

Data sheet

SM 221 (221-1BF21)

Technical data

SM 221	Order no.	221-1BF21
Note	Туре	SM 221
Features 8. D. D. C. 24 V Delay time 0.2 ms Alarm Current consumption/power loss Current consumption from backplane bus 25 mA Power loss 2 W Technical data digital inputs Number of inputs 8 Cable length, shielded 1000 m Cable length, unshielded 600 m Rated load voltage	General information	
Current consumption/power loss Current consumption from backplane bus 25 mA Power loss 2 W Technical data digital inputs Number of inputs 8 Cable length, shielded 1000 m Cable length, shielded 600 m Rated load voltage Current consumption from load voltage L+ (without load) Rated value DC 20428.8 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' DC 1528.9 V Input voltage visiteration of '1' DC 1528.9 V Input voltage visiteration of '1' DC 1528.9 V Input voltage visiteration of '1' DC 1528.9 V Input delay of '1' TC 1528.9 V Input	Note	-
Current consumption from backplane bus 25 mA Power loss 2 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 '1" DC 1528.8 V Input voltage for signal '1" NA DC 1528.8 V Input voltage for signal '1" NA DC 1528.8 V Input voltage for signal '1" NA DC 1528.8 V Input voltage for signal '1" NA DC 1528.8 V Input voltage for signal '1" NA DC 1528.8 V Input voltage for signal '1" NA DC 1528.8 V Input voltage for signal '1" NA DC 1528.8 V Input delay of '0" to '1" NA	Features	DC 24 V Delay time 0.2 ms
Power loss 2 W Technical data digital inputs Number of inputs 8 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" TO NA Input voltage for signal "1" NA Input voltage for signal "1" NA Input resistance - Input current for signal "1" TO NA Connection of Two-Wire-BEROS possible yes Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" O.2 ms Input delay of "1" to "0" O.2 ms Input delay of "1" to "0" O.2 ms Input delay of "1" to "0" O.2 ms Input delay of simultaneously utilizable inputs horizontal configuration 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 1 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostic interrupt no Diagnostic interrupt no Diagnostics information read-out none Supply voltage display none Group error display	Current consumption/power loss	
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 voltage for signal "1" DC 1528.8 V Input voltage for signal "1" DC 1528.8 V Input voltage hysteresis Signal logic input Sinking input Frequency range Input resistance Input resistance voltage bero your signal "1" To mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" 0.2 ms Input delay of "0" to "1" 0.2 ms Number of simultaneously utilizable inputs horizontal configuration 8 Input characteristic curve IEC S1131-2, type 1 Initial data size 1 Byte Status display green LED per channel Interrupts no Inganostic interrupt no Diagnostic interrupt no Diagnostic interrupt no Diagnostic information read-out none Supply voltage display none Group error display none	Current consumption from backplane bus	25 mA
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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 - Signal logic input Sinking input Frequency range - Input resistance Input resistance Input resistance Input resistance Input delay of "0" to "1" Input delay of "0" to "1" Input delay of "1" to "0" Input delay of "1" to "0" Input delay of simultaneously utilizable inputs vertical configuration Input current for simultaneously utilizable inputs vertical configuration Input delay of "0" to "1" Input delay of "0" to "1" Input delay of "1" to "0" Input delay of "1" to "0" Input characteristic curve IEC 61131-2, type 1 Initial data size I Byte Status information, alarms, diagnostics Status display Green LED per channel Interrupts Ino Diagnostic functions Ino Diagnostic functions Ino Diagnostic functions Inone Group error display Inone	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 - Signal logic input Sinking input Frequency range - Input current for signal "1" 7 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" 0.2 ms Input delay of "0" to "1" 0.2 ms Input delay of "i" to "0" Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Input data size 1 byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostic information read-out none Supply voltage display none	Rated load voltage	-
Input voltage for signal "0" DC 05 V Input voltage for signal "1" DC 1528.8 V Input voltage hysteresis - Signal logic input Sinking input Frequency range - Input current for signal "1" 7 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" 0.2 ms Input delay of "1" to "0" 0.2 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Input data size 1 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostics information read-out none Group error display none Group error display none	Current consumption from load voltage L+ (without load)	-
Input voltage for signal "1" DC 1528.8 V Input voltage hysteresis - Signal logic input Sinking input Frequency range - Input resistance - Input current for signal "1" 7 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" 0.2 ms Input delay of "1" to "0" 0.2 ms Number of simultaneously utilizable inputs horizontal configuration 8 Input characteristic curve IEC 61131-2, type 1 Initial data size 1 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Diagnostic interrupt no Diagnostic interrupt no Diagnostic information read-out none Supply voltage display none Group error display none	Rated value	DC 20.428.8 V
Input voltage hysteresis Signal logic input Sinking input 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" 0.2 ms Input delay of "1" to "0" 0.2 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Residual input characteristic curve IEC 61131-2, type 1 Initial data size Input characteristic curve Initial data size 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 Group error display none	Input voltage for signal "0"	DC 05 V
Signal logic input 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" 0.2 ms Input delay of "1" to "0" 0.2 ms Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration Resistance Input characteristic curve IEC 61131-2, type 1 Initial data size Input characteristic curve IEC 61131-2, type 1 Initial data size Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostic functions no Diagnostic functions no Croup error display none	Input voltage for signal "1"	DC 1528.8 V
Frequency range Input resistance Input current for signal "1" 7 mA Connection of Two-Wire-BEROs possible 9es Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" 0.2 ms Input delay of "1" to "0" 0.2 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 1 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostic sinformation read-out none Supply voltage display none Group error display none	Input voltage hysteresis	-
Input current for signal "1" 7 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" 0.2 ms Input delay of "1" to "0" 0.2 ms Input delay of "1" to "0" 0.2 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 1 Byte Status information, alarms, diagnostics Status display green LED per channel Interrupts no Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostic sinformation read-out none Supply voltage display none Group error display none	Signal logic input	Sinking input
Input current for signal "1" 7 mA Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" 0.2 ms Input delay of "1" to "0" 0.2 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 1 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 Group error display none	Frequency range	-
Connection of Two-Wire-BEROs possible yes Max. permissible BERO quiescent current 1.5 mA Input delay of "0" to "1" 0.2 ms Input delay of "1" to "0" 0.2 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 1 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 Group error display none	Input resistance	-
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Input delay of "0" to "1" 0.2 ms Input delay of "1" to "0" 0.2 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 1 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 Group error display none	Connection of Two-Wire-BEROs possible	yes
Input delay of "1" to "0" 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 1 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 Group error display none	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 1 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 Group error display none	Input delay of "0" to "1"	0.2 ms
Number of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 1 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 Group error display none	Input delay of "1" to "0"	0.2 ms
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Initial data size 1 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 Group error display none	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 Supply voltage display none Group error 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 Group error display none	Initial data size	1 Byte
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Process alarm no Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Supply voltage display none Group error display none	Status display	green LED per channel
Diagnostic interrupt no Diagnostic functions no Diagnostics information read-out none Supply voltage display none Group error display none	Interrupts	no
Diagnostic functions no Diagnostics information read-out none Supply voltage display none Group error display none	Process alarm	no
Diagnostics information read-out none Supply voltage display none Group error display none	Diagnostic interrupt	no
Supply voltage display none Group error display none	Diagnostic functions	no
Group error display none	Diagnostics information read-out	none
	Supply voltage display	none
Channel error display none	Group error display	none
Electrical and the second seco	Channel error display	none



Isolation	
Between channels	-
Between channels of groups to	8
Between channels and backplane bus	yes
Insulation tested with	DC 500 V
Datasizes	
Input bytes	1
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
Net weight	90 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	yes
KC certification	-