Emerson EZ1081-07-00-010 + EZ1901-090

01 Function and selected configuration

Product function

A 70 mm threaded case provides additional mounting reach while the 9 m extension carries the signal to the converter. The longer body changes the mounting geometry; it does not increase the electrical measurement range of the 10 m transducer chain.

Selected configuration

The EZ1081 probe uses a GF30 PEEK sensing tip, stainless-steel body and protected cable construction. Its selected 70 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	9 m EZ1901 extension	10 m matched EZ1000

Probe configuration	8 mm tip, M10 × 1, 70 mm case
Cable chain	1 m probe lead + 9 m armoured extension
Converter matching	10 m complete electrical length

The EZ1901 extension contributes 9 m to the 10 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	70 mm
Ordered unthreaded section	00; fixed 5 mm tip neck still present
Integral lead	1 m; armoured
Extension cable	9 m; armoured

Total electrical length	10 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

Do not use the special 5 m API dynamic-range allowance for this 10 m combination. Static range, sensitivity and gap are complete-chain characteristics under the stated target conditions.

Signal interpretation

Total electrical length is 1 m + 9 m = 10 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.

70 mm mounting body

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

9 m cable reach

Route the armoured extension to the converter without changing the 10 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 10 m and the intended target. The converter, mounting hardware and protection monitor are separate items.

Application boundary

A 70 mm threaded case provides additional mounting reach while the 9 m extension carries the signal to the converter. The longer body changes the mounting geometry; it does not increase the electrical measurement range of the 10 m transducer chain.

What makes the EZ1901-090 section of EZ1081-07-00-010 + EZ1901-090 an armoured extension?

EZ1901 identifies the protected extension-cable construction and 090 selects 9 m. Together with the 1 m integral lead it produces a 10 m chain.

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04 Engineering selection decisions

Does the 70 mm case in EZ1081-07-00-010 + EZ1901-090 increase displacement range?

No. Case length controls mounting reach. The 8 mm sensing tip and matched 10 m electrical chain determine the measurement response.

How much target material should be present behind the measurement area of EZ1081-07-00-010 + EZ1901-090?

A target-material thickness of 12 mm is recommended for the specified sensor geometry. Thin targets can change the response and require an appropriate application assessment.

Which sensitivity convention applies to EZ1081-07-00-010 + EZ1901-090?

The system uses 8 V/mm for ISO calibration or 7.87 V/mm for API calibration. The actual converter calibration and target must be identified before selecting a scale factor.

Can EZ1081-07-00-010 + EZ1901-090 be installed over a very small target face?

Target area influences the response. The measurement-area diameter should be at least 14 mm, with more than 20 mm recommended for the stated low-error geometry; evaluate the actual shaft or target before installation.

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 EZ1081-07-00-010 + EZ1901-090 is not confirmed. Product availability alone does not establish its lifecycle status.

Replacement assessment

Preserve the 70 mm case, 00 ordered section, 1 m lead, 9 m extension and 10 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 PR6426-010-140
- Epro PR9268/203-000

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

Product enquiries