PSC4-CAN/PSC5-CAN/PSC5B-CAN

Multichannel Pressure Scanner

Abbildung 1: PSC5 im Standard-Gehäuse

Abbildung 2: PSC5 IP65 Gehäuse

FEATURES

Multichannel Pressure Scanner

- Simultane Erfassung von 4 bzw. 5 Drucksignalen
- Messbereiche wählbar von 125 Pa bis 15 kPa (0,25 bis 150 mbar) uni- und bidirektional
- Nichtlinearität & Hysterese: max. ±0,25% FSS, typisch <0,1%FSS
- Datenübertragung über CAN Bus und Stromversorgung über CAN-Schnittstelle
- Datenübertragung über USB ohne externe Stromversorgung
- CAN Bus Konfiguration über USB
- Abtastrate pro Kanal bis max. 100Hz
- inkl. Software und Treiber für LabVIEW und DBC Datei

GENERAL DESCRIPTION

The pressure scanners from the PSC series are suitable for the simultaneous acquisition of multiple pressure signals. The temperature compensated sensors offer high accuracy and minimal offset drift.

The sensors are extremely overload-proof and are not damaged even at pressures above 10 times the measuring range.

The PSC-CAN instruments are equipped with 4 or 5 pressure measuring channels. The measurement rang can be individually selected according to customer specifications. All pressure ranges are available both unidirectional (e.g. 0 to 2.5 kPa) and bidirectional (e.g. -2.5 to +2.5 kPa). The PSC5B also offers a barometric pressure sensor connected to the reference pressure.

Data transmission can be via USB or CAN bus.

The CAN bus parameters are configured via the USB interface. The measurement data is transmitted either with the CAN 2.0B or the CAN 2.0A protocol. Baud rates of up to 1 MBaud are supported. A DBC file is supplied for easy integration into the respective measurement environment.

If the pressure scanner is connected to a computer via USB, it identifies itself as a virtual COM port. Operating parameters can be configured via a simple ASCII protocol. The measurement data can also be output as plain text via USB.

A TARA function for zeroing the transducers can be triggered via a software command.

Example programs for use with LabVIEW and Visual Basic are included.

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TECHNICAL SPECIFICATIONS

Measurement Range			**Max. Proof Pressure**	
kPa	**mbar**	**Bereich**	**kPa**	**bar**
0.125	1.25	uni/bi	25	0.25
0.25	2.5	uni/bi	25	0.25
0.5	5.0	uni/bi	25	,25
1.25	12.5	uni/bi	50	0.50
2.5	25	uni/bi	50	0.50
5.0	50	uni/bi	50	0.50
7.5	75	uni/bi	50	0.50
15	150	uni/bi	50	0.50
Accuracy and scan rates				
Nonlinearity & Hysterese		max. ±0.25% FSS, typ. 0.1% FSS		
Scan rate per channel		1-100 Hz		
Optional barometric sensor (PSC5B)		600-1100mbar		
Power supply				
via USB		USB -powered (no additional power supply required)		
via CAN bus		7-24 V, 50 mA		
Environmental conditions				
Temperature		5° C...50° C		
Humidity		0...95%, non-condensing		
Operating medium		Air and non-corrosive gases		
Dimensions				
Housing (standard)		60 x 30 x 90 mm (B x H x T)		
Pressure connectors		hose nozzles D = 2,0 mm		
Recommended tubes		Soft-PE and silicone tubes 1.5 x 3.5 mm		
Software and drivers				
Virtual COM -Port-Driver				
Configuration software				
LabVIEW-example program as sourcecode				
Supported operation systems				
Windows XP, 7, 8, 10, Linux				

SERIAL INTERFACE

The virtual COM port can be operated at any baud rate. We recommend 19200, 8 data bits, no parity, 1 stop bit. DTR (Data Terminal Ready) must be asserted.

Command	Function	Answer
CAL a x	Set scaling factor for sensor a to value x	#Scaler=…. Offset=….
CAL? A	Read scaling factors for sensor a	#Scaler=…. Offset=….
EE_LOAD	Load calibration data from EEPROM	#EEPROM:loaded
EE_SAVE	Save calibration data to EEPROM	#EEPROM:saved
*IDN?	Read device ID	#PSC5B-CAN 2.4.0 #SN31000
RATE x	Define sample rate range x = 10 …5000 [ms] standard: 1000 [ms]→ 1 [Hz]	#Rate=x ms #Error: Rate-Range
RATE 0	Activate request and trigger mode actual values are read only after manual command “?” is sent	#Request-Mode active
?	Read actual value (request-mode only)	0.00 0.00 0.00 0.00 0.00
*RST	Load default settings	#RESET
SCAN_A x SCAN_B x SCAN_C x	Defines a scanlist (channel selection) binary, each bit represents one channel	
TARA	Zero adjustment for all sensors	#TARA
FILTER x	Activate exponential filter 0 = deactivated; >0 = filter ranage in ms	#FILTER=x
CAN_ID x	Set CAN -ID	#OK
CAN_IT x	Set interface x = 0: normal (11bit, CAN 2.0A) x = 1 extended 23bit (23bit, CAN 2.0B)	#OK
CAN?	Request CAN configuration	#ID:0x[…]_Speed:[baud]_IDT:[0,1]
CAN_Speed x	Set CAN bus rate 0: 125 kBaud 1: 250 kBaud 2: 500 kBaud 3: 1 MBaud	#OK
Every command is terminated by a line break (CR, LF or CR+LF). Sensor enumeration starts with the number 1. Sensor readings are separated with horizontal tab (0x09).		

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