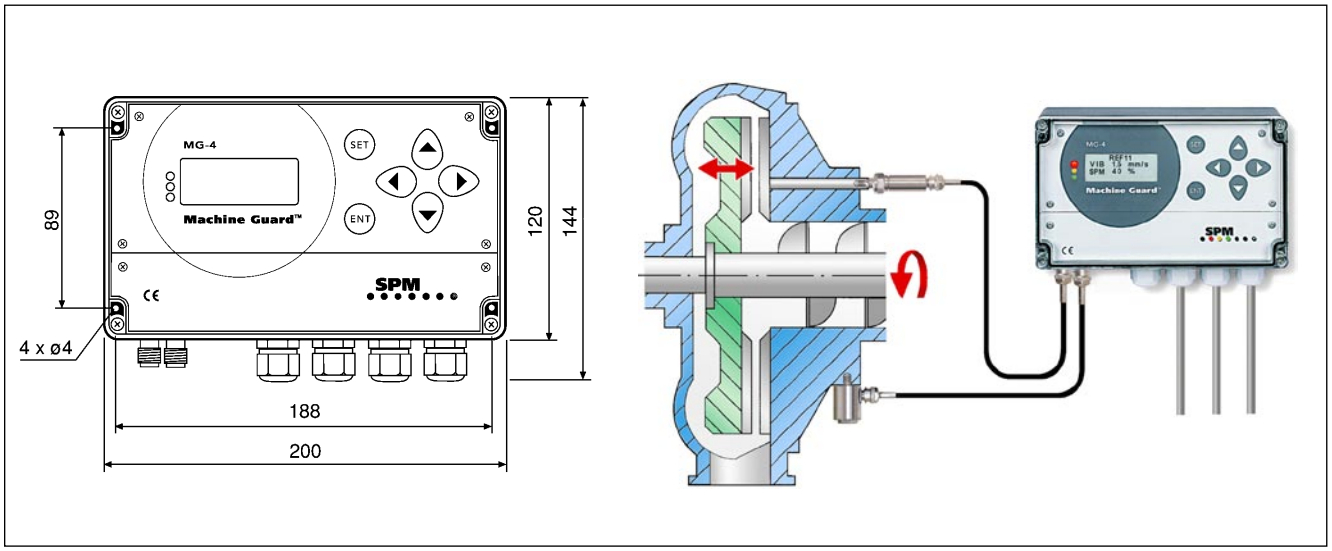
Machine Guard MG4-REF11



Machine Guard MG4-REF11 is a measuring unit for continuous monitoring of mechanical shocks arising when the disc segments in a refiner touches each other (one channel) and machine vibration (one channel). It measures vibration severity (true RMS value of vibration velocity) according to ISO 2372. It provides, for each channel:

- Status display (green - red light) and system fault (yellow light)
- Display of measured value with continuous updates
- Analog output current 4 - 20 mA with programmable range
- Relay action at two programmable alarm levels (red alarm)

A shock pulse transducer is fixed to the refiner housing so that mechanical shocks from the segments are transmitted to the transducer with a minimum of reduction. The transducer signal is transmitted via the cables to the MG4-REF11 electronics which analyse the frequency of occurrence and magnitude.

When the unit is in its normal measuring mode, the green - red status light shows the status of the channel with the worst condition. The yellow status light indicates system fault. The display shows the measuring result on both channels.

During normal operation the instrument reading is 20 to 60 %. If the discs run together, corresponding to an instrument reading above 70 %, a relay is activated and a signal is given to open the disc gap.

The measuring results can be put on any of the available analog output channels and connected with any of the relays.

MG4-REF11 has a casing for wall mounting, IP65. It can be connected to a PLC via the analog outputs. Measuring time, alarm levels, alarm delay and the channel/relay combinations are programmed, using the push buttons on the front panel. Power supply, 230 Vac or 115 Vac, and type of shock pulse transducer are selected on ordering the unit.

Technical specifications

Vibration monitoring:	1 channel
Shock pulse monitoring:	1 channel
Analog outputs (4):	4-20 mA, selective range, VIB (1), Shock Level (1), dBc (1), dBm (1), no galvanic separation
Main relay (1):	250 Vac, 5 A, 1250 VA
Secondary relays (4):	125 Vac, 1 A, 60 VA, 150 Vdc, 1 A, 30 W
Power supply:	230 Vac or 115 Vac
Power consumption:	max. 6 VA
Temperature range:	0° to 50° C (32° to 122° F)
Casing:	Polycarbonate/PVC, IP65
Input connectors:	TNC, silver plated brass, 10–15 µ
Display screen:	LCD, 4x16 characters, backlighted
Status display:	Green, yellow, red LED
Dimensions:	200 x 144 x 77 mm
Weight:	1140 grams

Vibration channel (VIB)

Measuring range:	0.5 to 49.9 mm/s RMS (0 to 1.9 inch/s RMS)
Resolution:	0.1 mm/s (0.01 inch/s)
Frequency range:	10 to 1000 Hz
Measuring time:	Programmable 1 to 15 sec
Alarm limits:	2, programmable, A1 (max) and A2 (min)
Alarm delay:	0 to 600 seconds, steps of 2 s
Fault indication:	Transducer line test for short and open circuit
Transducer type:	SLD122 or TRV-20/21 with isolated installation foot TRX-18/19

Shock pulse channel (SPM)

SPM method:	dBm/dBc
Measuring time:	approx. 0.4 s
Measuring range:	0 to 99 dBsv
Resolution:	1 dBsv
Alarm limits:	2, programmable A1 (max) and A2 (min)
Alarm delay:	0 to 600 seconds, steps of 2 s
Fault indication:	Transducer line test of measuring circuit quality, every 2 min.
Transducer type:	SPM 42000

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