YASKAWA

Data sheet
SM 331 (331-1KF01)

Technical data

Order no.	331-1KF01
Type	SM 331
General information	
Note	-
Features	8x AI 13 Bit Voltage +/- 10 V, +/- 50 mV, +/- 500 mV, +/- 5 V, 0 V ... +10 V Strom +/- 20 mA, 0/4...20 mA Resistance thermometer For 40 pole front connector
SPEED-Bus	-
Current consumption/power loss	
Current consumption from backplane bus	255 mA
Power loss	1.3 W
Technical data analog inputs	
Number of inputs	8
Cable length, shielded	50 m
Rated load voltage	-
Current consumption from load voltage L+ (without load)	-
Voltage inputs	yes
Min. input resistance (voltage range)	100 kOhm
Input voltage ranges	-50 mV ... +50 mV -500 mV ... +500 mV -1 V ... +1 V -5 V ... +5 V 0 V ... +10 V -10 V ... +10 V +1 V ... +5 V
Operational limit of voltage ranges	+/-0.5% ... +/-0.6%
Operational limit of voltage ranges with SFU	-
Basic error limit voltage ranges	+/-0.3% ... +/-0.4%
Basic error limit voltage ranges with SFU	-
Destruction limit voltage	max. 30V
Current inputs	yes
Max. input resistance (current range)	100 Ohm
Input current ranges	-20 mA ... +20 mA 0 mA ... +20 mA +4 mA ... +20 mA
Operational limit of current ranges	+/-0.5%
Operational limit of current ranges with SFU	-
Grundfehlergrenze Strombereiche	+/-0.3%
Radical error limit current ranges with SFU	-
Destruction limit current inputs (electrical current)	max. 40mA
Destruction limit current inputs (voltage)	max. 15V
Resistance inputs	yes
Resistance ranges	0 ... 600 Ohm 0 ... 6000 Ohm
Operational limit of resistor ranges	+/-0.5%
Operational limit of resistor ranges with SFU	-

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Basic error limit	+/-0.3%
Basic error limit with SFU	-
Destruction limit resistance inputs	max. 15V
Resistance thermometer inputs	yes
Resistance thermometer ranges	Pt100 Ni100 Ni1000
Operational limit of resistance thermometer ranges	+/-1K ... +/-1.2K
Operational limit of resistance thermometer ranges with SFU	-
Basic error limit thermoresistor ranges	+/-0.8K
Basic error limit thermoresistor ranges with SFU	-
Destruction limit resistance thermometer inputs	max. 15V
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	°C, °F, K
Resolution in bit	13
Measurement principle	Sigma-Delta
Basic conversion time	61 ms/51 ms / channel
Noise suppression for frequency	50 Hz/60 Hz
Initial data size	16 Byte
Status information, alarms, diagnostics	
Status display	none
Interrupts	no
Process alarm	no
Diagnostic interrupt	no
Diagnostic functions	no
Diagnostics information read-out	none
Supply voltage display	none
Group error display	none
Channel error display	none
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)	DC 2 V
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
Datasizes	
Input bytes	16
Output bytes	0
Parameter bytes	21
Diagnostic bytes	0
Housing	
Material	PPE
Mounting	Rail System 300
Mechanical data	
Dimensions (WxHxD)	40 mm x 125 mm x 120 mm
Net weight	260 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	yes

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