

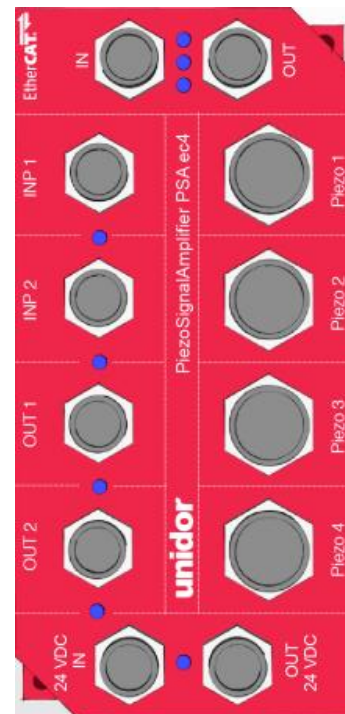
System Description

The PiezoSignalAmplifier PSA4 is a digital, 4-channel charge amplifier with EtherCAT-Interface for measuring force, tonnage, compression, acceleration, vibration, torsion with piezo electric sensors.

High-speed sampling rate and high resolution allows the evaluation of very fast processes for all types of piezo sensors.

The robust aluminum housing and the safety class IP67 allow applications of the PSA4 in rough industrial environment and guarantees a reliable and long-lasting functionality.

Extremely low drift of the input stage and the digital processing of the charge signal are very precise and allow therefore also quasi-static measurements.



System Features

- 4 Piezo-inputs
- Internal sampling rate 100 KSPS / channel
- High Slew-rate: 550 pC / μ s
- Large Meas.-range: $\pm 2 \times 10^9$ pC
- Meas. error < 0,5 % of the meas. value
- Absolute calibrated in pC
- Interface via EtherCAT
 - Absolute charge value in pC
 - Analog scaling ± 10 V
- 2 Digital inputs 24 V
- 2 Digital outputs 24 V
- EtherCat - Slave
- Vibration 25 G
- Safety class IP 67

Technical Data

24 VDC In|Out

Power supply U_s/U_p	24 VDC \pm 10 %
Current consumption U_s	< 250 mA at 24 VDC
Current consumption U_p	0..1000 mA at 24 VDC
Connector - type	M8 4 pole

Digital Inputs 1..2

Log „1“	18 - 27 V
Log „0“	0 - 8 V
Connector - type	M8 3 pole

Digital Outputs 1..2

Max. current	0..500 mA
Output level	8 - 30 V
Connector - type	M8 3 pole

Piezo inputs 1..4

Data format pC absolute	32 Bit
Data format analog scaled \pm 10V	16 Bit
Sampling rate	100 KSPS
Max. signal slope (resolution)	50 pC/ μ s(2pC) 550 pC/ μ s(21pC)
Meas. range	\pm 2,147 \times 10 ⁹ pC
Resolution selectable	2 pC 21 pC
Load loss, quasi-static Measuring (21pC)	Max. 3 % of the load / h
Connector type	M12 4 pole

EtherCAT In|Out

Fieldbus	EtherCAT 100 MBit/s, Full Duplex
Connector type	M8 4 pol

Mechanic

Dimensions	126 x 60 x 27 mm (L x W x H)
Pattern	119 x 53 mm (L x W)
Weight	350 g
Safety class	IP 67
Vibration proofing X/Y/Z IEC68 part 2-6	25 G
Part-No.	507001040000

