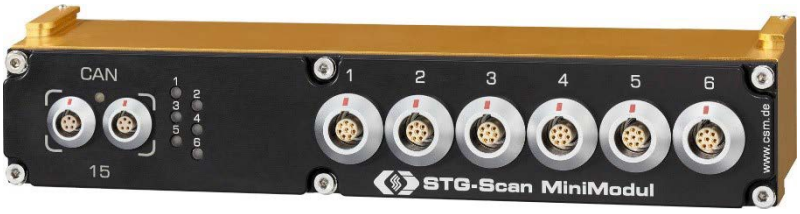
STGMM 6 Pro HS



STGMM 6 pro HS is a robust and extremely compact CAN measurement module for strain gauge measurements. It is excellently suited for distributed measurement applications under challenging environmental conditions. STGMM 6 pro HS features six strain gauge inputs and is mechanically compatible to measurement modules of the CSM MiniModule series.

Key features

- 6 strain gauge inputs with measurement data rates up to 10 kHz
- Support of full and half bridge strain gauges with 4 - and 6 -wire connection
- Simple configuration via the utility program xx Scan Config using a universal measurement range
- Extremely low power consumption
- Very good measurement accuracy under difficult temperature ranges and environmental conditions
- High resistance to interference due to ratiometric measuring principle and configurable software filter
- Operating temperature range: -40 °C to +85 °C
- Robust aluminum housing: IP67
- Extremely compact CAN bus measurement device

Shipping content

- STGMM MiniModule, xx -Scan Config, documentation, calibration certificate

Maintenance

- Calibration every 12 months recommended

Part number

ART1013200	STGMM 6 pro HS (Slide Case)
ART1013201	STGMM 6 pro HS

Accessories

- Cables for CAN and power supply, CAN adapter cable, signal cables for sensor connection, CAN bus termination and mechanical mountings, see datasheet “CSM MiniModule Accessories”.

Technical data

	STGMM 6 pro HS
Inputs	6 strain gauge inputs
Type of bridge	Strain gauge full and half bridges 120, 350, 700, 1000 Ω
Bridge connection	4- and 6-wire
Measuring unit	mV/V, µm/m
Input voltage range	±200 mV
Internal resolution	e□. 21 bit
Bridge adjustment	via con□guration software, up to 50 % of input voltage range
Gain error at 25 °C [1]	max. ±0.05 % of measured value
Temperature drift [1]	±20 ppm/K
Measurement data rate per channel	1, 2, 5, 10, 20, 50, 100, 200, 500 Hz and 1, 2, 5[2], 10 [2] kHz
HW input □lter	Low-pass □lter 3rd order, 5 kHz
SW input □lter	Low pass, 6th order Butterworth filter, range: 0.1 Hz to 2 kHz, can be switched o□
Input protection [3]	±20 V pe rmanent, additional ESD protection
LED indicator per channel	Bridge excitation on (green) / short-circuit (red)
Bridge excitation voltage	from 1 to 5 V in 0.5 V steps (adjustable per channel, optionally switchable) max. 42 mA per channel
Galvanic isolation [3), 4)]	no safety isolation in terms of high-voltage applications
Channel / channel	500 V
Channel / CAN	500 V
CAN / power supply	500 V
Power supply / bridge excitation	500 V
CAN interface	CAN 2.0B (active), High Speed (ISO 11898) 125 Kbit to max. 1 Mbit/s, data transfer free running
Con□guration	via CAN bus using CSM Con□gTool or CSM INCA AddOn, settings and con□gurations stored in the device
Power Supply	
Minimum	6 V DC (-10 %)
Maximum	36 V DC (+10 %)
Power consumption [5]	typ. 1.5 W (without strain gauge excitation)
	typ. 2 W (all channels with 350 full bridges and 5 V bridge excitation voltage)
LED indicator	power (green), status (red)
Housing	aluminium, gold anodized
Protection class	IP67
Weight	approx. 790 g
Dimensions (w x h x d)	approx. 200 x 35 x 50 mm approx. 200 x 40 x 50 mm (Slide Case)
Sockets	
CAN / voltage	LEMO 0B, 5-pole
Signal inputs	LEMO 1B, 8-pole
Operating and storage conditions	
Operating temperature	-40 °C to +85 °C
Relative humidity	5 % to 95 %
Pollution degree	3
Storage temperature	-55 °C to +90 °C
Conformity	CE

[1] referring to the measuring units mV/V or µm/m measured by the module

[2] 5 kHz: 3 channels @ 1 Mbit/s, 6 channels @ 2 Mbit/s, 10 kHz: 2 channels @ 1 Mbit/s, 3 channels @ 2Mbit/s

[3] Observe information regarding the intended use. See CSM document "Safety Instructions MiniModule".

[4] MiniModule devices are designed for measurements in vehicles with 12 V or 24 V on-board power supply systems. **Not suitable** to be directly connected to systems with higher operating voltages, e.g. high voltage batteries of hybrid or electric vehicles.

[5] typ. 3.5 W at max. load (all channels with 120 Ω full bridge strain gauges and 5 V bridge excitation voltage)