

**Data sheet**  
**SM 022 (022-1BD70)**
**Technical data**

|   |  |
|---|--|
| <b>Order no.</b>  | <b>022-1BD70</b>   |
| Type  | SM 022   |
| Module ID   | 0F43 57E2  |
| <b>General information</b>                                    |  |
| Note  | -  |
| Features  | 4x DO<br>DC 24 V<br>0,5 A<br>ETS function – controable exact to the $\mu$ -second by means of time stamp |
| <b>Current consumption/power loss</b>                         |  |
| Current consumption from backplane bus                        | 105 mA   |
| Power loss  | 0.95 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 20.4...28.8 V   |
| Current consumption from load voltage L+ (without load)       | 25 mA  |
| Total current per group, horizontal configuration, 40°C       | 2 A  |
| Total current per group, horizontal configuration, 60°C       | 2 A  |
| Total current per group, vertical configuration               | 2 A  |
| Output current at signal "1", rated value                     | 0.5 A  |
| Output delay of "0" to "1"                                    | max. 100 ns  |
| Output delay of "1" to "0"                                    | max. 100 ns  |
| Minimum load current  | -  |
| Lamp load   | 10 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. 40 kHz  |
| Switching frequency with inductive load                       | max. 40 kHz  |
| Switching frequency on lamp load                              | max. 40 kHz  |
| Internal limitation of inductive shut-off voltage             | L+ (-52 V)   |
| Short-circuit protection of output                            | yes, electronic, and only highside   |
| Trigger level   | 2.5 A  |
| Number of operating cycle of relay outputs                    | -  |
| Switching capacity of contacts                                | -  |
| Output data size  | 60 Byte  |
| <b>Status information, alarms, diagnostics</b>                |  |
| Status display  | green LED per channel  |
| Interrupts  | no   |

|                                  |           |
|----------------------------------|-----------|
| Process alarm                    | no        |
| Diagnostic interrupt             | no        |
| Diagnostic functions             | no        |
| Diagnostics information read-out | possible  |
| Supply voltage display           | green LED |
| Group error display              | red LED   |
| Channel error display            | none      |

### 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     | - |
| Safety requirements | - |
| Secure user address | - |
| Watchdog            | - |
| Two channels        | - |
| Test pulse length   | - |
| Circuit monitoring  | - |

### Datasizes

|                  |         |
|------------------|---------|
| Input bytes      | 4       |
| Output bytes     | 20 / 60 |
| Parameter bytes  | 6       |
| Diagnostic bytes | 20      |

### Housing

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

### Mechanical data

|                              |                            |
|------------------------------|----------------------------|
| Dimensions (WxHxD)           | 12.9 mm x 109 mm x 76.5 mm |
| Net weight                   | 61 g                       |
| Weight including accessories | 61 g                       |
| Gross weight                 | 76 g                       |

### Environmental conditions

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

### Certifications

|                  |     |
|------------------|-----|
| UL certification | yes |
| KC certification | yes |