

**Data sheet**  
**SM 022 (022-1BB90)**
**Technical data**

<b>Order no.</b>	<b>022-1BB90</b>
Type	SM 022
Module ID	0901 4880
<b>General information</b>	
Note	-
Features	2x DO DC 24 V 0,5 A PWM till 40 kHz
<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	2
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)	15 mA
Total current per group, horizontal configuration, 40°C	1 A
Total current per group, horizontal configuration, 60°C	1 A
Total current per group, vertical configuration	1 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	12 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
<b>Isolation</b>	
Between channels	-
Between channels of groups to	-
Between channels and backplane bus	yes
Insulation tested with	DC 500 V
<b>PWM data</b>	
PWM channels	2
PWM time basis	20.83ns
Period length	1200...8388607 * time base
Minimum pulse width	1 µs
Type of output	Push pull / highside
<b>Safety</b>	
Safety protocol	-
Safety requirements	-
Secure user address	-
Watchdog	-
Two channels	-
Test pulse length	-
Circuit monitoring	-
<b>Datasizes</b>	
Input bytes	4
Output bytes	12
Parameter bytes	12
Diagnostic bytes	20
<b>Housing</b>	
Material	PPE / PPE GF10
Mounting	Profile rail 35 mm
<b>Mechanical data</b>	
Dimensions (WxHxD)	12.9 mm x 109 mm x 76.5 mm
Net weight	61 g
Weight including accessories	61 g
Gross weight	75 g
<b>Environmental conditions</b>	
Operating temperature	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C
<b>Certifications</b>	
UL certification	yes
KC certification	yes