

Data sheet

SM 321 (321-1BL00)

Technical data

Type SM 321 General Information Note	Order no.	321-1BL00
Note	Туре	SM 321
Note	Opening the form of the	
Features 32 inputs SPEED-Bus - Current consumption/power loss Current consumption from backplane bus 35 mA Power loss 6.5 W Technical data digital inputs Number of inputs 32 Cable length, shielded 1000 m Cable length, shielded 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 for signal "1" TO 1538.8 V Input voltage for signal "1" TO 1538.8 V Input dolay of "1" to "1" TO 1538.8 V Input dolay of "1" to "1" TO 1538.8 V Input dolay of "1" to "1" TO 1538.8 V Input dolay of "1" to "0" TO 1538.8 V Input dolay of "1" to "0" TO 1538.8 V Input dolay of "1" to "0" TO 1538.8 V Input dolay of "1" to "0" TO 1538.8 V Input dolay of "1" to "0" TO 1538.8 V Input dolay of "1" to "0" TO 1538.8 V Input dolay of "1" to "0" TO 1538.8 V Input dolay of "1" to "0" TO 1538.8 V Input dolay of "1" to "0" TO 1538.8 V Input dolay of "1" to "0" TO 1538.8 V Input dolay of "1" to "0" TO 1538.8 V Input dolay of "10" to "1" TO "0" TO 1538.8 V Input dolay of "10" to "1" TO "0" TO 1538.8 V Input dolay of "10" to "10" TO 1538.8 V Input dolay of "10" to "10" TO 1538.8 V Input dolay of "10" to		
Current consumption/power loss Current consumption from backplane bus 35 mA Power loss 6.5 W Technical data digital inputs Number of inputs 32 Cable length, shielded 1000 m Cable length, shielded 600 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 1° DC 1528.8 V Input voltage for signal 1° T DC 1528.8 V Input voltage for signal 1° T T MA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 mA Input delay of "1° to" 3 ms Input delay of "1° to" 3 ms Input delay of "1° to" 0° 11 ms and 1		
Current consumption/power loss Current consumption from backplane bus 35 mA Power loss 6.5 W Technical data digital inputs Number of inputs 32 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 voltage for signal "1" DC 1528.8 V Input voltage for signal "1" T T MA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" 3 ms Input delay of "0" to "1" 3 ms Number of simultaneously utilizable inputs horizontal configuration 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte Status display green LED per channel Interrupts no Diagnostics information read-out none Supply voltage display none		32 inputs
Current consumption from backplane bus 6.5 W Technical data digital inputs Number of inputs 32 Cable length, shielded 1000 m Cable length, shielded 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 hysteresis Frequency range Input current for signal '1" 7 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 mA Input delay of '0' to '1" 3 ms Input delay of '0' to '1" 3 ms Number of simultaneously utilizable inputs horizontal configuration 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostics information read-out none Supply voltage display none	SPEED-Bus	-
Power loss Fechnical data digital inputs Number of inputs 22 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage	Current consumption/power loss	
Number of inputs 32 Cable length, shielded 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* Input voltage for signal *1* Input delay of *1* Input delay of *0* Max. permissible BERO quiescent current 1.5 mA Input delay of *0* to *1* Input delay of *0* to *1* Input delay of *0* to *1* Input delay of *0* is multianeously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte Status display green LED per channel Interrupts no Process alarm no Diagnostics information read-out none Supply voltage display none	Current consumption from backplane bus	35 mA
Number of inputs 32 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 voltage for signal "1" DC 1528.8 V Input voltage fysteresis - Frequency range - Input resistance - Input current for signal "1" 7 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" 3 ms Input delay of "0" to "1" 0" 3 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Number of simultaneously utilizable inputs vertical configuration Process alarm no Diagnostic functions no Diagnostic functions Diagnostics information read-out none Supply voltage display no	Power loss	6.5 W
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 *10* DC 05 V Input voltage for signal *11* DC 1528.8 V Input voltage for signal *11* DC 1528.8 V Input voltage hysteresis - Frequency range - Input current for signal *11* 7 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 mA Input delay of *0* to *1* 3 ms Input delay of *0* to *1* 3 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte Status display green LED per channel Interrupts no Diagnostic functions no Diagnostic functions no Diagnostics information read-out none Supply voltage display no	Technical data digital inputs	
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 provided for signal "1" DC 1528.8 V Input voltage provided for signal "1" DC 1528.8 V Input voltage provided for signal "1" Trade of the signal	Number of inputs	32
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 current for signal "1" 7 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 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 Number of simultaneously utilizable inputs horizontal configuration 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostics information read-out none Supply voltage display none	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 current for signal "1" 7 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" 3 ms Input delay of "1" to "0" 3 ms Input delay of "4" to "0" 3 ms Input delay of "4" to "0" 3 ms Input delay of simultaneously utilizable inputs horizontal configuration 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Supply voltage display none	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* 7 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 mA Input delay of *0* to *1* 3 ms Input delay of *0* to *0* 10* 10* 3 ms Input delay of *1* to *0* 3 ms Input delay of *1* to *0* 3 ms Input delay of simultaneously utilizable inputs horizontal configuration 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostic interrupt no Diagnostic interrupt no Diagnostic functions no Diagnostic information read-out none Supply voltage display none	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" 7 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 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 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostic information read-out none Supply voltage display none	Rated value	DC 20.428.8 V
Input voltage hysteresis Frequency range Input resistance Input current for signal "1" Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 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 1EC 61131-2, type 1 Initial data size 4 Byte 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 Supply voltage display none	Input voltage for signal "0"	DC 05 V
Frequency range Input resistance Input current for signal "1" 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 Rumber of simultaneously utilizable inputs vertical configuration Rumber of simultaneously utilizable inputs vertical configuration Status display Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte 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 Supply voltage display none	Input voltage for signal "1"	DC 1528.8 V
Input resistance - Input current for signal "1" 7 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 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 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte 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 Supply voltage display none	Input voltage hysteresis	
Input current for signal "1" 7 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 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 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte 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 Supply voltage display none	Frequency range	
Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 1.5 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 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte 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 Supply voltage display 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 12 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte 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 Supply voltage display none	Input current for signal "1"	7 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 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte 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 Supply voltage display 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 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte 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 Supply voltage display none	Max. permissible BERO quiescent current	1.5 mA
Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte 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 Supply voltage display none	Input delay of "0" to "1"	3 ms
Number of simultaneously utilizable inputs vertical configuration 32 Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte 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 Supply voltage display none	Input delay of "1" to "0"	3 ms
Input characteristic curve IEC 61131-2, type 1 Initial data size 4 Byte 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 Supply voltage display noe	Number of simultaneously utilizable inputs horizontal configuration	32
Initial data size 4 Byte 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 Supply voltage display none	Number of simultaneously utilizable inputs vertical configuration	32
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 Supply voltage display 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 Supply voltage display none	Initial data size	4 Byte
Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Supply voltage display none	Status information, alarms, diagnostics	
Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Supply voltage display none	Status display	green LED per channel
Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Supply voltage display none	Interrupts	no
Diagnostic functions no Diagnostics information read-out none Supply voltage display none	Process alarm	no
Diagnostics information read-out none Supply voltage display none	Diagnostic interrupt	no
Supply voltage display none	Diagnostic functions	no
	Diagnostics information read-out	none
Group error display none	Supply voltage display	none
The state of the s	Group error display	none



Channel error display	none	A YASKAWA COMPANY	
Isolation			
Between channels	-		
Between channels of groups to	16		
Between channels and backplane bus	✓	✓	
Insulation tested with	DC 500 V		
Datasizes			
Input bytes	4	4	
Output bytes	0	0	
Parameter bytes	0	0	
Diagnostic bytes	0	0	
Housing			
Material	PPE		
Mounting	Rail System 300		
Mechanical data			
Dimensions (WxHxD)	40 mm x 125 mm x 120 mm		
Weight	240 g		
Environmental conditions			
Operating temperature	0 °C to 60 °C		
Storage temperature	-25 °C to 70 °C		
Certifications			
UL508 certification	yes		