


E8CC with Built-in Microcomputer and Digital Display

- Withstands a pressure of 490 kPa and highly reliable.
- Incorporates a two-turn pressure adjuster ensuring easy pressure setting.



 Be sure to read *Safety Precautions* on page 4.

Ordering Information

| Digital display | Pressure range | | ON/OFF output | Linear output | Model |
|-----------------|-------------------|---------------|--------------------|---------------|------------------|
| Yes | Positive pressure | 0 to 98 kPa | NPN open collector | 1 to 5 V | E8CC-A01C |
| | Negative pressure | 0 to -101 kPa | | | E8CC-AN0C |
| | Positive pressure | 0 to 980 kPa | | | E8CC-B10C |

Ratings and Specifications

| Item | Model | E8CC-A01C | E8CC-AN0C* | E8CC-B10C |
|-------------------------------------|------------------------|---|---------------|--------------|
| Power supply voltage | | 12 to 24 VDC $\pm 10\%$ with a ripple (p-p) of 5% max. | | |
| Current consumption | | 30 mA max. | | |
| Pressure type | | Gauge pressure | | |
| Permissible pressure range | | 0 to 98 kPa | 0 to -101 kPa | 0 to 980 kPa |
| Pressure setting range | | 0 to 98 kPa | 0 to -101 kPa | 0 to 980 kPa |
| Pressure indication unit | | kPa | | |
| Withstand pressure | | 490 kPa | | 1.5 MPa |
| Applicable material | | Noncorrosive and nonflammable gases | | |
| Repeat accuracy (ON/OFF output) | | $\pm 1\%$ FS max. | | |
| Accuracy (linear output) | | $\pm 3\%$ FS max. | | |
| Differential travel (ON/OFF output) | | 2% FS max. | | |
| Linearity (linear output) | | $\pm 1\%$ FS max. | | |
| Response time | | 5 ms max. | | |
| Linear output | | 1 to 5 V with an output impedance of 20 Ω and a permissible resistive load of 10 k Ω min. | | |
| ON/OFF output | | NPN open collector | | |
| | Load current | 80 mA max. | | |
| | Output applied voltage | 30 VDC max. | | |
| | Residual voltage | 1 V max. (with a load current of 80 mA) and 0.4 V max. (with a load current of 20 mA) | | |
| Protection circuits | | Reversed power supply connection and load short-circuiting | | |
| Display (See note.) | | 2 ^{1/2} -digit LCD, operation indicator (red) | | |
| Display accuracy | | $\pm 3\%$ FS ± 1 digit max. (within a temperature range between 0°C and 50°C) | | |
| | | $\pm 4\%$ FS ± 1 digit max. (within a temperature range between 50°C and 55°C) | | |
| | | $\pm 5\%$ FS ± 1 digit max. (within a temperature range between -10°C and 0°C) | | |
| Ambient temperature | | Operating: -10°C to 55°C (with no icing) Storage: -25°C to 70°C (with no icing) | | |
| Ambient humidity | | Operating/Storage: 35% to 95% (with no condensation) | | |
| Temperature influence | | $\pm 0.12\%$ FS/°C between 0°C and 50°C and $\pm 0.2\%$ FS/°C max. between -10°C and 0°C or 50°C and 55°C | | |
| Voltage influence | | $\pm 1.5\%$ FS max. | | |
| Insulation resistance | | 50 M Ω min. (at 500 VDC) between current carrying parts and case | | |
| Dielectric strength | | 1,000 VAC for 1 min | | |
| Vibration resistance (destruction) | | 10 to 500 Hz, 1.5-mm double amplitude or 100 m/s ² for 2 hours each in X, Y, and Z directions | | |
| Shock resistance (destruction) | | 1,000 m/s ² 3 times each in X, Y, and Z directions | | |
| Degree of protection | | IEC 60529 IP50 | | |
| Pressure inlet | | R(PT)1/8, and M5 female screw | | |
| Connection method | | Pre-wired (Standard cable length: 2 m) | | |
| Weight (packed state) | | Approx. 80 g | | |
| Material | Pressure port | Aluminum | | |
| Accessories | | Instruction manual, DIN track mounting bracket | | |

Note: An example of a 2^{1/2}-digit display is shown below.

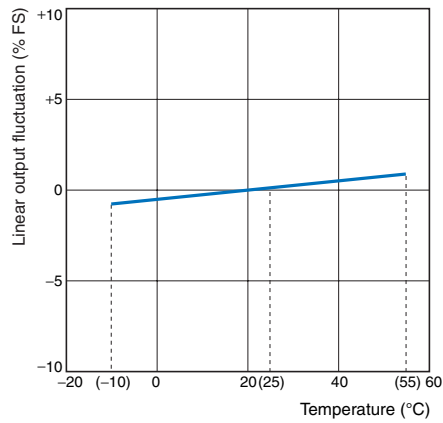
| | Rated pressure range | Digital display | | |
|-------------------|----------------------|-----------------|-----------|-----------|
| | | 3rd digit | 2nd digit | 1st digit |
| Positive pressure | 0 to 98 kPa | | 9 | 8 |
| | 0 to 980 kPa | | 9 | 8 |
| Negative pressure | 0 to -101 kPa | --- | 1 | 0 |

Note: The display values shown above are for when the maximum rated pressure is applied.

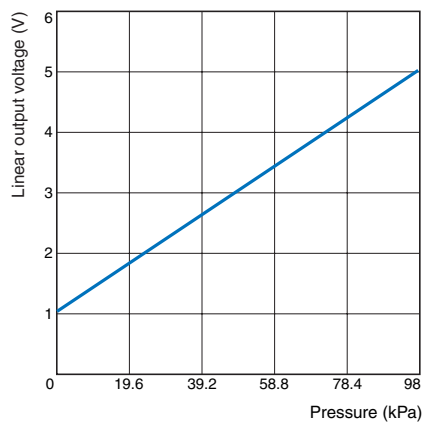
* These models are negative-pressure models.

Engineering Data (Typical)

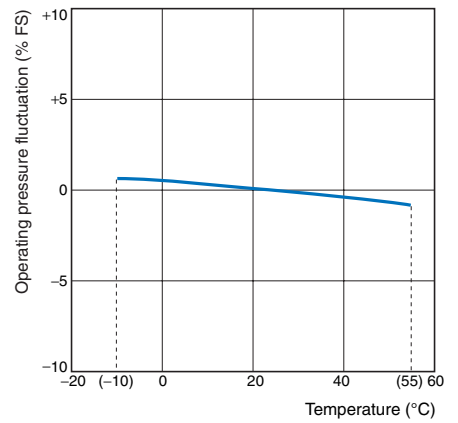
Linear Output Fluctuation vs. Temperature
E8CC-A01C



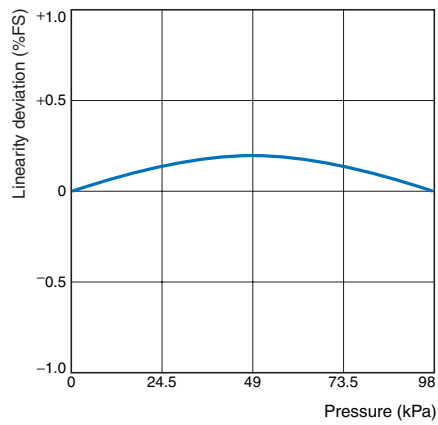
Linear Output Voltage vs. Pressure
E8CC-A01C



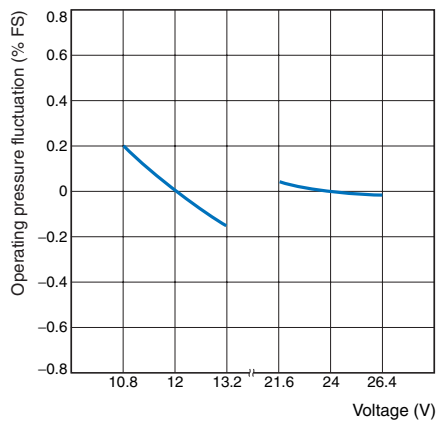
Operating Pressure vs. Temperature
E8CC-A01C



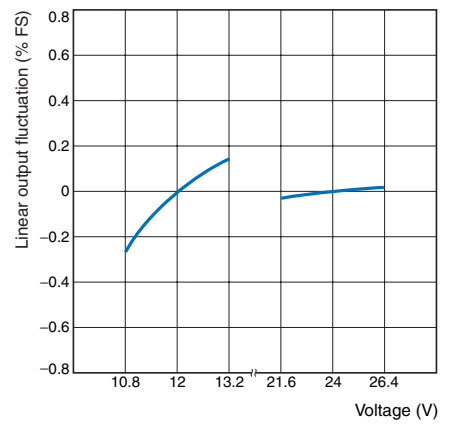
Linearity
E8CC-A01C



Operating Pressure Fluctuation vs. Voltage
E8CC-AN0C



Linear Output Fluctuation vs. Voltage
E8CC-AN0C



I/O Circuit Diagrams

NPN Output

| Model | Timing Charts | Output Circuits |
|------------------------|---------------|-----------------|
| E8CC-A01C E8CC-B10C | | |
| E8CC-AN0C | | |

Safety Precautions

⚠ WARNING

This product is not designed or rated for ensuring safety of persons. Do not use it for such purposes.



Precautions for Correct Use

Do not use the product in atmospheres or environments that exceed product ratings.

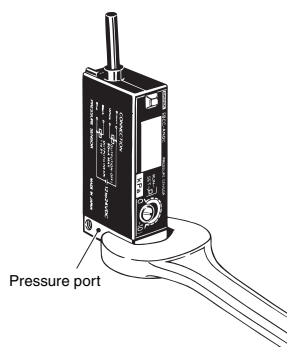
● Mounting

Diaphragm

- If the diaphragm is damaged, the Pressure Sensor will not operate properly. Do not insert a screwdriver or steel wire into the interior of the pressure-sensitive parts through the pressure inlet.

Mounting

- The pressure inlet has an R (PT)1/8 taper screw and an M5 female screw. Apply sealing tape around a screw that conforms to JIS Standards so that no pressure leakage will occur.
- Do not apply a tightening torque higher than 3.9 N·m.
- If the Pressure Sensor is directly connected to a conduit, be sure to apply a wrench to the pressure inlet. Do not apply the wrench to the plastic case.



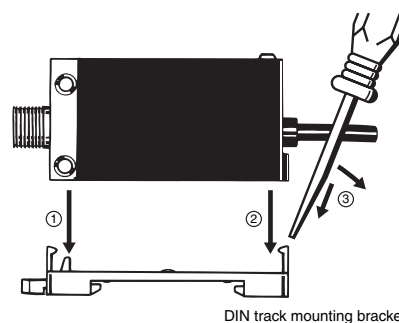
DIN Track Mounting Bracket (E8CC)

● Mounting

1. Fit the front part onto the bracket.
2. Press the rear part onto the bracket.

● Removing

3. Apply a flat-blade screwdriver to the rear hook. Then the Pressure Sensor can be removed with ease.



DIN track mounting bracket

● Wiring

- If no linear output is used, cut off the black lead wire and apply insulation tape to the lead wire so that it will not come in contact with any other terminal.

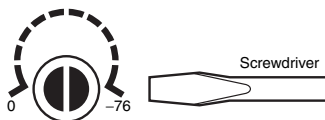
● Adjustment

Setting the Pressure on the E8CC

1. Set the mode selector to SET.



2. Turn the pressure adjuster to the desired pressure.



3. Set the mode selector to RUN.



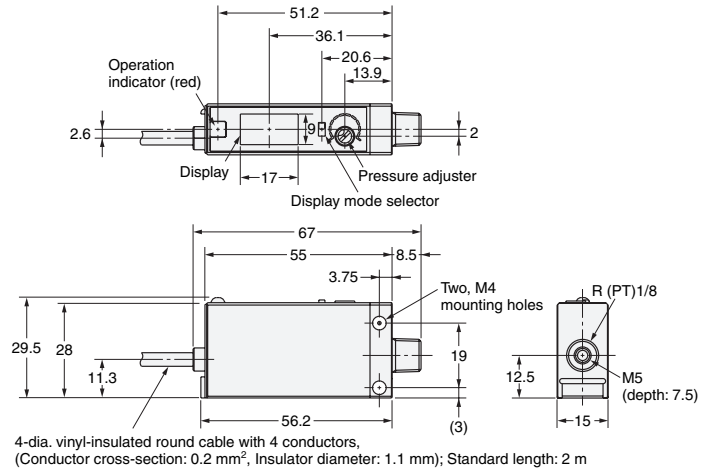
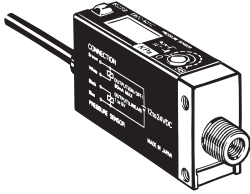
The E8CC has, however, normal output in SET mode. Change in pressure setting is possible in RUN mode by turning the pressure adjuster. Do not turn the pressure adjuster after the pressure adjuster has been set to the desired pressure.

Indications

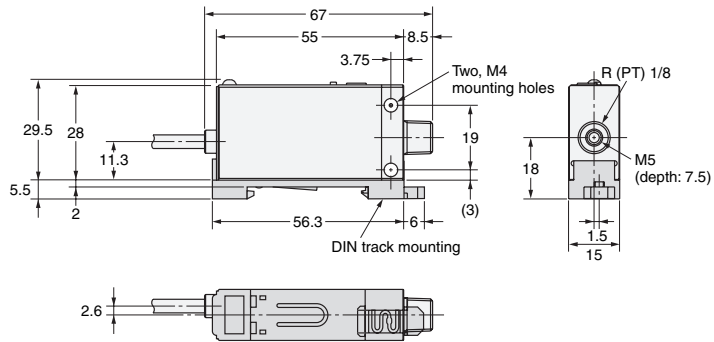
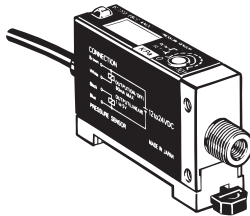
| Display | Mode | Operating status | Description | Permissible range | | | |
|--------------------|------|------------------------------|---|-------------------|--------------|-------------------|-----|
| | | | | Positive pressure | | Negative pressure | |
| | | | | E8CC -A01C | E8CC -B10C | E8CC -AN0C | |
| 30 (for 30 kPa) | RUN | Normal | Displays the imposed pressure within the permissible range. | 0 to 98 kPa | 0 to 980 kPa | 0 to -101 kPa | |
| | SET | Normal | Displays the ON-point setting pressure within the permissible range | | | | |
| -- | RUN | Abnormal pressure imposition | <ul style="list-style-type: none"> Positive Pressure: Indicates that the imposed pressure is lower than the permissible range. Negative Pressure: Indicates that the imposed pressure is higher than the permissible range. The E8CC is, however, in normal output operation in both cases. | | | | |
| | SET | Abnormal pressure setting | <ul style="list-style-type: none"> Positive Pressure: Indicates that ON-point setting pressure value is lower than the permissible range. Negative Pressure: Indicates that ON-point setting pressure is higher than the permissible range. The E8CC is, however, in normal output operation in both cases. | | | | |
| FF | RUN | Abnormal pressure imposition | Indicates that the imposed pressure is higher than the permissible range. | | | | --- |
| | SET | Abnormal pressure setting | <ul style="list-style-type: none"> Positive Pressure: Indicates that ON-point setting pressure value is higher than the permissible range. Negative Pressure: Indicates that ON-point setting pressure is lower than the permissible range. The E8CC is, however, in normal output operation in both cases. | | | | |
| LE | RUN | Load over-current | Indicates that the output transistor has excessive load current, in which case, the output of the E8CC is turned OFF and this display flashes until the condition returns to normal. Check the output wiring if this display flashes. | | | | |
| | SET | | | | | | |
| SH | RUN | Element destruction | Indicates that the Pressure Sensor element is damaged due to the imposition of excessive pressure or other reasons, in which case, the output of the E8CC is turned OFF. If this display appears, the E8CC can no longer be used. | | | | |
| | SET | | | | | | |

Dimensions

E8CC



Mounted to a DIN Track Mounting Bracket



In the interest of product improvement, specifications are subject to change without notice.

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