

CANOPEN MINIATURE PRESSURE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The CANopen miniature pressure transmitter CMP 8271 is designed for harsh environments in demanding applications like mobile hydraulics. The compact and well-proven design and the wide range of options makes it the preferred choice for cost-effective OEM solutions.

CANopen



Applications

- Hydraulics
- Machine tools
- Engine manufacturing
- Process technology

Features

- Small and rugged construction
- CANopen bus protocol DS301/DS404 supports CAN 2.0A/B
- LSS (DS 305 V2.0)
- Optional: 5-fold overpressure resistance

Technical Data			
Measuring principle	Thin-film-on-steel	Accuracy @ 25°C typ.	± 0.5 % FS typ. ± 0.3 % FS typ.
Measuring range	0 ... 2.5 to 0 ... 700 bar 0 ... 30 to 0 ... 10000 psi	Media temperature	-40°C ... +125°C
Output signal	Bus protocol CANopen DS404	Ambient temperature	-40°C ... +125°C
NLH @ 25°C (BSL) typ.	± 0.3 % FS typ. ± 0.2 % FS typ.		

07/2024

Data sheet H72619h

Subject to change

Electrical connection	Male electrical connector M12x1, 5-pole, Mat. PA, IEC 61076-2-101	35
Output signal	CANopen bus protocol	51
Accessories	Female electrical plug M12x1, 5-pole	33
	Pressure peak damping element \varnothing 1.0 mm ⁶⁾	40
	Pressure peak damping element \varnothing 0.4 mm ⁶⁾	44
	Seal FKM, -18°C ... +125°C	61
	Seal EPDM, -40°C ... +125°C	63
	Seal NBR, -25°C ... +100°C	83
	Parametrisation standard with baudrate 20kbit/s ⁸⁾	ZS
	Parametrisation standard with auto baudrate detection ⁸⁾	ZA
	Parameterization according to customer specification ⁸⁾	ZC
	Multiple packaging ⁷⁾	VM

¹⁾ Extended overpressure as well as customized pressure ranges upon request

²⁾ Without seal, use seal geometry according DIN EN ISO 6149-2

³⁾ Max. allowable pressure range 160 bar at 480 bar overpressure

⁴⁾ Max. allowable pressure range 60 bar at 180 bar overpressure

⁵⁾ Upon request

⁶⁾ Not for pressure connections 53, 13, 24, 44, 18

⁷⁾ The order quantity must be a multiple of 50

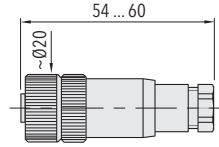
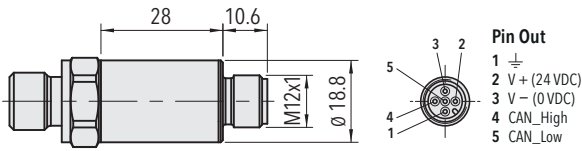
⁸⁾ One parameterization option must be selected

¹⁰⁾ Measuring range max. 630 bar according to SAE J1926-2 (Heavy Duty)

Standard products (extra short lead time)

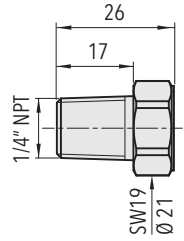
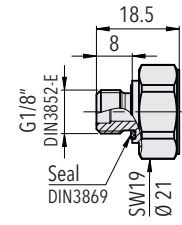
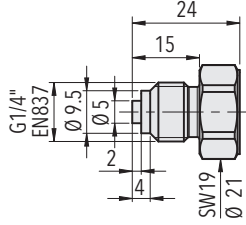
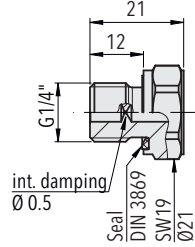
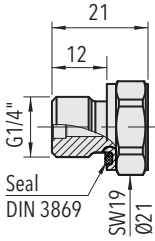
Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Supply [VDC]	Accuracy @ 25°C typ. [%]
CMP2.5M	8271 75 2517 35 0000 0000 51 44	0 ... 2.5	7.5	9 ... 32	± 0.5
CMP4.0M	8271 76 2517 35 0000 0000 51 44	0 ... 4	12	9 ... 32	± 0.5
CMP6.0M	8271 77 2517 35 0000 0000 51 44	0 ... 6	18	9 ... 32	± 0.5
CMP10.0M	8271 78 2517 35 0000 0000 51 44	0 ... 10	30	9 ... 32	± 0.5
CMP16.0M	8271 79 2517 35 0000 0000 51 44	0 ... 16	48	9 ... 32	± 0.5
CMP25.0M	8271 80 2517 35 0000 0000 51 44	0 ... 25	75	9 ... 32	± 0.5
CMP40.0M	8271 81 2517 35 0000 0000 51 44	0 ... 40	120	9 ... 32	± 0.5
CMP100.0M	8271 83 2517 35 0000 0000 51 44	0 ... 100	300	9 ... 32	± 0.5
CMP250.0M	8271 74 2517 35 0000 0000 51 44	0 ... 250	750	9 ... 32	± 0.5
CMP400.0M	8271 84 2517 35 0000 0000 51 44	0 ... 400	1000	9 ... 32	± 0.5

Dimensions



8271.XX.XXXX.35.XX.XX

8271.XX.XXXX.XX.XX.33



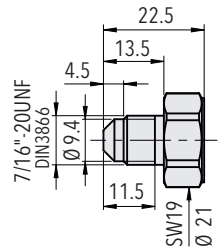
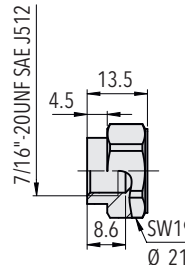
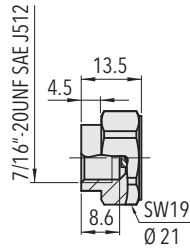
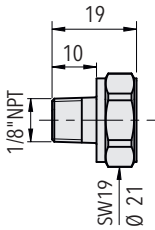
8271.XX.XX17.XX.XX.XX

8271.XX.XX15.XX.XX.XX

8271.XX.XX53.XX.XX.XX

8271.XX.XX54.XX.XX.XX

8271.XX.XX30.XX.XX.XX

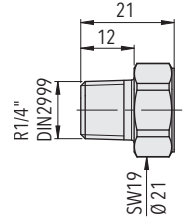
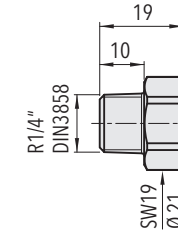
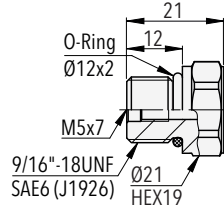
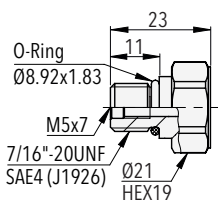


8271.XX.XX43.XX.XX.XX

8271.XX.XX24.XX.XX.XX

8271.XX.XX44.XX.XX.XX

8271.XX.XX18.XX.XX.XX

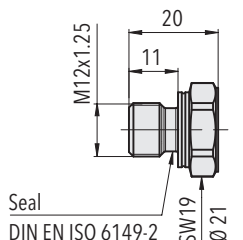
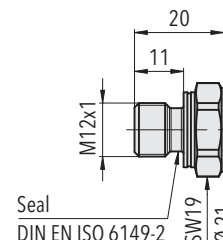
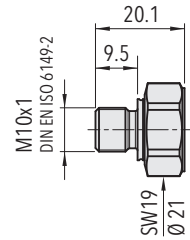
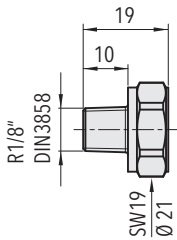


8271.XX.XX69.XX.XX.XX

8271.XX.XX67.XX.XX.XX

8271.XX.XX19.XX.XX.XX

8271.XX.XX20.XX.XX.XX

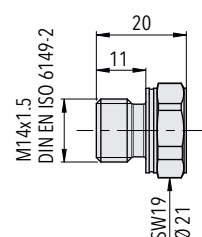
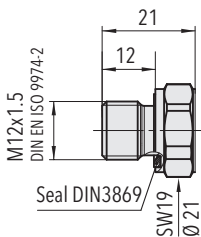


8271.XX.XX16.XX.XX.XX

8271.XX.XX32.XX.XX.XX

8271.XX.XX64.XX.XX.XX

8271.XX.XX65.XX.XX.XX



8271.XX.XX49.XX.XX.XX

8271.XX.XX31.XX.XX.XX

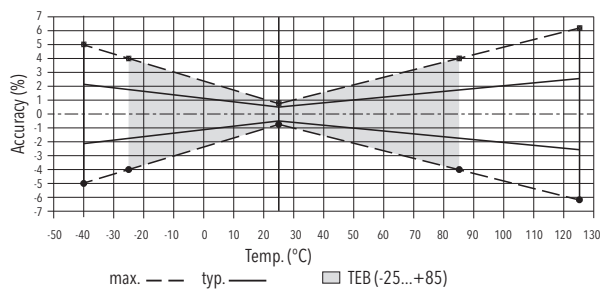
Specifications		
Electrical data	Output / supply voltage	Bus protocol CANopen / 12/24 (9 ... 32) VDC
	Current consumption / power consumption	< 0.5 W
Environmental conditions	Media temperature	-40°C ... +125°C
	Ambient temperature	-40°C ... +125°C
	Protection ¹⁾	Min. IP67
	Vibration	16 g RMS (10...2000 Hz) (EN60068-2-64) 25 g sin (80...2000 Hz), 1 oct./min, (1x @ 25°C) (EN60068-2-6)
	Shock	50 g / 8 ms 100 g / 6 ms Male electrical plug M12x1 (EN60068-2-27)
EMC protection	Emission	EN/IEC 61000-6-3
	Immunity ²⁾	EN/IEC 61000-6-2
Mechanical data	Sensor (wetted parts)	1.4542 (AISI630)
	Pressure connection (wetted parts)	1.4542 (AISI630)
	Housing	1.4301 (AISI304)
	Sealing	See ordering information
	Male electrical connector	See ordering information
	Weight	~ 60 g
	Mounting torque	25 Nm

¹⁾ Provided female electrical plug is mounted according to instructions

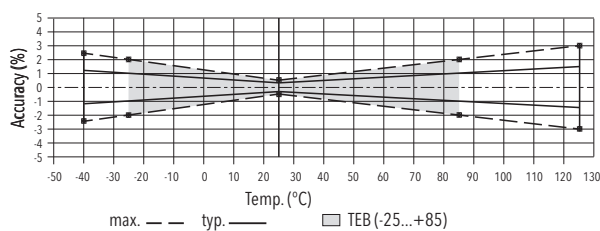
²⁾ Tests carried out with shielded cable

Accuracy		Measuring accuracy 0.5 % Ordering No. 25	Measuring accuracy 0.3 % Ordering No. 23
TEB @ -25 ... +85°C	[% FS typ.]	± 1.75	± 1.0
Accuracy @ +25°C	[% FS typ.]	± 0.5	± 0.3
NLH @ +25°C (BSL)	[% FS typ.]	± 0.2	± 0.2
TC zero point and span	[% FS/K typ.]	± 0.03	± 0.01
Long term stability 1 year @ +25°C	[% FS typ.]	± 0.1	± 0.1
Signal of pressure sensor			
Resolution		≥ 10 bit @ 1 ms 13 bit @ ≥ 8 ms	≥ 10 bit @ 1 ms 13 bit @ ≥ 8 ms
Sampling rate (fix)		1ms (1 kHz)	1ms (1 kHz)
Measuring filter		Repeating average and moving average acc. DS-404	Repeating average and moving average acc. DS-404

Measuring accuracy class 0.5 % (sensor 25)



Measuring accuracy class 0.3 % (sensor 23)



**CANopen Features**

- CiA conformance tested
- Output signal: CAN BUS (ISO 11898-2)
- CANopen: DS301
- Device profile: DS404-1
- CiA bus speeds: 10kbit/s ... 1Mbit/s
- Autobaud / Baudrate detection
- Supports 11 bit identifiers: CAN 2.0 A/B
- SDO-Server: 1
- TX-PDOs: 2
- PDO modes: time-triggered, sync (cyclic)
- PDO mapping: yes
- All standardized data types for PDO's: Floating point, integer with 32, 16 bits
- Frequency of measurement and transmission: Up to 1kHz
- Measuring filter: Repeating average and moving average acc. DS-404-1
- Eligible, prefix adjustable units for pressure: bar, Pa, psi, mmHg, atm, at; temperature: °C, °F, K
- Auto-zero function
- Auto-Start-Mode for operation without master
- LSS (DS305) implemented
- Error control with Heartbeat
- Emergency message
- Separate storage of parameters for communication and application
- Flash-Update

Additional information**Documents**

Data sheet	www.trafag.com/H72619
Instructions	www.trafag.com/H73619
Flyer	www.trafag.com/H70613