YASKAWA

Data sheet
SM 031 - Analog input (031-1BF60)

Technical data

Order no.	031-1BF60
Type	SM 031 - Analog input
Module ID	0416 15C5
General information	
Note	-
Features	8x AI single ended (reference potential 0V) 12 Bit Current 0(4)...20 mA Separate parameterizable inputs Isolated from backplane bus
Current consumption/power loss	
Current consumption from backplane bus	70 mA
Power loss	1 W
Technical data analog inputs	
Number of inputs	8
Cable length, shielded	200 m
Rated load voltage	DC 24 V
Current consumption from load voltage L+ (without load)	20 mA
Voltage inputs	-
Min. input resistance (voltage range)	-
Input voltage ranges	-
Operational limit of voltage ranges	-
Operational limit of voltage ranges with SFU	-
Basic error limit voltage ranges	-
Basic error limit voltage ranges with SFU	-
Destruction limit voltage	-
Current inputs	yes
Max. input resistance (current range)	60 Ohm
Input current ranges	0 mA ... +20 mA +4 mA ... +20 mA
Operational limit of current ranges	+/-1,1%
Operational limit of current ranges with SFU	-
Basic error limit current ranges	+/-1,0%
Radical error limit current ranges with SFU	-
Destruction limit current inputs (voltage)	max. 30V
Destruction limit current inputs (electrical current)	max. 40mA
Resistance inputs	-
Resistance ranges	-
Operational limit of resistor ranges	-
Operational limit of resistor ranges with SFU	-
Basic error limit	-
Basic error limit with SFU	-
Destruction limit resistance inputs	-
Resistance thermometer inputs	-
Resistance thermometer ranges	-

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Operational limit of resistance thermometer ranges	-
Operational limit of resistance thermometer ranges with SFU	-
Basic error limit thermoresistor ranges	-
Basic error limit thermoresistor ranges with SFU	-
Destruction limit resistance thermometer inputs	-
Thermocouple inputs	-
Thermocouple ranges	-
Operational limit of thermocouple ranges	-
Operational limit of thermocouple ranges with SFU	-
Basic error limit thermocouple ranges	-
Basic error limit thermocouple ranges with SFU	-
Destruction limit thermocouple inputs	-
Programmable temperature compensation	-
External temperature compensation	-
Internal temperature compensation	-
Temperature error internal compensation	-
Technical unit of temperature measurement	-
Resolution in bit	12
Measurement principle	successive approximation
Basic conversion time	1.1 ms all channels
Noise suppression for frequency	>50dB at 50Hz (UCM<2V)
Status information, alarms, diagnostics	
Status display	yes
Interrupts	no
Process alarm	no
Diagnostic interrupt	no
Diagnostic functions	yes
Diagnostics information read-out	possible
Module state	green LED
Module error display	red LED
Channel error display	red LED per channel
Isolation	
Between channels	-
Between channels of groups to	-
Between channels and backplane bus	yes
Between channels and power supply	-
Max. potential difference between circuits	-
Max. potential difference between inputs (Ucm)	-
Max. potential difference between Mana and Mintern (Uiso)	-
Max. potential difference between inputs and Mana (Ucm)	-
Max. potential difference between inputs and Mintern (Uiso)	DC 75 V/ AC 50 V
Max. potential difference between Mintern and outputs	-
Insulation tested with	DC 500 V
Technical data encoder supply	
Number of outputs	-
Output voltage (typ)	-
Output voltage (rated value)	-
Short-circuit protection	-

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Binding of potential	-
Datasizes	
Input bytes	16
Output bytes	0
Parameter bytes	14
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
Net weight	58 g
Weight including accessories	58 g
Gross weight	73 g
Environmental conditions	
Operating temperature	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C
Certifications	
UL certification	yes
KC certification	yes

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