

Velocity RMS sensor

RVL-165EX Code: 600-10743

Key features

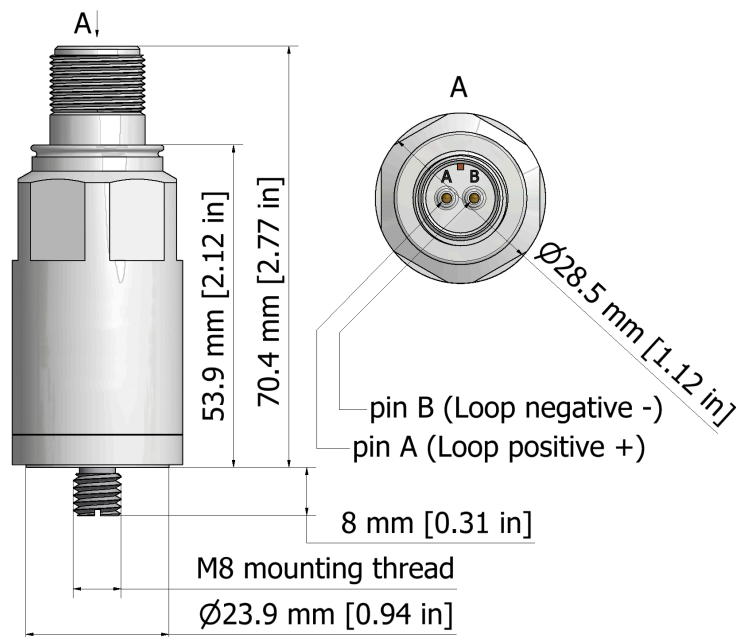
- Intrinsically safe certified
- 4-20 mA output proportional to overall vibration level
- Rugged design
- Corrosion resistant
- Hermetic seal
- ESD protection
- Reverse wiring protection
- Overload protection
- Top exit connector

RVL-165EX is an intrinsically safe certified true RMS velocity output sensor for mechanical condition monitoring. It is typically used for continuous overall vibration level monitoring in industrial control systems. The sensor provides an intrinsically safe 4-20 mA output and can therefore be easily connected to any PLC or DCS.



RVL-165EX is suitable for monitoring of most machinery in different speed ranges, for example, in the following industries:

- Pulp and Paper
- Mining and mineral industry
- Power generation
- Steel industry



RVL-165EX specifications

Output, 4-20 mA	Full scale, 20 mA ($\pm 5\%$)	25.4 mm/s
	Frequency response	10...1 000 Hz
	$\pm 10\%$	4...2 000 Hz
	± 3 dB	
	Repeatability	$\pm 2\%$
	Transverse sensitivity, max.	5%
Electrical	Power requirements	
	Voltage at sensor terminals	12...30 VDC
	Loop resistance at 24 VDC, max.	600 Ω
	Turn on time, 4-20 mA loop	30 s
	Grounding	Case isolated, internally shielded
Environmental	Temperature range	-40...+85 °C
	Vibration limit	250 g peak
	Shock limit	2 500 g peak
	Sealing	Hermetic
Physical	Sensing element design	PZT ceramic, shear
	Weight	162 g
	Case material	316L stainless steel
	Mounting	M8 integral stud (6 Nm max. torque)
	Output connector	2 pin, MIL-C-5015 style
	Pin A	Loop positive (+)
	Pin B	Loop negative (-)

Certifications



Class I, Div 1
Groups A, B, C, D
T3C
Ta = 85°C max



II 1 G
Ex ia IIC T4 Ga
 $-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$



For hazardous area locations, sensor must be installed in accordance with installation diagram 12779. Refer to installation diagram 12779 for correct method of grounding the safety barrier. The apparatus must be connected to certified intrinsically safe equipment with electrical parameters as specified below:

$14\text{ V} < U_o < 30\text{ V}$, $20\text{ mA} < I_o < 106\text{ mA}$ (linear supply only), $P_o < 0.75\text{ W}$

Furthermore, the following conditions must be satisfied:

$C_o < C_i + C_{\text{cable}}$ and $L_o < L_i + L_{\text{cable}}$

Maximum cable length: 100 ft (31 m)

C_{cable} : 6 nF for 100 ft.

