

Emerson - Epro PR642x

CON041 / SNG-CON041-SF

Eddy Current Signal Converter

Verified model data

Manufacturer	Emerson
Official model	CON041
Functional-safety version	CON041/SF
Product family	Epro PR642x
Product type	Eddy current signal converter
Standard-range sensors	PR6422, PR6423, PR6424 and PR6426
Extended-range requirement	PR6425 and extended ranges require CON041/91x-xxx
CON041/SF sensor scope	PR6422, PR6423 and PR6424
Nominal supply	-24 V DC
Supply range	-23 to -32 V for -4 to -20 V output; -21 to -32 V for -2 to -18 V output
Output voltage	Factory setting -2 to -18 V; selectable -4 to -20 V

Selection summary

Emerson CON041 / SNG-CON041-SF is a DIN-rail converter for calibrated PR642x eddy-current measuring chains.

Standard CON041 supports the documented standard sensor ranges, while PR6425 and other extended ranges require the matching CON041/91x-xxx version; the functional-safety CON041/SF scope is limited to PR6422, PR6423 and PR6424.

Before replacement, match the complete converter code, paired sensor and serial number, target material, calibrated range, supply and output selection, shielding, grounding, approval marking and proof-test requirements.

APTER POWER

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Additional verified data

Frequency range	0 to 20 kHz with 10 nF load; 0 to 15 kHz with 20 nF load
Operating temperature (CON041)	-30 to 100°C
Operating temperature (CON041/SF)	-35 to 65°C
Protection class	IP20
Housing dimensions	6.95 × 2.0 × 7.95 cm, per official drawing
Net weight	0.06 kg

Sensor Match

- Keep the converter paired with its documented PR642x sensor and calibration
- Use CON041/91x-xxx when the selected sensor range requires an extended-range converter
- Limit CON041/SF functional-safety chains to PR6422, PR6423 or PR6424

Electrical Setup

- Confirm the -24 V DC supply and the correct -32 V lower-limit range
- Match output polarity and range to the receiving monitor
- Preserve terminal wiring, shielding, grounding and oscillator-frequency settings

Replacement Checks

- Record both sensor and converter serial numbers before removal
- Verify the standard or extended measuring range against the target motion
- For CON041/SF, complete the approved proof test before restoring the safety function

Application checkpoints

- Radial or axial shaft-displacement monitoring on turbines, compressors, pumps and fans
- Shaft position and eccentricity measurement with a matched PR642x measuring chain
- Speed and key-pulse signal generation with a supported sensor and converter configuration

Evidence boundary: CON041 and CON041/SF official data were used. The functional-safety sensor scope and ambient range are narrower than the standard CON041 limits and are listed separately.

Source basis: Emerson CON041 Specifications Sheet and MHM-97860 CON041 Installation Guide, January 2025.