

Data sheet

SM 021 (021-1BD40)

Technical data

Type SM 021 Module ID 0008 9F84 General Information Note - Features 4 injusts Connect 2/3-wire Current consumption/power loss Current consumption from backplane bus 55 mA Power loss 0,6 W Technical data digital inputs Number of inputs 4 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 0.5 V Input voltage for signal "1" DC 1528.8 V Input voltage for signal "1" DC 1528.8 V Input voltage for signal "1" DC 1528.8 V Input current for signal "1" 3 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current D.5 mA Input delay of "0" to" "1" 3 ms Input delay of "0" to" "1" 3 ms Input delay of "1" to "0" 3 ms Input delay of "1" to "0" 3 ms Number of simultaneously utilizable inputs horizontal configuration 4 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic information read-out none Diagnostic information read-out none Diagnostic information read-out none	Order no.	021-1BD40
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Number of inputs 4 Cable length, shielded 1000 m Rated load voltage Current consumption from load voltage L+ (without load) - Rated value DC 20.428.8 V Input voltage for signal *10* DC 05 V Input voltage for signal *14* DC 1528.8 V Input resistance - Input current for signal *14* 3 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 0.5 mA Input delay of *10* to *14* 3 ms Input delay of *10* to *14* 3 ms Input delay of *10* to *14* 3 ms Input delay of *15* to *10* 3 ms Number of simultaneously utilizable inputs horizontal configuration 4 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic functions no Diagnostic information read-out none	Current consumption from backplane bus	55 mA
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Rated load voltage Current consumption from load voltage L+ (without load) Rated value DC 20.428.8 V Input voltage for signal "0" DC 1528.8 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 Max. permissible BERO quiescent current Input delay of "0" to "1" 3 ms Input delay of "1" to "0" 3 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Number of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic interrupt no Diagnostics information read-out	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	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 Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" 3 ms Input delay of "0" to "0" 3 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Value of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic interrupt no Diagnosticis information read-out none	Rated load voltage	-
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 Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" 3 ms Input delay of "1" to "0" 3 ms Number of simultaneously utilizable inputs horizontal configuration 4 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostic functions no	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 Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" 3 ms Input delay of "1" to "0" 3 ms Number of simultaneously utilizable inputs horizontal configuration 4 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Bit Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions noe	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 Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" 3 ms Input delay of "1" to "0" 3 ms 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 4 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	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 Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" 3 ms Input delay of "1" to "0" 3 ms Number of simultaneously utilizable inputs horizontal configuration 4 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 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	Input voltage for signal "1"	DC 1528.8 V
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" 3 ms Input delay of "1" to "0" 3 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 4 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 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	Input voltage hysteresis	-
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" 3 ms Input delay of "1" to "0" 3 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Number of simultaneously utilizable inputs vertical configuration 4 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 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	Frequency range	-
Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" 3 ms Input delay of "1" to "0" 3 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 4 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 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	Input resistance	-
Max. permissible BERO quiescent current Input delay of "0" to "1" 3 ms Input delay of "1" to "0" 3 ms 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 4 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	Input current for signal "1"	3 mA
Input delay of "0" to "1" 3 ms Input delay of "1" to "0" 3 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 4 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 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	Connection of Two-Wire-BEROs possible	✓
Input delay of "1" to "0" 3 ms 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 4 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	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 4 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	Input delay of "0" to "1"	3 ms
Number of simultaneously utilizable inputs vertical configuration 4 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 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	Input delay of "1" to "0"	3 ms
Input characteristic curve IEC 61131-2, type 1 Initial data size 4 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		4
Initial data size 4 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	Number of simultaneously utilizable inputs vertical configuration	4
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	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	Initial data size	4 Bit
Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none	Status information, alarms, diagnostics	
Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none	Status display	green LED per channel
Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none	Interrupts	no
Diagnostic functions no Diagnostics information read-out none	Process alarm	no
Diagnostics information read-out none	Diagnostic interrupt	no
	Diagnostic functions	no
Module state green LED	Diagnostics information read-out	none
	Module state	green LED



Module error display	red LED	A YASKAWA COMPANY	
Channel error display	none		
Isolation			
Between channels	-		
Between channels of groups to	-		
Between channels and backplane bus	✓		
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	PPE / PPE GF10	
Mounting	Profile rail 35 mm		
Mechanical data			
Dimensions (WxHxD)	12.9 mm x 109 mm x 76.	12.9 mm x 109 mm x 76.5 mm	
Weight	60 g		
Environmental conditions			
Operating temperature	0 °C to 60 °C		
Storage temperature	-25 °C to 70 °C		
Certifications			
UL508 certification	yes		