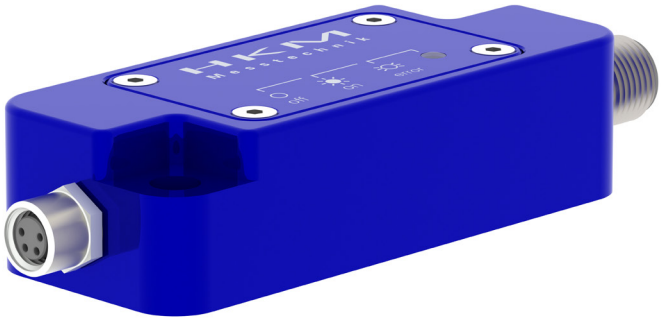
Adjustable strain gauge measuring amplifier

MV 8.1 WITH TEACH FUNCTION



Current or voltage output
Adjustable measuring range:
  Zero point, tare and gain
LED to indicate operating condition
In external housing IP 67

Industrial use
For direct connection to strain gauge sensors
For static and cyclical applications

Designed, developed and made in Germany

These measuring amplifiers are suitable for universal signal processing of strain gauge strain, weight and force sensors. Compared to conventional measuring amplifiers, their advantage is that their zero point, tare and gain can be re-taught on site after the sensor has been installed (teach function). An LED indicates the operating condition of the measuring amplifier (off, on, error).

After installation, force transducers often have an initial load that changes the zero point and thus reduces the resolution. In addition, the measuring range of force transducers in bypass mode must always be set on site after installation. These adjustable measuring amplifiers provide a remedy in both cases. The measuring range can be reset during commissioning or at any other time using an external control line or a button located under the housing cover. The maximum possible output signal is therefore always available, regardless of the application. The taught values (zero point, tare and gain) are permanently stored and remain available even after switching off and on.

The measuring amplifier is also suitable for cyclical applications with periodic zero point reset. The maximum limit here is 1000 cycles.
If the measuring amplifier is supplied together with one of our sensors, the temperature drift of the sensor (Tk 0 and module of elasticity) is compensated and linearisation is carried out if required.

Technical data

Measuring amplifier type	Output signal Sig	Supply U_b	Further information
MA with current output 3-conductor	4…20 mA 1…10 mA	11…30 V	Output load $< (U_b - 3V) / Sig_{max}$; max. 1200 Ω
MA with voltage output	0…10 V	11…30 V	Load max 2.5 mA

- » Connection to: strain gauge measuring bridges (full bridge; half or quarter bridges via supplementary resistors)
- » Input signal Sig +: 0.5 to 5.0 mV/V
- » Max. current consumption: 50 mA
- » Bridge supply voltage U+: 2.5 V
- » Bridge resistance: 120 Ω to 10000 Ω
- » Resolution: max. 14 bit
- » Measuring rate: 850 Hz
- » Nominal temperature range: -10°C to +50°C
- » Working temperature range: -30°C to +80°C
- » Temperature coefficient of gain: < 0.1 % f.s.O.*/10 K
- » Temperature coefficient of zero: < 0.2 % f.s.O.*/10 K
- » Electrical protection: Reverse voltage, short circuit, overvoltage protection
- » Adjustable with Teach function: Zero, gain and tare adjustable via external control line or button
Number or read/write cycles is limited to a maximum of 1000
Data storage for at least 10 years
- » Housing: Aluminium
- » Degree of protection: IP 67 (with occupied connection sockets)

* f.s.O. = full scale output

Accessories

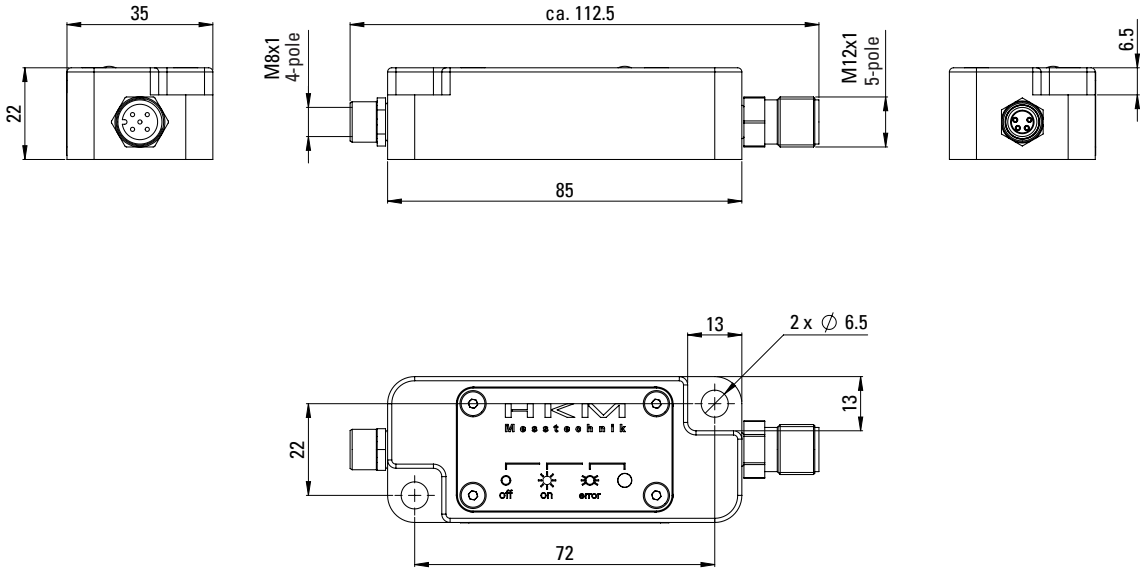
- » Cable with connector, sensor side, 4-pole, M8x1: Article No. 1900321
- » Cable with socket, control side, 5-pole, M12x1: Article No. 1200683

Options

- » other signal levels on request

Dimensions

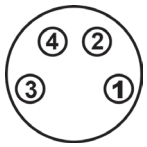
Dimensions in mm



Fastening with 2 screws M6

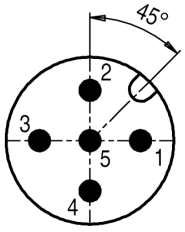
Connections

Sensor side socket M 8 x 1



1 = U+
2 = Sig -
3 = U -
4 = Sig +
Shield

Control side connector M 12 x 1



1 = Ub+
2 = TEACH
3 = GND
4 = Signal
5 = n.c.
Shield