

# Digital input/output module CPX-AP-I-4DI4DO-M12-5P

Part number: 8086603

FESTO



 General operating condition

## Data sheet

| Feature                                      | Value                                                                                                                                                                                                                 |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions (W x L x H)                       | 30 x 170 x 35 mm                                                                                                                                                                                                      |
| Type of mounting                             | On H-rail via accessories<br>With through-hole                                                                                                                                                                        |
| Product weight                               | 129 g                                                                                                                                                                                                                 |
| Ambient temperature                          | -20 °C ... 50 °C                                                                                                                                                                                                      |
| Storage temperature                          | -40 °C ... 70 °C                                                                                                                                                                                                      |
| Relative air humidity                        | 5 - 95%<br>Non-condensing                                                                                                                                                                                             |
| Degree of protection                         | IP65<br>IP67                                                                                                                                                                                                          |
| Note on degree of protection                 | Unused connections sealed                                                                                                                                                                                             |
| Corrosion resistance class CRC               | 1 - Low corrosion stress                                                                                                                                                                                              |
| Max. cable length                            | 30 m outputs<br>30 m inputs<br>50 m system communication                                                                                                                                                              |
| Note on max. cable length                    | Power supply according to nominal voltage                                                                                                                                                                             |
| LABS (PWIS) conformity                       | VDMA24364-B2-L                                                                                                                                                                                                        |
| Cleanroom class                              | Element installed statically, no meaningful evaluation possible according to ISO 14644-1                                                                                                                              |
| CE mark (see declaration of conformity)      | To EU EMC Directive                                                                                                                                                                                                   |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC                                                                                                                                                                                            |
| KC mark                                      | KC-EMV                                                                                                                                                                                                                |
| Approval                                     | RCM trademark<br>c UL us listed (OL)                                                                                                                                                                                  |
| Certificate issuing authority                | UL E239998                                                                                                                                                                                                            |
| Note on materials                            | RoHS-compliant                                                                                                                                                                                                        |
| Material housing                             | PC<br>Die-cast zinc, nickel-plated                                                                                                                                                                                    |
| Material o-ring                              | FPM                                                                                                                                                                                                                   |
| Diagnostics via LED                          | Diagnostics per module<br>Load power supply<br>Status per channel                                                                                                                                                     |
| Diagnostics per internal communication       | Load switch-off<br>Short-circuit/overload in output signal<br>Short circuit/overload in sensor supply<br>Electronics/sensors overvoltage<br>Load overvoltage<br>Electronics/sensors undervoltage<br>Load undervoltage |
| Number of outputs                            | 4                                                                                                                                                                                                                     |

| Feature                                                                            | Value                                                                                      |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Communication interface, function                                                  | System communication XF10 IN / XF20 OUT                                                    |
| Communication interface, connection type                                           | 2x socket                                                                                  |
| Communication interface, connection technology                                     | M8x1, D-coded according to EN 61076-2-114                                                  |
| Communication interface, number of pins/wires                                      | 4                                                                                          |
| Communication interface, protocol                                                  | AP                                                                                         |
| Communication interface, shielding                                                 | yes                                                                                        |
| Power supply, function                                                             | Incoming electronics/sensors and load                                                      |
| Power supply, connection type                                                      | Plugs                                                                                      |
| power supply, connection system                                                    | M8x1, A-coded to EN 61076-2-104                                                            |
| Power supply, number of pins/wires                                                 | 4                                                                                          |
| Power transmission, function                                                       | Outgoing electronics/sensors and load                                                      |
| Power transmission, connection type                                                | Socket                                                                                     |
| Power transmission, connection technology                                          | M8x1, A-coded to EN 61076-2-104                                                            |
| Power transmission, number of pins/wires                                           | 4                                                                                          |
| Note regarding operating voltage                                                   | SELV/PELV fixed power supplies required<br>Note voltage drop                               |
| Nominal operating voltage DC of load                                               | 24 V                                                                                       |
| Permissible voltage fluctuation of load                                            | ± 25 %                                                                                     |
| Nominal DC operating voltage, electronics/sensors                                  | 24 V                                                                                       |
| Permissible voltage fluctuations for electronics/sensors                           | ± 25%                                                                                      |
| Max. power supply                                                                  | 2 x 4 A (external fuse required)                                                           |
| Intrinsic current consumption at nominal operating voltage for electronics/sensors | Typically 35 mA                                                                            |
| Intrinsic current consumption at nominal operating voltage load                    | Typically 10 mA                                                                            |
| Power failure bridging                                                             | 10 ms                                                                                      |
| Reverse polarity protection                                                        | yes                                                                                        |
| Electrical connection input, function                                              | Digital input                                                                              |
| Electrical connection input, connection type                                       | 2x socket                                                                                  |
| Electrical connection input, connector system                                      | M12x1, A-coded to EN 61076-2-101                                                           |
| Electrical connection input, number of connections/cores                           | 5                                                                                          |
| Number of inputs                                                                   | 4                                                                                          |
| Characteristic for inputs                                                          | To IEC 61131-2, type 3                                                                     |
| Switching level                                                                    | Signal 0: ≤ 5 V<br>Signal 1: ≥ 11 V                                                        |
| Switching logic for inputs                                                         | PNP (positive switching)<br>2-wire sensors to IEC 61131-2<br>3-wire sensors to IEC 61131-2 |
| Input debounce time                                                                | 0.1 ms<br>3 ms<br>10 ms<br>20 ms                                                           |
| Fuse protection of inputs (short circuit)                                          | Internal electronic fuse per module                                                        |
| Max. residual current of inputs per module                                         | 1.8 A                                                                                      |
| Electrical isolation of inputs between channels                                    | no                                                                                         |
| Electrical isolation of inputs between channel - internal communication            | yes                                                                                        |
| Electrical connection output, function                                             | Digital output                                                                             |
| Electrical connection output, connection type                                      | 2x socket                                                                                  |
| Electrical connection output, connector system                                     | M12x1, A-coded to EN 61076-2-101                                                           |
| Electrical connection output, number of connections/cores                          | 5                                                                                          |
| Characteristic for outputs                                                         | According to IEC 61131-2, type 0.5                                                         |
| Switching logic for outputs                                                        | PNP (positive switching)                                                                   |
| Fuse protection of outputs (short circuit)                                         | Internal electronic fuse per channel                                                       |
| Output delay with ohmic load                                                       | Signal change 0→1: < 200 µs<br>Signal change 1→0: < 200 µs                                 |
| Max. residual current outputs per module                                           | 2 A                                                                                        |

| Feature                                                                  | Value |
|--------------------------------------------------------------------------|-------|
| Electrical isolation of outputs between channels                         | no    |
| Electrical isolation of outputs between channel - internal communication | yes   |
| Max. power supply per channel                                            | 0.5 A |