

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 measurement 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 and 12V

Technical data strain gauge DMS

Number of inputs	1
Cable length, shielded	200
Rated load voltage	DC 24 V
Reverse polarity protection of rated load voltage	yes
Current consumption from load voltage L+ (without load)	85
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 voltage	max. 12V
External bridge supply possible	-
	yes
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	4

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	yes
6 wire connection possible	yes
possible bridge configuration	symmetric full bridge

Housing

Material	PC / PPE GF10
Mounting	Profile rail 35 mm

Mechanical data

Dimensions (WxHxD)	12.9 mm x 109 mm x 76.5 mm
Net weight	60 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	in preparation
KC certification	in preparation