

INDUSTRIAL AUTOMATION PRODUCT

PR6422-013-041

PR6422 5 mm miniature eddy-current displacement sensor

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

IDENTITY	VERIFIED VALUE
Manufacturer	Emerson
System family	Emerson PR6422 5 mm eddy-current measurement system
Part number	PR6422-013-041
Country	USA
HS code	8537101190

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Technical Specifications

Technical values below are limited to the named Emerson product record.

PARAMETER	TECHNICAL 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
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

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System Role and Architecture

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

FUNCTION 1

Uses a miniature M6 x 0.5 probe sleeve

FUNCTION 2

Provides a ten-metre armored open-ended cable

FUNCTION 3

Offers 16 V/mm nominal sensitivity

FUNCTION 4

Supports narrow-clearance shaft measurements

Matched system components

- PR6422-compatible signal converter
- Fine-thread miniature bracket
- Small conductive shaft or target
- Open-end field termination

SYSTEM INTEGRATION RECORD

INTEGRATION ITEM	DOCUMENTED ROLE
Installed host / carrier	PR6422-compatible signal converter
Companion hardware	Fine-thread miniature bracket
Field connection	Small conductive shaft or target
Primary system function	Uses a miniature M6 x 0.5 probe sleeve
Controlled acceptance duty	Small-shaft radial vibration

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Applications and Engineering Context

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

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.

MODEL-SPECIFIC ACCEPTANCE EVIDENCE

CHECK	ACCEPTANCE CONDITION
Identity	PR6422-013-041 / PR6422-013-041 recorded
Physical interface	PR6422-compatible signal converter
Companion check	Fine-thread miniature bracket
Functional proof	Uses a miniature M6 x 0.5 probe sleeve
Application test	Small-shaft radial vibration

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Engineering 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.

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
KJ3222X1-BA1-12P2532 X092...	Related Emerson product	View KJ3222X1-BA1-12P2532X092... page
PR6424-013-140-CON02 1-91...	Related Emerson product	View PR6424-013-140-CON021-91... page
PR6424-000-041-CON04 1	Related Emerson product	View PR6424-000-041-CON041 page
KJ4001X1-BE1-12P0818 X072...	Related Emerson product	View KJ4001X1-BE1-12P0818X072... page
SP4401	Related Emerson product	View SP4401 page
SP3401	Related Emerson product	View SP3401 page
12P4705X062	Related Emerson product	View 12P4705X062 page
EZ1000	Related Emerson product	View EZ1000 page

MANUFACTURER SOURCE RECORD

Emerson PR642x Eddy Current Sensor Installation Guide

MHM-97857 Rev. 1.11, January 2026

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