

Data sheet

SM 021 (021-1BF01)

Technical data

Type SM 021 Module ID 0013 9FC1 General information Note Features 8 Inputs, 0.5ms Current consumption/power loss Current consumption from backplane bus 35 mA Power loss 0.9 W Technical data digital inputs Number of inputs 8 S Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage Current consumption from load voltage L+ (without load) - Current consumption from load voltage Current Curr	Order no.	021-1BF01
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Power loss 0.9 W Technical data digital inputs Number of inputs 8 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage Current consumption from load voltage L+ (without load) Rated value DC 20.428.8 V Input voltage for signal "0" DC 05 V Input voltage for signal "1" DC 1528.8 V Input resistance Input current for signal "1" AmA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" max. 500 µs Input delay of "0" to "1" max. 500 µs Number of simultaneously utilizable inputs horizontal 8 configuration Number of simultaneously utilizable inputs vertical configuration 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic functions no Diagnostic interrupt no Diagnostic interrupt no Diagnostic information read-out none Module state green LED	Current consumption/power loss	
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Cable length, unshielded 600 m Rated load voltage - Current consumption from load voltage L+ (without load) - Rated value DC 20.428.8 V Input voltage for signal "0" DC 05 V Input voltage for signal "1" DC 1528.8 V Input voltage for signal "1" DC 1528.8 V Input voltage pysteresis - Frequency range - Input resistance - Input resistance - Input resistance yes Input voltage based of "0" to "1" MA Input delay of "0" to "1" max. 500 µs Input delay of "0" to "1" max. 500 µs Input delay of "1" to "0" max. 500 µs Input of simultaneously utilizable inputs horizontal configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostics information read-out none Module state green LED	Number of inputs	8
Rated load voltage - Current consumption from load voltage L+ (without load) - Rated value DC 20.428.8 V Input voltage for signal "0" DC 05 V Input voltage for signal "1" DC 1528.8 V Input voltage for signal "1" DC 1528.8 V Input voltage hysteresis - Frequency range - Input resistance - Input resistance - Input current for signal "1" 3 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" max. 500 µs Input delay of "0" to "1" max. 500 µs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Recomplication Recomplication Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostics information read-out none Module state green LED	Cable length, shielded	1000 m
Current consumption from load voltage L+ (without load) Rated value DC 20.428.8 V Input voltage for signal "0" DC 05 V Input voltage for signal "1" DC 1528.8 V Input voltage hysteresis - Frequency range Input current for signal "1" 3 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" max. 500 µs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Number of simultaneously utilizable inputs vertica	Cable length, unshielded	600 m
Rated value DC 20.428.8 V Input voltage for signal "0" DC 05 V Input voltage for signal "1" DC 1528.8 V Input voltage hysteresis - Frequency range - Input resistance - Input current for signal "1" 3 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" max. 500 µs Input delay of "1" to "0" max. 500 µs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Number of simultaneously utilizable inputs vertical configuration Figure 18 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostic interrupt no Diagnostic information read-out none Module state green LED	Rated load voltage	-
Input voltage for signal "10" DC 05 V Input voltage for signal "11" DC 1528.8 V Input voltage hysteresis - Frequency range - Input resistance - Input current for signal "11" 3 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" max. 500 µs Input delay of "11" to "0" max. 500 µs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic interrupt no Diagnostic information read-out none Module state green LED	Current consumption from load voltage L+ (without load)	-
Input voltage for signal "1" DC 1528.8 V Input voltage hysteresis - Frequency range - Input resistance - Input current for signal "1" 3 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" max. 500 µs Input delay of "1" to "0" max. 500 µs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Rated value	DC 20.428.8 V
Input voltage hysteresis Frequency range Input resistance Input current for signal "1" 3 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" max. 500 μs Input delay of "1" to "0" Mumber of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Reput delatasize Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostic functions noe Module state green LED	Input voltage for signal "0"	DC 05 V
Frequency range Input resistance Input current for signal "1" 3 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" max. 500 μs Input delay of "1" to "0" max. 500 μs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out Module state 3 mA 2 mA 3 mA 2 mA 9 max. 500 μs 1 mo 2 mo 1 mo 2 mo 2 mo 3 max 4 mo	Input voltage for signal "1"	DC 1528.8 V
Input resistance - Input current for signal "1" 3 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" max. 500 µs Input delay of "1" to "0" max. 500 µs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Input voltage hysteresis	-
Input current for signal "1" 3 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" max. 500 µs Input delay of "1" to "0" max. 500 µs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Frequency range	-
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Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" max. 500 μs Input delay of "1" to "0" max. 500 μs Number of simultaneously utilizable inputs horizontal configuration 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Input current for signal "1"	3 mA
Input delay of "0" to "1" max. 500 μs Input delay of "1" to "0" max. 500 μs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Connection of Two-Wire-BEROs possible	yes
Input delay of "1" to "0" max. 500 µs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Max. permissible BERO quiescent current	0.5 mA
Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Input delay of "0" to "1"	max. 500 μs
Number of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out Module state green LED	Input delay of "1" to "0"	max. 500 μs
Input characteristic curve IEC 61131-2, type 1 Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Number of simultaneously utilizable inputs horizontal configuration	8
Initial data size 8 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Number of simultaneously utilizable inputs vertical configuration	8
Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Input characteristic curve	IEC 61131-2, type 1
Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Initial data size	8 Bit
Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED	Status information, alarms, diagnostics	
Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED		green LED per channel
Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED		-
Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Module state green LED		no
Diagnostic functions no Diagnostics information read-out none Module state green LED	Diagnostic interrupt	
Diagnostics information read-out none Module state green LED		no
Module state green LED		
		green LED
	Module 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	
Safety		
Safety protocol		
Safety requirements		
Secure user address	-	
Watchdog	-	
Two channels	-	
Test pulse outputs	-	
Datasizes		
Input bytes	1	
Output bytes	0	
Parameter bytes	0	
Diagnostic bytes	0	
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		
Operating temperature	0 °C to 60 °C	
Storage temperature	-25 °C to 70 °C	
Certifications		
UL certification	in preparation	
KC certification	in preparation	