

Data sheet

FM 050 (050-1BB40)

Technical data

Type FM 050 0881 2880	Order no.	050-1BB40
Reatures 2 channels 24 Bit DC 24 V Current consumption/power loss 2 channels 24 Bit DC 24 V Current consumption from backplane bus 35 mA Power loss 0.5 W Technical data digital inputs Number of inputs 2 2 Cable length, unshielded 100 m Cable length, unshielded Rated load voltage DC 20.428.8 V Reverse polarity protection of rated load voltage Current consumption from load voltage L+ (without load) 5 mA 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 si	Туре	FM 050
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Rated load voltage	Cable length, shielded	100 m
Reverse polarity protection of rated load voltage Current consumption from load voltage L+ (without load) 5 mA Rated value	Cable length, unshielded	-
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 - 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" 0.8 µs Input delay of "1" to "0" 0.8 µs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 2 Input characteristic curve Input characteristic curve Input data size 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	Rated load voltage	DC 20.428.8 V
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" 0.8 µs Input delay of "1" to "0" 0.8 µs Number of simultaneously utilizable inputs horizontal 2 configuration Number of simultaneously utilizable inputs vertical configuration 2 Input characteristic curve IEC 61131-2, type 1 Initial data size 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded - Cable length, unshielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	Reverse polarity protection of 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" 0.8 μs Input delay of "1" to "0" 0.8 μs Number of simultaneously utilizable inputs horizontal configuration 2 Input characteristic curve IEC 61131-2, type 1 Initial data size 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	Current consumption from load voltage L+ (without load)	5 mA
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" 0.8 μs Input delay of "1" to "0" 0.8 μs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 2 Input characteristic curve IEC 61131-2, type 1 Initial data size 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded - Cable length, unshielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	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" 0.8 µs Input delay of "1" to "0" 0.8 µs 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 20 Byte Technical data digital outputs Number of outputs Cable length, shielded - Cable length, unshielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	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" 0.8 µs Input delay of "1" to "0" 0.8 µs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 2 Input characteristic curve IEC 61131-2, type 1 Initial data size 20 Byte Technical data digital outputs Number of outputs Cable length, shielded - Cable length, unshielded - Rated load voltage Current consumption from load voltage L+ (without load) -	Input voltage for signal "1"	DC 1528.8 V
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" 0.8 μs Input delay of "1" to "0" 0.8 μs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 2 Input characteristic curve IEC 61131-2, type 1 Initial data size 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded - Cable length, unshielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	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" 0.8 μs Input delay of "1" to "0" 0.8 μs 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 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded - Cable length, unshielded - Rated load voltage Current consumption from load voltage L+ (without load) -	Frequency range	-
Connection of Two-Wire-BEROs possible ✓ Max. permissible BERO quiescent current 0.5 mA Input delay of "0" to "1" 0.8 μs Input delay of "1" to "0" 0.8 μs Number of simultaneously utilizable inputs horizontal configuration 2 Number of simultaneously utilizable inputs vertical configuration 2 Input characteristic curve IEC 61131-2, type 1 Initial data size 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded - Cable length, unshielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	Input resistance	-
Max. permissible BERO quiescent current O.5 mA Input delay of "0" to "1" O.8 μs Input delay of "1" to "0" 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 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded Cable length, unshielded Rated load voltage Current consumption from load voltage L+ (without load) - Carrent consumption from load voltage L+ (without load)	Input current for signal "1"	3 mA
Input delay of "0" to "1" to "0" 0.8 μs Number of simultaneously utilizable inputs horizontal configuration Number of simultaneously utilizable inputs vertical configuration 2 Input characteristic curve IEC 61131-2, type 1 Initial data size 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded - Cable length, unshielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	Connection of Two-Wire-BEROs possible	✓
Input delay of "1" to "0" 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 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded - Cable length, unshielded Rated load voltage Current consumption from load voltage L+ (without load) - Cable length, unshielded - Current consumption from load voltage L+ (without load)	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 20 Byte Technical data digital outputs Number of outputs Cable length, shielded - Cable length, unshielded Rated load voltage Current consumption from load voltage L+ (without load) - Current consumption from load voltage L+ (without load)	Input delay of "0" to "1"	0.8 µs
Number of simultaneously utilizable inputs vertical configuration Input characteristic curve IEC 61131-2, type 1 Initial data size 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded - Cable length, unshielded Rated load voltage Current consumption from load voltage L+ (without load) - Cable length, unshielded - Current consumption from load voltage L+ (without load)	Input delay of "1" to "0"	0.8 µs
Input characteristic curve IEC 61131-2, type 1 Initial data size Zo Byte Technical data digital outputs Number of outputs - Cable length, shielded Cable length, unshielded Rated load voltage Current consumption from load voltage L+ (without load) - Cable length, unshielded - Current consumption from load voltage L+ (without load)	Number of simultaneously utilizable inputs horizontal configuration	2
Initial data size 20 Byte Technical data digital outputs Number of outputs - Cable length, shielded - Cable length, unshielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	Number of simultaneously utilizable inputs vertical configuration	2
Technical data digital outputs Number of outputs - Cable length, shielded - Cable length, unshielded - Rated load voltage - Current consumption from load voltage L+ (without load)	Input characteristic curve	IEC 61131-2, type 1
Number of outputs - Cable length, shielded - Cable length, unshielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	Initial data size	20 Byte
Cable length, shielded - Cable length, unshielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	Technical data digital outputs	
Cable length, unshielded - Rated load voltage - Current consumption from load voltage L+ (without load) -	Number of outputs	-
Rated load voltage - Current consumption from load voltage L+ (without load) -	Cable length, shielded	
Current consumption from load voltage L+ (without load) -	Cable length, unshielded	-
	Rated load voltage	
Output delay of "0" to "1" -	Current consumption from load voltage L+ (without load)	-
	Output delay of "0" to "1"	-



Output delay of "1" to "0"	A YASKAWA COMPANY
Minimum load current	-
Lamp load	-
Parallel switching of outputs for redundant control of a load	-
Parallel switching of outputs for increased power	-
Actuation of digital input	-
Switching frequency with resistive load	-
Switching frequency with inductive load	-
Switching frequency on lamp load	-
Internal limitation of inductive shut-off voltage	-
Short-circuit protection of output	-
Trigger level	-
Number of operating cycle of relay outputs	-
Switching capacity of contacts	-
Output data size	12 Byte
Technical data counters	
Number of counters	2
Counter width	24 Bit
Maximum input frequency	600 kHz
Maximum count frequency	600 kHz
Mode incremental encoder	-
Mode pulse / direction	-
Mode pulse	-
Mode frequency counter	✓
Mode period measurement	✓
Gate input available	-
Latch input available	-
Reset input available	-
Counter output available	-
Status information, alarms, diagnostics	
Status display	yes
Interrupts	no
Process alarm	no
Diagnostic interrupt	no
Diagnostic functions	no
Diagnostics information read-out	possible
Module state	green LED
Module error display	red LED
Channel error display	none
Isolation	
Between channels	-
Between channels of groups to	-
Between channels and backplane bus	✓
Between channels and power supply	-
Max. potential difference between circuits	-
Max. potential difference between inputs (Ucm)	-



Max. potential difference between Mana and Mintern (Uiso)	A YASKAWA COMPANY
Max. potential difference between inputs and Mana (Ucm)	-
Max. potential difference between inputs and Mintern (Uiso)	-
Max. potential difference between Mintern and outputs	-
Insulation tested with	DC 500 V
Datasizes	
Input bytes	20
Output bytes	12
Parameter bytes	8
Diagnostic bytes	20
Housing	
Material	PPE / PPE GF10
Mounting	Profile rail 35 mm
Mechanical data	
Dimensions (WxHxD)	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	in preparation