

PR9350-02

Linear Displacement Transducer

Emerson PR9350-02 is a differential transformer for linear displacement measurement over a centered 50 mm span. It provides an inductive output for the documented carrier-frequency measurement chain.

IDENTITY	VERIFIED VALUE
Manufacturer	Emerson
Complete model	PR9350-02
Product role	Linear Displacement Transducer
System family	PR9350 Displacement Sensors
Country of origin	USA

DOCUMENT SCOPE

Exact identity, manufacturer-supported technical data, installation checks, applications, precautions and controlled verification records.

APTER POWER SALES TEAM

WHATSAPP / PHONE +86 180 3023 5313

EMAIL sales13@apterpower.com

WEBSITE www.apterpower.com



PR9350-02

Technical Specifications

PARAMETER	VERIFIED VALUE
Complete order code	PR9350-02
Measuring range	-25 to 0 to +25 mm
Sensitivity	270 mV/V
Sensor supply	5 Vrms, 27–50 mA
Carrier frequency	3–5 kHz
Linearity error	±3.5% over 100%; ±0.5% over 60%
Coil resistance	A-B and B-C: 33.0–36.8 Ω
Operating temperature	-20 to +100 °C
Humidity	0–95% non-condensing

Model-Specific Engineering Note

ENGINEERING BOUNDARY

Excite the PR9350-02 only with the documented 5 Vrms, 3–5 kHz carrier and verify the A-B, B-C and shield connections before calibration. Establish the mechanical center and prove both travel directions without exceeding the installed stroke.

Pre-Installation Checks

NO.	REQUIRED CHECK
1	Confirm the complete PR9350-02 marking and the required centered travel span.
2	Isolate the machine and secure the moving assembly before coupling the transducer.
3	Apply only the documented 5 Vrms, 3–5 kHz excitation.
4	Record A-B and B-C resistance before disturbing field wiring.
5	Keep the cable and shield routing separated from interference sources.

System Role and Architecture

Emerson PR9350-02 is a differential transformer for linear displacement measurement over a centered 50 mm span. It provides an inductive output for the documented carrier-frequency measurement chain.

FUNCTION 1
Measures centered linear travel across a 50 mm span

FUNCTION 2
Uses a 5 Vrms carrier-frequency excitation

FUNCTION 3
Provides 270 mV/V documented sensitivity

FUNCTION 4
Supports displacement verification by coil-resistance checks

Common Applications

APPLICATION	ENGINEERING CONTEXT
Valve-stem displacement	Measures bidirectional linear movement around a documented center.
Actuator position feedback	Provides a repeatable inductive signal for compatible conditioning equipment.
Servo mechanism testing	Supports controlled travel and linearity verification through the usable span.
Turbomachinery auxiliary position	Records slow mechanical movement where the approved installation accepts an LVDT.

CONTROLLED ACCEPTANCE DUTY
Confirm identity, physical interface, companion hardware, configured values and functional response against the installed-system record before release.

Engineering Precautions

NO.	PRECAUTION
1	Confirm the complete PR9350-02 marking and the required centered travel span.
2	Isolate the machine and secure the moving assembly before coupling the transducer.
3	Apply only the documented 5 Vrms, 3–5 kHz excitation.
4	Record A-B and B-C resistance before disturbing field wiring.
5	Keep the cable and shield routing separated from interference sources.
6	Align the core and body so neither travel direction reaches a mechanical stop.
7	Check zero, both end directions and linearity after installation.
8	Release the channel only after the displayed displacement agrees with controlled movement.

Model-Specific FAQ - Part 1

QUESTION	ANSWER
What displacement span is specified for Emerson PR9350-02?	The official guide specifies -25 to 0 to +25 mm, giving a centered 50 mm measuring span.
Which excitation must be used with Emerson PR9350-02?	Use 5 Vrms at a 3–5 kHz carrier frequency; Emerson also lists 27–50 mA sensor current.
What sensitivity should an Emerson PR9350-02 loop produce?	The documented sensitivity is 270 mV/V for the stated measurement arrangement.
How can the two Emerson PR9350-02 windings be checked before startup?	Measure A-B and B-C; each winding is documented at 33.0–36.8 Ω .

Model-Specific FAQ - Part 2

QUESTION	ANSWER
What linearity limit applies to Emerson PR9350-02?	Emerson lists $\pm 3.5\%$ over the full range and $\pm 0.5\%$ over the central 60% range.
Can Emerson PR9350-02 be used in condensing humidity?	No. The guide permits 0–95% relative humidity only when non-condensing.
What temperature range applies to Emerson PR9350-02?	The documented operating temperature is -20 to +100 °C.
What proves correct commissioning of Emerson PR9350-02?	A controlled test should prove mechanical centering, both travel directions, stable excitation and displacement response across the required span.

Related Products on Apter Power

MODEL	APTER POWER PAGE
Bently Nevada 03839202	View Bently Nevada 03839202
Bently Nevada 102044-00-18-10-02-00	View Bently Nevada 102044-00-18-10-02-00
Bently Nevada 102044-00-32-10-02	View Bently Nevada 102044-00-32-10-02
Bently Nevada 102045-040-00	View Bently Nevada 102045-040-00
Bently Nevada 102045-040-01-05	View Bently Nevada 102045-040-01-05
Bently Nevada 102244-22-50-01	View Bently Nevada 102244-22-50-01
Bently Nevada 106765-04	View Bently Nevada 106765-04
Bently Nevada 106765-30	View Bently Nevada 106765-30

MANUFACTURER SOURCE RECORD

PR9350 / K20-315 Linear Displacement Transducer Installation Guide
Emerson MHM-97864, Rev. 1.6, March 2026

APTER POWER SALES TEAM

WHATSAPP / PHONE +86 180 3023 5313
EMAIL sales13@apterpower.com
WEBSITE www.apterpower.com



PR9350-02