

PR6424-010-140

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

PR6424-010-140

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PRODUCT OVERVIEW

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

1

Combines a short 40 mm probe with armored protection

2

Provides a ten-metre overall cable

3

Uses the PR6424 four-millimetre static span

4

Requires the documented connection arrangement without an included adapter

SYSTEM COMPONENTS

PR6424-configured converter

M18 x 1.5 bracket

Ten-metre cable route

Compatible LEMO connection hardware

TECHNICAL NOTE

Verify that the required adapter hardware is available, match the M18 thread and ten-metre system length, then prove the PR6424 linear span after installation.

TECHNICAL DATA

PARAMETER	VALUE
Sensor family	PR6424
Sleeve thread	M18 x 1.5
Armor	Yes
Probe length Cx	40 mm
Overall sensor length C	52.5 mm
Adapter plug	Not included
Total cable length	10 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
KC3011X1-BA1-12P6749X042	Related Emerson product	View KC3011X1-BA1-12P6749X042 page
KC3010X1-BA1-12P6762X062	Related Emerson product	View KC3010X1-BA1-12P6762X062 page
1X01046H01L	Related Emerson product	View 1X01046H01L page
PR6426-000-131-CON041	Related Emerson product	View PR6426-000-131-CON041 page
PR6426-010-140	Related Emerson product	View PR6426-010-140 page
1X00781H01L	Related Emerson product	View 1X00781H01L page
38B6041X152	Related Emerson product	View 38B6041X152 page
38B5786X092	Related Emerson product	View 38B5786X092 page

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Large-shaft radial monitoring

Combines a short 40 mm probe with armored protection

Remote thrust-position points

Provides a ten-metre overall cable

Differential expansion loops

Uses the PR6424 four-millimetre static span

Armored long-run probe replacement

Requires the documented connection arrangement without an included adapter

PRODUCT PRECAUTIONS

- 1 Verify the complete PR6424-010-140 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 PR6424-010-140.
- 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 PR6424-010-140 match PR6424-configured converter in a Large-shaft radial monitoring installation?

Verify the complete PR6424-010-140 marking, the documented Emerson PR6424 16 mm eddy-current measurement system position and the installed PR6424-configured converter before fitting the assembly.

Q3 Which Emerson PR6424 16 mm eddy-current measurement system records should be captured before removing PR6424-010-140?

Record the as-found wiring, installed position, active configuration and diagnostic state associated with PR6424-010-140 before disconnection.

Q5 Which M18 x 1.5 bracket condition should be checked when PR6424-010-140 reports an abnormal state?

Check the M18 x 1.5 bracket supply, seating and connection first, then compare channel diagnostics with the recorded PR6424-010-140 baseline.

Q7 What maintenance evidence is required after PR6424-010-140 is used for Differential expansion loops?

Retain the nameplate record, corrective action, final diagnostics and a controlled differential expansion loops functional-test result for PR6424-010-140.

Q2 How should PR6424-010-140 be wired when it must combines a short 40 mm probe with armored protection?

Isolate the circuit, identify every terminal and reproduce the approved polarity, shield and channel assignment for PR6424-010-140; then continuity-test the affected path.

Q4 What controlled test confirms that PR6424-010-140 can provides a ten-metre overall cable?

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.

Q6 Can PR6424-010-140 be moved directly into Remote thrust-position points without validating Compatible LEMO connection hardware?

No. Confirm the Compatible LEMO connection hardware, revision, connection scheme and Emerson PR6424 16 mm eddy-current measurement system configuration before transferring PR6424-010-140 to that duty.

Q8 How should PR6424-010-140 be returned to service in Armored long-run probe replacement?

Restore power under control, verify uses the pr6424 four-millimetre static span, exercise the intended signal path and release PR6424-010-140 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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