Emerson PR9376-010-011

01 Target and input readiness

1 Identify the measuring circuit

Confirm the PR9376/010-011 marking, 5 m armoured cable and open termination. Identify the receiving input before disconnecting the installed sensor.

2 Check wheel geometry

Inspect magnetic steel teeth, gear module and target runout. A change of tooth count changes the required speed scaling.

Target	Magnetic soft iron or non-stainless steel
Reference profile	Spur wheel, involute gearing, ST37
Signal principle	One cycle for each passing tooth

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02 Power and signal loading

1 Confirm the powered input

Measure the available supply and verify that it is within 10–30 VDC. Keep the sensor current requirement separate from monitor-output loading.

2 Compare signal thresholds

Use the conditional high/low levels to check whether the receiving input can reliably distinguish each target transition.

Supply current	Maximum 25 mA
At 12 VDC / 100 kΩ	High >10 V; low <1 V
Transition time	Rise and fall 1 µs

03 Gap and cable installation

1 Establish mechanical clearance

Adjust the sensing gap for the gear module, allowing for wheel runout and machine movement. Verify that no rotating part can contact the sensor.

2 Route the selected lead

Support the 5 m armoured cable away from moving parts and protect the open-end terminations from strain.

Module 1	1 mm indicated gap
Module ≥2	1.5 mm indicated gap
Machine environment	-25 to +100 °C; IP67

04 Pulse-count acceptance

1 Measure frequency and speed

Observe the pulse train during controlled rotation. Compare pulse frequency with the actual tooth count and an independent speed reference.

2 Check transitions

Confirm clean high/low transitions at the receiving input, then check the response of the configured speed alarm.

Speed relation	rpm = 60 × frequency / tooth count
Pulse-rate limit	12,000 cycles per second
Wrong speed factor	Recheck teeth-per-revolution setting

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05 Diagnosis and handover

1 Separate mechanical and electrical causes

Missing or erratic pulses require checks of target material, gap, runout, supply and receiving-input loading. Do not compensate for a poor pulse train by changing the speed factor.

2 Record the verified circuit

Retain the sensor marking, target tooth count, measured supply, gap and checked indication for subsequent replacement.

Technical basis: Emerson PR9376 Hall Effect Speed/Proximity Sensor Specifications Sheet, August 2024.

Related product navigation

Epro PR6423/002-001-CN CON041

Emerson PR6423/010-040 CON021

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