

**Autonics**

# Multi Indicator KN-2000W SERIES

## USER MANUAL FOR COMMUNICATION

### ■ Communication Specifications

|                      |                                      |             |                                   |
|----------------------|--------------------------------------|-------------|-----------------------------------|
| Comm. protocol       | Modbus RTU 1.1                       | Comm. speed | 19200, 9600, 4800, 2400, 1200 bps |
| Application standard | Compliance with EIA RS485            | Data bit    | 8-bit                             |
| Max. connection      | 32 units                             | Parity bit  | None                              |
| Comm. method         | 2-wire half duplex                   | Stop bit    | 1-bit                             |
| Comm. distance       | Max. 1200m (within 700m recommended) | Converter   | Converter built in RS232          |

### ■ Read Input Status

| No     | Func | R/W | Item | Detail        |
|--------|------|-----|------|---------------|
| 100001 | 0000 | 2   | R    | AL1 indicator |
| 100002 | 0001 | 2   | R    | AL2 indicator |
| 100003 | 0002 | 2   | R    | AL3 indicator |
| 100004 | 0003 | 2   | R    | AL4 indicator |
| 100005 | 0004 | 2   | R    | °F indicator  |
| 100006 | 0005 | 2   | R    | °C indicator  |
| 100007 | 0006 | 2   | R    | % indicator   |

Alarm output indicator ON/OFF  
0: OFF, 1: ON

Unit indicator ON/OFF  
0: OFF, 1: ON

### ■ Read Input Register

| No                  | Func | R/W | Item | Detail   |  |
|---------------------|------|-----|------|--|--|
| 300001              | 0000 | 4   | R    | Present value<br>-19999 to 19999   |  |
| 300002              | 0001 | 4   | R    | Input type<br>Refer to '■ Input Type Parameter Setting Value'  |  |
| 300003              | 0002 | 4   | R    | Decimal point<br>[only for analog input]<br>0004H: .0000, 0003H: 0.000, 0002H: 0.00,<br>0001H: 0.0, 0000H: 0 |  |
| 300004              | 0003 | 4   | R    | PWM OUT<br>0 to 20000  |  |
| 300005              | 0004 | 4   | R    | X (MSB)  | —  |
|                     |      |     |      | % indicator  | Unit indicator ON/OFF<br>0: OFF, 1: ON         |
|                     |      |     |      | °C indicator   |  |
|                     |      |     |      | °F indicator   |  |
|                     |      |     |      | AL4 indicator  | Alarm output indicator ON/OFF<br>0: OFF, 1: ON |
|                     |      |     |      | AL3 indicator  |  |
|                     |      |     |      | AL2 indicator  |  |
| AL1 indicator (LSB) |      |     |      |  |  |

### ■ Input Type Parameter Setting Value (output value)

|              |       |    |     |         |      |    |
|--------------|-------|----|-----|---------|------|----|
| Thermocouple | K(CA) | 0  | RTD | Cu50Ω   | 12   |    |
|              | J(IC) | 1  |     | Cu100Ω  | 13   |    |
|              | E(CR) | 2  |     | JPt100Ω | 14   |    |
|              | T(CC) | 3  |     | DPt50Ω  | 15   |    |
|              | R(PR) | 4  |     | DPt100Ω | 16   |    |
|              | B(PR) | 5  |     | Current | AMA1 | 17 |
|              | S(PR) | 6  |     |         | AMA2 | 18 |
|              | N(NN) | 7  |     | Voltage | AMV1 | 19 |
|              | C(W5) | 8  |     |         | AMV2 | 20 |
|              | L(IC) | 9  |     |         | AV1  | 21 |
|              | U(CC) | 10 |     |         | AV2  | 22 |
| Platinel II  | 11    |    |     |         |      |    |

## ■ Setting Mode Setting Group

| No     | Func | R/W      | Item | Detail                            |   |
|--------|------|----------|------|-----------------------------------|---|
| 400001 | 0000 | 03/06/16 | R/W  | Input type                        | Refer to '■ Input Type Parameter Setting Value'   |
| 400002 | 0001 | 03/06/16 | R/W  | Temperature unit                  | [only for temp. sensor input] 0: °C, 1: °F  |
| 400003 | 0002 | 03/06/16 | R/W  | Front display unit                | [only for analog input] 0: °C, 1: °F, 2: %, 3: OFF  |
| 400004 | 0003 | 03/06/16 | R/W  | High limit input value            | [only for analog input]   |
| 400005 | 0004 | 03/06/16 | R/W  | Low limit input value             | Within input range  |
| 400006 | 0005 | 03/06/16 | R/W  | High limit scale value            | [only for analog input]   |
| 400007 | 0006 | 03/06/16 | R/W  | Low limit scale value             | -19999 to 19999   |
| 400008 | 0007 | 03/06/16 | R/W  | Input correction                  | -999 to 999   |
| 400009 | 0008 | 03/06/16 | R/W  | Digital filter                    | 1 to 16   |
| 400010 | 0009 | 03/06/16 | R/W  | Alarm 1 mode                      | [only for alarm output model]   |
| 400011 | 000A | 03/06/16 | R/W  | Alarm 2 mode                      | 1: High limit alarm, 2: Low limit alarm,  |
| 400012 | 000B | 03/06/16 | R/W  | Alarm 3 mode                      | 3: Sensor break alarm, 4: No alarm  |
| 400013 | 000C | 03/06/16 | R/W  | Alarm 4 mode                      |   |
| 400014 | 000D | 03/06/16 | R/W  | Alarm 1 option                    | [only for alarm output model]   |
| 400015 | 000E | 03/06/16 | R/W  | Alarm 2 option                    | 10: Standard alarm,   |
| 400016 | 000F | 03/06/16 | R/W  | Alarm 3 option                    | 11: Alarm latch,  |
| 400017 | 0010 | 03/06/16 | R/W  | Alarm 4 option                    | 12: Standby sequence,   |
| 400018 | 0011 | 03/06/16 | R/W  | Alarm output hysteresis           | 13: Alarm latch and standby sequence  |
| 400019 | 0012 | 03/06/16 | R/W  | 20mA output scale value           | [only for transmission output model]  |
| 400020 | 0013 | 03/06/16 | R/W  | 4mA output scale value            | Temp. sensor input: within input range,<br>Analog input: L-SC to H-SC                       |
| 400021 | 0014 | 03/06/16 | R/W  | Decimal point                     | [only for analog input]<br>0004H: .0000, 0003H: 0.000, 0002H: 0.00,<br>0001H: 0.0, 0000H: 0 |
| 400022 | 0015 | 03/06/16 | R/W  | Input and trans. output extension | [only for analog input]<br>0: 0%, 1: 5%, 2: 10%   |
| 400023 | 0016 | 03/06/16 | R/W  | Digital input terminal            | 0: Alarm clear, 1: Display Hold,  |
| 400024 | 0017 | 03/06/16 | R/W  | Digital input key                 | 2: Zero-point adjustment  |
| 400025 | 0018 | 03/06/16 | R/W  | Input special function            | [only for analog input]<br>0: Linear, 1: Root, 2: Square, 3: Two Unit Function              |
| 400026 | 0019 | 03/06/16 | R/W  | Sensor break alarm output         | 0: ON, 1: OFF   |
| 400027 | 001A | 03/06/16 | R/W  | Lock                              | 0: OFF, 1: LOCK1, 2: LOCK2  |
| 400028 | 001B | 03/06/16 | R/W  | Display color                     | 0: Red, 1: Green, 2: Yellow, 3: Red-Green, 4: Green-Red                                     |
| 400029 | 001C | 03/06/16 | R/W  | Alarm 1 display color             |   |
| 400030 | 001D | 03/06/16 | R/W  | Alarm 2 display color             | [only for alarm output model]   |
| 400031 | 001E | 03/06/16 | R/W  | Alarm 3 display color             | 0: Red, 1: Green, 2: Yellow   |
| 400032 | 001F | 03/06/16 | R/W  | Alarm 4 display color             |   |
| 400033 | 0020 | 03/06/16 | R/W  | Comm. address                     | 1 to 99   |
| 400034 | 0021 | 03/06/16 | R/W  | Comm. speed                       | 0: 19200, 1: 9600, 2: 4800, 3: 2400, 4: 1200  |
| 400035 | 0022 | 03/06/16 | R/W  | Comm. write                       | 0: Disable, 1: Enable   |

## ■ Operating Mode Setting Group

| No     | Func | R/W      | Item | Detail                |  |
|--------|------|----------|------|-----------------------|--|
| 400051 | 0032 | 03/06/16 | R/W  | Alarm 1 setting value |  |
| 400052 | 0033 | 03/06/16 | R/W  | Alarm 2 setting value | [only for alarm output model]          |
| 400053 | 0034 | 03/06/16 | R/W  | Alarm 3 setting value | Temp. sensor input: within input range |
| 400054 | 0035 | 03/06/16 | R/W  | Alarm 4 setting value | Analog input: L-SC to H-SC             |
| 400055 | 0036 | 03/06/16 | R/W  | High peak value       | High peak value among measured value   |
| 400056 | 0037 | 03/06/16 | R/W  | Low peak value        | Low peak value among measured value    |

※Func : Read Holding Register/Preset Single Register/Preset Multiple Register

## ■ Major Products

- Photoelectric Sensors
- Fiber Optic Sensors
- Door Sensors
- Door Side Sensors
- Area Sensors
- Proximity Sensors
- Pressure Sensors
- Rotary Encoders
- Connectors/Sockets
- Switching Mode Power Supplies
- Control Switches/Lamps/Buzzers
- I/O Terminal Blocks & Cables
- Stepper Motors/Drivers/Motion Controllers
- Graphic/Logic Panels
- Field Network Devices
- Laser Marking System(Fiber, CO<sub>2</sub>, Nd:YAG)
- Laser Welding/Cutting System
- Temperature Controllers
- Temperature/Humidity Transducers
- SSRs/Power Controllers
- Counters
- Timers
- Panel Meters
- Tachometer/Pulse(Rate) Meters
- Display Units
- Sensor Controllers
- Recorders
- Indicators
- Converters
- Controllers
- Thyristor Power Controllers
- Pressure Transmitters
- Temperature Transmitters

**Autonics Corporation**  
http://www.autonics.com

■ **HEADQUARTERS:**  
18, Bansong-ro 513beon-gil, Haeundae-gu, Busan, South Korea, 48002

■ **OVERSEAS SALES:**  
#402-303, Bucheon Techno Park, 655, Pyeongcheon-ro, Wonmi-gu, Bucheon,  
Gyeonggi-do, South Korea, 14502  
TEL: 82-32-610-2730 / FAX: 82-32-329-0728

■ **E-mail:** sales@autonics.com