ifm II5910

01 Inductive Proximity Sensor / system role

Product function and operating context

II5910 converts the arrival of a metal target into a discrete switching signal. Reliable position detection depends on the target material, approach path and receiving input, rather than nominal sensing distance alone.

The yellow switching indication is visible through four LED windows. It provides a local indication of the sensor output state, while the controller input must be checked separately to confirm that the signal reaches the application. The housing uses white-bronze-coated brass and a PBT sensing face.

Integration checkpoints

- Evaluate the actual metal target
- Prepare flush mounting
- Verify PNP wiring
- Confirm sealing and repeatability

Detection task	contactless presence and position feedback for moving metal parts
Installation approach	flush mounting within a verified target clearance
Integration boundary	a discrete PNP switching signal, not an analogue distance measurement

Sensing performance depends on the target metal. The correction factors are 1 for steel, 0.7 for stainless steel, 0.5 for brass, 0.4 for aluminium and 0.3 for copper. These relative factors describe material influence; they do not remove the need to check target geometry and working clearance in the machine.

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02 Technical operating envelope

Output	PNP, normally open	Output current	200 mA continuous maximum
Supply voltage	10–32 V DC	Output voltage drop	2.5 V maximum
Sensing range	15 mm nominal	Operating temperature	−40 to +70 °C
Assured operating distance	0–12.15 mm	Protection	IP67
Switching frequency	100 Hz	Connection	M12 A-coded, 3 contacts

Values retain their individual conditions and interface boundaries. Technical values apply to II5910 with the stated operating conditions. Check supplied revision and the configured installation.

Why can II5910 detect slow movement but miss the same target at operating speed?

The input filter, bus update and program sampling can reject a short pulse even when the sensor switches. Measure pulse duration at the receiving input and compare it with the complete acquisition path. Test at maximum intended speed and minimum target spacing, rather than accepting a static LED check.

How can load-related II5910 protection cycling be separated from unstable target detection?

Hold a suitable target stationary inside a reliable sensing margin. Check supply stability and the connected load. Pulsing that disappears when a verified compatible test load replaces the field circuit points to wiring or load conditions; pulsing tied to physical movement calls for a sensing-margin investigation.

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03 System integration and applications

Metal-target position detection

Use the actual target material and working-distance margin to establish a repeatable switching point.

Flush sensor installation

Integrate the threaded sensor into a mounting arrangement suitable for flush inductive detection.

PNP machine inputs

Connect a compatible receiving input with the correct supply reference and load behavior.

Moving-target event sensing

Check target dwell and spacing together with sensor and controller timing.

System and supply context

The II5910 belongs to the Inductive position detection arrangement with its specified field interfaces.

Application boundary

Applications must satisfy the module or transducer boundary and the actual controller, receiver or target conditions.

How should II5910 distinguish a passing target from a permanently nearby metal bracket?

Check the target-absent state after final mounting, with the bracket and surrounding machine metal in their normal positions. Then move the intended target through its full path. A continuously active output before the target arrives requires a mounting or target-clearance review, not an input inversion to conceal the condition.

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04 Engineering selection decisions

How can a yellow II5910 LED be on while the PLC still reads OFF?

Compare the switched output voltage at the sensor with the voltage at the input terminal, both relative to the correct common. A local LED does not prove cable continuity, the input return path or the configured PLC address. Check those stages separately before replacing the sensor.

What changes when II5910 detects a stainless-steel replacement target?

The stainless-steel correction factor is 0.7 relative to steel. Re-establish the working clearance using the actual replacement target and repeat approach and withdrawal tests; do not retain a clearance qualified only with mild steel.

What should be measured before sharing the II5910 supply with the receiving input?

Verify that both devices permit the chosen supply and common arrangement. Measure voltage at the sensor under load, then confirm that the ON voltage at the receiver exceeds its specified input threshold after sensor and cable drops. A nominal 24 V supply marking alone does not establish this margin.

Does the II5910 MTTF value establish a permitted service interval or safety function?

No. An MTTF figure is a reliability statistic, not a scheduled replacement interval or evidence of a safety-rated protective function. Maintenance intervals and any safety-related architecture must be established from the application requirements and applicable approvals.

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05 Configuration boundary and references

Lifecycle and support

The current production and manufacturer-support stage of II5910 is unconfirmed. Replacement planning must preserve the supported system and the supplied hardware execution.

Replacement assessment

Preserve PNP normally open operation, flush mounting and the required connector interface. Requalify target clearance and the receiving circuit when changing the sensor execution.

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; use it together with the applicable manufacturer instructions.

Technical basis

ifm II5910 Inductive Sensor, II5910-06 EN-GB.

Related product navigation

- Siemens 6ES7131-6BH01-0BA0
- Siemens 6ES7131-6BF00-0BA0

Digital input modules for separate platform assessment. Verify input thresholds, common wiring and timing; these are not substitutes for the sensor.

Product enquiries