

Data sheet SM 223 (223-2BL10)

Technical data

SM 223	Order no.	223-2BL10
Note - 16 inputs/ 16 outputs DC 24 V Output current 1 A Current consumption/power loss Current consumption from backplane bus 120 mA Power loss 6.5 W Technical data digital inputs Number of inputs 16 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 "1" DC 1528 W Input voltage for signal "1" DC 1528 B V Input voltage for signal "1" DC 1528 B 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 Input delay of "0" to "1" 3 ms Input delay of "1" to "0" 3 ms Number of simultaneously utilizable inputs horizontal 8 continguration 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage - Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage - Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V	Туре	SM 223
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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" 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 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	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" 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 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	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 "0" to "1" 3 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Reconstruction of the configuration 16 Input characteristic curve IEC 61131-2, type 1 Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	Rated value	DC 20.428.8 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 Reconstruction of the configuration of the	Input voltage for signal "0"	DC 05 V
Frequency range Input resistance Input current for signal "1" 7 mA Connection of Two-Wire-BEROs possible Max. permissible BERO quiescent current 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 Number of simultaneously utilizable inputs vertical configuration Residual data size Input characteristic curve IEC 61131-2, type 1 Initial data size Input characteristic curve Initial data size Input characteristic curve Initial data digital outputs Number of outputs In Cable length, shielded Input characteristic curve In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve IEC 61131-2, type 1 In Cable length, unshielded Input characteristic curve	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 Number of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	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 Number of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	Frequency range	-
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 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	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 Rumber of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	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 Rumber of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	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 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	Max. permissible BERO quiescent current	1.5 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 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	Input delay of "0" to "1"	3 ms
Number of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	Input delay of "1" to "0"	3 ms
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Initial data size 2 Byte Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	Number of simultaneously utilizable inputs vertical configuration	8
Technical data digital outputs Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	Input characteristic curve	IEC 61131-2, type 1
Number of outputs 16 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	Initial data size	2 Byte
Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	Technical data digital outputs	
Cable length, unshielded 600 m Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	Number of outputs	16
Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage -	Cable length, shielded	1000 m
Reverse polarity protection of rated load voltage -	Cable length, unshielded	600 m
	Rated load voltage	DC 20.428.8 V
Current consumption from load voltage L+ (without load) 10 mA	Reverse polarity protection of rated load voltage	-
	Current consumption from load voltage L+ (without load)	10 mA
Output current at signal "1", rated value 1 A	Output current at signal "1", rated value	1 A
Output delay of "0" to "1" 150 µs	Output delay of "0" to "1"	150 µs



Output delay of "1" to "0"	100 μs	A YASKAWA COMPANY
Minimum load current	-	
Lamp load	5 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	✓	
Switching frequency with resistive load	max. 1000 Hz	
Switching frequency with inductive load	max. 0.5 Hz	
Switching frequency on lamp load	max. 10 Hz	
Internal limitation of inductive shut-off voltage	L+ (-52 V)	
Short-circuit protection of output	yes, electronic	
Trigger level	1.7 A	
Number of operating cycle of relay outputs	-	
Switching capacity of contacts	-	
Output data size	2 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	green LED	
Group error display	red SF LED	
Channel error display	none	
Isolation		
Between channels	-	
Between channels of groups to	16	
Between channels and backplane bus	✓	
Insulation tested with	DC 500 V	
Datasizes		
Input bytes	2	
Output bytes	2	
Parameter bytes	0	
Diagnostic bytes	0	
Housing		
Material	PPE / PA 6.6	
Mounting	Profile rail 35 mm	
Mechanical data		
Dimensions (WxHxD)	25.4 mm x 76 mm x 88 mm	
Weight	150 g	
Environmental conditions		
Operating temperature	0 °C to 60 °C	
Storage temperature	-25 °C to 70 °C	
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Certifications

UL508 certification yes