

# Analogue input module CPX-E-4AI-U-I

Part number: 4080493

**FESTO**



|    |   |   |    |
|----|---|---|----|
| GN | 0 | 1 | GN |
| GN | 2 | 3 | GN |

## Data sheet

| Feature                                      | Value                                                                                |
|----------------------------------------------|--------------------------------------------------------------------------------------|
| Dimensions W x L x H                         | 18.9 mm x 76.6 mm x 124.3 mm                                                         |
| Width dimension                              | 18.9 mm                                                                              |
| Type of mounting                             | With DIN rail                                                                        |
| Product weight                               | 96 g                                                                                 |
| Mounting position                            | Vertical<br>Horizontal                                                               |
| Ambient temperature                          | -5 °C...50 °C                                                                        |
| Note on ambient temperature                  | -5 - 60 °C for vertical installation                                                 |
| Storage temperature                          | -20 °C...70 °C                                                                       |
| Relative air humidity                        | 95%<br>Non-condensating                                                              |
| Degree of protection                         | IP20                                                                                 |
| Corrosion resistance class (CRC)             | 0 - No corrosion stress                                                              |
| Vibration resistance                         | Transport application test with severity level 1 as per FN 942017-4 and EN 60068-2-6 |
| Shock resistance                             | Shock test with severity level 1 as per FN 942017-5 and EN 60068-2-27                |
| Max. cable length                            | 30 m inputs<br>Shielded                                                              |
| LABS (PWIS) conformity                       | VDMA24364 Zone III                                                                   |
| CE marking (see declaration of conformity)   | As per EU EMC directive<br>As per EU RoHS directive                                  |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC<br>To UK RoHS instructions                                |
| KC characters                                | KC-EMV                                                                               |
| Certification                                | RCM compliance mark<br>c UL us - Listed (OL)                                         |
| Certificate issuing authority                | UL E239998                                                                           |
| Note on materials                            | RoHS compliant                                                                       |
| Housing material                             | PA                                                                                   |
| Material of screws                           | Galvanized steel                                                                     |
| Diagnostics via LED                          | Faults per channel<br>Faults per module                                              |
| Diagnostics via bus                          | Wire break<br>Sensor supply short circuit/overload                                   |

| Feature                                                                            | Value                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                    | Parameter error<br>Parameterization error<br>Overload at analog inputs<br>Upper limit value violated<br>Underflow/overflow<br>Lower limit value not complied with                                                                                                                    |
| Max. address capacity inputs                                                       | 8 byte                                                                                                                                                                                                                                                                               |
| Module parameters                                                                  | Analog input data format<br>Sensor supply short circuit diagnostics<br>Parameterization error diagnostics<br>Analog input overload diagnostics<br>Limit monitoring hysteresis<br>Deactivate sensor supply<br>Response to analog input overload<br>Response to short circuit/overload |
| Channel parameters                                                                 | Wire break diagnostics<br>Parameter error diagnostics<br>Underflow/overflow diagnostics<br>Upper limit diagnostics<br>Lower diagnostic limit<br>Smoothing factor<br>Signal range per channel<br>Lower/upper limit                                                                    |
| Internal cycle time                                                                | $\leq 500 \mu\text{s}$                                                                                                                                                                                                                                                               |
| Nominal operating voltage DC for electronics/sensors                               | 24 V                                                                                                                                                                                                                                                                                 |
| Permissible voltage fluctuations for electronics/sensors                           | $\pm 25\%$                                                                                                                                                                                                                                                                           |
| Intrinsic current consumption at nominal operating voltage for electronics/sensors | Typically 70 mA                                                                                                                                                                                                                                                                      |
| Power failure buffering                                                            | 10 ms                                                                                                                                                                                                                                                                                |
| Reverse polarity protection                                                        | 24 V sensor supply against 0 V sensor supply                                                                                                                                                                                                                                         |
| Electrical connection input, function                                              | Analogue input                                                                                                                                                                                                                                                                       |
| Electrical connection input, connection type                                       | 4x terminal strip                                                                                                                                                                                                                                                                    |
| Electrical input connection, connection technology                                 | Spring-loaded terminal                                                                                                                                                                                                                                                               |
| Electrical connection, input, number of pins/wires                                 | 4                                                                                                                                                                                                                                                                                    |
| Electrical connection for input, conductor cross section                           | $0.2 \text{ mm}^2 \dots 1.5 \text{ mm}^2$                                                                                                                                                                                                                                            |
| Electrical connection for input, information on conductor cross section            | $0.2 - 2.5 \text{ mm}^2$ for flexible conductors without cable end sleeves                                                                                                                                                                                                           |
| Electrical connection input 2, function                                            | Functional earth                                                                                                                                                                                                                                                                     |
| Electrical connection input 2, connection type                                     | Terminal strip                                                                                                                                                                                                                                                                       |
| Electrical input 2 connection, connection technology                               | Spring-loaded terminal                                                                                                                                                                                                                                                               |
| Electrical connection, input 2, number of pins/wires                               | 4                                                                                                                                                                                                                                                                                    |
| Electrical connection for input 2, conductor cross section                         | $0.2 \text{ mm}^2 \dots 1.5 \text{ mm}^2$                                                                                                                                                                                                                                            |
| Electrical connection for input 2, information on conductor cross section          | $0.2 - 2.5 \text{ mm}^2$ for flexible conductors without cable end sleeves                                                                                                                                                                                                           |
| No. of inputs                                                                      | 4                                                                                                                                                                                                                                                                                    |
| Behavior after end of overload of the sensor supply                                | Automatic return (default)<br>Parameterizable (module by module)                                                                                                                                                                                                                     |
| Max. residual current of inputs per module                                         | 1.4 A                                                                                                                                                                                                                                                                                |
| Measured variable                                                                  | voltage<br>current                                                                                                                                                                                                                                                                   |
| Data format                                                                        | 15 bit + sign<br>Linear scaling                                                                                                                                                                                                                                                      |
| Signal range                                                                       | -10 - 10 V<br>-5 - 5 V<br>0 - 10 V<br>1 - 5 V<br>-20 - 20 mA<br>0 - 20 mA<br>4 - 20 mA                                                                                                                                                                                               |
| Repetition accuracy                                                                | $\pm 0.1 \%$ at $25^\circ\text{C}$                                                                                                                                                                                                                                                   |
| Basic error limit at $25^\circ\text{C}$                                            | $\pm 0.2\%$                                                                                                                                                                                                                                                                          |
| Operating error limit related to the ambient temperature range                     | $\pm 0.3\%$                                                                                                                                                                                                                                                                          |
| Electrical isolation between channels                                              | No                                                                                                                                                                                                                                                                                   |

| Feature                                               | Value                               |
|-------------------------------------------------------|-------------------------------------|
| Electrical isolation between channel and internal bus | Yes                                 |
| Fuse protection (short circuit)                       | Internal electronic fuse per module |