

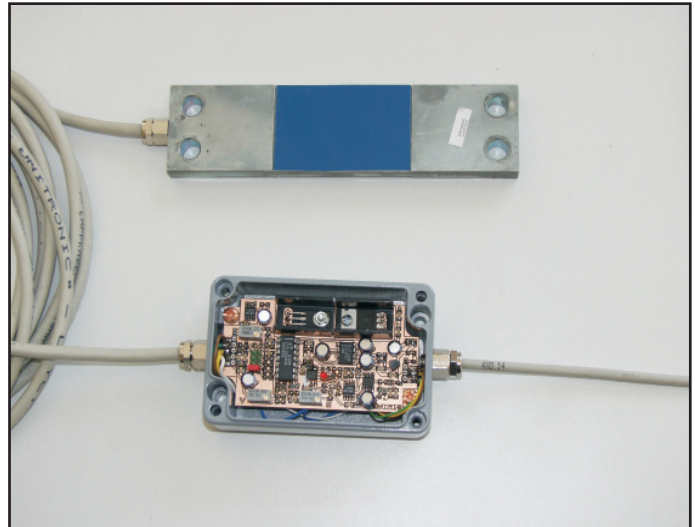
DMS-Measurement Amplifier VMV-0060



functional description

The measurement amplifier works as an direct current amplifier for DMS-measuring bridges. It stands out due to high amplification for small sensor signals of 0,1 mV / V.

It has three adjustment regulators. A regulator serves the balance comparison of the locked strain link transducer, one the zero comparison of the amplifier and one for the amplification comparison.



The amplification range can be selected from four steps with a short-circuit bridge for the optimal adaptation of the amplifier. A comparator with a LED is integrated as help for the balance comparison of the force transducer.

The measurement amplifier is in an aluminium case.

applications:

For the operation of the DMS-measuring bridge a necessary very exact direct voltage is won this one out of the unregulated supply voltage DC. The coarse adjustment of the amplifiers and the zero point is carried out factory-made.

Three potentiometer available for the fine adjustment on the spot which are accessible after opening the case lid. The amplifier delivers a measuring signal from 1 to 9 mA.

Therefore the sensors (e.g. force transducer with DMS) are suitable for connection on a control system, controller, data logger and the like.

technical data

sensor voltage

operating voltage	7 V DC
temperature coeff.	
voltage	10 ppm / K
Current	≤ 45 mA
sensor resistance	$\geq 350 \Omega$
ripple (Ri = 350 Ohm)	≤ 1 mV
connection cable	LiYCY 4 x 0,14 mm ² screened

technical data

amplifier

operating voltage U_b	24 V DC -10 % / +15 %
operating conditions	0 °C to +60 °C
input resistance	> 10 M Ω
current consumption	approx. 60 mA
output	1 - 9 mA $R_{last} \leq (U_b - 5 \text{ V}) / 9 \text{ mA}$

sensitivity ranges	1 : approx. 400...310 $\mu\text{V} / \text{V}$ 2 : approx. 320...220 $\mu\text{V} / \text{V}$ 3 : approx. 270...130 $\mu\text{V} / \text{V}$ 4 : approx. 210... 45 $\mu\text{V} / \text{V}$
--------------------	--

linearity	0,005 %
temperature coeff. for zero point / amplification	20 ppm / K
common mode voltage	max. $\pm 4,5 \text{ V}$
common mode rejection	$\geq 115 \text{ dB}$
critical frequency (-3 dB)	10 Hz

fine comparison of the amplification	$\pm 10 \%$
coarse comparison of the zero shift	$\pm 100 \%$
fine comparison of the zero shift	$\pm 10 \%$

general

contact	soldered connection
case	aluminium pressure diecasting, IP 65
dimension (l x w x h)	64 mm x 94 mm x 36 mm
weight	approx. 100 g