

Remote Charge Converter

4.3
Signal
Conditioners

IEPE100



Applications

- Charge preamplifier for use with piezoelectric transducers with charge output
- To be mounted close to the transducer, particularly for applications where IEPE transducers are not available, e.g. measurements at high temperature or with very small transducers
- Suitable for long distance signal transmission due to low impedance output
- Rugged small package
- IEPE compatible power supply via output cable
- Compatible to standard instrumentation

Properties

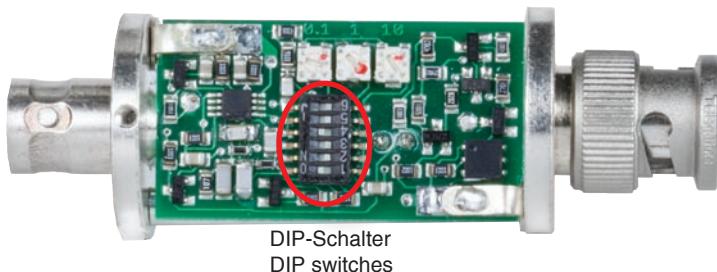
- Charge input stage, no influence of sensor cable capacitance
- Low noise device
- Constant current for power supply carried with the output cable, no separate power line required
- 3 gain ranges selectable by internal DIP switch: 0.1 / 1 / 10 mV/pC

Technical Data

Gain selection	0,1 mV/pC; 1 mV/pC; 10 mV/pC; selectable by internal DIP switches
Accuracy	< \pm 3 %
Measuring ranges*	0,1 mV/pC: \pm 50 000 pC 1 mV/pC: \pm 5000 pC 10 mV/pC: \pm 500 pC
Input	Charge input, single ended, connected to signal ground, BNC socket (female)
Overvoltage resistance at input	50 V impulse
Output	IEPE compatible, voltage, single ended, connected to signal ground, BNC plug (male)
Linear output voltage range*	\pm 5 V
Output impedance	< 100 Ω
IEPE supply	Constant current 4 .. 20 mA, compliance voltage > 20V
Output bias voltage	11 .. 16 V, depending on supply current and temperature
Output polarity	non-inverted
Change of gain with supply current	< \pm 0,8 % (4 - 20 mA)
Frequency range*	0,6 Hz - 23 kHz (-5 %) 0,3 Hz - 33 kHz (-10 %) 0,2 Hz - 65 kHz (- 3 dB)
Noise at output	< 50 μ V
Operating temperature range	-20 .. 80 $^{\circ}$ C -4 .. 176 $^{\circ}$ F
Temperature coefficient of gain	-0,02 %/K
Case material	Brass, nickel plated
Mounting	With cable harness clamp or plug into BNC input socket of instrument
Dimensions	44 mm x 24 mm 1.7 in x 0.95 in (length x diameter), without sockets
Weight	55 g 2 oz

* measured at 1 nF sensor capacitance, 1 nF cable capacitance and 4 mA constant current

Gain Selection



Specifications subject to change without prior notice.

Metra Meß- und Frequenztechnik in Radebeul e.K.