

INDICATOR

AE500

DIGITAL INDICATOR



RKC RKC INSTRUMENT INC.

AE500

DIGITAL INDICATOR



- ★ Easy-to-see large size LED
- ★ 4 points of alarm can be added
- ★ Optional digital communications

Specifications

★ Input

- | | |
|--------------------------------------|---|
| (1) Input | a) Thermocouple: K, J, E, T, R, S, B, N (JIS/IEC), U, L (DIN), PLI (NBS), W5Re/W26Re (ASTM)
(Input impedance : Approx. 1M Ω) |
| | b) RTD: Pt100 (JIS/IEC), JPt100 (JIS) |
| | c) Voltage input: 0 to 5V DC, 1 to 5V DC |
| | d) Current input: 0 to 20mA DC, 4 to 20mA DC
A resistor of 250 Ω is to be connected externally. |
| (2) Sampling cycle | 0.5 sec. |
| (3) Influence of external resistance | Approx. 0.2 μ V/ Ω (Thermocouple) |
| (4) Influence of input lead | Approx. 0.01%/ Ω of reading but up to 10 Ω per wire maximum |
| (5) Action at input break | a) Thermocouple: Up scale
b) RTD: Up scale
c) Voltage, current input: Down scale
Alarm output is ON.
When "0 to 5V DC" and "0 to 20mA DC" input, value around zero. |
| (6) Action at input short circuit | Down scale (RTD)
Alarm output is ON. |
| (7) PV bias | a) -1999 to 9999 or -199.9 to 999.9 $^{\circ}$ C (F) (Temperature)
b) - span to + span (Voltage, current input) |

★ Performance

- | | |
|---------------------------|--|
| (1) Measuring accuracy | a) $\pm(0.3\%$ of display value + 1 digit) or $\pm 2^{\circ}$ C (4 $^{\circ}$ F) whichever is larger (Thermocouple)
Accuracy is not guaranteed between 0 and 399 $^{\circ}$ C (0 and 799 $^{\circ}$ F) for type R, S, and B input.
Accuracy is not guaranteed between -199.9 and -100.0 $^{\circ}$ C (-199.9 and -158.0 $^{\circ}$ F) for type T, U input. |
| | b) $\pm(0.3\%$ of display value + 1 digit) or $\pm 0.8^{\circ}$ C (1.6 $^{\circ}$ F) whichever is larger (RTD) |
| | c) $\pm(0.3\%$ of display value + 1 digit) (Voltage, current input) |
| (2) Insulation resistance | More than 20M Ω (500V DC) between measured terminals and ground |
| (3) Withstand voltage | More than 20M Ω (500V DC) between power terminals and ground
1000V AC for one minute between measured terminals and ground
1500V AC for one minute between power terminals and ground |

★ Alarm function (option)

- | | |
|----------------------------|--|
| (1) Number of output | 4 points |
| (2) Alarm action | Process High, Low
(Hold action can be programmed.) |
| (3) Alarm differential gap | 0 to 100 or 0.0 to 100.0 $^{\circ}$ C (F) (Temperature input)
0.0 to 10.0% (Voltage, current input) |
| (4) Alarm output | Alarm 1, 2 : Relay output, Form A contact 250V AC 1A (Resistive load)
Alarm 3, 4 : Relay output, Form A contact 250V AC 3A (Resistive load) |

★ LED drive power supply for SP400/SP500 (option)

- | | |
|--------------------|---|
| (1) Output | 12V DC, +1V, -2V |
| (2) Number of link | Max. 2 with the TF and 1 without TF. (TF: Transfer switch type) |
- When this option is specified, alarm 4 output is not available.

★ Digital communications (option)

- | | |
|--------------------------|--|
| (1) Communication method | RS-485 (2 wires) |
| (2) Synchronous method | Start/stop synchronous type |
| (3) Communication speed | 2400bps, 4800bps, 9600bps, 19200bps |
| (4) Bit format | Start bit : 1
Data bit : 7 or 8
Parity bit : odd, even or without
Stop bit : 1 or 2 |
| (5) Maximum connection | 31 (Address can be set from 0 to 99.) |

★ Analog output (option)

- | | |
|-----------------------|--|
| (1) Number of output | 1 point |
| (2) Output signal | 0 to 20mA DC, 4 to 20mA DC (Load resistance : less than 600 Ω) |
| (3) Output scaling | Available for high and low limit. |
| (4) Output resolution | More than 10bits |
- When this option is specified, alarm 3 is not available.

★ Dustproof and waterproof (option)

- Dustproof and waterproof protection : IP65**
 * Dustproof and waterproof are effective only to the front direction when installed on a panel.
 * Dustproof and waterproof are not effective when indicators are mounted in closely contacted.

★ General specifications

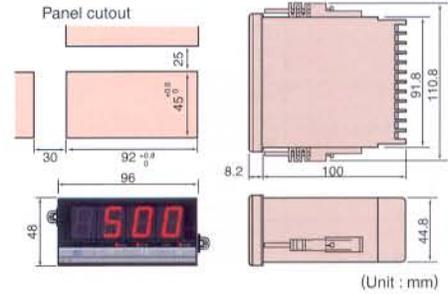
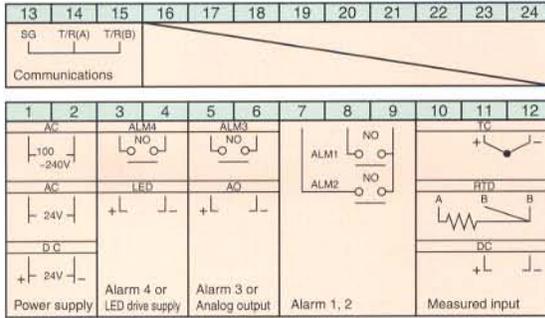
- | | |
|------------------------------------|--|
| (1) Supply voltage | a) AC type : 85 to 264V AC (50/60Hz common)
(Including supply voltage variation) (Rating : 100 to 240V AC)
b) 24V AC type : 21.6 to 26.4V AC (50/60Hz common)
(Including supply voltage variation) (Rating : 24V AC)
c) 24V DC type : 21.6 to 26.4V DC
(Including supply voltage variation) (Rating : 24V DC) |
| (2) Power consumption | a) AC type : Maximum 7VA at 100V
Maximum 10VA at 240V
b) 24V AC type : Maximum 5VA
c) 24V DC type : Maximum 160mA |
| (3) Effect of power failure | Not affected by power failure less than 20 msec., otherwise reset to the initial status. |
| (4) Memory backup | Backed up non-volatile memory. (Data retaining period : Approx. 10 years) |
| (5) Ambient temperature | 0 to 50 $^{\circ}$ C (32 to 122 $^{\circ}$ F) |
| (6) Ambient humidity | 45 to 85% RH |
| (7) Weight and external dimensions | Approx. 250g, 96 (W) x 48 (H) x 100 (D) mm (1/8 DIN) |
| (8) Operating environment | Free from corrosive and flammable gas and dust. |
| (9) Other conditions | Free from external noise, vibration, shock and exposure to direct sunlight. |



★ Rear terminals and External dimensions

AE500

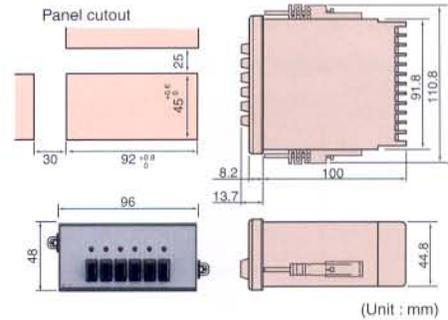
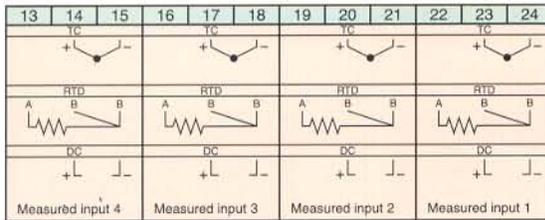
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25	26	27	28	29	30	31	32	33	34	35	36
1	2	3	4	5	6	7	8	9	10	11	12



SP400 / SP500

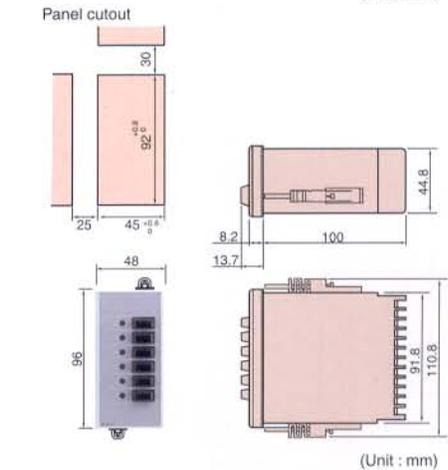
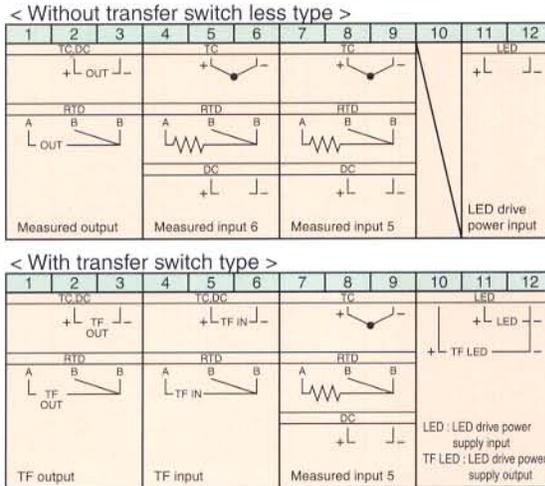
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SP500



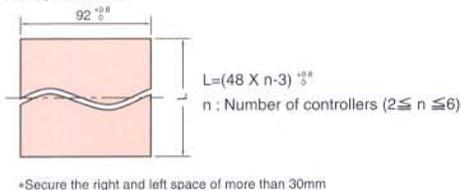
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2	26	14
3	27	15
4	28	16
5	29	17
6	30	18
7	31	19
8	32	20
9	33	21
10	34	22
11	35	23
12	36	24

SP400

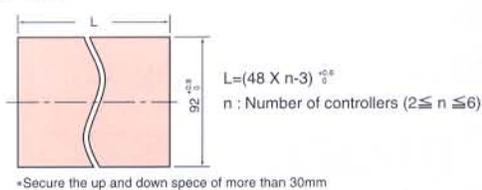


Panel cutout for closely contacted mounting

AE500, SP500



SP400



•Before operating this product, read the instruction manual carefully to avoid incorrect operation.
•This product is intended for use with industrial machines, test and measuring equipment. It is not designed for use with medical equipment.
•If it is possible that an accident may occur as a result of the failure of the product or some other abnormality, an appropriate independent protection device must be installed.
•When installing this product, avoid the following:
-Direct exposure to sunlight.

- Ambient temperature of lower than 0°C or higher than 50°C.
- Areas subject to high or low humidity. (Ambient humidity should not be lower than 45% or higher than 85%RH).
- Direct contact with water.
- Corrosive environments.
- Hazardous areas containing explosive or flammable gases.
- Vibration or shock.
- Areas subject to electrical noise caused by inductive interference, static electricity or magnetic fields.

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