

Emerson PR6423/012-130 CON021

Long-Body Eddy Current Transducer System

Product scope

- Extends the threaded probe body to 45 mm for deeper mounting locations.
- Provides an eight-metre armoured cable route between the machine and converter.
- Maintains the standard PR6423 two-millimetre shaft-displacement characteristic.

Manufacturer source

Exact-model technical record

Verified model-specific overview, function, operating principle, applications and technical data.

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Emerson PR6423/012-130 CON021

Long-Body Eddy Current Transducer System

Product overview

Emerson PR6423/012-130 CON021 is an armoured M10 x 1 eddy current probe with a 45 mm sensing body, 8 m LEMO cable and CON021 converter. Its extended reach suits shaft-monitoring points where the mounting bracket sits farther from the target.

PR6423/012-130 CON021 combines the longer 45 mm probe body with an eight-metre armoured lead. The 012-130 option retains the standard 8 mm tip and two-millimetre calibrated measurement range while extending mechanical and cable reach.

The eddy-current principle measures the changing clearance between the stationary probe and the conductive rotating shaft. CON021 supplies excitation and converts the probe response into the negative-voltage signal used by the monitoring channel.

Longer reach increases the importance of bracket rigidity and cable support. The exact M10 mounting, eight-metre system length, target metallurgy and thermal route must be checked before using this option in place of a shorter PR6423 assembly.

Technical specifications

Sensing tip	8 mm
Linear range	2 mm
Recommended initial gap	0.5 mm
Nominal sensitivity	8 V/mm $\pm 5\%$ from 0 to 45 °C
Linearity tolerance	± 0.025 mm
Measurement bandwidth	0 to 20 kHz
Mounting thread	M10 x 1
Armoured lead	Yes
Probe-body length	45 mm
Overall body length	54 mm
Adapter plug	Not fitted
Combined cable length	8 m
Cable connector	LEMO
Minimum shaft target	25 mm diameter
Reference material	42CrMo4 / AISI 4140 steel
Environmental protection	IP66
Probe-end temperature	-35 to 180 °C
Remote cable temperature	-35 to 150 °C
Matched converter	CON021
Linearized output	-2 to -18 V
Conditioner error	1% maximum

PR6423/012-130 CON021 function and operating principle

Ordered configuration

The 012-130 suffix denotes the long-body probe and the longest cable option in this three-product group.

System role

It observes rotor motion where housing geometry places the accessible mounting surface away from the shaft.

Selection and installation

The support bracket must resist thermal growth and vibration so those effects do not enter the measurement as false displacement.

Functional path

- Extends the threaded probe body to 45 mm for deeper mounting locations.
- Provides an eight-metre armoured cable route between the machine and converter.
- Maintains the standard PR6423 two-millimetre shaft-displacement characteristic.

Application scenarios

- Large turbine casings use the longer body to reach a shaft through a deep threaded boss.
- Fans and compressors can place the converter farther from heat and mechanical interference by using the eight-metre lead.
- Protection cabinets trend shaft position while keeping conditioning electronics outside the immediate bearing environment.

PR6423/012-130 CON021 engineering checks

Operating Environment

- The sensing end operates from -35 to 180 °C within the documented installation limits.
- Connector and remote cable sections have a lower maximum temperature of 150 °C.
- IP66 probe construction resists industrial contamination when the complete installation is sealed correctly.

Installation & Integration

- The 45 mm sensing body reaches through deeper brackets than the standard-length execution.
- The eight-metre lead and CON021 form one calibrated electrical system.
- Cable armour should be supported without clamps that crush or sharply bend the lead.

Monitoring & Control

- The conditioner output represents shaft-to-probe gap across the two-millimetre linear range.
- Static position, slow movement and vibration content up to 20 kHz are available to the monitoring channel.
- Protection logic can use the processed signal for alert, danger and machine-trip decisions.

Critical technical note

Support the extended body of PR6423/012-130 CON021 rigidly; bracket flex can appear as shaft movement and corrupt the protection signal.

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