

**Data sheet**  
**SM 031 (031-1CA20)**
**Technical data**

<b>Order no.</b>	<b>031-1CA20</b>
Type	SM 031
Module ID	0841 1809
<b>General information</b>	
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, 5 V, 7V5, 10 V und 12 V

**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

**Datasizes**

Input bytes	5
Output bytes	1
Parameter bytes	30
Diagnostic bytes	20

**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	64 g
Weight including accessories	64 g
Gross weight	78 g

**Environmental conditions**

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

**Certifications**

UL certification	yes
KC certification	in preparation