

## Obsolete Product

## Recommended substitute product

Digital indicator  
**F320**

Digital indicator  
**F325**



■ Obsolete date Nov. 2016

■ Difference to recommended substitute product

| Product appearance | External dimension   | Attachment dimension | Specification | Setting method |
|--------------------|----------------------|----------------------|---------------|----------------|
| ☆                  | ☆<br>(Only the side) | ○                    | ↑             | ○              |

◎ : Fully compatible    ↑ : Performance UP    ○ : Minor change    ☆ : Major change

### ■ Product appearance

| Obsolete Product F320 | Recommended substitute product F325 |
|-----------------------|-------------------------------------|
|                       |                                     |

### ■ External dimension

| Obsolete Product F320  | Recommended substitute product F325                                      |
|--|--|
| <p>(Front)  Unit: mm</p> <p>(Rear)  Unit: mm</p> <p>(Side)  Unit: mm</p> | <p>(Front)  Unit: mm</p> <p>(Rear)  Unit: mm</p> <p>(Side)  Unit: mm</p> |

| ■ Specifications |                 | < Differences >   |  |
|------------------|-----------------|---|--|
|                  |                 | Obsolete Product F320   | Recommended substitute product F325  |
| Analog section   | A/D converter   | Speed : 2000 times/sec.   | Speed : 30, 300, 3000 times/sec. (setting selectable)  |
|                  | Analog filter   | 3, 10, 30, 100, 300, 1kHz (setting selectable)  | 10, 30, 100, 300, 1k, 3k, 10k, 30kHz (setting selectable)  |
|                  | Digital filter  | Moving average filter<br>Arbitrarily selectable from 0 to 256 times   | Filter 1:<br>Second-Order Low-Pass Bessel Filter<br>Cut-off frequency can be set at 1/300 or more, 1/10 or less than the sampling rate. (It is also possible to select no filter.)<br>3000 times/sec. : 10 to 300Hz<br>300 times/sec. : 1 to 30Hz<br>30 times/sec. : 0.1 to 3Hz<br>Filter 2 : Moving average filter<br>Arbitrarily selectable from 1 to 999 times  |
|                  | Hold function   | Sample, Peak (Digital peak)   | Sample, peak (selectable from analog peak (response 1kHz) or digital peak)   |
| Display section  | Display unit    | Numbers are displayed by a 7-segment red LED with a character height of 15mm  | Numbers are displayed by a 7-segment green LED with a character height of 15mm   |
|                  | Indicated value | -19999 to 19999   | -19999 to 99999  |
|                  | Status display  | Red LED<br>HI, OK, LOW, PEAK, HOLD  | Red LED<br>HI, LO, PEAK, HOLD<br>Green LED<br>OK   |
| External signal  | External output | 2 point<br>HI, LO<br>Relay output<br>AC250V 0.5A or less, DC30V 0.5A or less  | 5 point<br>HI, OK, LO, output selection1, output selection2 (Output selection can be selected by setting HH limit, LL limit, overload, RUN, hold zero, near zero, and DZ response.)<br>PhotoMOS relay output commonly for sink/source<br>Rated voltage : DC30V max<br>Rated current : 100mA max<br>Operation time : Approx. 1msec  |
|                  | External input  | 2 point<br>DZ, HOLD<br>< No-voltage contact input ><br>Relays, switches, and transistors can be connected. Signals are input by the short-circuit and open-circuit between input terminals and the common terminal. Use a sink type when connecting transistors.<br>Internal power supply voltage : DC12V<br>Short circuit flow : Approx. 8mA | 3 point<br>DZ, HOLD, H.RESET<br>< No-voltage contact input ><br>Relays, switches, and transistors can be connected. Signals are input by the short-circuit and open-circuit between input terminals and the common terminal. Use a sink type when connecting transistors.<br>Internal power supply voltage : DC12V<br>Short circuit flow : Approx. 4mA<br>< DC-input ><br>(Selectable by specifying at time of order)<br>Relays, switches, and transistors can be connected. Signals are input by applying voltage between the input terminals and the common terminal. Use a sink type for plus common and a source type for minus common when connecting transistors.<br>Rated voltage : DC27.6V max<br>ON condition : DC9V or more (load current at DC24V = approx. 10mA)<br>OFF condition : DC3V or less |

| ■ Specifications |              | < Differences >   |  |
|------------------|--------------|---|--|
|                  |              | Obsolete Product F320   | Recommended substitute product F325  |
| Interface        |              | < Standard ><br>485 : RS-485<br>< Option ><br>BCO : BCD parallel data output (Sink type)<br>BSC : BCD parallel data output (Source type)<br>DAV : D/A converter (Voltage output)<br>DAI : D/A converter (Current output)<br>* 1 optional interface can be added in addition the standard interface.   | < Standard ><br>485 : RS-485<br>SIF : SI/F (Specifying at time of order)<br>*SI/F and RS-485 cannot be simultaneously used<br>< Option ><br>BCO : BCD parallel data output (Sink type)<br>BSC : BCD parallel data output (Source type)<br>DAV : D/A converter (Voltage output)<br>DAI : D/A converter (Current output)<br>232 : RS-232C<br>* 1 optional interface can be added in addition the standard interface.   |
| Setting section  | Setting item | < Setting mode 1 ><br>HI limit, LO limit, HI/LO limit comp mode, Hysteresis, Digital offset, Near zero<br>< Setting mode 2 ><br>Digital filter, Analog filter, Motion detect (time), Motion detect (range), Zero tracking (time), Zero tracking (range)<br>Hold mode<br>< Setting mode 3 ><br>Set value LOCK, Calibration LOCK, ZERO key valid/invalid, HOLD key valid/invalid, Min. scale division, Display frequency, Decimal place, Excitation voltage<br>< Setting mode 4 ><br>RS-485 I/F setting, RS-485 ID, RS-485 transmission delay time, BCD data update rate, D/A zero setting, D/A full scale setting, D/A output mode, Password | < Setting mode 1 ><br>HI limit, LO limit, HI/LO limit comp mode, Hysteresis, Digital offset, Near zero, HH limit, LL limit<br>< Setting mode 2 ><br>Moving average filter, Analog filter, Motion detect (time), Motion detect (range), Zero tracking (time), Zero tracking (range)<br>Hold mode<br>< Setting mode 3 ><br>Set value LOCK, Calibration LOCK, ZERO key valid/invalid, HOLD key valid/invalid, Min. scale division, Display frequency, Decimal place, Excitation voltage<br>< Setting mode 4 ><br>RS-485 I/F setting, RS-485 ID, RS-485 transmission delay time, BCD data update rate, D/A zero setting, D/A full scale setting, D/A output mode, Password<br>< Setting mode 5 ><br>Alarm HI limit, Alarm LO limit, Output selection, Sampling rate, Digital low-pass filter, Peak hold selection, Hold fix section, Hold detection wait, Hold value renewal timing<br>< Setting mode 6 ><br>RS-485 communication type, RS-232C communication type, RS-232C I/F setting, BCD output mode, BCD B9 output selection, Automatic printing, Hold value printing<br>< Setting mode 7 ><br>I/O input check, I/O output check, BCD input check, BCD output check, RS-232C check, RS-485 check, Interface, Option type, Version |

| ■ Specifications    |                   | < Differences >  |  |
|---------------------|-------------------|--|--|
|                     |                   | Obsolete Product F320  | Recommended substitute product F325  |
| General performance | Power consumption | < AC spec > 4W typ<br>< DC spec > 6W typ   | < AC spec > 3W typ<br>< DC spec > 4W typ   |
|                     | Rush current      | < AC spec ><br>15A, 2msec : AC100V average load<br>(ordinary temperature, at cold-start time)<br>30A, 2msec : AC200V average load<br>(ordinary temperature, at cold-start time)<br>< DC spec ><br>4A, 25msec : DC12V average load<br>(ordinary temperature, at cold-start time)<br>3A, 20msec : DC24V average load<br>(ordinary temperature, at cold-start time) | < AC spec ><br>2A, 1msec : AC100V average load<br>(ordinary temperature, at cold-start time)<br>4A, 1msec : AC200V average load<br>(ordinary temperature, at cold-start time)<br>< DC spec ><br>2A, 20msec : DC12V average load<br>(ordinary temperature, at cold-start time)<br>1A, 50msec : DC24V average load<br>(ordinary temperature, at cold-start time) |
|                     | Dimensions        | 96 (W) ×48 (H) ×127.3 (D) mm<br>(not including protruding sections)  | 96 (W) ×48 (H) ×132.5 (D) mm<br>(not including protruding sections)  |
|                     | Weight            | Approx.700g  | Approx.600g  |
| Accessories         |                   | AC input cord* ..... 1<br>Conversion plug for AC input cord*..... 1<br>Connector for BCD output ..... 1<br>(when BCO and BSC output option is selected)<br>Terminator ..... 1<br>Operation manual ..... 1<br>Ferrite core for power cable*..... 1<br>Ferrite core for sensor cable ..... 1<br>* : Included only for AC power supply specifications               | AC input cord* ..... 1<br>Conversion plug for AC input cord* ..... 1<br>Connector for BCD output ..... 1<br>(when BCO and BSC output option is selected)<br>Terminator<br>(included only in RS-485 specification) ..... 1<br>Operation manual ..... 1<br>* : Included only for AC power supply specifications  |