Emerson EZ1081-03-00-010 + EZ1901-090

01 Function and selected configuration

Product function

The 30 mm case provides a short mounting body while the 9 m armoured extension reaches a more remote converter location. Its 10 m total cable length must remain matched to the EZ1000 calibration instead of borrowing the standard 5 m performance boundary.

Selected configuration

The EZ1081 probe uses a GF30 PEEK sensing tip, stainless-steel body and protected cable construction. Its selected 30 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, 30 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	30 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.

30 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

The 30 mm case provides a short mounting body while the 9 m armoured extension reaches a more remote converter location. Its 10 m total cable length must remain matched to the EZ1000 calibration instead of borrowing the standard 5 m performance boundary.

What limits the mounting depth of EZ1081-03-00-010 + EZ1901-090?

The selected case is 30 mm long with the ordered unthreaded section set to 00. The fixed 5 mm neck behind the tip must remain free; the available thread cannot be inferred by treating the whole case as usable mounting thread.

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04 Engineering selection decisions

Can the 9 m extension in EZ1081-03-00-010 + EZ1901-090 be replaced by a 4 m cable without recalibration?

No. That would change the total electrical length from 10 m to 5 m. The complete probe, extension and converter calibration must match.

Is the 5 m API dynamic-range allowance valid for EZ1081-03-00-010 + EZ1901-090?

No. This is a 10 m combination. The general recommended dynamic range is at most 1250 µm peak-to-peak; the special 2000 µm value is restricted to the stated 5 m reference chain.

What maximum locknut torque applies to EZ1081-03-00-010 + EZ1901-090?

The EZ108x probe locknut limit is 15 N·m. Hold the case correctly so tightening does not twist the cable.

How is the measuring gap of EZ1081-03-00-010 + EZ1901-090 established after assembly?

Use the matched converter and target to set the electrical operating point. The 1.5 mm nominal gap is a reference geometry, not a substitute for checking the actual calibrated output.

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 EZ1081-03-00-010 + EZ1901-090 is not confirmed. Product availability alone does not establish its lifecycle status.

Replacement assessment

Preserve the 30 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 PR6424/006-131 CON041
- Epro PR6426/010-040 CON021/916-120

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

Product enquiries