Function

```
int autaica_GetInitMaxSpd (
int PortNum,
char nNodeId,
long *IMaxSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- IMaxSpd: Load max. drive speed. (Set range: 1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.15 autaica_GetInitAccTime

This function, autaica_GetInitAccTime, is for load the set value of acceleration time(msec).

(1) Function

```
int autaica_GetInitAccTime (
int PortNum,
char nNodeId,
long *iAccTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iAccTime: Load acceleration time. (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.16 autaica_GetInitDecTime

This function, autaica_GetInitDecTime, is for load the set value of deceleration time(msec).

(1) Function

```
int autaica_GetInitDecTime (
int PortNum,
char nNodeId,
long *iDecTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iDecTime: Load deceleration time. (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.17 autaica_GetInitPosition

This function, autaica_GetInitPosition, is for loading the initial value of the set target position.

(1) Function

```
int autaica_GetInitPosition (
int PortNum,
char nNodeId,
long *IPos
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- IPos: Load target position. (Set range: -2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.18 autaica_GetInitPgmStep

This function, autaica_GetInitPgmStep, is for loading the initial value of the start step for index mode, program mode drive.

(1) Function

```
int autaica_GetInitPgmStep (
int PortNum,
char nNodeId,
long *iStep
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iStep: Load start step. (Set range: 0 to 255)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.19 autaica_GetMotorGain

This function, autaica_GetMotorGain, is for loading the set value of Motor Gain.

(1) Function

```
int autaica_GetMotorGain (
int PortNum,
char nNodeId,
int *iMGain
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iMGain: Save the Motor Gain value at the variable. (Set range: 0 to 30, FINE Gain)

  FINE Gain value is saved as 31.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.20 autaica_GetMotorGainP

This function, autaica_GetMotorGainP, is for loading the set value P Gain.

(1) Function

```
int autaica_GetMotorGainP (
int PortNum,
char nNodeId,
int *iMGainP
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iMGainP: Save the P Gain value at the variable. (Set range: 0.000 to 32.000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.21 autaica_GetMotorGainI

This function, autaica_GetMotorGainI , is for loading the set value I Gain.

(1) Function

```
int autaica_GetMotorGainI (
int PortNum,
char nNodeId,
int *iMGainI
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iMGainI: Save the I Gain value at the variable. (Set range: 0.000 to 32.000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.22 autaica_SetStartDrvSpd1 to autaica_SetStartDrvSpd5

This function, autaica_SetStartDrvSpd1 to autaica_SetStartDrvSpd5, is for setting start drive speed 1 to 5 of the parameter.

(1) Function

```
int autaica_SetStartDrvSpd1 to 5 (
int PortNum,
char nNodeId,
long lDrvSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- lDrvSpd: Set start drive speed. (Set range: 1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.23 autaica_SetMaxDrvSpd1 to autaica_SetMaxDrvSpd5

This function, autaica_SetMaxDrvSpd1 to autaica_SetMaxDrvSpd5, is for setting max. drive speed 1 to 5 of the parameter.

(1) Function

```
int autaica_SetMaxDrvSpd1 to 5 (
int PortNum,
char nNodeId,
long lDrvSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lDrvSpd: Set max. drive speed. (Set range: 1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.24 autaica_SetDelayTime1 to autaica_SetDelayTime5

This function, autaica_SetDelayTime1 to autaica_SetDelayTime5, is for setting wait time for executing next step after completing the step.

For TIM(wait) command, selec one among delay time 1 to 5.

(1) Function

```
int autaica_SetDelayTime1 to 5 (
int PortNum,
char nNodeId,
int iDTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iDTime: Set wait time. (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.25 autaica_SetAccTime1 to autaica_SetAccTime5

This function, autaica_SetAccTime1 to autaica_SetAccTime5, is for setting acceleration time(msec) of the parameter.

(1) Function

```
int autaica_SetAccTime1 to 5 (
int PortNum,
char nNodeId,
int iAccTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iAccTime: Set acceleration time. (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.26 autaica_SetDecTime1 to autaica_SetDecTime5

This function, autaica_SetDecTime1 to autaica_SetDecTime5, is for setting deceleration time(msec) of the parameter.

(1) Function

```
int autaica_SetDecTime1 to 5 (
int PortNum,
char nNodeId,
int iDecTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iDecTime: Set deceleration time. (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.27 autaica_SetSCurvTime

This function, autaica_SetSCurvTime, is for setting S curve time(S curve acceleration/ deceleration time) of the parameter.

(1) Function

```
int autaica_SetSCurvTime (
int PortNum,
char nNodeId,
int iSCTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iSCTime: Set S curve Time(S curve acceleration/deceleration time). (Set range: 1 to 5,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.28 autaica_SetSoftLmtPlus

This function, autaica_SetSoftLmtPlus, is for setting high limit value of clock direction software limit.

(1) Function

```
int autaica_SetSofLmtPlus (
int PortNum,
char nNodeId,
long lSofLmtP
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- lSofLmtP: Set high limit value of software limit. (Set range: -2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.29 autaica_SetSoftLmtMinus

This function, autaica_SetSoftLmtMinus, is for setting low limit value of counter clock direction software limit.

(1) Function

```
int autaica_SetSofLmtMinus (
int PortNum,
char nNodeId,
long lSofLmtM
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lSofLmtM: Set low limit value of software limit. (Set range: -2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.30 autaica_SetONTime1 to autaica_SetONTime5

This function, autaica_SetONTime1 to autaica_SetONTime5, is for setting output port ON time(msec).
ON time setting is available with “OPC” command at program mode.

(1) Function

```
int autaica_SetONTime1 to 5 (
int PortNum,
char nNodeId,
int iONTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iONTime: Set output port ON time. (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.31 autaica_SetCompareMode1 / autaica_SetCompareMode2

This function, autaica_SetCompareMode1 / autaica_SetCompareMode2, is for setting comparison output mode.

(1) Function: autaica_SetCompareMode1

```
int autaica_SetCompareMode1 (
int PortNum,
char nNodeId,
int iMode
);
```

(2) Function: autaica_SetCompareMode2

```
int autaica_SetCompareMode2 (
int PortNum,
char nNodeId,
int iMode
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iMode: Set compare1, 2(compare output 1, 2) individually. (Set range: 0 to 3)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.32 autaica_SetCompare1PulseWidth/ autaica_SetCompare2PulseWidth

This function, autaica_SetCompare1PulseWidth / autaica_SetCompare2PulseWidth, is for setting output signal width when compare 1, 2(comparison output 1, 2) is set as 3 individually.

(1) Function: autaica_SetCompare1PulseWidth

```
int autaica_SetCompare1PulseWidth (
int PortNum,
char nNodeId,
int iWidth
);
```

(2) Function: autaica_SetCompare2PulseWidth

```
int autaica_SetCompare2PulseWidth (
int PortNum,
char nNodeId,
int iWidth
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iWidth: Set the width (msec) of compare1, 2(comparison output 1, 2) output signal. (Set range: 1 to 1,000)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.33 autaica_SetCompare1Period / autaica_SetCompare2Period

This function, autaica_SetCompare1Period / autaica_SetCompare2Period, is for setting output signal period when compare 1, 2(comparison output 1, 2) is set as 3 individually.

(1) Function: autaica_SetCompare1Period

```
int autaica_SetCompare1Period (
int PortNum,
char nNodeId,
long lPeriod
);
```

(2) Function: autaica_SetCompare2Period

```
int autaica_SetCompare2Period (
int PortNum,
char nNodeId,
long lPeriod
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lPeriod: Set the period (pulse) of compare1, 2(comparison output 1, 2) output signal. (Set range: 1 to 2,147,483,647)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.34 autaica_SetCompare1Position / autaica_SetCompare2Position

This function, autaica_SetCompare1Position / autaica_SetCompare2Position, is for setting trgger output signal position when compare 1, 2(comparison output 1, 2) is set as 1 or 2 individually.

(1) Function: autaica_SetCompare1Position

```
int autaica_SetCompare1Position (
int PortNum,
char nNodeId,
long lPos
);
```

(2) Function: autaica_SetCompare2Position

```
int autaica_SetCompare2Position (
int PortNum,
char nNodeId,
long lPos
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lPos: Set the trigger output signal position. (Set range: -2,147,483,648 to 2,147,483,647)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.35 autaica_SetTLimitSpeed

This function, autaica_SetTLimitSpeed, is for setting T_Mode Limit Speed for torque operation.

(1) Function

```
int autaica_SetTLimitSpeed (
int PortNum,
char nNodeId,
int iTLimitSpeed
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iTLimitSpeed: Set T_Mode Limit Speed value. (Set range: 10 to 700 RPM)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.36 autaica_SetResolution

This function, autaica_SetResolution, is for setting resolution.

The pulses of 1 rotation input by resolution is 500, 1000, 1600, 2000, 3200, 3600, 5000, 6400, 7200, 10000.

(1) Function

```
int autaica_SetResolution (
int PortNum,
char nNodeId,
int iResolution
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iResolution: Set resolution(number of pulses per 1 rotation) of motor. (Set range: 0 to 9)

Set value	Pulses per 1 rotation (PPR)	Resolution
0	500	2.5
1	1000	5
2	1600	8
3	2000	10
4	3200	16
5	3600	18
6	5000	25
7	6400	32
8	7200	36
9	10000	50

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.37 autaica_ SetInposition

This function, autaica_SetInposition, is for selecting In-Position.

(1) Function

```
int autaica_SetInposition(
int PortNum,
char nNodeId,
int iInposition
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iInposition: Select the Inposition of level. (Set range: 0 to 15)

  0 to 7 : Fast Response Mode, 8 to 15 : Accuracy Mode

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.38 autaica_GetStartDrvSpd1 to autaica_GetStartDrvSpd5

This function, autaica_GetStartDrvSpd1 to autaica_GetStartDrvSpd5, is for loading the set value of Start Speed1 to 5(start drive speed 1 to 5) of the parameter.

(1) Function

```
int autaica_GetStartDrvSpd1 to 5 (
int PortNum,
char nNodeId,
long *lDrvSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lDrvSpd: Save start speed(start drive speed). (1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.39 autaica_GetMaxDrvSpd1 to autaica_GetMaxDrvSpd5

This function, autaica_GetMaxDrvSpd1 to autaica_GetMaxDrvSpd5, is for loading the set value of Max Speed1 to 5(max. drive speed 1 to 5) of the parameter.

(1) Function

```
int autaica_GetMaxDrvSpd1 to 5 (
int PortNum,
char nNodeId,
long *lDrvSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lDrvSpd: Save max speed(max. drive speed). (1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.40 autaica_GetDelayTime1 to autaica_GetDelayTime5

This function, autaica_GetDelayTime1 to autaica_GetDelayTime5, is for loading the set value of Delay Time1 to 5 (wait time 1 to 5) of the parameter.

(1) Function

```
int autaica_GetDelayTime1 to 5 (
int PortNum,
char nNodeId,
int *iDTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iDTime: Save delay time(wait time). (1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.41 autaica_GetAccTime1 to autaica_GetAccTime5

This function, autaica_GetAccTime1 to autaica_GetAccTime5, is for loading the set value of acceleration time 1 to 5 of the parameter.

(1) Function

```
int autaica_GetAccTime1 to 5 (
int PortNum,
char nNodeId,
int *iAccTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iAccTime: Save acceleration time. (1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.42 autaica_GetDecTime1 to autaica_GetDecTime5

This function, autaica_GetDecTime1 to autaica_GetDecTime5, is for loading the set deceleration time 1 to 5 of the parameter.

(1) Function

```
int autaica_GetDecTime1 to 5 (
int PortNum,
char nNodeId,
int *iDecTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iDecTime: Save deceleration time. (1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.43 autaica_GetSCurvTime

This function, autaica_GetSCurvTime, is for loading the set value of S curve time(S curve acceleration/deceleration time) of the parameter.

(1) Function

```
int autaica_GetSCurvTime (
int PortNum,
char nNodeId,
int *iSCTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iSCTime: Save S curve time(S curve acceleration/deceleration time). (1 to 5,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.44 autaica_GetSofLmtPlus

This function, autaica_GetSofLmtPlus, is for loading the high limit set value of clock direction software limit of the parameter.

(1) Function

```
int autaica_GetSofLmtPlus (
int PortNum,
char nNodeId,
long *lSofLmtP
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lSofLmtP: Save high limit value of software limit. (-2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.45 autaica_GetSofLmtMinus

This function, autaica_GetSofLmtMinus, is for loading the low limit set value of counter clock direction software limit of the parameter.

(1) Function

```
int autaica_GetSofLmtMinus (
int PortNum,
char nNodeId,
long *lSofLmtM
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lSofLmtM: Save low limit value of software limit. (-2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.46 autaica_GetONTime1 to autaica_GetONTime5

This function, autaica_GetONTimea1 to autaica_GetONTime5, is for loading the set value of output port ON time 1 to 5 of the parameter.

(1) Function

```
int autaica_GetONTime1 to 5 (
int PortNum,
char nNodeId,
int *iONTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId
- Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iONTime: Save output port ON time. (1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.47 autaica_GetCompareMode1 / autaica_GetCompareMode2

This function, autaica_GetCompareMode1 / autaica_GetCompareMode2, is for loading the set value of compare 1, 2(comparison output 1, 2) of the parameter.

(1) Function: autaica_GetCompareMode1

```
int autaica_GetCompareMode1 (
int PortNum,
char nNodeId,
int *iMode
);
```

(2) Function: autaica_GetCompareMode2

```
int autaica_GetCompareMode2 (
int PortNum,
char nNodeId,
int *iMode
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iMode: Save compare 1, 2(comparison output 1, 2). (0 to 3)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.48 autaica_GetCompare1PulseWidth/ autaica_GetCompare2PulseWidth

This function, autaica_GetCompare1PulseWidth/autaica_GetCompare2PulseWidth, is for loaidng the set value of output signal width of compare 1, 2(comparison output 1, 2) of the parameter.

(1) Function: autaica_GetCompare1PulseWidth

```
int autaica_GetCompare1PulseWidth (
int PortNum,
char nNodeId,
int *iWidth
);
```

(2) Function: autaica_GetCompare2PulseWidth

```
int autaica_GetCompare2PulseWidth (
int PortNum,
char nNodeId,
int *iWidth
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iMode: Save signal width of compare 1, 2(comparison output 1, 2) output signal. (1 to 1,000)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.49 autaica_GetCompare1Period / autaica_GetCompare2Period

This function, autaica_GetCompare1Period/autaica_GetCompare2Period, is for loading the set value of output signal period of compare 1, 2(comparison output 1, 2).

(1) Function: autaica_GetCompare1Period

```
int autaica_GetCompare1Period (
int PortNum,
char nNodeId,
long *lPeriod
);
```

(2) Function: autaica_GetCompare2Period

```
int autaica_GetCompare2Period (
int PortNum,
char nNodeId,
long *lPeriod
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lPeriod: Save output signal period (pulse) of compare 1, 2(comparison output 1, 2) (1 to 2,147,483,647)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.50 autaica_GetCompare1Position / autaica_GetCompare2Position

This function, autaica_GetCompare1Position/autaica_GetCompare2Position, is for loading the position set value of trigger output signal of compare 1, 2(comparison output 1, 2) of the parameter.

(1) Function: autaica_GetCompare1Position

```
int autaica_GetCompare1Position (
int PortNum,
char nNodeId,
long *lPos
);
```

(2) Function: autaica_GetCompare2Position

```
int autaica_GetCompare2Position (
int PortNum,
char nNodeId,
long *lPos
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lPos: Save position setting of trigger output signal of compare 1, 2(comparison output 1, 2).
  (-2,147,483,648 to 2,147,483,647)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.51 autaica_GetTLimitSpeed

This function, autaica_GetTLimitSpeed, is for loading the set value (RPM) T_Mode Limit Speed for torque operation.

(1) Function

```
int autaica_GetTLimitSpeed(
int PortNum,
char nNodeId,
int *iTLimitSpeed
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iTLimitSpeed: Save the set value (RPM) of T_Mode Limit Speed. (Set range: 10 to 700 RPM)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.52 autaica_GetResolution

This function, autaica_GetResolution, is for loading the set value of resolution.

(1) Function

```
int autaica_GetResolution (
int PortNum,
char nNodeId,
int *iResolution
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iResolution: Save resolution(pulses per 1 rotation) of motor. (0 to 9)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.53 autaica_GetInposition

This function, autaica_GetInposition, is for loading the set value of In-Position.

(1) Function

```
int autaica_GetInposition (
int PortNum,
char nNodeId,
int *iInposition
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iInposition: Save the in-Position value at the variable. (Set range: 0 to 15)

  0 to 7 : Fast Response Mode, 8 to 15 : Accuracy Mode

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.2.54 autaica_GetActGroup

This function, autaica_GetActGroup, is for loading all operation set value of the parameter.

(1) Function

```
int autaica_ActGroup (
int PortNum,
char nNodeId,
AICA_ACTGROUP *pAGroup
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pAGroup: Save operation parameter settings.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3 Home search setting

3.3.1 autaica_SetInitHomeRunMode

This function, autaica_SetInitHomeRunMode, is for setting the initial value of home search command types during home search drive.

(1) Function

```
int autaica_SetInitHomeRunMode (
int PortNum,
char nNodeId,
int iMode
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iMode: Select home search command type.

Set value	Home search
0	General home search
1	Limit home search
2	Zero point home search
3	Torque home search

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.2 autaica_GetInitHomeRunMode

This function, autaica_GetInitHomeRunMode, is for loading the set value of home search command types of the parameter.

(1) Function

```
int autaica_GetInitHomeRunMode (
int PortNum,
char nNodeId,
int *iMode
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iMode: Load home search command type.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.3 autaica_SetHomeMaxSpd

This function, autaica_SetHomeMaxSpd, is for setting Home Search High Speed(home search max. drive speed).

(1) Function

```
int autaica_SetHomeMaxSpd (
int PortNum,
char nNodeId,
long lHomeMaxSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lHomeMaxSpd: Set home search high speed(home search max. drive speed) (pps)

  (Set range: 1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.4 autaica_SetHomeStartSpd

This function, autaica_SetHomeStartSpd, is for setting Home Search Low Speed(home search start drive speed).

(1) Function

```
int autaica_SetHomeStartSpd (
int PortNum,
char nNodeId,
long lHomeStartSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lHomeStartSpd: Set home search low speed(home search start drive speed) (pps). (Set range: 1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.5 autaica_SetHomeAccTime

This function, autaica_SetHomeAccTime, is for setting home search acceleration time.

(1) Function

```
int autaica_SetHomeAccTime (
int PortNum,
char nNodeId,
int iAccTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iAccTime: Set home search acceleration time (msec) (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.6 autaica_SetHomeDecTime

This function, autaica_SetHomeDecTime, is for setting home search deceleration time.

(1) Function

```
int autaica_SetHomeDecTime (
int PortNum,
char nNodeId,
int iDecTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iDecTime: Set home search deceleration time (msec). (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.7 autaica_SetHomeDir

This function, autaica_SetHomeDir, is for setting motor rotation direction for home search drive.

(1) Function

```
int autaica_SetHomeDir (
int PortNum,
char nNodeId,
BOOL bDir
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bDir: Set motor rotation direction for home search drive. (0: clock direction, 1: counter clock direction)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.8 autaica_SetHomeOffset

This function, autaica_SetHomeOffset, is for moving for the set distance of home search offset and stopping after home search drive end.

(1) Function

```
int autaica_SetHomeOffset (
int PortNum,
char nNodeId,
long lOffset
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lOffset: Set home search offset. (Set range: -2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.9 autaica_SetHomePos

This function, autaica_SetHomePos, is for changnig position value as Position Set (home search position) after home search drive.

(1) Function

```
int autaica_SetHomePos (
int PortNum,
char nNodeId,
long lPos
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lPos: Set position set(home search position). (Set range: -2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.10 autaica_SetORGSigLev

This function, autaica_SetORGSigLev, is for setting input signal level of ORG(home sensor).

(1) Function

```
int autaica_SetORGSigLev (
int PortNum,
char nNodeId,
BOOL bLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bLev: Select input signal level of ORG(home sensor). (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.11 autaica_SetHomeTorque

This function, autaica_SetHomeTorque, is for setting home search torque during torque home search.

(1) Function

```
int autaica_SetHomeTorque (
int PortNum,
char nNodeId,
int iTorque
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iTorque: Set home search torque value (%). (Set range: 20 to 100%)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.12 autaica_GetHomeMaxSpd

This function, autaica_GetHomeMaxSpd, is for loading the set value of home search high speed(home search max. drive speed).

(1) Function

```
int autaica_GetHomeMaxSpd (
int PortNum,
char nNodeId,
long *lHomeMaxSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lHomeMaxSpd: Save home search high speed(home search max. drive speed). (1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.13 autaica_GetHomeStartSpd

This function, autaica_GetHomeStartSpd, is for loading home search low speed(home search start drive speed).

(1) Function

```
int autaica_GetHomeStartSpd (
int PortNum,
char nNodeId,
long *lHomeStartSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lHomeStartSpd: Save home search low speed(home search start drive speed).(1 to 600,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.14 autaica_GetHomeAccTime

This function, autaica_GetHomeAccTime, is for loading the set value of home search acceleration time.

(1) Function

```
int autaica_GetHomeAccTime (
int PortNum,
char nNodeId,
int *iAccTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iAccTime: Save home search acceleration time. (1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.15 autaica_GetHomeDecTime

This function, autaica_GetHomeDecTime, is for loading the set value of home search deceleration time.

(1) Function

```
int autaica_GetHomeDecTime (
int PortNum,
char nNodeId,
int *iDecTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iDecTime: Save home search deceleration time. (1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.16 autaica_GetHomeDir

This function, autaica_GetHomeDir, is for loading the set value of home search direction (motor rotation direction during home search).

(1) Function

```
int autaica_GetHomeDir (
int PortNum,
char nNodeId,
BOOL *bDir
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bDir: Save home search direction(motor rotation direction during home search). (0: clock direction, 1: counter clock direction)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.17 autaica_GetHomeOffset

This function, autaica_GetHomeOffset, is for loading the set value of home search offset.

(1) Function

```
int autaica_GetHomeOffset (
int PortNum,
char nNodeId,
long *lOffset
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lOffset: Save home search offset. (-2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.18 autaica_GetHomePos

This function, autaica_GetHomePos, is for loading the set value of home search position (home search target position).

(1) Function

```
int autaica_GetHomePos (
int PortNum,
char nNodeId,
long *lPos
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lPos: Save home search position (home search target position). (-2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.19 autaica_GetORGSigLev

This function, autaica_GetORGSigLev, is for loading the set value of ORG(home sensor) input signal signal level.

(1) Function

```
int autaica_GetORGSigLev (
int PortNum,
char nNodeId,
BOOL *bLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bLev: Save level setting of ORG(home sensor) input signal. (0: Low, 1: High)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.20 autaica_GetHomeTorque

This function, autaica_GetHomeTorque, is for loading the set value of home search torque.

(1) Function

```
int autaica_GetHomeTorque (
int PortNum,
char nNodeId,
int * iTorque
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iTorque: Save home search torque for (%). (20 to 100%)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

3.3.21 autaica_GetHomeGroup

This function, autaica_GetHomeGroup, is for loading all data set values of home search parameter group.

(1) Function

```
int autaica_GetHomeGroup (
int PortNum,
char nNodeId,
AICA_HOMEGROUP *pHGroup
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pHGroup: Save data setting of home search parameter group.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4 I/O Control

4.1 autaica_SetUserOut0 to autaica_SetUserOut9

This function, autaica_SetUserOut0 to autaica_SetUserOut0, is for ON/OFF general output 0 to 9 of I/O connector(CN3).

(1) Function

```
int autaica_SetUserOut0 to 9 (
int PortNum,
char nNodeId,
BOOL bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Select the status of general output 0 to 9 individuall. (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.2 autaica_GetUserOut0 to autaica_GetUserOut9

This function, autaica_GetUserOut0 to autaica_GetUserOut9, is for loading the status of general output 0 to 9 of I/O connector(CN3).

(1) Function

```
int autaica_GetUserOut0 to 9 (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of general output 0 to 9. (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.3 autaica_GetUserOutGroup

This function, autaica_GetUserOutGroup, is for loading the status of general output of I/O connector(CN3).

(1) Function

```
int autaica_GetUserOutGroup (
int PortNum,
char nNodeId,
AICA_USEROUTPUTGROUP *pOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pOn: Save the status of all general outputs. (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.4 autaica_exGetDrvStart

This function, autaica_exGetDrvStart, is for loading the status of start(drive start) of I/O connector(CN3).

(1) Function

```
int autaica_exGetDrvStart(
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the stauts of start(drive start). (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.5 autaica_exGetSTEPSL0 to autaica_exGetSTEPSL5

This function, autaica_exGetSTEPSL0 to autaica_exGetSTEPSL5, is for loading the status of Step0/+Run/+Jog, Step1/-Run/-Jog, Step2/SSP0, Step3/SSP1, Step4/MSP0, Step5/MSP1 of I/O connector(CN3).

(1) Function

```
int autaica_exGetSTEPSL0 to 5 (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- bOn

  STEPSL0: Save the status of Step0/+Run/+Jog. (0: Off, 1: On)

  STEPSL1: Save the status of Step1/-Run/-Jog. (0: Off, 1: On)

  STEPSL2: Save the status of Step2/SSP0. (0: Off, 1: On)

  STEPSL3: Save the status of Step3/SSP1. (0: Off, 1: On)

  STEPSL4: Save the status of Step4/MSP0. (0: Off, 1: On)

  STEPSL5: Save the status of Step5/MSP1. (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.6 autaica_exGetMODE0 / autaica_exGetMODE1

This function, autaica_exGetMODE0 / autaica_exGetMODE1, is for loading the status of MD0, 1/HMD0, 1 of I/O connector(CN3).

(1) Function: autaica_exGetMODE0

```
int autaica_exGetMODE0 (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Function: autaica_exGetMODE1

```
int autaica_exGetMODE1 (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of MD0, 1/HMD0, 1. (0: Off, 1: On)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.7 autaica_exGetPause

This function, autaica_exGetPause, is for loading the status of pause of I/O connector(CN3).

(1) Function

```
int autaica_exGetPause (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of pause. (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.8 autaica_exGetSlowStop

This function, autaica_exGetSlowStop, is for loading the status of stop of I/O connector(CN3).

(1) Function

```
int autaica_exGetSlowStop (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of stop. (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.9 autaica_exGetEMGStop

This function, autaica_exGetEMGStop, is for loading the stauts of EMG(emergency stop) of I/O connector(CN3).

(1) Function

```
int autaica_exGetEMGStop (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of EMG (emergency stop). (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.10 autaica_exGetHomeRun

This function, autaica_exGetHomeRun, is for loading the status of Home(home search) of I/O connector(CN3).

(1) Function

```
int autaica_exGetHomeRun (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of Home(home search). (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.11 autaica_exGetORG

This function, autaica_exGetORG, is for loading the status ORG(home sensor) of I/O connector(CN3).

(1) Function

```
int autaica_exGetORG (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of ORG(home sensor). (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.12 autaica_exGetALMReset

This function, autaica_exGetALMReset, is for loading the status of alarm reset of I/O connector(CN3).

(1) Function

```
int autaica_exGetALMReset (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of alarm reset. (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.13 autaica_exGetServoOn

This function, autaica_exGetServoOn, is for loading the status of Servo ON/OFF of I/O connector(CN3).

(1) Function

```
int autaica_exGetServoOn (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of Servo ON/OFF (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.14 autaica_exGetLimitPlus

This function, autaica_exGetLimitPlus, is for loading the stauts of +Limit(+ hardware limit) of I/O connector(CN3).

(1) Function

```
int autaica_exGetLimitPlus (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of +Limit(+ hardware limit). (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.15 autaica_exGetLimitMinus

This function, autaica_exGetLimitMinus, is for loading the status of –Limit (-hardware limit) of I/O connector(CN3).

(1) Function

```
int autaica_exGetLimitMinus (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of -Limit(-hardware limit). (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.16 autaica_exGetUserInput 0 to autaica_exGetUserInput8

This function, autaica_exGetUserInput 0 to autaica_exGetUserInput8, is for loading the status of general input 0 to 8 of I/O connector(CN3).

(1) Function

```
int autaica_exGetUserInput 0 to 8 (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of general input 0 to 8. (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.17 autaica_exGetSDmode

This function, autaica_exGetSDmode, is for loading the status of SD(deceleration mode) of I/O connector(CN3).

(1) Function

```
int autaica_exGetSDmode (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of SD(deceleration mode). (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.18 autaica_exGetALMSignal

This function, autaica_exGetALMSignal, is for loading the status of alarm output of I/O connector(CN3).

(1) Function

```
int autaica_exGetALMSignal (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of alarm output. (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.19 autaica_exGetInposition

This function, autaica_exGetInposition, is for loading the status of In-Position output of I/O connector(CN3).

(1) Function

```
int autaica_exGetInposition (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of In-Position output. (0: Off, 1: On)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.20 autaica_exGetCompare1 / autaica_exGetCompare2

This function, autaica_exGetCompare1 / autaica_exGetCompare 2, is for loading the status of Compare 1, 2(comparison output 1, 2) of I/O connector(CN3).

(1) Function: autaica_exGetCompare1

```
int autaica_exGetCompare1 (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(2) Function: autaica_exGetCompare2

```
int autaica_exGetCompare2 (
int PortNum,
char nNodeId,
BOOL *bOn
);
```

(3) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- bOn: Save the status of compare 1, 2(comparison output 1, 2). (0: Off, 1: On)

(4) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

4.21 autaica_GetExInputGroup

This function, autaica_GetExInputGroup, is for loading the status of all external input.

(1) Function

```
int autaica_GetBitSetGroup (
int PortNum,
char nNodeId,
AICA_BITSET *pActLev
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pActLev: Saves the status of all external input.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

5 Movement control

5.1 autaica_ContPulseCW

This function, autaica_ContPulseCW, is for ouputting drive pulse continuously to clock direction until entering stop command.

(1) Function

```
int autaica_ContPulseCW (
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

5.2 autaica_ContPulseCCW

This function, autaica_ContPulseCCW, is for ouputting drive pulse continuously to counter clock direction until entering stop command.

(1) Function

```
int autaica_ ContPulseCCW (
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

5.3 autaica_ABSMove

This function, autaica_ABSMove, is for moving to the absolute position for the designated distance based on the home.

(1) Function

```
int autaica_ABSMove (
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

5.4 autaica_INCMove

This function, autaica_INCMove, is for moving to the relative position for the designated distance based on the current position.

(1) Function

```
int autaica_INCMove (
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

5.5 autaica_HomeModeRun

This function, autaica_HomeModeRun, is for driving home search according to the the designated home search mode.

(1) Function

```
int autaica_HomeModeRun (
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

5.6 autaica_TorqueCW

This function,autaica_TorqueCW, is for driving with the set torque and rising time as CW direction continuously until stop command input.

(1) Function

```
int autaica_TorqueCW (
int PortNum,
char nNodeId,
int iRaiseTime,
int iTorque
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.
- iRaiseTime: Enter the rising time until target torque.(Set range: 1 to 10,000)
- iTorque: Enter the range of output torque (%).(Set range: 0 to 100)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

5.7 autaica_TorqueCCW

This function, autaica_TorqueCCW, is for driving with the set torque and rising time as CCW direction continuously until stop command input.

(1) Function

```
int autaica_TorqueCCW (
int PortNum,
char nNodeId,
int iRaiseTime,
int iTorque
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.
- iRaiseTime: Enter the rising time until target torque. (Set range: 1 to 10,000)
- iTorque: Enter the range of output torque (%). (Set range: 0 to 100)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6 Program Control

6.1 autaica_IndexModeRun

This function, autaica_IndexModeRun, is for driving the selected one “ABS”, “INC” command step among program mode command.

(1) Function

```
int autaica_IndexModeRun (
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.2 autaica_PgmModeRun

This function, autaica_PgmModeRun, is for driving program mode.
It dirves the saved each command from the designated step sequentially.

(1) Function

```
int autaica_PgmModeRun (
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.3 autaica_PgmPause

This function, autaica_PgmPause, is for pausing the driving step as program mode after completing.

(1) Function

```
int autaica_PgmPause (
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.4 autaica_PgmStop

This function, autaica_PgmStop, is for stopping the driving step as program mode after completing.

(1) Function

```
int autaica_PgmStop (
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.5 autaica_PgmABS

This function, autaica_PgmABS, is for moving the absoulte position to the designated distance based on the home.

(1) Function

```
int autaica_PgmABS (
int PortNum,
char nNodeId,
int nStepNo,
int ParaStartSpd,
long StartSpd,
int ParaMaxSpd,
long MaxSpd,
int ParaAccel,
int Accel,
int ParaDecel,
int Decel,
long lPos,
BOOL SCurveEnable,
int iSCurvTime,
BOOL ContinueEnable
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to register command. (Set range: 0 to 255)
- ParaStartSpd

  Enter start drive speed of parameter. (Set range: 1 to 6)
  - 1 to 5 input
    : Drives with the set start drive speed 1 to 5 parameter during motor drive.
  - 6 input
    : Drives with the entered start drive speed at StartSpd during motor drive.
- StartSpd: Enter start drive speed. (Set range: 1 to 600,000).

- ParaMaxSpd

  Enter max. drive speed. (Set range: 1 to 6).

  - 1 to 5 input

    : Drives with the set max. drive speed 1 to 5 during motor drive.

  - 6 input

    : Drives with the entered max. drive speed at MaxSpd during motor drive.

- MaxSpd: Enter max. drive speed. (Set range: 1 to 600,000)
- ParaAccel
- Enter acceleration time. (Set range: 1 to 6)
  - 1 to 5 input

    : Drives with the set acceleration time 1 to 5 during motor drive.

  - 6 input

    : Drives with the entered acceleration time at Accel during motor drive.

- Accel: Enter acceleration time. (Set range: 1 to 10000)
- ParaDecel
- Enter deceleration time. (Set range: 1 to 6)
  - 1 to 5 input

    : Drives with the set deceleration time 1 to 5 during motor drive.

  - 6 input

    : Drives with the entered deceleration time of Decel during motor drive.

- Decel: Enter deceleration time. (Set range: 1 to 10000)
- lPos: Enter the coordinate to be moved. (Set range: -2,147,483,648 to 2,147,483,647)
- SCurveEnable

  Set enable/disable of S curve acceleration/deceleration. (0: Disable, 1: Enable)

- iSCurvTime

  For using S curve acceleration/deceleration, set S curve acceleration/deceleration time. (Set range: 1 to 5,000)

- ContinueEnable

  Set enable/disable of continuation.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.6 aica_PgmINC

This function, autaica_PgmStop, is for moving the relative position to the designated distance based on the current position.

(1) Function

```
int autaica_PgmINC (
int PortNum,
char nNodeId,
int nStepNo,
int ParaStartSpd,
long StartSpd,
int ParaMaxSpd,
long MaxSpd,
int ParaAccel,
int Accel,
int ParaDecel,
int Decel,
long lPos,
BOOL SCurveEnable,
int iSCurvTime,
BOOL ContinueEnable
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)
- ParaStartSpd

  Enter start drive speed. (Set range: 1 to 6)
  - 1 to 5 input
    : Drives with the set start drive speed 1 to 5 during motor drive.
  - 6 input
    : Drives with the entered start drive speed at StartSpd during motor drive.
- StartSpd: Enter start drive speed. (Set range: 1 to 600,000)

- ParaMaxSpd

  Enter max. drive speed. (Set range: 1 to 6)

  - 1 to 5 input

    : Drives with the set max. drive speed 1 to 5 during motor drive.

  - 6 input

    : Drives with the entered max. drive speed at MaxSpd during motor drive.

- MaxSpd: Enter max. drive speed. (Set range: 1 to 600,000)
- ParaAccel

  Enter acceleration time. (Set range: 1 to 6)

  - 1 to 5 input

    : Drives with the set acceleration time 1 to 5 during motor drive.

  - 6 input

    : Drives with the entered acceleration time at Accel during motor drive.

- Accel: Enter acceleration time. (Set range: 1 to 10000)
- ParaDecel

  Enter deceleration time. (Set range: 1 to 6)

  - 1 to 5 input

    : Drives with the set deceleration time 1 to 5 during motor drive.

  - 6 input

    : Drives with the entered deceleration time at Decel during motor drive.

- Decel: Enter deceleration time. (Set range: 1 to 10000)
- lPos: Enter the coordinate to be moved..

  (Set range: -2,147,483,648 to 2,147,483,647)
- SCurveEnable

  Set enable/disable of S curve acceleration/deceleration. (0: Disable, 1: Enable)
- iSCurvTime

  For using S curve acceleration/deceleration, set S curve acceleration/deceleration time. (Set range: 1 to 5,000)
- ContinueEnable

  Set enable/disable of continuation.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.7 autaica_PgmHOM

This function, autaica_PgmHOM, is for driving home search.

(1) Function

```
int autaica_ PgmHOM (
int PortNum,
char nNodeId,
int nStepNo,
int iHomeMode
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)
- iHomeMode: Set home search mode. (0: general home search, 1: limit home search, 2: zero point home search, 3: torque home search)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.8 autaica_PgmICJ

This function, autaica_PgmICJ, is for jumping the designated step when input port of input condition command is activated, or executing the next step when it is not activated.

(1) Function

```
int autaica_ PgmICJ (
int PortNum,
char nNodeId,
int nStepNo,
int nJumpStep,
int nInputPtNo
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)
- nJumpStep: Enter the step number to be jumped. (Set range: 0 to 255)
- nInputPtNo: Enter input port number. (Set range: 0 to 8)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.9 autaica_PgmIRD

This function, autaica_PgmIRD, is for jumping the next step when input port of input wait command is activated, or waiting the current step when it is not activated until activated.

(1) Function

```
int autaica_ PgmIRD (
int PortNum,
char nNodeId,
int nStepNo,
int nInputPtNo
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)
- nInputPtNo: Enter input port number. (Set range: 0 to 8)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.10 autaica_PgmOPC

This function, autaica_PgmOPC, is for turning ON/OFF the designated output port as output port ON/OFF command.

(1) Function

```
int autaica_ PgmOPC (
int PortNum,
char nNodeId,
int nStepNo,
int nOutPtNo,
BOOL bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)
- nOutPtNo: Enter output port number. (Set range: 0 to 9)
- bOn: Select output port ON/OFF status. (0: OFF, 1: ON)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.11 autaica_PgmOPT

This function, autaica_PgmOPT, is for turning ON the set output port of output port ON pulse command during the ON time.

(1) Function

```
int autaica_ PgmOPT (
int PortNum,
char nNodeId,
int nStepNo,
int nOutPtNo,
int ParaOnTim,
int iOnTim,
BOOL bOn
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)
- nOutPtNo: Enter output port number. (Set range: 0 to 9)
- ParaOnTim

  Enter output port ON time. (Set range: 1 to 6)
  - 1 to 5 input
    : Turns ON the output port for the set ON time 1 to 5.
  - 6 input
    : Turns ON the output port for the entered time at iOnTim.
- iOnTim: Enter output port ON time. (Set range: 1 to 10,000)
- bOn: Select output port ON pulse status. (0: OFF, 1: ON)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.12 autaica_PgmJMP

This function, autaica_PgmJMP, is for jumping the designated step by jump command.

(1) Function

```
int autaica_ PgmJMP (
int PortNum,
char nNodeId,
int nStepNo,
int nJumpStep
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)
- nJumpStep: Enter the step number to be jumped. (Set range: 0 to 255)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.13 autaica_PgmREP

This function, autaica_PgmREP, is for executing repeat from the next step of repeat start command to the “RPE(repeat end)” command for the set times.

(1) Function

```
int autaica_ PgmREP (
int PortNum,
char nNodeId,
int nStepNo,
int nRepCnt
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)
- nRepCnt

  Enter the number of repeats. (Set range: 1 to 255)
  The register number of repeat end command must be below the repeat start command.
  Repeat loop is available up to 3 times.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.14 autaica_PgmRPE

This function, autaica_PgmRPE, is end command of “REP” as repeat end command.

(1) Function

```
int autaica_ PgmRPE (
int PortNum,
char nNodeId,
int nStepNo
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.15 autaica_PgmEND

This function, autaica_PgmEND, is for ending program mode drive.
Must enter the command at the end of program.

(1) Function

```
int autaica_ PgmEND (
int PortNum,
char nNodeId,
int nStepNo
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.16 autaica_PgmPOS

This function, autaica_PgmPOS, is for setting position value.

(1) Function

```
int autaica_PgmPOS (
int PortNum,
char nNodeId,
int nStepNo,
long lPos
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)
- lPos: Enter the position value to be set. (Set range: -2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.17 autaica_PgmTIM

This function, autaica_PgmTIM, is for executing wait command during the set time as the wait command.

(1) Function

```
int autaica_PgmTIM (
int PortNum,
char nNodeId,
int nStepNo,
int ParaDelayTim,
int DelayTim
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)
- ParaDelayTim

  Enter wait time. (Set range: 1 to 6)
  1 to 5 input: Sets the set wait time 1 to 5.
  6 input: Sets the entered time at DelayTim(wait time).
- DelayTim: Enter wait time. (Set range: 1 to 10000).

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.18 autaica_PgmCMP

This function, autaica_PgmCMP, is for setting Compare 1, 2 (comparison output 1, 2) parameter.

(1) Function

```
int autaica_ PgmCMP (
int PortNum,
char nNodeId,
int nStepNo,
int iCompareNo,
int iCompMode,
int iPulseWidth,
long lPulsePeriod,
long lPos
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number to set command. (Set range: 0 to 255)
- iCompareNo: Set comparison output port. (Set range: 1 to 3)
- iCompareMode

  Sets comparison output mode.

  0: Not used (Not used, outputs [L])
  1: Outputs [H] when the current absolute position is bigger than or same as 'Compare1 Position'
  2: Outputs [H] when the current absolute position is smaller than or same as 'Compare1 Position'
  3: Outputs the set pulse width of 'Compare Pulse Width' with the set period of 'Compare1 Period'
- iPulseWidth

  In case of "Compare Mode"=3, set width (msec) of output signal.
  (Set range: 1 to 1000)
- lPulsePeriod

  In case of "Compare Mode"=3, set period (pulse) of output signal.
  (Set range: 1 to 2,147,483,647)

- lPulsePos

  In case of “Compare Mode”=1 or “Compare Mode”=2, set trigger output signal position. (Set range: -2,147,483,648 to 2,147,483,647)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.19 autaica_PgmTOQ

This function, autaica_PgmTOQ, is for setting the torque and torque rising time by TOQ command.

(1) Function

```
int autaica_PgmTOQ (
int PortNum,
char nNodeId,
int nStepNo,
int iTorque,
int iTAccTime
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter the step number for register command. (Set range: 0 to 255)
- iTorque: Enter the range of output torque (%). (Set range: -100 to 100)
- iTAccTime: Enter the acceleration time until target torque. (Set range: 1 to 10,000)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.20 autaica_PgmDelAll

This function, autaica_PgmDelAll, is for deleting all program mode data of 0 to 255 steps.

(1) Function

```
int autaica_ DelPgmDelAll (
int PortNum,
char nNodeId
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When the node ID is out of the range, AICA_INVALID_NODE(9) is returned.
  Enter Broadcast (0x81) and data transfers to every connected AiCA-D with PC by broadcast function.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.21 autaica_PgmDelStep

This function, autaica_PgmDelStep, is for deleting program mode data of the designated step.

(1) Function

```
int autaica_PgmDelStep (
int PortNum,
char nNodeId,
int nStepNo
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- nStepNo: Enter step number to be deleted. (Set range: 0 to 255)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

6.22 autaica_GetPgmData

This function, autaica_GetPgmData, is for loading the registered program mode data information at the set 0 to 255 step.

(1) Function

```
Int autaica_GetPgmData (
int PortNum,
char nNodeId,
int nStepNo,
AICA_PGMDATA *pPgmData
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pPgmData: Save the set program mode data information of 0 to 255 step.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7 Monitoring Data

7.1 autaica_GetDriverMode

This function, autaica_GetDriverMode, is for loading the current drive mode value.

(1) Function

```
int autaica_GetDriverMode (
int PortNum,
char nNodeId,
int *iDrvMode
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iDrvMode: Save the current value of drive mode.

  (0: wait, 1: index, 2: jog, 3: continuous, 4: program, 5: home, 6: general)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.2 autaica_GetLogicalPos

This function, autaica_GetLogicalPos, is for loading the current command position coordinate value.

(1) Function

```
int autaica_GetLogicalPos (
int PortNum,
char nNodeId,
long *lPos
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lPos: Save the command position coordinate value.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.3 autaica_GetActualPos

This function, autaica_GetActualPos, is for loading the current actual position coordinate value.

(1) Function

```
int autaica_GetActualPos (
int PortNum,
char nNodeId,
long *lPos
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- lPos: Save the actual position coordinate value.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.4 autaica_GetLogicalDrvSpd

This function, autaica_GetLogicalDrvSpd, is for loading the current command drive speed.

(1) Function

```
int autaica_GetLogicalDrvSpd (
int PortNum,
char nNodeId,
long *lDrvSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- lDrvSpd: Save the current command max. drive speed value.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.5 autaica_GetActualDrvSpd

This function, autaica_GetActualDrvSpd, is for loading the current actual drive speed.

(1) Function

```
int autaica_GetActualDrvSpd (
int PortNum,
char nNodeId,
long *lDrvSpd
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- lDrvSpd: Save the current actual max. drive speed.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.6 autaica_GetMotorRPM

This function, autaica_GetMotorRPM, is for loading rotation speed.

(1) Function

```
int autaica_GetMotorRPM (
int PortNum,
char nNodeId,
int *iMotorRPM
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iMotorRPM: Save rotation speed (RPM).

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.7 autaica_GetCurPgmNo

This function, autaica_GetCurPgmNo, is for loading the executing program mode step number value.

(1) Function

```
int autaica_GetCurPgmNo (
int PortNum,
char nNodeId,
int *iCurPgmNo
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iCurPgmNo: Save the executing program mode step number.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.8 autaica_GetErrorSt

This function, autaica_GetErrorSt, is for loading the alarm status of current drive.

(1) Function

```
int autaica_GetErrorSt (
int PortNum,
char nNodeId,
AICA_ERRORSTATE *pError
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pError: Save the alarm value of the current drive.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.9 autaica_GetWarningSt

This function, autaica_GetWarningSt, is for loading the present warning status of the drive.

(1) Function

```
int autaica_GetWarningSt (
int PortNum,
char nNodeId,
AICA_WARNINGSTATE *pWarning
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pWarning: Save the warning value of the current drive.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.10 autaica_GetParallellO1

This function, autaica_GetParallellO1, is for loading I/O status.

(drive start, STEP0/+Run/+Jog, STEP1/-Run/-Jog, STEP2/SSP0, STEP3/SSP1, STEP4/MSP0, STEP5/MSP1)

(1) Function

```
int autaica_GetParallellO1 (
int PortNum,
char nNodeId,
PARALLELSTATE1 *pState
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pState: Save input/output signal status. (0: OFF, 1: ON)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.11 autaica_GetParallelIO2

This function, autaica_GetParallelIO2, is for loading I/O status.

(+Limit, - Limit, IN0 to 8, deceleration mode)

(1) Function

```
int autaica_GetParallelIO2 (
int PortNum,
char nNodeId,
PARALLELSTATE2 *pState
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pState: Save input/output signal status. (0: OFF, 1: ON)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.12 autaica_GetParallelIO3

This function, autaica_GetParallelIO3, is for loading I/O status.

(Alarm, In-Position, Compare 1, Compare 2)

(1) Function

```
int autaica_GetParallelIO3 (
int PortNum,
char nNodeId,
PARALLELSTATE3 *pState
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pState: Save input/output signal status. (0: OFF, 1: ON)

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

7.13 autaica_MonitorData

This function, autaica_MonitorData, is for loading all data status of monitoring group.

(1) Function

```
int autaica_MonitorData (
int PortNum,
char nNodeId,
AICA_MonitorData *pMData
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pMData: Save all data status of monitoring group.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

8 Product Information

8.1 autaica_GetSofVer

This function, autaica_GetSofVer, is for loading the applied software version.

(1) Function

```
int autaica_GetSofVer (
int PortNum,
char nNodeId,
AICA_SOFTVERSION *pVersion
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- pVersion: Set software version.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

8.2 autaica_GetModName

This function, autaica_GetModName, is for loading motor model name.

(1) Function

```
int autaica_GetModName (
int PortNum,
char nNodeId,
AICA_SOFTVERSION *pVersion
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- pVersion: Save motor model name.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

8.3 autaica_GetCoilStatusStartAddress

This function, autaica_GetCoilStatusStartAddress, is for loading CoilStatus start address.

(1) Function

```
int autaica_GetCoilStatusStartAddress (
int PortNum,
char nNodeId,
int *iAddr
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.

- iAddr: Save CoilStatus start address.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

8.4 autaica_GetCoilStatusQuantity

This function, autaica_GetCoilStatusQuantity, is for loading the number of CoilStatus addresses.

(1) Function

```
int autaica_GetCoilStatusQuantity (
int PortNum,
char nNodeId,
int *iAddr
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iAddr: Save the number of CoilStatus addresses.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

8.5 autaica_GetInputStatusStartAddress

This function, autaica_GetInputStatusStartAddress, is for loading InputStatus start address.

(1) Function

```
int autaica_GetInputStatusStartAddress (
int PortNum,
char nNodeId,
int *iAddr
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iAddr: Save InputStatus start address.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

8.6 autaica_GetInputStatusQuantity

This function, autaica_GetInputStatusQuantity, is for loading the number of InputStatus addresses.

(1) Function

```
int autaica_GetInputStatusQuantity (
int PortNum,
char nNodeId,
int *iAddr
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iAddr: Save the number of InputStatus addresses.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

8.7 autaica_GetHoldingRegisterStartAddress

This function, autaica_GetHoldingRegisterStartAddress, is for loading Holding Register start address.

(1) Function

```
int autaica_ GetHoldingRegisterStartAddress (
int PortNum,
char nNodeId,
int *iAddr
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iAddr: Save Holding Register start address.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

8.8 autaica_GetHoldingRegisterQuantity

This function, autaica_GetHoldingRegisterQuantity, is for loading the number of Holding Register addresses.

(1) Function

```
int autaica_ GetHoldingRegisterQuantity (
int PortNum,
char nNodeId,
int *iAddr
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iAddr: Save the number of Holding Register addresses.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

8.9 autaica_GetInputRegisterStartAddress

This function, autaica_GetInputRegisterStartAddress, is for loading Input Register start address.

(1) Function

```
int autaica_ GetInputRegisterStartAddress (
int PortNum,
char nNodeId,
int *iAddr
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iAddr: Save Input Register start address.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

8.10 autaica_GetInputRegisterQuantity

This function, autaica_GetInputRegisterQuantity, is for loading the number of Input Register addresses.

(1) Function

```
int autaica_ GetInputRegisterQuantity (
int PortNum,
char nNodeId,
int *iAddr
);
```

(2) Parameter

- PortNum: Enter serial port to execute the command.
- nNodeId

  Select the node ID. The range of node ID is 0 to 31.
  When it is out of the ID range, AICA_INVALID_NODE(9) is returned.
- iAddr: Save the number of Input Register addresses.

(3) Return value

Type	Definition	Return value	Description
Normal	AICA_OK	0	The function executes the command normally.
Input error	AICA_INVALID_COMMAND	1	Invalid command is entered.
	AICA_INVALID_ADDRESS	2	Invalid address is entered.
	AICA_INVALID_ADDRESS_COUNT	3	Invalid address counter is entered.
	AICA_INVALID_PROCESS	4	Invalid process
	AICA_INVALID_PORT	5	Entered port is not available or invalid port number is entered.
	AICA_INVALID_BAUDRATE	6	Invalid baudrate is entered.
	AICA_INVALID_PARITYBIT	7	Invalid parity bit is entered.
	AICA_INVALID_STOPBIT	8	Invalid stop bit is entered.
	AICA_INVALID_NODE	9	Invalid node number
	AICA_INVALID_DATA	10	Invalid data
	AICA_INVALID_COMMUNICATION	11	Communication error
	AICA_CRC_ERROR	12	CRC error
	AICA_NO_RESPONSE_MESSAGE	13	No response

9 Example of Library Usage

9.1 Reset

```
#include <stdio.h>
#include <windows.h>
#include "lib\include\Library.h"
#pragma comment(lib,"lib\\x64\\AiCLibrary.lib")
#define PORTNO  6

void main()
{
 int stat=0; // AiCA communication connection function
             // Return value: returns AICA_OK when command executes normally.
               // Function: To be connected Serial Port Number, Serial Port Baudrate,
                           Serial Port Paritibit, Serial Port Stopbit
               // stat: Check the connectable comport status.

 for (int i=0; i<=PORTNO; i++)
 {

 switch(i)
 {
 case   0: stat = autaica_Open(0, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case   1: stat = autaica_Open(1, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case   2: stat = autaica_Open(2, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case   3: stat = autaica_Open(3, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case   4: stat = autaica_Open(4, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case   5: stat = autaica_Open(5, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case   6: stat = autaica_Open(6, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case   7: stat = autaica_Open(7, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case   8: stat = autaica_Open(8, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case   9: stat = autaica_Open(9, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case 10: stat = autaica_Open(10, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case 11: stat = autaica_Open(11, AICA_BAUD_115200, None, STOPBIT1);
             break;
 case 12: stat = autaica_Open(12, AICA_BAUD_115200, None, STOPBIT1);
```

```
                break;
        case 13: stat = autaica_Open(13, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 14: stat = autaica_Open(14, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 15: stat = autaica_Open(15, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 16: stat = autaica_Open(16, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 17: stat = autaica_Open(17, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 18: stat = autaica_Open(18, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 19: stat = autaica_Open(19, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 20: stat = autaica_Open(20, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 21: stat = autaica_Open(21, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 22: stat = autaica_Open(22, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 23: stat = autaica_Open(23, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 24: stat = autaica_Open(24, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 25: stat = autaica_Open(25, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 26: stat = autaica_Open(26, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 27: stat = autaica_Open(27, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 28: stat = autaica_Open(28, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 29: stat = autaica_Open(29, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 30: stat = autaica_Open(30, AICA_BAUD_115200, None, STOPBIT1);
                break;
        case 31: stat = autaica_Open(31, AICA_BAUD_115200, None, STOPBIT1);
                break;
        }
        if (stat == AICA_OK)
        {
                printf("MESSAGE: Found and open 'AiCA Series (ID=%d)' ComPort\n", i);
        }
        }

        autaica_Close(i);
}
```


9.2 Stop, End

```
#include <stdio.h>
#include <windows.h>
#include "lib\include\Library.h"
#pragma comment(lib,"lib\\x64\\AiCALibrary.lib")
#define PORTNO  6

void main()
{
 int Flag=0; //error check flag

 autaica_Open(PORTNO, AICA_BAUD_115200, None, STOPBIT1); //port OPEN
 Flag=autaica_Close(PORTNO); // port CLOSE

 if(Flag!=AICA_OK)
 {
        printf("error! retrun value: %d\n", Flag);
 }
 }
```

9.3 Parameter setting

```
#include <stdio.h>
#include <windows.h>
#include "lib\include\Library.h"
#pragma comment(lib,"lib\\x64\\AiCALibrary.lib")
#define PORTNO  6

void main()
{
        autaica_Open(PORTNO, AICA_BAUD_115200, None, STOPBIT1); //port OPEN

        AICA_BITSET ActLev;
        AICA_BITSET *pActLev = &ActLev;

        autaica_GetBitSetGroup(PORTNO, Node01, pActLev);
        //loads bit set group

        printf("%d\n", pActLev->bLmtStopMod); //limit stop mode
        printf("%d\n", pActLev->bSCurve); //S curve acceleration/deceleration
        printf("%d\n", pActLev->bInputFilter); //select Input filter
        printf("%d\n", pActLev->bSofLmtEnable); //software limit
        printf("%d\n", pActLev->bPowHomStart);
      //power ON home search auto start
        printf("%d\n", pActLev->bPowPgmStart);
      // power ON program auto start
        printf("%d\n", pActLev->bStopCurrentFix); //stop current fixed method
        printf("%d\n", pActLev->bDrvStart);
      //Index/Program mode start signal level setting
        printf("%d\n", pActLev->bSTEPSL0);
      //Step0/+Run/+Jog signal level setting
        printf("%d\n", pActLev->bSTEPSL1);
      //Step1/-Run/-Jog signal level setting
        printf("%d\n", pActLev->bSTEPSL2); //Step2/SSP0 signal level setting
        printf("%d\n", pActLev->bSTEPSL3); //Step3/SSP1 signal level setting
        printf("%d\n", pActLev->bSTEPSL4);//Step4/MSP0 signal level setting
        printf("%d\n", pActLev->bSTEPSL5);//Step5/MSP1 signal level setting
        printf("%d\n", pActLev->bMODE0); //drive mode 0/home search mode 0 signal
```

```
        level setting
        printf("%d\n", pActLev->bMODE1); //drive mode 1/home search mode 1 signal
        level setting
        printf("%d\n", pActLev->bPause); //pause signal level setting
        printf("%d\n", pActLev->bStop); //stop signal level setting
        printf("%d\n", pActLev->bEMG); //emergency stop signal level setting
        printf("%d\n", pActLev->bHOME);//home search start signal level setting
        printf("%d\n", pActLev->bALMReset); //alarm reset signal level setting
        printf("%d\n", pActLev->bServoOn); //servo on/off signal level setting
        printf("%d\n", pActLev->bLmtActLev); //limit signal level setting
        printf("%d\n", pActLev->bUserInput0); //general input 0 signal level setting
        printf("%d\n", pActLev->bUserInput1); //general input 1    signal level setting
        printf("%d\n", pActLev->bUserInput2); //general input 2 signal level setting
        printf("%d\n", pActLev->bUserInput3); //general input 3 signal level setting
        printf("%d\n", pActLev->bUserInput4); //general input 4 signal level setting
        printf("%d\n", pActLev->bUserInput5); //general input 5 signal level setting
        printf("%d\n", pActLev->bUserInput6); //general input 6 signal level setting
        printf("%d\n", pActLev->bUserInput7); //general input 7 signal level setting
        printf("%d\n", pActLev->bUserInput8); //general input 8 signal level setting
        printf("%d\n", pActLev->bSDMode); //SD signal level setting
        printf("%d\n", pActLev->bInitAngularDir); //initial Angular Dir direction setting
printf("%d\n", pActLev->bMotorDir); //motor rotation direction setting
        printf("%d\n", pActLev->bMode); //alarm output mode setting


        if(pActLev->iErrorState!=AICA_OK)
        {
                printf("error! retrun value: %d\n", pActLev->iErrorState);
        }

        autaica_Close(PORTNO);
}
```


9.4 Movement control

```
#include <stdio.h>
#include <windows.h>
#include "lib\include\Library.h"
#pragma comment(lib,"lib\\x64\\AiCALibrary.lib")
#define PORTNO  6

void main()
{
 int Flag=0; //error check flag
 long lStartSpeed=100; //start drive speed
 long lMaxSpeed=1000; //max. drive speed
 int iAcctime=100; //acceleration time(msec)
 int iDectime=100; //deceleration time(msec)
 long lLocate=10000; //movement position coordinate

 autaica_Open(PORTNO, AICA_BAUD_115200, None, STOPBIT1); //port OPEN
 autaica_SetInitDrvSet(PORTNO, Node01, lStartSpeed, lMaxSpeed, iAcctime, iDectime);
 //start drive speed, max. drive speed, acceleration time, deceleration time set

 autaica_SetInitPosition(PORTNO, Node01, lLocate); //movement position coordinate
set
Flag=autaica_ABSMove(PORTNO, Node01); //absolute position movement command
execution

 if(Flag!=AICA_OK)
 {
        printf("error! retrun value: %d\n", Flag);
 }

 autaica_Close(PORTNO);
}
```

9.5 Program mode

```
#include <stdio.h>
#include <windows.h>
#include "lib\include\Library.h"
#pragma comment(lib,"lib\\x64\\AiCALibrary.lib")
#define PORTNO  6

void main()
{
        int iStepNo=0; //step number

        autaica_Open(PORTNO, AICA_BAUD_115200, None, STOPBIT1); //port OPEN
        AICA_PGMDATA PgmData;
        AICA_PGMDATA *pPgmData = &PgmData;

        for (int i=0; i < 256; i++) //0 to 255 step
        {
                autaica_GetPgmData(PORTNO, Node01, i, pPgmData);
                //load the set Program mode information

                printf("%d\n", pPgmData->iCommand);
                //the set Program mode command
                 "used command: ABS, INC, HOM, ICJ, IRD, OPC, OPT,
                                JMP, REP, RPE, END, POS, TIM"

                printf("%d\n", pPgmData->ParaStartSpd);
                //start drive speed    (1 to 5: Parameter start drive speed ,
                 6: user Input start drive speed )
                 "used command: ABS, INC"

                printf("%d\n", pPgmData->SCurveEnable);
                //S curve acceleration/deceleration enable/disable (0: disable, 1:
                enable)
                 "used command: ABS, INC"

                printf("%d\n", pPgmData->ParaMaxSpd);
                //max. drive speed    (1 to 5: Parameter max. drive speed ,
                 6: user Input max. drive speed )
                 "used command: ABS, INC"

                printf("%d\n", pPgmData->ParaAccel);
                //acceleration time (1 to 5: Parameter acceleration time,
                 6: user Input acceleration time)
                 "used command: ABS, INC"

                printf("%d\n", pPgmData->ParaDecel);
                //deceleration time (1 to 5: Parameter deceleration time,
                 6: user Input deceleration time)
                 "used command: ABS, INC"
```



```
printf("%d\n", pPgmData->StartSpd);
//user Input start drive speed
 "used command: ABS, INC"

printf("%d\n", pPgmData->MaxSpd);
//user Input max. drive speed
 "used command: ABS, INC"

printf("%d\n", pPgmData->Accel);
//user Input acceleration time(msec)
 "used command: ABS, INC"

printf("%d\n", pPgmData->Decel);
//user Input deceleration time(msec)
 "used command: ABS, INC"

printf("%d\n", pPgmData->SCurv);
//S curve acceleration/deceleration time
 "used command: ABS, INC"

printf("%d\n", pPgmData->lPos);
//position coordinate
 "used command: ABS, INC, POS"

printf("%d\n", pPgmData->iHomeMode);
//home search type
 "used command: HOM"

printf("%d\n", pPgmData->nInputPtNo);
//Input port number
 "used command: ICJ, IRD"

printf("%d\n", pPgmData->nJumpStep);
//step number to be jumped
 "used command: ICJ, JMP"

printf("%d\n", pPgmData->nOutPtNo);
//output port number
 "used command: OPC, OPT"

printf("%d\n", pPgmData->bOn);
//ON/OFF
 "used command: OPC, OPT"

printf("%d\n", pPgmData->ParaOnTim);
//ON time (1 to 5: Parameter ON time,
 6: user Input ON time)
 "used command: OPT"
```

```
                printf("%d\n", pPgmData->iOnTim);
                //user Input ON time
                 "used command: OPT"

                printf("%d\n", pPgmData->nRepCnt);
                //repeat times
                 "used command: REP"

                printf("%d\n", pPgmData->ParaDelayTim);
                //wait time (1 to 5: Parameter wait time,
                 6: user Input wait time)
                 "used command: TIM"

                printf("%d\n", pPgmData->DelayTim);
                //user Input wait time(msec)
                 "used command: TIM"

                printf("%d\n", pPgmData->iCompareNo);
                //comparison output number(1 to 2)
                 "used command: CMP"

                printf("%d\n", pPgmData-> iCompareMode);
                //comparison output mode(0 to 3)
                 "used command: CMP "

                printf("%d\n", pPgmData->iPulseWidth);
                //comparison output width
                "used command: CMP "

                printf("%d\n", pPgmData->iPulsePeriod);
                //comparison output period
                 "used command: CMP "

                printf("%d\n", pPgmData-> iTAccTime);
                // Torque accelecation time (msec)
                 " used command: TOQ"

                printf("%d\n", pPgmData-> iTorque);
                // Target torque (%)
                 " used command: TOQ"

        }

        if(pPgmData->iErrorState!=AICA_OK)
        {
                printf("error! retrun value: %d\n", Flag);
        }

        autaica_Close(PORTNO);
}
```


9.6 Monitoring data

```
#include <stdio.h>
#include <windows.h>
#include "lib\include\Library.h"
#pragma comment(lib,"lib\\x64\\AiCALibrary.lib")
#define PORTNO  6

void main()
{
        autaica_Open(PORTNO, AICA_BAUD_115200, None, STOPBIT1); //port OPEN

        AICA_MonitorData MData;
        AICA_MonitorData *pMData = &MData;

        autaica_MonitorData(PORTNO, Node01, pMData);
        //load monitoring data status

        printf("%ld\n", pMData->iDriverMode); //drive mode value
        printf("%ld\n", pMData->lPosL); //command position coordinate
        printf("%ld\n", pMData->lPosA); //actual position coordinate
        printf("%ld\n", pMData->iSpdL); //command drive speed
        printf("%ld\n", pMData->iSpdA); //actual drive speed
        printf("%d\n", pMData->iMotorRPM); //motor rotation speed(RPM)
        printf("%d\n", pMData->iCurStepNo); //driving program step number
        printf("%d\n", pMData->bOverCurErr); //over current error
        printf("%d\n", pMData->bOverSpdErr); //over speed error
        printf("%d\n", pMData->bPosEstErr); //position follow error
        printf("%d\n", pMData->bOverloadErr); //over load error
        printf("%d\n", pMData->bOverheatErr); //over heat error
        printf("%d\n", pMData->bMotorConErr); //motor connection error
        printf("%d\n", pMData->bEncoderConErr); //encoder connection error
        printf("%d\n", pMData->bOverVoltErr); //over voltage error
        printf("%d\n", pMData->bShortVoltErr); //under voltage error
        printf("%d\n", pMData->bMotorAlignErr); //motor alignment error
        printf("%d\n", pMData->bPulseErr); //command pulse error
        printf("%d\n", pMData->bInpositionErr); //In-Position error
        printf("%d\n", pMData->bMemoryErr); //memory error
        printf("%d\n", pMData->bEmgErr); //emergency stop error
        printf("%d\n", pMData->bPgmErr); //Program mode error
        printf("%d\n", pMData->bInxErr); //Index mode error
        printf("%d\n", pMData->bHomeSearchErr); //home search mode    error
        printf("%d\n", pMData->bSofLmtWarnP); //+software limit warning
        printf("%d\n", pMData->bSofLmtWarnM); //- software limit warning
```

```
		printf("%d\n", pMData->bHardLmtWarnP); //+ hardware limit warning
		printf("%d\n", pMData->bHardLmtWarnM); //- hardware limit warning
		printf("%d\n", pMData->bOverloadWarn); //over load warning
		printf("%d\n", pMData->bDrvStart); //drive start
		printf("%d\n", pMData->bSTEP[0]); //Step0/+Run/+Jog
		printf("%d\n", pMData->bSTEP[1]); //Step1/-Run/-Jog
		printf("%d\n", pMData->bSTEP[2]); //Step2/SSP0
		printf("%d\n", pMData->bSTEP[3]); //Step3/SSP1
		printf("%d\n", pMData->bSTEP[4]); //Step4/MSP0
		printf("%d\n", pMData->bSTEP[5]); //Step5/MSP1
		printf("%d\n", pMData->bMODE[0]); //drive mode designate 0
		printf("%d\n", pMData->bMODE[1]); //drive mode designate 1
		printf("%d\n", pMData->bPause); //pause
		printf("%d\n", pMData->bStop); //stop
		printf("%d\n", pMData->bEMG); //emergency stop
		printf("%d\n", pMData->bHOME); //home search
		printf("%d\n", pMData->bALMReset); //alarm reset
		printf("%d\n", pMData->bServoOn); //servo ON/OFF
		printf("%d\n", pMData->bORG); //home sensor
		printf("%d\n", pMData->bLmtP); //+Limit sensor
		printf("%d\n", pMData->bLmtM); //-Limit sensor
		printf("%d\n", pMData->bUserInput[0]); //general input0
		printf("%d\n", pMData->bUserInput[1]); //general input1
		printf("%d\n", pMData->bUserInput[2]); //general input2
		printf("%d\n", pMData->bUserInput[3]); //general input3
		printf("%d\n", pMData->bUserInput[4]); //general input4
		printf("%d\n", pMData->bUserInput[5]); //general input5
		printf("%d\n", pMData->bUserInput[6]); //general input6
		printf("%d\n", pMData->bUserInput[7]); //general input7
		printf("%d\n", pMData->bUserInput[8]); //general input8
		printf("%d\n", pMData->bSDMode); //deceleration mode
		printf("%d\n", pMData->bAlMSignal); //alarm output
		printf("%d\n", pMData->bInposition); //In-Position output
		printf("%d\n", pMData->bCompare[1]); //comparison output1
		printf("%d\n", pMData->bCompare[2]); //comparison output2
		if(pState->iErrorState!=AICA_OK)
		{
			printf("error! retrun value: %d\n", pMData->iErrorState);
		}

		autaica_Close(PORTNO);
}
```


9.7 Product information

```
#include <stdio.h>
#include <windows.h>
#include "lib\include\Library.h"
#pragma comment(lib,"lib\\x64\\AiCALibrary.lib")
#define PORTNO  6

void main()
{
        autaica_Open(PORTNO, AICA_BAUD_115200, None, STOPBIT1); //port OPEN

        AICA_SOFTVERSION Version;
        AICA_SOFTVERSION *pVersion = &Version;

        autaica_GetSofVer (PORTNO, Node01, pVersion); //Loads firmware verion.

        printf("%s\n",pVersion->cSofVer);

        if(pVersion->iErrorState!=AICA_OK)
        {
                printf("error! retrun value: %d\n", pVersion->iErrorState);
        }

 autaica_Close(PORTNO);
 }
```


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* Dimensions or specifications on this manual are subject to change and some models may be discontinued without notice.

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