

Data sheet SM 221 (221-1BH50)

Technical data

Type SM 221 General information Commender of the part of	Order no.	221-1BH50
Note 16 actives 16 inputs Active low input LED status display on conversion module UB4x Current consumption/power loss Current consumption from backplane bus 40 mA Power loss 3.5 W Technical data digital inputs Number of inputs 16 6 Cabble length, shielded 1000 m Cabble length, shielded 600 m Rated load voltage 17 Current consumption from load voltage L+ (without load) 1000 m Cabble length shielded 1000 m Cabble length shielded 1000 m Cabble length, shield	Туре	SM 221
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Features		
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Power loss 3.5 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 "0" DC 1528.8 V Input voltage for signal "1" DC 05 V Input voltage for signal "1" DC 05 V Input voltage for signal "1" TMA Connection of Two-Wire-BERQs possible Max. permissible BERQ quiescent current 1.5 mA Input delay of "0" to "1" 3 ms Number of simultaneously utilizable inputs horizontal configuration 16 Input characteristic curve Iniput characteristic curve Initial data size 2 Byte Status Information, alarms, diagnostics Status display no Diagnostic functions no none Diagnostic information read-out none Diagnostics information read-out none Supply voltage display none	Current consumption/power loss	
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Number of inputs Cable length, shielded Cable length, unshielded Cable length, unshielded 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 voltage for signal "1" Input voltage for signal "1" Trequency range Input resistance Input current for signal "1" The A 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 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 interrupt no Diagnostic interrupt no Diagnostics information read-out none Supply voltage display none	Power loss	3.5 W
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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 1528.8 V Input voltage for signal "1" DC 05 V Input voltage hysteresis - Frequency range Input resistance Input current for signal "1" T 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" Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Input characteristic curve Initial data size 2 Byte Status information, alarms, diagnostics Status display none Inerrupts no Diagnostic interrupt no Diagnostics information read-out none Supply voltage display none	Cable length, unshielded	600 m
Rated value DC 20.428.8 V Input voltage for signal "0" DC 1528.8 V Input voltage for signal "1" DC 05 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 Number of simultaneously utilizable inputs horizontal configuration for simultaneously utilizable inputs vertical configuration Number of simultaneously utilizable inputs vertical configuration 16 Input characteristic curve - Initial data size 2 Byte Status information, alarms, diagnostics Status display none Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Supply voltage display none	Rated load voltage	-
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Input voltage for signal "1" DC 05 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 Number of simultaneously utilizable inputs vertical configuration Input characteristic curve - Initial data size 2 Byte Status information, alarms, diagnostics Status display none Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostic functions no Diagnostics 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" 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 - Initial data size 2 byte Status information, alarms, diagnostics Status display none Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostic functions no Diagnostic functions none Supply voltage display none	Input voltage for signal "0"	DC 1528.8 V
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 Input characteristic curve - Initial data size 2 Byte Status information, alarms, diagnostics Status display none Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions noe Supply voltage display none Supply voltage display none	Input voltage for signal "1"	DC 05 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 16 Input characteristic curve - Initial data size 2 Byte Status information, alarms, diagnostics Status display none Process alarm no Diagnostic interrupt no Diagnostic functions none Supply voltage display none Supply voltage display 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 16 Input characteristic curve - Initial data size 2 Byte Status information, alarms, diagnostics Status display none Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Supply voltage display none	Frequency range	
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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 Initial data size 2 Byte Status information, alarms, diagnostics Status display none Interrupts no Process alarm no Diagnostic interrupt 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 16 Input characteristic curve - Initial data size 2 Byte Status information, alarms, diagnostics Status display none 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	✓
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Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Input characteristic curve Initial data size 2 Byte Status information, alarms, diagnostics Status display none Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions Diagnostics information read-out Supply voltage display none	Input delay of "0" to "1"	3 ms
Number of simultaneously utilizable inputs vertical configuration Input characteristic curve Initial data size Status information, alarms, diagnostics Status display none Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out Supply voltage display none	Input delay of "1" to "0"	3 ms
Input characteristic curve Initial data size Status information, alarms, diagnostics Status display Interrupts Process alarm Diagnostic interrupt Diagnostic functions Diagnostics information read-out Supply voltage display		16
Initial data size 2 Byte Status information, alarms, diagnostics Status display none 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	16
Status information, alarms, diagnostics Status display none Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Supply voltage display none	Input characteristic curve	-
Status display none Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Supply voltage display none	Initial data size	2 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	
Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Supply voltage display none	Status display	none
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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
	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	2		
Output bytes	0		
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	70 g		
Environmental conditions			
Operating temperature	0 °C to 60 °C		
Storage temperature	-25 °C to 70 °C		
Certifications			
UL508 certification	yes		