

INSTRUCTION MANUAL VIBRATION SWITCH CVS 100 LC



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1.0 General description

The vibration switch CVS 100 LC allows a low-priced realisation of vibration control for stand-alone machines and auxiliary aggregates (e.g. fans, pumps, centrifuges, mills, gears, etc.), on whose functions important big-installations or process-bounds are depending. Among other things it allows observation according to VDI 2056 and ISO 2372.

Utilized for this are the vibrations of important machine parts (pillow blocks, foundations, casings) covered by rugged velocity feeders in electrical signals and processed and assessed with integrated electronics.

This signal- and adjust electronics is fitted together with the velocity feeder into an aluminium casing fitted directly onto the machine to be observe.

An adjustable level detector with eligible response delay is allowing the volt free signaling via a relay.

2.0 Functional description

The signal of the velocity feeder is passed via a band-pass filter (10-1000 Hz) and is amplified in an amplifier up to the utilizing required level.

The measuring ranges' selection is made by a jumper. The DC-output signal available after the rectifying is calibrated in RMS. It has an effect on the adjustable level detector, whose response time is set by a jumper either to 1 sec. or to 5 sec. The assigned relay change-over contact enables the signal-circuit assembly (warning).

3.0 Installation and fixing

When mounting the vibration switch see to it that a special attention is directed to the duly fit of the casing cover and the screwed cable gland when mounted outside or in dusty or damp environment respectively.

To avoid damages of the vibration switch CVS 100 LC the following vibrations mustn't be exceeded:

- Vibration from 10 to 2000 Hz, 15g
- shock 150g

The fixing is made by the thread M12. The starting torque has not to exceed 10Nm. It is to pay attention to a flat fixing surface. The use of split washers and gears is not allowed.

According to the design the measuring direction of the vibration switch CVS 100 LC is vertical or horizontal.

4.0 Electrical supply

4.1 Auxiliary voltage and output signal

The auxiliary voltage 24 V_{DC} has to be installed on the terminals No. 1 and 2. There is no galvanic separation between the auxiliary voltage and the output signal.

Terminal 1 power supply 24 VDC
Terminal 2 power supply 0 V and output signal 0 V
Terminal 6 output signal 4...+20 mA
The output signal 4...+20 mA is on terminal No. 6.

Please note further Information in Chapter 5.0

4.2 Relay-output

The relay-output is on the terminals No. 3 - 5.

Relay – warning K 1

Terminal 3	NC
Terminal 4	COM
Terminal 5	NO

Please note the relay is normally energized and the LED is flashing.

The terminal block is to pull off for electrical connection and setup.

5.0 Settings

5.1 Measuring range

The measuring ranges' and the level switch time delay selection is made by jumper.

Measuring range – velocity

2 mm/s	S 1 – 1
5 mm/s	S 1 – 2
10 mm/s	S 1 – 3
20 mm/s	S 1 – 4
50 mm/s	S 1 – 5 (or special range)

Attention!

**When changing the plug-in bridges the appliance has to unconnected
to voltage.**

5.2 Level switch

Time delay

Relay - Warning K 1

1 second	S 4 closed
5 second	S 4 open

5.3 Output signal

The output signal is 4... +20 mA.

6.0 Technical data

Measuring direction:	vertical or horizontal (please take into account when ordering)
Amplifier:	AC-amplifier with rectifier and filter
Measuring range:	Velocity: 2, 5, 10, 20, 50 [mm/s] (RMS)
Frequency range:	10 Hz ... 1000 Hz
Output signal::	4 ... +20 mA $R_{Last} \leq 500 \Omega$ proportional velocity , calibrated in RMS [mm/s]
Level detector:	1 piece, limit adjustable in range of 5 ... 100 % of measuring range end (Fail-Safe function, relay normally energized)
Time delay:	Adjustable 1 sec. or 5 sec.

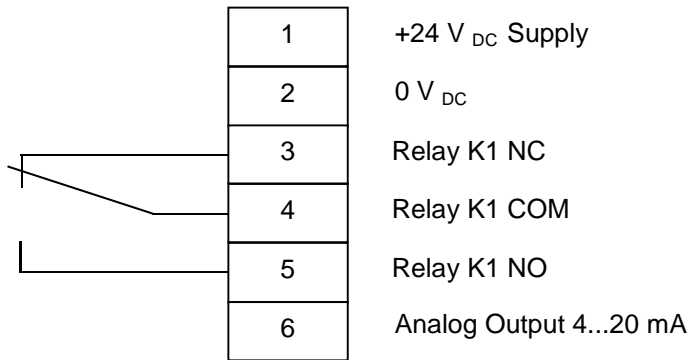
Relay contact safe load (change-over contact):

Turn-on voltage max.:	150 V _{DC} / 125 V _{AC}
Switching current max.:	1 A
Constant limited current	1 A
Rupturing capacity max.:	30 W / 60 VA

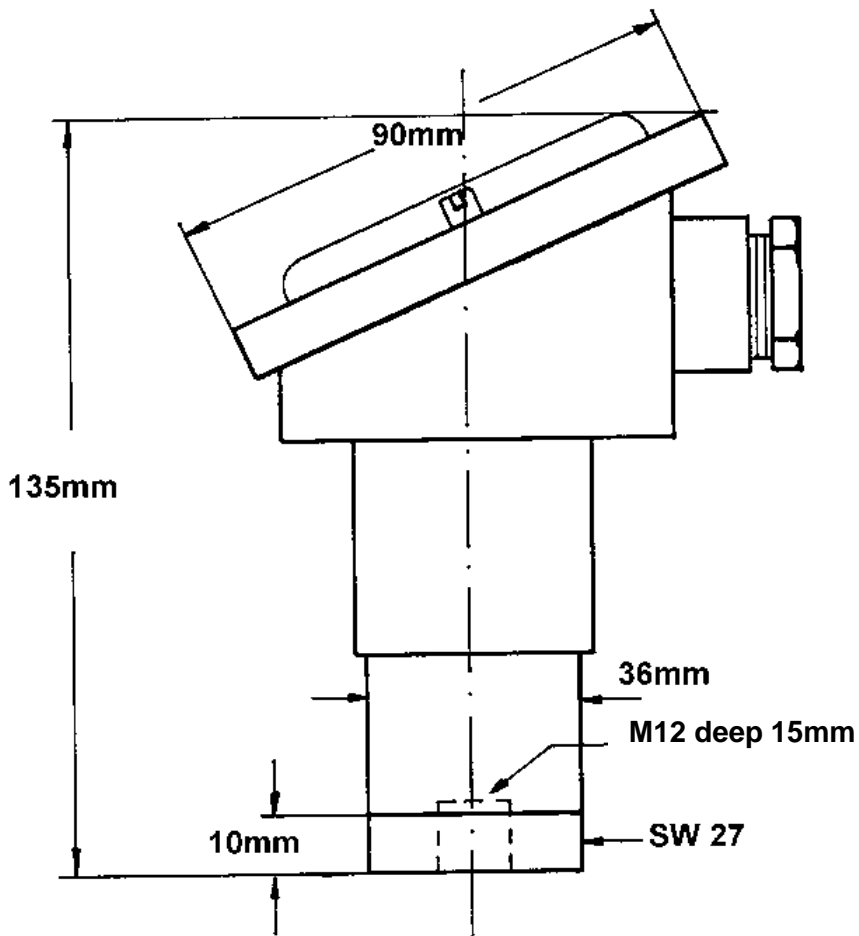
Device data:

Supply:	Voltage: 24 V _{DC} +/-20 % approx. 30 mA no galvanic separation
Temperature range:	-20 ... +70 °C working temperature -30 ... +70 °C storage range
Casing dimensions:	135 x 90 mm (height x diameter)
Material:	Aluminum AL Si 12/Cu
Mounting:	M12, 15 mm deep, wrench 27, starting torque 10 Nm
Screwed cable gland:	1 pc. M20 x 1,5
Protection class:	IP 55
Weight:	Approx. 0,62 kg

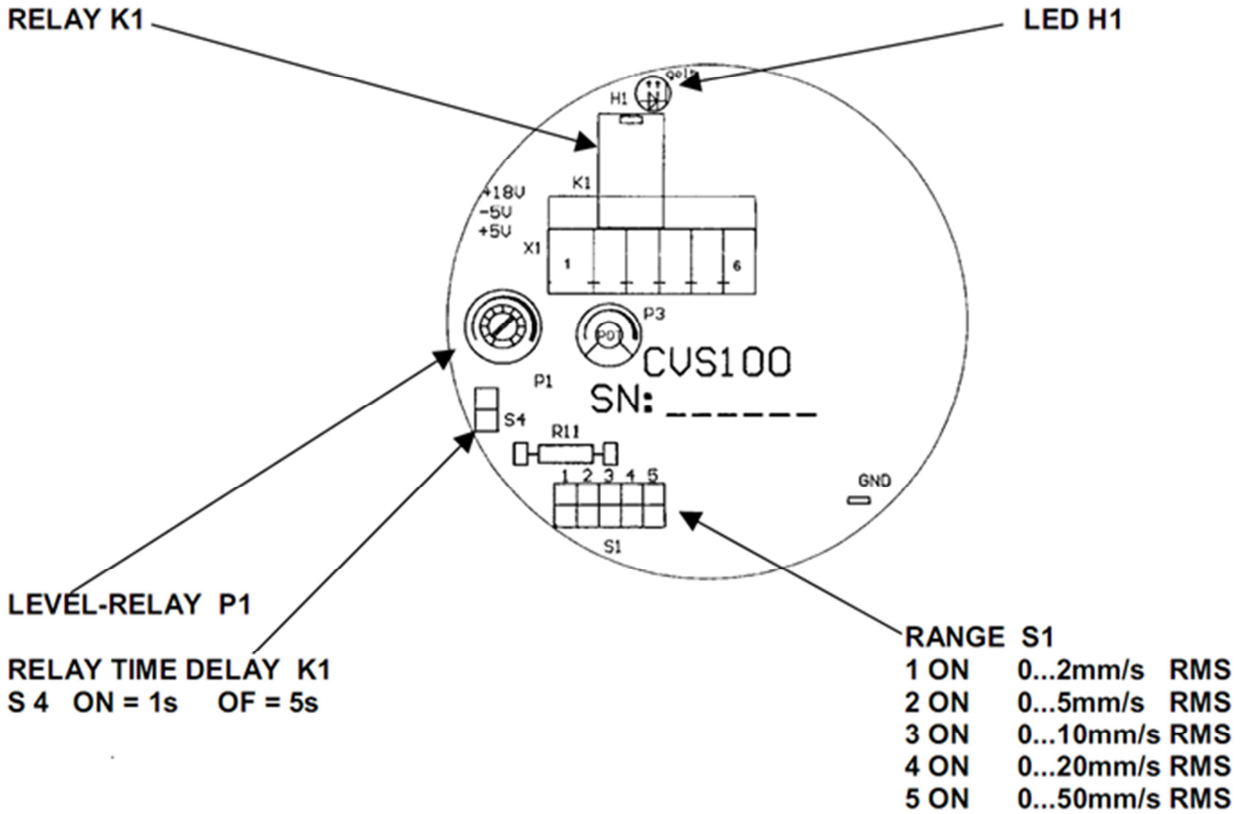
7.0 Terminal connecting



8.0 Dimensioned drawing



9.0 Position diagram – adjustable elements



Subject to change without notice.

Sales Offices

The complete list can be found on our webpage
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