

Data sheet SM 031 (031-1CB70)

Technical data

Type     SM 031       Module ID     040C 1543       General information     -       Note     -       Features     2 Japuts 1881 Voltage -10 V+10 V       Current consumption/power loss     60 mA       Current consumption/power loss     60 mA       Power loss     0.8 W       Technical data analog inputs     2       Number of inputs     2       Current consumption from backplane bus     60 mA       Power loss     0.8 W       Technical data analog inputs     2       Number of inputs     2       Cathe length, shelded     200 m       Rated load voltage     DC 24 V       Current consumption from load voltage 1+ (without load)     20m A       Voltage inputs     ✓       Min. Input resistance (voltage ranges)     10 V+10 V       Operational limit of voltage ranges with SFU     -       Basic error limit voltage ranges with SFU     -       Destruction limit current ranges     -       Max. input resistance (current range)     -       Input current ranges     -       Operational li	Order no.	031-1CB70
General information       Noto     -       Features     2 inputs 16Bit Voitage -10 V+10 V       Current consumption/power loss     60 mA       Power loss     0.8 W       Technical data analog inputs     2       Number of inputs     2       Cable length, shielded     200 m       Rated load voltage     DC 24 V       Current consumption from load voltage L+ (without load)     20 mA       Votage inputs     ✓       Min. input resistance (voltage ranges)     200 kChm       Input voltage ranges     +/-0.1%       Destruction limit of voltage ranges     +/-0.2%       Operational limit of voltage ranges     +/-0.1%       Basic error limit voltage ranges     +/-0.1%       Basic error limit voltage ranges     -       Current inputs     -       Current inputs     -       Max. input resistance (current ranges)     -       Input current ranges     -       Basic error limit voltage ranges     +/-0.1%       Basic error limit voltage ranges with SFU     -       Destruction limit aurrent     -       Curr	Туре	SM 031
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Features   2 inputs 16Bit Votage -10 V+10 V     Current consumption/power loss   60 mA     Power loss   60 mA     Power loss   0.8 W     Technical data analog inputs   2     Rated Dad Votage - 10 V+10 V   200 m     Rated Dad Votage   DC 24 V     Current consumption from load votage L+ (without load)   20 mA     Votage inputs   ✔     Min. input resistance (votage range)   200 kOhm     Input votage ranges   -10 V+10 V     Operational limit of votage ranges with SFU   -     Basic error limit votage ranges with SFU   -     Basic error limit votage ranges with SFU   -     Destruction limit d current ranges   -     Operational limit d current ranges   -     Operation limit current ranges   -     Operation limit d current ranges   -     Operation limit d current ranges with SFU   -     Destruction limit current ranges with SFU   <		
Voltage     Voltage       Current consumption from backplane bus     60 mA       Power loss     0.8 W       Technical data analog inputs     0.8 W       Technical data analog inputs     2       Number of inputs     2       Cable length, shielded     200 m       Rated load voltage     DC 24 V       Current consumption from load voltage L+ (without load)     20 mA       Voltage inputs     Image       Min. input resistance (voltage range)     200 kOhm       Input voltage ranges     -10 V +10 V       Operational limit of voltage ranges with SFU     -       Basic error limit voltage ranges with SFU     -       Destruction limit current ranges     -       Max. input resistance (current range)     -       Max input resistance (current ranges)     -       Destruction limit current ranges     -       Operational limit of voltage ranges with SFU     -       Destruction limit current ranges     -       Operational limit of current ranges     -       Operational limit of current ranges     -       Operational limit of current ranges     -		
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Power loss 0.8 W   Technical data analog inputs   Number of inputs 2   Cable length, shielded 200 m   Rated load voltage DC 24 V   Current consumption from load voltage L+ (without load) 20 mA   Voltage inputs Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Colspan="2"	Current consumption/power loss	
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Current consumption from load voltage L+ (without load)   20 mA     Voltage inputs   Image: Statume (voltage range)   200 kOhm     Input voltage ranges   -10 V+10 V   0V     Operational limit of voltage ranges   +/-0.2%   -     Deparational limit of voltage ranges with SFU   -   -     Basic error limit voltage ranges with SFU   -   -     Basic error limit voltage ranges with SFU   -   -     Destruction limit current   -   -     Current inputs   -   -     Max. input resistance (current range)   -   -     Input current ranges   -   -     Operational limit of current ranges   -   -     Operational limit of current ranges   -   -     Input current ranges   -   -   -     Operational limit of current ranges   -   -   -     Operational limit of current ranges with SFU   -   -   -     Basic error limit current ranges with SFU   -   -   -     Destruction limit current ranges with SFU   -   -   -     Destruction limit current inputs (electrical cu	Cable length, shielded	200 m
Voltage inputs   Imput voltage ranges   200 kOhm     Input voltage ranges   -10 V +10 V   0V     Operational limit of voltage ranges   +/-0.2%     Operational limit of voltage ranges with SFU   -     Basic error limit voltage ranges with SFU   -     Destruction limit current   -     Current Inputs   -     Max. input resistance (current range)   -     Input current ranges   -     Operational limit of current ranges with SFU   -     Basic error limit current ranges with SFU   -     Destruction limit curre	Rated load voltage	DC 24 V
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Resistance thermometer inputs -	Destruction limit resistance inputs	-
	Resistance thermometer inputs	-



Resistance thermometer ranges	_ A YASKAWA COMPANY
Operational limit of resistance thermometer ranges	-
Operational limit of resistance thermometer ranges with SFU	-
Basic error limit thermoresistor ranges	-
Operational limit of resistance thermometer 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 thermoelement ranges	-
Basic error limit thermoelement ranges with SFU	-
Destruction limit thermocouple inputs	-
Programmable temperature compensation	-
External temperature compensation	-
Internal temperature compensation	-
Internal temperature compensation	-
Technical unit of temperature measurement	-
Resolution in bit	16
Measurement principle	successive approximation
Basic conversion time	240 µs all channels
Noise suppression for frequency	>80dB at 50Hz (UCM<9V)

## Status information, alarms, diagnostics

Status display	yes
Interrupts	yes, parameterizable
Process alarm	yes, parameterizable
Diagnostic interrupt	yes, parameterizable
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	×
Between channels and power supply	×
Max. potential difference between circuits	-
Max. potential difference between inputs (Ucm)	DC 9 V
Max. potential difference between Mana and Mintern (Uiso)	-
Max. potential difference between inputs and Mana (Ucm)	DC 1 V
Max. potential difference between inputs and Mintern (Uiso)	DC 75 V/ AC 60 V
Max. potential difference between Mintern and outputs	-
Insulation tested with	DC 500 V
Datasizes	
Input bytes	4



Output bytes	0	A YASKAWA COMPANY		
Parameter bytes	20			
Diagnostic bytes	20			
Housing				
Material	PPE / PPE GF10			
Mounting	Profile rail 35 mm			
Mechanical data				
Dimensions (WxHxD)	12.9 mm x 109 mm x 7	12.9 mm x 109 mm x 76.5 mm		
Weight	60 g	60 g		
Environmental conditions				
Operating temperature	0 °C to 60 °C	0 °C to 60 °C		
Storage temperature	-25 °C to 70 °C	-25 °C to 70 °C		
Certifications				
UL508 certification	yes			