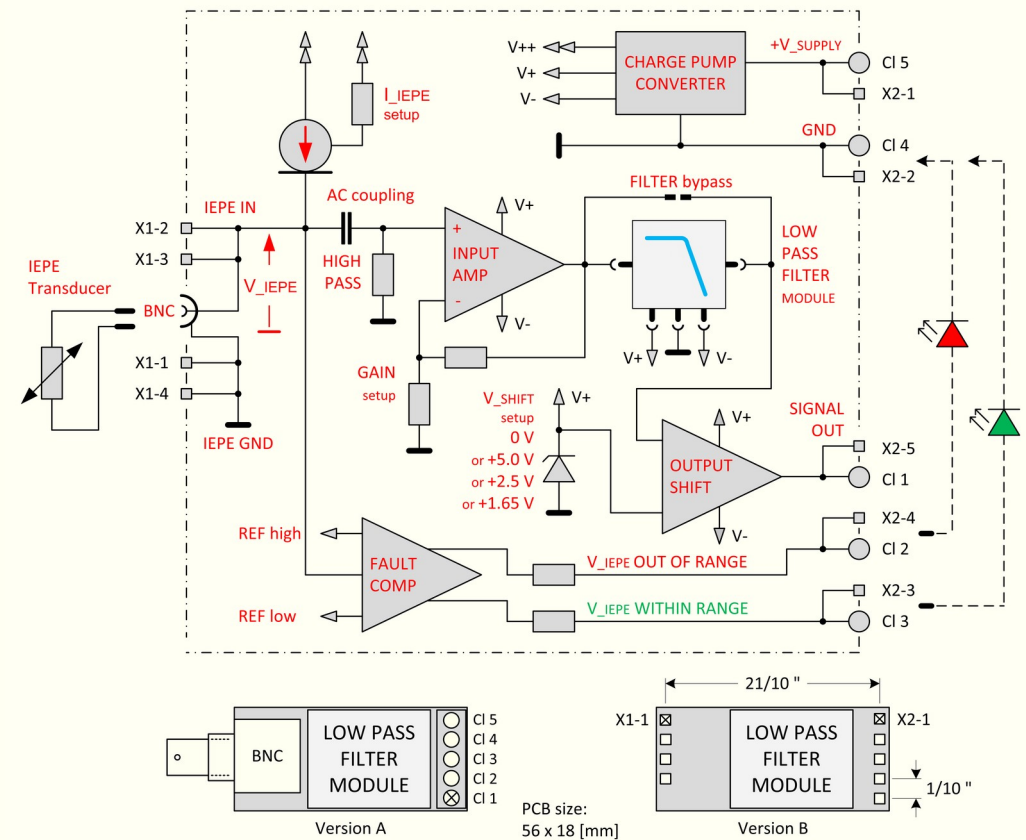# IEPE signal conditioning OEM module IPE-FM6

EIGNER MESSTECHNIK

IEPE transducer excitation and buffer amplifier for shifting AC signal input to balanced or unbalanced signal output
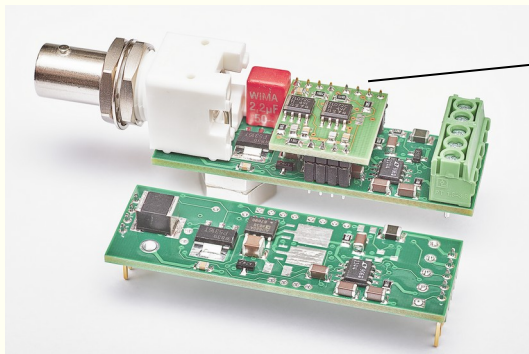
- Applications: vibration, acceleration, sonic and acoustic noise measurement, strain and materials testing

- I_{IEPE} excitation: constant current (@ V_{IEPE} 20 to 26 V)
  2, 4, 8 [mA] ±5 % (-10 to +70° C) – current specify when ordering

- V_{IEPE} excitation (approx. Vin * 2 - 3 V)
  @ V_supply = 12V: V_{IEPE} >= 20 V → signal range 0 to ±8 V
  @ V_supply = 15V: V_{IEPE} >= 26 V → signal range 0 to ±10 V
  @ V_supply = 24V: V_{IEPE} >= 26 V → signal range 0 to ±10 V

- AC Bandwith: 0.5 Hz to 25 kHz (-3dB) (filters bypassing)

- Signal input [VAC] : 0 to ±1, ±2, ±5, ±10

- Signal Output [V] : ±5 (10) or 0 to +10 or 0 to +5 or 0 to +3.3

- Output offset [VDC] : 0.0 (bal. to GND) or +5.0 (unbal. for 0 to +10)
  +2.5 (unbal. for 0 to +5) or +1.65 (unbal. for 0 to +3.3)

- THD + N: 0.015 % at 1 kHz

- Single power supply [VDC]: 12 to 15 or 22 to 26 (< 1.2 W @ 24 V)
  - supply voltage specify when ordering: _12 or _24

- External LEDs for indication signal input "open circuit" or "signal short to GND"
  • LED "green" ON for normal operation and
  • LED "red" ON for fault indication

- Special feature: **Active low pass filters** as piggyback module - Butterworth 8th order for bandwidth limiting or anti-aliasing use in the range of 500 Hz to 25 kHz
  - cut-off frequency specify when ordering

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Filter Piggyback

Version A (example fully config.)

Version B (example partly config.)

PCB size: 56 x 18 [mm]

Version A

Version B

21/10 "

1/10 "

IEPE SIGNAL – unbalanced

+5 / 10 [V]
DC Bias appr. 12 [V]
-5 / 10 [V]

SIGNAL OUTPUT – balanced to GND

+5 / 10 [V]
GND
-5 / 10 [V]

SIGNAL OUTPUT – unbalanced

+3.3 / 5 / 10 [V]
DC Offset +1.65 / 2.5 / 5 [V]