limit switch electronic
VMV-0131

VELOMAT
MESSELEKTRONIK GmbH

functional description

The limit switch electronic VMV-0131 is an established product of the VMV product line by VELOMAT. It is configurable about DIP switches and is suited to the switching of 230 V of alternating voltage.
The VMV-0131 is special designed for the overload interruption at lifts / elevators, cranes, special machines and hoisting devices.

Main performances:

- oportunities for the slack rope detection, load advance warning and overload interruption
- own case for a self-sufficient assembly

VMV-0131 has available:

- 1 x sensor input 4...20 mA (1...9 mA)
- 3 x comparators each with one adjusting potentiometer

Every comparator controls one relay and one control LED. Every relay can be adjusted between switched on and switched off on exceeded threshold value. A fourth comparator switches all relays into the overload situation in the case of a cable disruption.
The device can be complemented optionally with an extra service unit VHB-0260.

technical specifications

power supply	24 V AC -20 % / +10 %; 24 V DC -10 % / +40 %
current consumption	max. 100 mA (without sensor)
input sensor	current input 4...20 mA (1...9 mA)
sensor excitation	21 V DC
outputs	3 relay outputs
burden resistor	360 Ω (sensor with 1...9 mA) or 180 Ω (sensor with 4...20 mA)
cable disruption detection	release of relay functions from 0,7 mA signal current at 360 Ω burden from 1,4 mA signal current at 180 Ω burden
switching capacity	max. 250 V AC / 2.000 VA max. 300 V DC / 50...250 W (voltage-dependent)
cage	synthetic material; (l x w x h) 80 mm x 67 mm x 41 mm
fastening cage	two boreholes Ø 3,2 mm; diagonal 45 mm x 89 mm optional: holding clamp for supporting rail
operating temperature	0 °C to +70°C
degree of protection	IP 40

sensors

The most sensors can be connected to the limit switch electronic VMV-0131 in case these has got an amplifier.

A general view to VELOMAT product spectrum of force transducers / load cells is available on the Internet under **www.velomat.de**. Data sheets with some execution example can be downloaded directly in the respective force transducers / load cells text in the pdf format.

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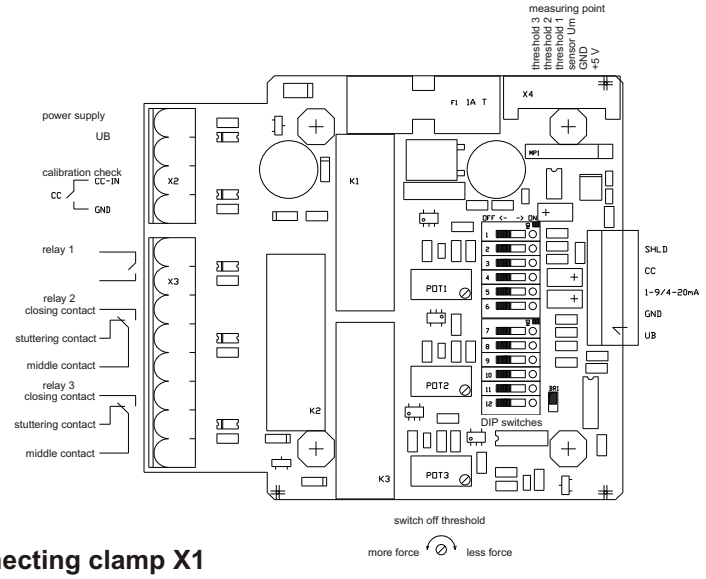
terminal lay-out

The equipping drawing shows the situation of the terminals and the regulators for the comparator adjustment.



DIP switches for configuration

1	input voltage devider (-15 %)
2-5	signal attenuation measuring input (4-step)
6	load resistor (360 Ω / 180 Ω)
7	hysteresis comparator 1 (20 mV / 70 mV)
8	hysteresis comparator 2 (20 mV / 70 mV)
9	hysteresis comparator 3 (20 mV / 70 mV)
10	relay 1 opening / shutting
11	relay 2 opening / shutting
12	relay 3 opening / shutting

connecting clamp X4

pin	signal
1	UB (5 V)
2	GND
3	measurement voltage
4	setting value POT1
5	setting value POT2
6	setting value POT3

connecting clamp X1

pin	name	remark	cable colour
1	UB	excitation sensor 21 V DC (internal generated)	brown
2	GND	ground	green
3	Im	output sensor 4...20 mA (1...9 mA)	yellow
4	CC	calibration check	white
5	protect	protection of the connection cable against EMC	blue

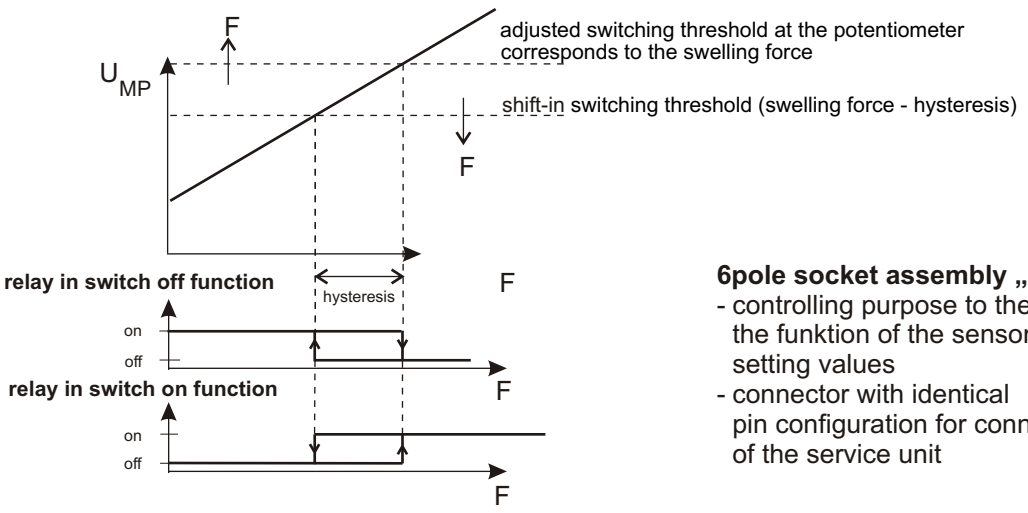
connecting clamp X2

pin	name
1	24 V AC power supply or 24 V DC
2	24 V AC power supply (GND) or 24 V DC (GND)
3	CC calibration check
4	ground

connecting clamp X3

pin	name	potentiometer
1	relay 1, make contact	
2	relay 1, middle contact	POT 1
3	relay 2, make contact	
4	relay 2, home contact	
5	relay 2, middle contact	POT 2
6	relay 3, make contact	
7	relay 3, home contact	
8	relay 3, middle contact	POT 3

force voltage diagram for overload detection



6pole socket assembly „MP“:

- controlling purpose to the checking the funktion of the sensor and the setting values
- connector with identical pin configuration for connection of the service unit