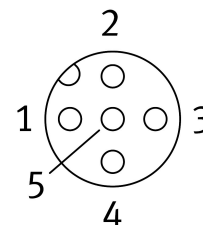


# Digital input module CPX-AP-A-8DI-M12-5P

Part number: 8129109

FESTO



## Data sheet

| Feature                                 | Value                                                                                                                                               |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions W x L x H                    | (incl. interlinking block)<br>50.1 mm x 107.3 mm x 57.5 mm                                                                                          |
| Width dimension                         | 50.1 mm                                                                                                                                             |
| Type of mounting                        | Screwed tightly                                                                                                                                     |
| Product weight                          | 87 g                                                                                                                                                |
| Mounting position                       | Any                                                                                                                                                 |
| Ambient temperature                     | -20 °C...50 °C                                                                                                                                      |
| Note on ambient temperature             | Observe ambient temperature derating according to IEC 61131-2:2017                                                                                  |
| Storage temperature                     | -20 °C...70 °C                                                                                                                                      |
| Relative air humidity                   | 5 - 95 %<br>Non-condensing                                                                                                                          |
| Nominal altitude of use above sea level | <= 2000 m ASL (> 79.5 kPa)                                                                                                                          |
| Max. installation height                | 3500 m                                                                                                                                              |
| Information on max. installation height | > 2000 m ASL (< 79.5 kPa)<br>Observe ambient temperature derating according to IEC 61131-2:2017                                                     |
| Corrosion resistance class (CRC)        | 1 - Low corrosion stress                                                                                                                            |
| Vibration resistance                    | Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6                                                                |
| Note on vibration resistance            | SG1 on H-rail<br>SG2 on direct mounting<br>Transport application test with severity level 1 as per FN 942017-4 and EN 60068-2-6                     |
| Shock resistance                        | Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27                                                                               |
| Note on shock resistance                | 30 g/11 ms as per EN 60068-2-27<br>SG1 on H-rail<br>SG2 on direct mounting<br>Shock test with severity level 1 as per FN 942017-5 and EN 60068-2-27 |
| Protection class                        | III                                                                                                                                                 |
| Contamination level                     | 2                                                                                                                                                   |
| Overvoltage category                    | II                                                                                                                                                  |
| Max. cable length                       | 30 m inputs                                                                                                                                         |
| LABS (PWIS) conformity                  | VDMA24364-B2-L                                                                                                                                      |

| Feature                                                                            | Value                                                                                                                                 |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Material fire test                                                                 | UL94 V-0 (housing)                                                                                                                    |
| Note on materials                                                                  | RoHS-compliant<br>Halogen-free<br>Free of phosphoric acid ester                                                                       |
| Cover material                                                                     | PBT-reinforced                                                                                                                        |
| Material of screws                                                                 | Steel, nickel-plated                                                                                                                  |
| O-ring material                                                                    | FPM                                                                                                                                   |
| Diagnostics via LED                                                                | Diagnostics per module<br>Status per channel                                                                                          |
| Diagnose per internal communication                                                | Communication error<br>Short circuit/overload in sensor supply<br>Electronics/sensors overvoltage<br>Electronics/sensors undervoltage |
| Max. address capacity inputs                                                       | 1 byte                                                                                                                                |
| Channel parameters                                                                 | Input debounce time                                                                                                                   |
| Communication interface, protocol                                                  | AP                                                                                                                                    |
| Note regarding operating voltage                                                   | SELV/PELV fixed power supplies required<br>Note voltage drop                                                                          |
| Note on nominal operating voltage DC                                               | Protected Extra-Low-Voltage as per IEC 60204-1                                                                                        |
| Nominal operating voltage DC for electronics/sensors                               | 24 V                                                                                                                                  |
| Permissible voltage fluctuations for electronics/sensors                           | ± 25 %                                                                                                                                |
| Intrinsic current consumption at nominal operating voltage for electronics/sensors | Typically 40 mA                                                                                                                       |
| Power failure buffering                                                            | 10 ms                                                                                                                                 |
| Reverse polarity protection                                                        | yes                                                                                                                                   |
| Electrical connection input, function                                              | Digital input                                                                                                                         |
| Electrical connection input, connection type                                       | 4x socket                                                                                                                             |
| Electrical input connection, connection technology                                 | M12x1 A-coded as per EN 61076-2-101                                                                                                   |
| Electrical connection, input, number of pins/wires                                 | 5                                                                                                                                     |
| No. of inputs                                                                      | 8                                                                                                                                     |
| Input characteristics                                                              | As per IEC 61131-2, type 3                                                                                                            |
| Switching level                                                                    | Signal 0: ≤ 5 V<br>Signal 1: ≥ 11 V                                                                                                   |
| Input switching logic                                                              | PNP (positive switching)<br>2-wire sensors as per IEC 61131-2<br>3-wire sensors as per IEC 61131-2                                    |
| Input debounce time                                                                | 0.1 ms<br>3 ms (standard)<br>10 ms<br>20 ms                                                                                           |
| Behavior after end of overload of the sensor supply                                | Automatic return                                                                                                                      |
| Fuse protection 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                                                                                                                                    |
| Digital inputs, electrical isolation of input - internal communication             | yes                                                                                                                                   |
| Max. power supply per channel                                                      | 0.5 A                                                                                                                                 |