

Data sheet

SM 031 (031-1CB30)

Technical data

Type	Order no.	031-1CB30
General information Note	Туре	SM 031
Features 2 inputs 16Bit Voltage 010 V Current consumption/power loss Current consumption from backplane bus 60 mA 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 Min. input resistance (voltage range) 200 kOhm Input voltage ranges 0 V +10 V Operational limit of voltage ranges with SFU - Basic error limit voltage ranges with SFU - Basic error limit voltage ranges with SFU - Basic error limit voltage ranges with SFU - Current inputs - Max. input resistance (current range) -	Module ID	040A 1543
Features 2 inputs 16Bit Voltage 010 V Current consumption/power loss Current consumption from backplane bus 60 mA 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 Min. input resistance (voltage range) 200 kOhm Input voltage ranges 0 V +10 V Operational limit of voltage ranges +/-0.2% Operational limit of voltage ranges +/-0.1% Basic error limit voltage ranges with SFU - Basic error limit voltage ranges with SFU - Destruction limit current - Current inputs Max. input resistance (current range) -		
Features 2 inputs 16Bit Voltage 010 V Current consumption/power loss Current consumption from backplane bus 60 mA 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 Min. input resistance (voltage range) 200 kOhm Input voltage ranges 0 V +10 V Operational limit of voltage ranges +/-0.2% Operational limit of voltage ranges +/-0.1% Basic error limit voltage ranges with SFU - Destruction limit current - Current inputs - Max. input resistance (current range) -	General information	
Current consumption/power loss Current consumption from backplane bus 60 mA 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 Min. input resistance (voltage range) 200 kOhm Input voltage ranges 0 V +10 V Operational limit of voltage ranges +/-0.2% Operational limit of voltage ranges +/-0.1% Basic error limit voltage ranges with SFU - Destruction limit current - Current inputs - Max. input resistance (current range) -	Note	-
Current consumption/power loss Current consumption from backplane bus 60 mA 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 Min. input resistance (voltage range) 200 kOhm Input voltage ranges 0 V +10 V Operational limit of voltage ranges +/-0.2% Operational limit of voltage ranges +/-0.1% Basic error limit voltage ranges with SFU - Destruction limit current - Current inputs - Max. input resistance (current range) -	Features	
Current consumption from backplane bus 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) Voltage inputs Min. input resistance (voltage range) Input voltage ranges 0 V +10 V Operational limit of voltage ranges with SFU Basic error limit voltage ranges with SFU Destruction limit current Current inputs - Max. input resistance (current range) -		
Power loss Technical data analog inputs Number of inputs Cable length, shielded 200 m Rated load voltage DC 24 V Current consumption from load voltage L+ (without load) Voltage inputs Min. input resistance (voltage range) Input voltage ranges 0 V +10 V Operational limit of voltage ranges with SFU Basic error limit voltage ranges with SFU Destruction limit current - Current inputs - Max. input resistance (current range) -	Current consumption/power loss	
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) Voltage inputs Min. input resistance (voltage range) Input voltage ranges 0 V +10 V Operational limit of voltage ranges +/-0.2% Operational limit of voltage ranges Basic error limit voltage ranges +/-0.1% Basic error limit voltage ranges with SFU Destruction limit current - Current inputs - Max. input resistance (current range) -	Current consumption from backplane bus	60 mA
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: Voltage inputs Min. input resistance (voltage range) 200 kOhm Input voltage ranges 0 V +10 V 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) -	Power loss	0.8 W
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) 200 kOhm Input voltage ranges 0 V +10 V 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) -	Technical data analog inputs	
Rated load voltage Current consumption from load voltage L+ (without load) Voltage inputs Min. input resistance (voltage range) Input voltage ranges OV +10 V Operational limit of voltage ranges Operational limit of voltage ranges Operational limit of voltage ranges +/-0.2% Operational limit voltage ranges +/-0.1% Basic error limit voltage ranges with SFU Destruction limit current - Current inputs - Max. input resistance (current range)	Number of inputs	2
Current consumption from load voltage L+ (without load) Voltage inputs Min. input resistance (voltage range) Input voltage ranges OV +10 V Operational limit of voltage ranges +/-0.2% Operational limit of voltage ranges with SFU Basic error limit voltage ranges +/-0.1% Basic error limit voltage ranges with SFU Destruction limit current - Current inputs Max. input resistance (current range)	Cable length, shielded	200 m
Voltage inputs Min. input resistance (voltage range) Input voltage ranges O V +10 V Operational limit of voltage ranges +/-0.2% Operational limit of voltage ranges with SFU Basic error limit voltage ranges +/-0.1% Basic error limit voltage ranges with SFU Destruction limit current - Current inputs Max. input resistance (current range)	Rated load voltage	DC 24 V
Min. input resistance (voltage range) Input voltage ranges 0 V +10 V Operational limit of voltage ranges +/-0.2% Operational limit of voltage ranges with SFU Basic error limit voltage ranges +/-0.1% Basic error limit voltage ranges with SFU Destruction limit current - Current inputs - Max. input resistance (current range)	Current consumption from load voltage L+ (without load)	20 mA
Input voltage ranges 0 V +10 V Operational limit of voltage ranges +/-0.2% Operational limit of voltage ranges with SFU - Basic error limit voltage ranges +/-0.1% Basic error limit voltage ranges with SFU - Destruction limit current - Current inputs - Max. input resistance (current range) -	Voltage inputs	✓
Operational limit of voltage ranges +/-0.2% Operational limit of voltage ranges with SFU - Basic error limit voltage ranges +/-0.1% Basic error limit voltage ranges with SFU - Destruction limit current - Current inputs - Max. input resistance (current range) -	Min. input resistance (voltage range)	200 kOhm
Operational limit of voltage ranges with SFU - Basic error limit voltage ranges +/-0.1% Basic error limit voltage ranges with SFU - Destruction limit current - Current inputs - Max. input resistance (current range) -	Input voltage ranges	0 V +10 V
Basic error limit voltage ranges +/-0.1% Basic error limit voltage ranges with SFU - Destruction limit current - Current inputs - Max. input resistance (current range) -	Operational limit of voltage ranges	+/-0.2%
Basic error limit voltage ranges with SFU - Destruction limit current - Current inputs - Max. input resistance (current range) -	Operational limit of voltage ranges with SFU	-
Destruction limit current - Current inputs - Max. input resistance (current range) -	Basic error limit voltage ranges	+/-0.1%
Current inputs - Max. input resistance (current range) -	Basic error limit voltage ranges with SFU	-
Max. input resistance (current range) -	Destruction limit current	-
	Current inputs	-
Input current ranges -	Max. input resistance (current range)	-
	Input current ranges	-
Operational limit of current ranges -	Operational limit of current ranges	-
Operational limit of current ranges with SFU -	Operational limit of current ranges with SFU	-
Basic error limit current ranges -	Basic error limit current ranges	-
Radical error limit current ranges with SFU -	Radical error limit current ranges with SFU	-
Destruction limit current inputs (voltage) -	Destruction limit current inputs (voltage)	-
Destruction limit current inputs (electrical current) -	Destruction limit current inputs (electrical current)	-
Resistance inputs -	Resistance inputs	-
Resistance ranges -	Resistance ranges	-
Operational limit of resistor ranges -	Operational limit of resistor ranges	-
Operational limit of resistor ranges with SFU -	Operational limit of resistor ranges with SFU	-
Basic error limit -	Basic error limit	-
Basic error limit with SFU -	Basic error limit with SFU	-
Destruction limit resistance inputs -	Destruction limit resistance inputs	-
Resistance thermometer inputs -	Resistance thermometer inputs	-
Resistance thermometer ranges -	Resistance thermometer ranges	-



Operational limit of resistance thermometer ranges	-	A YASKAWA COMPANY
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	

		000000			
ΑY	ASK	άAW	/A C	OMPA	NY

Parameter bytes	20	A YASKAWA COMPANY		
Diagnostic bytes	20	20		
Housing				
Material	PPE / PPE GF10			
Mounting	Profile rail 35 mm	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	yes			
-		-		