

PR6422-013-041

PR6422 5 mm miniature eddy-current displacement sensor

Non-contact eddy-current displacement measurement of a conductive shaft or target

PRODUCT SNAPSHOT

BRAND

Emerson

FAMILY

Emerson PR6422 5 mm eddy-current measureme

PART

PR6422-013-041

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PRODUCT OVERVIEW

Non-contact eddy-current displacement measurement of a conductive shaft or target

1

Uses a miniature M6 x 0.5 probe sleeve

2

Provides a ten-metre armored open-ended cable

3

Offers 16 V/mm nominal sensitivity

4

Supports narrow-clearance shaft measurements

SYSTEM COMPONENTS

PR6422-compatible signal converter

Fine-thread miniature bracket

Small conductive shaft or target

Open-end field termination

TECHNICAL NOTE

Protect the fine M6 x 0.5 thread, confirm the ten-metre open-end wiring and PR6422 converter range, then set the narrow air gap with controlled mechanical clearance.

TECHNICAL DATA

PARAMETER	VALUE
Sensor family	PR6422
Sleeve thread	M6 x 0.5
Aarmor	Yes
Probe length Cx	50 mm
Overall sensor length C	55.3 mm
Adapter plug	Included
Total cable length	10 m
Cable end	Open ends

PARAMETER	VALUE
Static nominal range	+/-0.5 mm
Recommended dynamic range	25 to 250 um p-p
Sensitivity	16 V/mm
Nominal distance center	Approximately 0.8 mm
Basic air gap	0.15 to 0.35 mm
Operating temperature	-35 to +180 degC; +200 degC short term
Pressure at sensor head	10,000 hPa
Vibration endurance	5 g at 60 Hz

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
1C31166G02	Related Emerson product	View 1C31166G02 page
EN-204-EN-204-00-000	Related Emerson product	View EN-204-EN-204-00-000 page
1C31169G02	Related Emerson product	View 1C31169G02 page
FX-490	Related Emerson product	View FX-490 page
ES0350-M1A05L-27N0	Related Emerson product	View ES0350-M1A05L-27N0 page
960177-02	Related Emerson product	View 960177-02 page
KJ2003X1-BB1	Related Emerson product	View KJ2003X1-BB1 page
EC3-X33	Related Emerson product	View EC3-X33 page

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Small-shaft radial vibration

Uses a miniature M6 x 0.5 probe sleeve

Tight-clearance position sensing

Provides a ten-metre armored open-ended cable

High-sensitivity eccentricity channels

Offers 16 V/mm nominal sensitivity

Remote miniature probe installations

Supports narrow-clearance shaft measurements

PRODUCT PRECAUTIONS

- 1 Verify the complete PR6422-013-041 order code, M6 x 0.5 mounting interface and assigned PR6422 5 mm eddy-current system measuring point before work.
- 2 Place the monitored machine and its protection channel in the approved maintenance state before disturbing PR6422-013-041.
- 3 Protect the probe tip from impact and keep the mounting thread and bracket free from burrs or contamination.
- 4 Route the 10 m sensor lead without sharp bends, crushing, tensile load or contact with hot and moving surfaces.
- 5 Keep the LEMO or open-end connection clean, dry and fully identified before reconnecting the measurement loop.
- 6 Confirm the paired signal converter or monitor input, cable length and target material match the documented measuring chain.
- 7 Set the static gap within the documented linear region while preserving shaft and probe mechanical clearance.
- 8 Prove polarity, static gap, dynamic response and alarm action before returning the protection channel to service.

ENGINEER FAQ

Q1 Does PR6422-013-041 match PR6422-compatible signal converter in a Small-shaft radial vibration installation?

Verify the complete PR6422-013-041 marking, the documented Emerson PR6422 5 mm eddy-current measurement system position and the installed PR6422-compatible signal converter before fitting the assembly.

Q3 Which Emerson PR6422 5 mm eddy-current measurement system records should be captured before removing PR6422-013-041?

Record the as-found wiring, installed position, active configuration and diagnostic state associated with PR6422-013-041 before disconnection.

Q5 Which Fine-thread miniature bracket condition should be checked when PR6422-013-041 reports an abnormal state?

Check the Fine-thread miniature bracket supply, seating and connection first, then compare channel diagnostics with the recorded PR6422-013-041 baseline.

Q7 What maintenance evidence is required after PR6422-013-041 is used for High-sensitivity eccentricity channels?

Retain the nameplate record, corrective action, final diagnostics and a controlled high-sensitivity eccentricity channels functional-test result for PR6422-013-041.

Q2 How should PR6422-013-041 be wired when it must use a miniature m6 x 0.5 probe sleeve?

Isolate the circuit, identify every terminal and reproduce the approved polarity, shield and channel assignment for PR6422-013-041; then continuity-test the affected path.

Q4 What controlled test confirms that PR6422-013-041 can provide a ten-metre armored open-ended cable?

Apply the approved field or simulated stimulus, observe the Emerson PR6422 5 mm eddy-current measurement system indication and confirm the intended response without bypassing the normal interlocks.

Q6 Can PR6422-013-041 be moved directly into Tight-clearance position sensing without validating Open-end field termination?

No. Confirm the Open-end field termination, revision, connection scheme and Emerson PR6422 5 mm eddy-current measurement system configuration before transferring PR6422-013-041 to that duty.

Q8 How should PR6422-013-041 be returned to service in Remote miniature probe installations?

Restore power under control, verify offers 16 v/mm nominal sensitivity, exercise the intended signal path and release PR6422-013-041 only after the Emerson PR6422 5 mm eddy-current measurement system remains in its approved operating state.

SOURCE Emerson PR642x Eddy Current Sensor Installation Guide | MHM-97857 Rev. 1.11, January 2026

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