

## Data sheet

SM 022 (022-1BB70)

Technical data

Order no.	022-1BB70
Туре	SM 022
Module ID	0F41 57E1
General information	
Note	-
Features	2 outputs Time stamp Output current 0.5 A
Current consumption/power loss	
Current consumption from backplane bus	105 mA
Power loss	0.95 W
Technical data digital outputs	
Number of outputs	2
Cable length, shielded	1000 m
Cable length, unshielded	600 m
Rated load voltage	DC 20.428.8 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	60 Byte
Status information, alarms, diagnostics	
Status display	green LED per channel
Interrupts	no
Process alarm	no



Degrossic interruptnoDegrossic interruptposableSupply voltage displaygreen LEDGroup error displayred LEDConnel error displaynoneSolation-Statement channels-Between channels of groups to-Between channels of groups to-Between channels of groups to-Between channels of groups to-PWM dataDO 500 VPWM data-PWM data-PWM time basis-PWM time basis-Safety-Safety-Safety-Safety-Safety-Variadons-Safety-Safety requirements-Safety requirements-<		
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 of display by         yes           Insulation tested with         DC 500 V           PWM data         -           PVM channels         -           PVM data         -           Stafe or output         -           Safe or output         -           Safe or output         -           Safe or output         -           Vachadog         -           Circul monitoring         -           Circul monitoring         -           Datasizes         -           Puput bytes         4           Output bytes		no
Supply voltage display         green LED           Group error display         red LED           Channal error display         none           Isolation         .           Between channels         -           Between channels of groups to         -           Between channels and backplane bus         yes           Insulation testad with         DC 500 V           PWM data         -           PWM thannels         -           Safety         -           Safety protocol         -           Two channels         -           Two channels         -           Circuit montaring         -           Datasizes         -           Duty tots         4           Output		
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 data     -       PWM dranels     -       Safety     -       Safety     -       Safety requirements     -       Cascut wannels     -       Output bytes     -       Datasizes     -		
Channel error display     none       Isolation     -       Between channels of groups to     -       Between channels and backplane bus     yes       Inculation tested with     DC 500 V       PWM data     -       PWM channels     -       Price length     -       Minimum pulse width     -       Type of output     -       Safety     -       Safety protocol     -       Safety requirements     -       Safety address     -       Watchdog     -       Two channels     -       Circuit monitoring     -       Circuit monitoring     -       Datasizes     -       Input bytes     4       Output bytes     20       Housing     Profile rail 35 mm       Matchal     PE/ PPE GP10       Material     PE/ PPE GP10       Material     PE/ PPE GP10       Mounting     129 mm x 109 mm x 76.5 mm       Mechanical data     -	Supply voltage display	green LED
Isolation         -           Between channels of groups to         -           Between channels and backplane bus         yes           Insulation tested with         DG 500 V           PWM data         -           PWM channels         -           PWM channels         -           PWM the basis         -           Period length         -           Minimum pulse width         -           Type of output         -           Safety         -           Safety requirements         -           Safety requirements         -           Secure user address         -           Watchdog         -           Two channels         -           Two channels         -           Tow channels         -           Test pulse length         -           Circuit monitoring         -           Datasizes         -           Input tytes         4           Output tytes         6           Diagnostic bytes         20           Parameter tytes         6           Diagnostic bytes         -           Material         PPE / PPE GP10           Mounting	Group error display	red LED
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     -       Type of output     -       Safety     -       Safety     -       Safety requirements     -       Circuit monitoring     -       Two channels     -       Circuit monitoring     -       Datasizes     -       Input bytes     4       Output bytes     20 / 60       Parameter bytes     6       Diagnostic bytes     20 / 80       Parameter bytes     6       Diagnostic bytes     12.9 mm x 109 mm x 76.5 mm       Metweint     12.9 mm x 109 mm x 76.5 mm       Metweint     60 g       Weinstruct     -       Dimensions (WxHxD)     12.9 mm x 109 mm x 76.5 mm       Metweint     60 g       Weinstruct     -       Dimensions (WxHxD)     12.9 mm x 109	Channel error display	none
Between channels of groups to     -       Between channels and backplane bus     yes       Insulation tested with     DC 500 V       PWM data     -       PWM bannels     -       PWM time basis     -       Poriod length     -       Minimum pulse width     -       Type of output     -       Safety     -       Safety protocol     -       Safety rootcol     -       Safety rootcol     -       Safety rootcol     -       Safety rootcol     -       Watchdog     -       Voc channels     -       Voc channels     -       Circuit monitoring     -       Datasizos     -       Input bytes     20       Output bytes     20       Parameter bytes     6       Diagnostic bytes     20       Housing     Profile rail 35 mm       Mechanical data     PPE / PPE GF10       Mounting     12.9 mm x 109 mm x 76.5 mm       Met weight     60 g       Weight Including accessories     -       Vervieght     60 g       Weight Including accessories     -       Porse weight     -       Circuit froot 60 °C       Sorage temperature     <	Isolation	
Between channels and backplane bus     yes       Insulation tested with     DC 500 V       PWM data     -       PWM channels     -       PWM the basis     -       Poriod length     -       Minimum pulse width     -       Type of output     -       Safety     -       Safety requirements     -       Secure user address     -       Watchdog     -       Two channels     -       Two channels     -       Two channels     -       Tog be forgth     -       Safety requirements     -       Secure user address     -       Watchdog     -       Two channels     -       Trest pulse length     -       Circuit monitoring     -       Datasizes     -       Input bytes     20 / 60       Parametr bytes     6       Dagnostic bytes     20 / 60       Parametric bytes     6       Dagnostic bytes     20 / 60	Between channels	
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PWM channels         -           PWM time basis         -           Period length         -           Minimu pulse width         -           Type of output         -           Safety         -           Safety protocol         -           Safety protocol         -           Safety protocol         -           Safety requirements         -           Safety requirements         -           Watchdog         -           Two channels         -           Test pulse length         -           Orbut bytes         -           Datasizes         -           Input bytes         4           Output bytes         20 / 60           Parameter bytes         6           Datasizes         -           Matenal         PPE / PPE GP10           Mounting         Profile rail 35 mm           Mechanical data         -           Dimensions (WxHxD)         12.9 mm x 109 mm x 76.5 mm           Net weight         60 g           Weight including accessories         -           Gross weight         -           Or C to 60 °C         Storage temperature <t< td=""><td>Insulation tested with</td><td>DC 500 V</td></t<>	Insulation tested with	DC 500 V
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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 / 60         Put bytes       20 / 60         Put bytes       9         Upt bytes       6         Diagnostic bytes       6         Diagnostic bytes       6         Discope (bytes)       12.9 mm x 109 mm x 76.5 mm         Net weight       60 g </td <td>PWM time basis</td> <td>-</td>	PWM time basis	-
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Safety         Safety rotocol       -         Safety requirements       -         Secure user address       -         Secure user address       -         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       Pref / PPE GF10         Mounting       Profile rail 35 mm         Mechanical data       PUE / PPE GF10         Mounting       Profile rail 35 mm         Metrial       Og 9         Weight including accessories       -         Gross weight       -         Profile rail 400 g       9         Weight including accessories       -         Gross weight       -         Dirensions (WxHxD)       2.9 mm x 109 mm x 76.5 mm         Net weight       60 g         Weight including accessories       -         Gross weight       -         D	Minimum pulse width	-
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Datasizes         Input bytes       4         Output bytes       20 / 60         Parameter bytes       6         Diagnostic bytes       20         Housing       20         Material       PPE / PPE GF10         Mounting       Profile rail 35 mm         Mechanical data       12.9 mm x 109 mm x 76.5 mm         Net weight       60 g         Veight including accessories       -         Gross weight       -         Environmental conditions       0 °C to 60 °C         Storage temperature       0 °C to 70 °C         Certifications       -	Test pulse length	
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       60 g         Weight including accessories       -         Gross weight       -         Environmental conditions       0 °C to 60 °C         Storage temperature       0 °C to 70 °C         Certifications       -	Circuit monitoring	
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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       60 g         Weight including accessories       -         Gross weight       -         Environmental conditions       0 °C to 60 °C         Storage temperature       -25 °C to 70 °C	Input bytes	4
Parameter bytes       6         Diagnostic bytes       20         Housing       PPE / PPE GF10         Material       PPE / PPE GF10         Mounting       Profile rail 35 mm         Mechanical data       Image: Comparison of the temperature of temperature		20 / 60
Diagnostic bytes       20         Housing       PPE / PPE GF10         Material       PPE / PPE GF10         Mounting       Profile rail 35 mm         Mechanical data       I2.9 mm x 109 mm x 76.5 mm         Dimensions (WxHxD)       12.9 mm x 109 mm x 76.5 mm         Net weight       60 g         Veight including accessories       -         Gross weight       -         Environmental conditions       0 °C to 60 °C         Storage temperature       -25 °C to 70 °C         Certifications       -		6
Material     PPE / PPE GF10       Mounting     Profile rail 35 mm       Mechanical data		20
Material     PPE / PPE GF10       Mounting     Profile rail 35 mm       Mechanical data	Housing	
Mounting       Profile rail 35 mm         Mechanical data       Image: Constraint of the second		PPE / PPE GF10
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Net weight     60 g       Weight including accessories     -       Gross weight     -       Environmental conditions     -       Operating temperature     0 °C to 60 °C       Storage temperature     -25 °C to 70 °C       Certifications     -		12.9 mm x 109 mm x 76.5 mm
Weight including accessories     -       Gross weight     -       Environmental conditions     -       Operating temperature     0 °C to 60 °C       Storage temperature     -25 °C to 70 °C       Certifications     -		
Gross weight     -       Environmental conditions       Operating temperature     0 °C to 60 °C       Storage temperature     -25 °C to 70 °C       Certifications		
Environmental conditions         Operating temperature       0 °C to 60 °C         Storage temperature       -25 °C to 70 °C         Certifications		
Operating temperature     0 °C to 60 °C       Storage temperature     -25 °C to 70 °C		
Storage temperature -25 °C to 70 °C Certifications		
Certifications		
	Storage temperature	-25 °C to 70 °C
UL certification yes	Certifications	
	UL certification	yes

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