

PR6424-003-030

PR6424 16 mm eddy-current displacement sensor

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

PRODUCT SNAPSHOT

BRAND

Emerson

FAMILY

Emerson PR6424 16 mm eddy-current measurem

PART

PR6424-003-030

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PRODUCT OVERVIEW

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

1

Uses the larger M18 x 1.5 sensing body

2

Provides a four-millimetre nominal static span

3

Carries the probe signal over eight metres

4

Matches a PR6424-capable converter channel

SYSTEM COMPONENTS

CON021 or CON041 converter configured for PR6424

Conductive target surface

M18 mounting hardware

Compatible monitor input

TECHNICAL NOTE

Match the M18 x 1.5 installation and PR6424 converter range, protect the 70 mm probe body, support the eight-metre cable and verify the full linear response.

TECHNICAL DATA

PARAMETER	VALUE
Sensor family	PR6424
Sleeve thread	M18 x 1.5
Armor	No
Probe length Cx	70 mm
Overall sensor length C	82.5 mm
Adapter plug	Included
Total cable length	8 m
Cable end	LEMO

PARAMETER	VALUE
Static nominal range	+/-2.0 mm
Recommended dynamic range	100 to 1000 um p-p
Sensitivity	4 V/mm
Nominal distance center	Approximately 2.7 mm
Basic air gap	0.55 to 0.95 mm
Operating temperature	-35 to +120 degC
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
KJ3241X1-BA1-12P2506X062	Related Emerson product	View KJ3241X1-BA1-12P2506X062 page
38B6041X082	Related Emerson product	View 38B6041X082 page
KJ3222X1-BA1-12P2532X092...	Related Emerson product	View KJ3222X1-BA1-12P2532X092... page
PR6424-013-140-CON021-91...	Related Emerson product	View PR6424-013-140-CON021-91... page
PR6424-000-041-CON041	Related Emerson product	View PR6424-000-041-CON041 page
KJ4001X1-BE1-12P0818X072...	Related Emerson product	View KJ4001X1-BE1-12P0818X072... page
SP4401	Related Emerson product	View SP4401 page
SP3401	Related Emerson product	View SP3401 page

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Large-shaft radial vibration

Uses the larger M18 x 1.5 sensing body

Axial displacement monitoring

Provides a four-millimetre nominal static span

Differential expansion measurement

Carries the probe signal over eight metres

Machine-position trending

Matches a PR6424-capable converter channel

PRODUCT PRECAUTIONS

- 1 Verify the complete PR6424-003-030 order code, M18 x 1.5 mounting interface and assigned PR6424 16 mm eddy-current system measuring point before work.
- 2 Place the monitored machine and its protection channel in the approved maintenance state before disturbing PR6424-003-030.
- 3 Protect the probe tip from impact and keep the mounting thread and bracket free from burrs or contamination.
- 4 Route the 8 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 PR6424-003-030 match CON021 or CON041 converter configured for PR6424 in a Large-shaft radial vibration installation?

Verify the complete PR6424-003-030 marking, the documented Emerson PR6424 16 mm eddy-current measurement system position and the installed CON021 or CON041 converter configured for PR6424 before fitting the assembly.

Q2 How should PR6424-003-030 be wired when it must uses the larger m18 x 1.5 sensing body?

Isolate the circuit, identify every terminal and reproduce the approved polarity, shield and channel assignment for PR6424-003-030; then continuity-test the affected path.

Q3 Which Emerson PR6424 16 mm eddy-current measurement system records should be captured before removing PR6424-003-030?

Record the as-found wiring, installed position, active configuration and diagnostic state associated with PR6424-003-030 before disconnection.

Q4 What controlled test confirms that PR6424-003-030 can provides a four-millimetre nominal static span?

Apply the approved field or simulated stimulus, observe the Emerson PR6424 16 mm eddy-current measurement system indication and confirm the intended response without bypassing the normal interlocks.

Q5 Which Conductive target surface condition should be checked when PR6424-003-030 reports an abnormal state?

Check the Conductive target surface supply, seating and connection first, then compare channel diagnostics with the recorded PR6424-003-030 baseline.

Q6 Can PR6424-003-030 be moved directly into Axial displacement monitoring without validating Compatible monitor input?

No. Confirm the Compatible monitor input, revision, connection scheme and Emerson PR6424 16 mm eddy-current measurement system configuration before transferring PR6424-003-030 to that duty.

Q7 What maintenance evidence is required after PR6424-003-030 is used for Differential expansion measurement?

Retain the nameplate record, corrective action, final diagnostics and a controlled differential expansion measurement functional-test result for PR6424-003-030.

Q8 How should PR6424-003-030 be returned to service in Machine-position trending?

Restore power under control, verify carries the probe signal over eight metres, exercise the intended signal path and release PR6424-003-030 only after the Emerson PR6424 16 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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