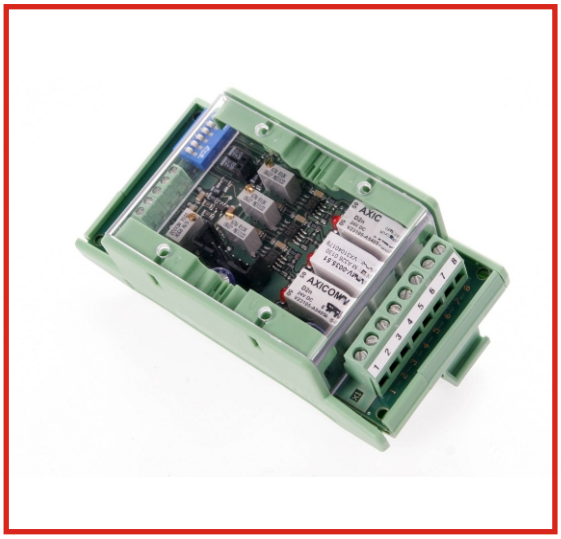
limit switch electronic
VMV-0035

VELOMAT MESSELEKTRONIK GmbH

functional description



The limit switch electronic VMV-0035 is special designed for continuous supervision of loads at sensors with measuring bridge output.

VMV-0035 has available:

- one measurement amplifier
- three comparator levels with relay output
- setting rules for switching threshold
- different terminals

The connected sensor and the measurement amplifier transform the load at the sensor into a measuring signal. Post-connected comparators enable the calibration of different switching thresholds which activate at a certain load in the sensor. Every comparator controls one relay and one control LED.

If the load at the sensor is smaller than the switching threshold of a comparator then the corresponding relay is in the work state. If switching threshold is exceeded due to an increasing load the relay switches off and it changes in the rest condition. Either the make contact or the break contact of the respective relay can be led here at the output terminal. This selection be adjusted due to a factury-aligned solder bridge.

On the circuit board is arranged a service plug X3 for control purposes. The measuring voltage, the internal operating voltage and the three voltages of the switching thresholds can be checked on this service plug by dint of the **service unit VHB-0260** (**extra available**).

A bipolar socket strip „MP“ is arranged parallel to the connections X3/2 and X3/3. The voltage value measured there is dependent on the load state of the sensor. It should be between 0.35 V and 3.85 V. The switching thresholds for the individual channels can be adjusted in this range.

The VMV-0035 is designed for the installation into a switch cabinet and can be put on with a closed or opened DIN rail from strand profiles on a supporting rail.

technical specifications

power supply	24 V DC -10 % / +15 %
current consumption	max. 100 mA
input sensor	measuring bridge output with 4-wire system
outputs	3 relay outputs
hysteresis	10 mV or 50 mV
time constants of the measuring signal change	low attenuation (10 kΩ; 0,1 µF)
	middle attenuation (10 kΩ; 10,1 µF)
	high attenuation (10 kΩ; 20,1 µF)
amplification	approx. 1,9 mV / V or 3,1 mV / V (dependent on version)
	approx. 0,9 mV / V or 2,1 mV / V (dependent on version)
relay	30 V DC at 1 A
dimension of the circuit board	107 mm x 54 mm x 25 mm
recommended case	DIN rail UM 108, opened or closed
operating temperature	0 °C to +70 °C

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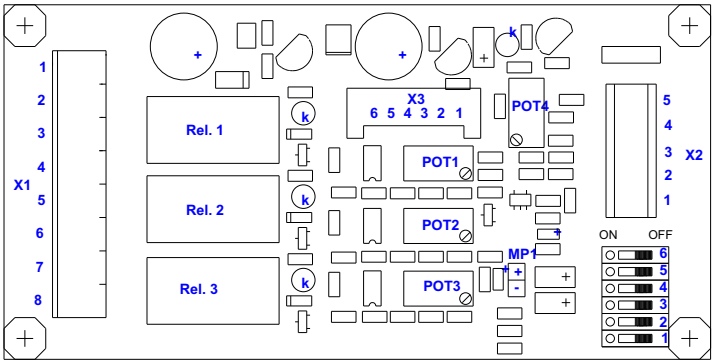
terminal lay-out



DIL switches:

1 hysteresis comparator 3
2 hysteresis comparator 2
3 hysteresis comparator 1
4 attenuation 1
5 attenuation 2
6 amplification

connecting clamp for outputs X1:

pin	name	potentiometer
1	+24 V DC power supply	
2	-24 V DC power supply	
3	relay 1, contact 1 - comparator 1	POT1
4	relay 1, contact 2 - comparator 1	
5	relay 2, contact 1 - comparator 2	POT2
6	relay 2, contact 2 - comparator 2	
7	relay 3, contact 1 - comparator 3	POT3
8	relay 3, contact 2 - comparator 3	

connecting clamp for sensor X2:

pin	name	remark
1	B+	measuring bridge voltage PLUS
2	S-	signal MINUS
3	S+	signal PLUS
4	B-	strap voltage MINUS
5	protect	protection of the interconnecting cable to the mesuring bridge

electrical connections of the service plug X3:

pin	name	potentiometer
1	+5 V internal operating voltage	
2	ground	
3	measuring voltage of the sensor	
4	threshold voltage - comparator 1	POT1
5	threshold voltage - comparator 2	POT2
6	threshold voltage - comparator 3	POT3