

## Data sheet

### SM 021 - Digital input (021-1SD10)

#### Technical data

|   |                                    |
|---|------------------------------------|
| <b>Order no.</b>  | <b>021-1SD10</b>                   |
| Type  | SM 021 - Digital input             |
| Module ID   | 0C42 9E00                          |
| <b>General information</b>  |                                    |
| Note  | -                                  |
| Features  | 4x SDI<br>DC 24 V<br>Safety / FSoE |
| <b>Current consumption/power loss</b>                               |                                    |
| Current consumption from backplane bus                              | 95 mA                              |
| Power loss  | 0.8 W                              |
| <b>Technical data digital inputs</b>                                |                                    |
| Number of inputs  | 4                                  |
| Cable length, shielded  | 330 m                              |
| Cable length, unshielded  | 330 m                              |
| Rated voltage power section supply                                  | -                                  |
| Permitted range   | -                                  |
| Current consumption from power section supply (without load)        | 2 mA                               |
| Input rated voltage   | DC 24 V                            |
| Permitted range   | DC 20.4...28.8 V                   |
| Input voltage for signal "0"  | DC 0...5 V                         |
| Input voltage for signal "1"  | DC 11...28.8 V                     |
| Input voltage hysteresis  | -                                  |
| Signal logic input  | Sinking input                      |
| Frequency range   | -                                  |
| Input resistance  | -                                  |
| Input capacitance   | 100 nF                             |
| Input current for signal "1"  | 3 mA                               |
| Connection of Two-Wire-BEROs possible                               | yes                                |
| Max. permissible BERO quiescent current                             | 1.5 mA                             |
| Input delay of "0" to "1"   | parameterizable 1ms - 1s           |
| Input delay of "1" to "0"   | parameterizable 1ms - 1s           |
| Number of simultaneously utilizable inputs horizontal configuration | 4                                  |
| Number of simultaneously utilizable inputs vertical configuration   | 4                                  |
| Input characteristic curve  | IEC 61131-2, type 3                |
| Initial data size   | 4 Bit                              |
| <b>Status information, alarms, diagnostics</b>                      |                                    |
| Status display  | green LED per channel              |
| Interrupts  | yes, parameterizable               |
| Process alarm   | no                                 |
| Diagnostic interrupt  | yes, parameterizable               |
| Diagnostic functions  | yes, parameterizable               |

|                                  |                                |
|----------------------------------|--------------------------------|
| Diagnostics information read-out | possible                       |
| Module state                     | green LED                      |
| Module error display             | red LED                        |
| Channel error display            | red ERR-LED and yellow ER2-LED |

## Isolation

|                                    |          |
|------------------------------------|----------|
| Between channels                   | -        |
| Between channels of groups to      | -        |
| Between channels and backplane bus | yes      |
| Insulation tested with             | DC 500 V |

## Safety

|                     |                               |
|---------------------|-------------------------------|
| Safety protocol     | FSoE                          |
| Safety requirements | SIL CL 3, PL e, Kat 4         |
| Secure user address | 1 - 4095                      |
| Watchdog            | parameterizable 20ms - 65s    |
| Two channels        | Each 2 of 4 inputs switchable |
| Test pulse outputs  | 4                             |

## Datasizes

|                  |    |
|------------------|----|
| Input bytes      | 6  |
| Output bytes     | 6  |
| Parameter bytes  | 16 |
| Diagnostic bytes | 20 |

## Housing

|          |                    |
|----------|--------------------|
| Material | PC / PPE GF10      |
| Mounting | Profile rail 35 mm |

## Mechanical data

|                              |                            |
|------------------------------|----------------------------|
| Dimensions (WxHxD)           | 12.9 mm x 109 mm x 76.5 mm |
| Net weight                   | 63 g                       |
| Weight including accessories | 68 g                       |
| Gross weight                 | 84 g                       |

## Environmental conditions

|                       |                 |
|-----------------------|-----------------|
| Operating temperature | 0 °C to 60 °C   |
| Storage temperature   | -25 °C to 70 °C |

## Certifications

|                         |     |
|-------------------------|-----|
| UL certification        | yes |
| KC certification        | yes |
| UKCA certification      | yes |
| ChinaRoHS certification | yes |