

## Data sheet

### SM 022 - Digital output (022-1SD00)

#### Technical data

|   |  |
|---|--|
| <b>Order no.</b>  | <b>022-1SD00</b>                                 |
| Type  | SM 022 - Digital output                          |
| Module ID   | 0C81 1E00  |
| <b>General information</b>                                    |  |
| Note  | -  |
| Features  | 4x SDO<br>DC 24 V<br>0.5 A<br>Safety / PROFIsafe |
| <b>Current consumption/power loss</b>                         |  |
| Current consumption from backplane bus                        | 75 mA  |
| Power loss  | 1 W  |
| <b>Technical data digital outputs</b>                         |  |
| Number of outputs   | 4  |
| Cable length, shielded  | 1000 m   |
| Cable length, unshielded                                      | 600 m  |
| Rated load voltage  | DC 24 V  |
| Permitted range   | DC 20.4...28.8 V                                 |
| Current consumption from power section supply (without load)  | 15 mA  |
| Total current per group, horizontal configuration, 40°C       | 2 A  |
| Total current per group, horizontal configuration, 60°C       | -  |
| Total current per group, vertical configuration               | -  |
| Output current at signal "1", rated value                     | 0.5 A  |
| Signal logic output   | Sourcing output                                  |
| Output delay of "0" to "1"                                    | 100 µs   |
| Output delay of "1" to "0"                                    | 175 µs   |
| Minimum load current  | -  |
| Lamp load   | 5 W  |
| Parallel switching of outputs for redundant control of a load | not possible                                     |
| Parallel switching of outputs for increased power             | not possible                                     |
| Actuation of digital input                                    | yes  |
| Switching frequency with resistive load                       | max. 50 Hz                                       |
| Switching frequency with inductive load                       | max. 0.5 Hz                                      |
| Switching frequency on lamp load                              | max. 10 Hz                                       |
| Internal limitation of inductive shut-off voltage             | L+ (-45 V)                                       |
| Short-circuit protection of output                            | yes, electronic                                  |
| Trigger level   | 1.7 A  |
| Number of operating cycle of relay outputs                    | -  |
| Switching capacity of contacts                                | -  |
| Output 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                       |
| Supply voltage display           | green LED                      |
| Group error display              | red SF 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 |

## PWM data

|                     |   |
|---------------------|---|
| PWM channels        | - |
| PWM time basis      | - |
| Period length       | - |
| Minimum pulse width | - |
| Type of output      | - |

## Safety

|                     |                                |
|---------------------|--------------------------------|
| Safety protocol     | PROFIsafe V2                   |
| Safety requirements | SIL CL 3, PL e, Kat 4          |
| Secure user address | 1 - 4095                       |
| Watchdog            | parameterizable 10ms - 1s      |
| Two channels        | Each 2 of 4 outputs switchable |
| Test pulse length   | parameterizable 500µs - 10ms   |
| Circuit monitoring  | yes                            |

## Datasizes

|                  |    |
|------------------|----|
| Input bytes      | 5  |
| Output bytes     | 5  |
| Parameter bytes  | 44 |
| 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                   | 64 g                       |
| Weight including accessories | 69 g                       |
| Gross weight                 | 85 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 |