



Data sheet
SM 031 (031-1CA20)

Technical data

Order no.	031-1CA20
Type	SM 031
Module ID	0841 1809
General information	
Note	-
Features	Direct connection of a resistor full bridge (DMS) or load cell 4- or 6-wire connection 16 (24)Bit resolution Auto/self calibration zero point and final value Absolute exactness radical error $\pm 0,1\%$ ($\pm 0,01\%$) Onboard power supply 2V5, 5V, 7V5, 10V und 12V
Technical data strain gauge DMS	
Number of inputs	1
Cable length, shielded	200m
Rated load voltage	DC 24 V
Reverse polarity protection of rated load voltage	
Current consumption from load voltage L+ (without load)	85mA
Relative accuracy according to self-calibration	+/-0.01%
Operational limit Usense	+/-0.2%
Operational limit Usig	+/-0.2%
Basic error limit Usense	+/-0.1%
Basic error limit Usig	+/-0.1%
Destruction limit current	max. 12V
External bridge supply possible	- 
Configurable bridge supply	2.5V / max. 120mA-5V / max. 120mA-7.5V / max. 100mA-10V / max. 90mA-12V / max. 80mA
Resolution in bit	24
Measurement principle	successive approximation
Basic conversion time	1ms cycle, 10ms...330ms depending on the filter
Input filter Hardware	Low pass 10kHz 3rd order
Input filter software	Dynamic IIR filter-configurable IIR filter 0.1Hz...1000Hz-configurable FIR filter 50Hz/60Hz
Initial data size	4Byte
Data for selection of the strain gauge DMS sensor	
Bridge supply voltage EXC	0...12V
Bridge differential voltage SIG	+/-29mV
Rated output	0.5...4mV/V
4 wire connection possible	
6 wire connection possible	
possible bridge configuration	symmetric full bridge
Housing	
Material	PC / PPE GF10
Mounting	Profile rail 35 mm

Mechanical data

Dimensions (WxHxD)	12.9mm x 109mm x 76.5mm
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Weight	60g
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Environmental conditions

Operating temperature	0 °C to 60 °C
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Storage temperature	-25 °C to 70 °C
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Certifications

UL508 certification	in preparation
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