Emerson EZ1081-04-00-010 + EZ1901-040

01 Function and selected configuration

Product function

A 1 m armoured probe and 4 m armoured extension establish the standard 5 m measurement chain. This combination is particularly relevant when the installed EZ1000 calibration uses the 5 m API reference arrangement.

Selected configuration

The EZ1081 probe uses a GF30 PEEK sensing tip, stainless-steel body and protected cable construction. Its selected 40 mm case has the ordered unthreaded section set to 00. A fixed 5 mm neck remains behind the tip and must not be treated as available mounting thread.

Functional path

Metal target	8 mm EZ1081 probe	4 m EZ1901 extension	5 m matched EZ1000

Probe configuration	8 mm tip, M10 × 1, 40 mm case
Cable chain	1 m probe lead + 4 m armoured extension
Converter matching	5 m complete electrical length

The EZ1901 extension contributes 4 m to the 5 m chain. A compatible EZ1000 converter must be calibrated for the complete assembly and intended target. The nominal scale factor is 8 V/mm for ISO calibration or 7.87 V/mm for API calibration; a 1.5 mm nominal gap is a reference point within the matched system.

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02 Technical operating envelope

Sensing tip	8 mm
Mounting thread	M10 × 1
Case length	40 mm
Ordered unthreaded section	00; fixed 5 mm tip neck still present
Integral lead	1 m; armoured
Extension cable	4 m; armoured

Total electrical length	5 m
Nominal sensitivity	8 V/mm ISO; 7.87 V/mm API
Nominal gap	1.5 mm
Probe temperature	-35 to +180 °C, including 1 m lead
Extension / connector temperature	-35 to +150 °C
Armoured-cable bend radius	Minimum 35 mm

The special 2000 µm peak-to-peak value belongs only to the stated 5 m API reference calibration. Static range, sensitivity and gap are complete-chain characteristics under the stated target conditions.

Signal interpretation

Total electrical length is 1 m + 4 m = 5 m. Mechanical case length does not change this calculation and does not establish the displacement range.

Interface boundary

Keep the armoured cable bend radius at least 35 mm and stored loop diameter at least 100 mm. Avoid continuous oil immersion and direct oil-stream exposure; leave allowance for installation and thermal movement.

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03 System integration and applications

Relative shaft vibration

Observe target displacement through the complete calibrated eddy-current chain.

40 mm mounting body

Use the selected case geometry to position the 8 mm sensing tip while retaining the fixed neck clearance.

4 m cable reach

Route the armoured extension to the converter without changing the 5 m total electrical length.

Static position measurement

Set and verify the target operating point using the matched converter output and intended calibrated range.

System and supply context

Use the stated probe and extension with an EZ1000 converter calibrated for 5 m and the intended target. The converter, mounting hardware and protection monitor are separate items.

Application boundary

A 1 m armoured probe and 4 m armoured extension establish the standard 5 m measurement chain. This combination is particularly relevant when the installed EZ1000 calibration uses the 5 m API reference arrangement.

When can EZ1081-04-00-010 + EZ1901-040 use the 2000 µm peak-to-peak recommendation?

That recommendation is specific to the standard 5 m chain with a 1 m probe cable, 4 m extension and API calibration on 42CrMo4. It is not a universal rating for every target and calibration.

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04 Engineering selection decisions

How does the cable combination in EZ1081-04-00-010 + EZ1901-040 produce a 5 m chain?

The EZ1081 probe contributes a 1 m integral lead and EZ1901-040 adds 4 m. The converter must be calibrated for that complete 5 m combination.

What does the 04 case option specify in EZ1081-04-00-010 + EZ1901-040?

It selects a 40 mm probe case. The separate 00 option sets the ordered unthreaded case section to zero; the fixed neck at the sensing tip still requires clearance.

Does the full EZ1081-04-00-010 + EZ1901-040 assembly share the probe tip temperature limit?

No. The probe with its 1 m cable is specified from -35 to +180 °C, but the extension cable and connectors are limited to -35 to +150 °C.

What sensor-face clearance should be retained around EZ1081-04-00-010 + EZ1901-040?

Avoid nearby metallic objects within the probe clearance zone. The 8 mm sensor geometry uses a recommended free diameter of at least 24 mm around the sensing region; the actual mounting drawing and target geometry must agree.

Separate temperature limits	Keep extension cables and connectors within +150 °C even if the probe location permits +180 °C.
Protect the joint	Use the specified hand-tightened connection and heat-shrink insulation; apply additional hazardous-area requirements where relevant.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of EZ1081-04-00-010 + EZ1901-040 is not confirmed. Product availability alone does not establish its lifecycle status.

Replacement assessment

Preserve the 40 mm case, 00 ordered section, 1 m lead, 4 m extension and 5 m converter calibration. Confirm target and scale-factor convention.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; it does not replace manufacturer instructions.

Technical basis

Emerson AMS EZ 1000 Sensor Installation Guide, MHM-97883 Rev. 1.09, January 2025.

Related product navigation

- Emerson PR6424-003-030
- Emerson PR6424-010-140

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries