PR6424/01 CS CON021

16 mm Eddy-Current Sensor and Signal Converter Assembly

Emerson PR6424/01 CS CON021 is a matched PR6424 16 mm eddy-current sensor reference with a CON021 signal converter.

PR6424/01 CS CON021 configuration dashboard

Extended shaft-clearance measurement

The sensor geometry supports non-contact radial or axial displacement where the documented target and gap are available.

Matched sensor-converter scaling

Sensor sensitivity and converter output form one calibrated electrical relationship rather than independent components.

Panel-mounted signal conditioning

The converter provides a high-bandwidth negative-voltage output for machinery protection or monitoring channels.

Exact order-code identity

Complete order reference	PR6424/01 CS CON021
Sensor family	PR6424 16 mm eddy-current sensor
Companion converter	CON021
Sensitivity	4 V/mm (101.6 mV/mil), linearity <= +/-1.5%
Nominal center air gap	Approximately 2.7 mm
Static range	+/-2.0 mm
Dynamic range	0 to 1000 um
Minimum shaft diameter	80 mm

PR6424/01 CS CON021 identifies the supplied sensor and CON021 relationship. The exact sensor thread, case, cable and suffix marking must be checked from the delivered label before mechanical substitution.

16 mm Eddy-Current Sensor and Signal Converter Assembly technical capability map

Reference target	42CrMo4 ferromagnetic steel
Sensor operating temperature	-35 to +150 deg C
Sensor sleeve material	Stainless steel
Converter frequency range	0 to 20 kHz (-3 dB)
Converter supply, -4 to -20 V output	-23 to -32 V DC
Converter operating temperature	-30 to +100 deg C
Converter mounting	Panel mount with four M5 x 20 screws

Maximum surface speed	2500 m/s
Pressure resistance, sensor head	10000 hPa (145 psi)
Sensor cable material	PTFE
Converter rise time	<15 us
Converter supply, -2 to -18 V output	-21 to -32 V DC
Converter protection class	IP20

Installed signal or connection path

Machine target > **PR6424/01 CS CON021** > **Signal converter** > **Monitor input** > **Machinery channel**

System interpretation boundary

Published range and scale values use the stated 42CrMo4 reference target. Shaft material, diameter, runout, nearby conductive surfaces and cable-converter pairing can change the installed response and must be controlled.

Before exchange, record sensor insertion, locknut position, cable route, converter terminals, static output and machine baseline. Restore the complete chain, set the approved gap, then compare static and dynamic response before release.

Application fit decisions for PR6424/01 CS CON021

Radial shaft vibration

Measure shaft-relative motion within the documented 4 mm static sensor range.

Axial position monitoring

Set the static operating point so expected thrust travel remains inside the calibrated region.

Eccentricity and runout

Retain the same target material, surface condition and mechanical datum for comparison.

Speed or key reference

Confirm target geometry and receiving-channel threshold for the intended pulse response.

Engineering decision matrix

Which installed dimensions must be captured for PR6424/01 CS CON021?	Record thread engagement, insertion depth, locknut position, target clearance, shaft diameter and nearby conductive geometry.
Why must the CON021 stay matched to PR6424/01 CS CON021?	Sensor sensitivity, material calibration and converter output range form one measurement chain; an arbitrary converter can change scale and linearity.
Which target assumptions apply to PR6424/01 CS CON021?	Published values use 42CrMo4 ferromagnetic steel; verify actual shaft material, surface finish and diameter before applying the catalog scale.
How should the operating gap of PR6424/01 CS CON021 be restored?	Use the approved live converter output and documented mechanical datum, then confirm expected travel remains within the calibrated region.

Applications must be evaluated against the exact installed machine drawing, target, companion hardware and receiving channel. Related product references do not imply substitution.

PR6424/01 CS CON021 service controls and maintenance logic

Record the complete sensor code

Photograph PR6424/01 CS CON021, including every slash, suffix and converter marking.

Preserve the mechanical datum

Measure insertion, locknut position, target clearance and cable orientation before removal.

Protect the sensing face

Keep the tip away from impact, chips, moisture and unsupported side load.

Do not interchange converters

Retain the documented CON021 pairing and material calibration for this sensor chain.

Set gap with a live reading

Use the approved negative-voltage output and machine drawing rather than mechanical clearance alone.

Prove the complete channel

Compare static output, runout and representative dynamic response with the accepted baseline.

Additional technical questions

What cable handling is required for PR6424/01 CS CON021?	Support the cable independently, respect the sensor-family bend radius and prevent twisting at the sensor or converter connector.
How is runout separated from vibration for PR6424/01 CS CON021?	Record slow-roll mechanical and electrical runout first, then compare operating response with that baseline.

Which converter checks add technical value for PR6424/01 CS CON021?	Verify negative supply voltage, terminal identity, static output, grounding or barrier arrangement and receiving-channel polarity.
What proves PR6424/01 CS CON021 is ready for service?	Accept the mechanical datum, stable static output, slow-roll runout and representative vibration or position response as one documented channel.

Technical notes

Exact execution	PR6424 sensor reference with CON021 signal converter
Calibration boundary	Range and sensitivity depend on matched sensor, converter, target material and installed geometry
Technical reference	Emerson PR6424 16 mm Eddy Current Sensor Specifications Sheet, December 2024; Emerson CON021 Specifications Sheet

PR6424/01 CS CON021 source record and supported references

Manufacturer reference	Emerson PR6424 16 mm Eddy Current Sensor Specifications Sheet, December 2024
Applicability	Facts are limited to the exact order-code selections and stated matched-system conditions.
Public page	Exact product page linked from the first-page model title
Evidence boundary	No neighboring-model option or unsupported lifecycle conclusion is assigned to this product.

Verified related product references and contact

Recommended product	Emerson KJ3222X1-BA1 12P2532X122 VE4033S2B1
Recommended product	Emerson KJ3203X1-BA1 12P3270X032 VE4001S2T2B4
Recommended product	Emerson KJ1501X1-BC3 12P3935X032 VE5009
Recommended product	Emerson PR6424/01 CS CON021
Recommended product	Emerson PR6423/00R-111-CN CON041

Discuss the exact marking and installed relationship with Apter Power.
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