DAQP-LV — Isolated low voltage module

- *Voltage input:* 12 ranges (10 mV to 50 V)
- *Current input:* ±20 mA using DAQ-SHUNT-1
±5 A using DAQ-SHUNT-4 or DAQ-SHUNT-5
- *Bandwidth:* 300 kHz

Additional signal input using MSI

- *IEPE®* — Constant current powered sensors (accelerometers,microphones); 12 ranges (10 mV to 5 V); requires MSI-V-ACC
- *RTD* — Resistance Temperature Detector (Pt100 to Pt2000) 9 resistance ranges (8 to 4000 Ω); requires MSI-V-RTD
- *CHARGE* — Charge up to 50000 pC requires MSI-V-CH-50

Module specifications

	DAQP-LV
Input ranges unipolar and bipolar	10 mV, 20 mV, 50 mV, 100 mV, 200 mV, 500 mV, 1 V, 2.5 V, 5 V, 10 V, 25 V, 50 V
Push button selectable ranges	10 mV, 50 mV, 200 mV, 1 V, 5 V, 10 V, 50 V
Rated input voltage	33 V_{RMS}, 46.7 V_{PEAK}, 70 V_{DC} according to EN-61010-1 and EN-61010-2-30
DC accuracy Bipolar Unipolar	Range — Accuracy 10 mV to 50 mV — ±0.02 % of reading ±40 µV 100 mV to 50 V — ±0.02 % of reading ±0.05 % of range 10 mV to 50 mV — ±0.04 % of reading ±40 µV 100 mV to 50 V — ±0.04 % of reading ±0.05 % of range
Input coupling	DC or AC software selectable (1.5 Hz standard, custom on request down to 0.01 Hz)
Gain linearity	0.01 % of full scale
Gain drift range	Typically 10 ppm/°K (max. 20 ppm/°K)
Offset drift 10 mV to 200 mV 500 mV to 50 V	Uni- and bipolar 3 µV/°K 10 ppm of Range/°K
Long term stability	100 ppm/sqrt (1000 hrs)
Input resistance	1 MOhm
Bandwidth (-3 dB)	300 kHz
Filter selection	Push button or software
Filters (low pass)	10 Hz, 30 Hz, 100 Hz, 300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz
Filter characteristics	10 Hz to 100 kHz: Butterworth or Bessel 40 dB/dec (2nd order; ±1.5 dB @ f0) 300 kHz: Bessel 60 dB/dec (3rd order; 0 to -3 dB @ 300kHz)
Typical SFDR and SNR: 20 mV 1 V 50 V	300 kHz bandwidth: SFDR / SNR — 100 dB / 72 dB; 102 dB / 82 dB; 102 dB / 82 dB 100 kHz bandwidth: SFDR / SNR — 98 dB / 76 dB; 99 dB / 93 dB; 99 dB / 93 dB 10 kHz bandwidth: SFDR / SNR — 97 dB / 84 dB; 97 dB / 96 dB; 97 dB / 96 dB
Typical CMRR	10 mV to 1 V range: >100 dB @ 50 Hz; >100 dB @ 1 kHz; 83 dB @ 10 kHz 2.5 V to 50 V range: 90 dB @ 50 Hz; 65 dB @ 1 kHz; 55 dB @ 10 kHz
Input overvoltage protection	350 V_{DC}
Isolation voltage	1 kV_{RMS} [1]
Sensor supply	±9 V (±1 %), 12 V (±5 %), 200 mA resettable fuse protected[2]
Output voltage	±5 V
Output resistance	<10 Ohm
Maximum output current	5 mA
Output protection	Short to ground for 10 sec.
Power On default settings	Software programable
Power supply	±9 V_{DC} ±1 %
Power consumption	0.8 W without sensor supply
RS-485 interface	Yes
TEDS	Hardware support for TEDS (Transducer Electronic Data Sheet)
Supported TEDS chips	DS2406, DS2430A, DS2432, DS2433, DS2431
Supported MSI	MSI-V-ACC; MSI-V-RTD, MSI-V-CH-50

[1] Although the rated input voltage is 33 V_{RMS}, 46.7 V_{PEAK} or 70 V_{DC} according to EN-61010-1 and EN-61010-2-30, the galvanic isolation has been tested with 1 kV_{RMS} for 1 min.

[2] Overall current should not exceed DEWE-30-xx maximum power.