Rotational Speed Sensor TQG15DA/3

The TQG15DA/3 photoelectric speed sensor Utilizes the photoelectric effect which converts locomotive speed into a square-wave pulse signal according to the formula f = n × p / 60. Featuring excellent performance and strong stability, the product supports customized specifications and is widely used for speed detection in various electric locomotives.

Parameters

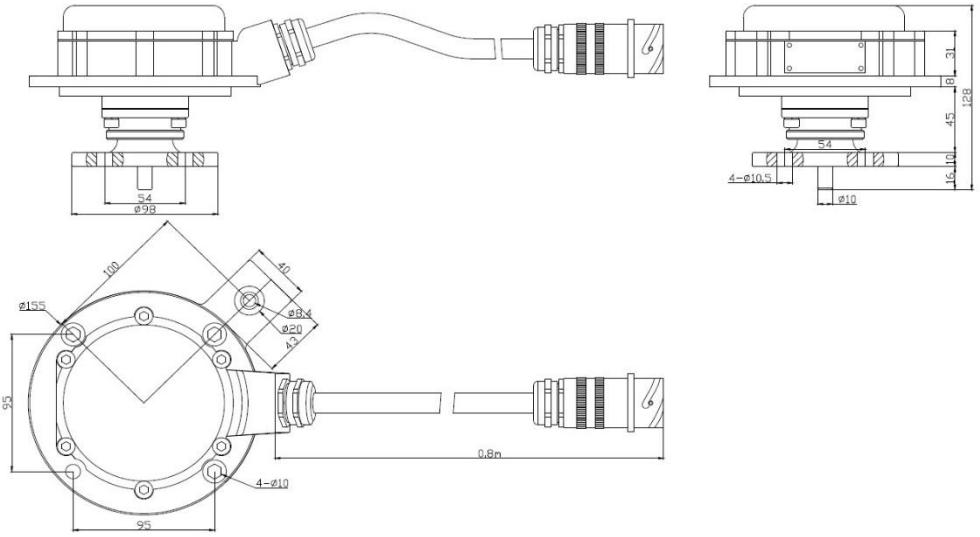
Operating Parameters

- Measuring Range: 0~3000rpm
- Output Channels: 1~12 (customizable)
- Output Waveform: Square wave
- Pulses per revolution: 96/100/110/200 (customizable)
- Pulse Amplitude: HL≥0.8Vcc
  LO≤0.1V
- Rise/Fall Time: <3μs
- Duty Cycle: 50%+10%
- Phase Shift: 90°±45° (Single-turn code channel)
  120°±60° (Double-turn code channel)
- Supply Voltage: 10~30VDC
- Current Consumption: ≤50mA per channel
- Operating Temperature: -40℃~+70℃
- Relative humidity: ≤90%@25°C
- Insulation Resistance: ≥100MΩ@500VDC
- Dielectric Strength: 1500V/50Hz/1min between all output leads and housing

General Data

- Ingress Protection: IP68
- Protection Features: Supply polarity protection & output short-circuit protection
- Vibration & Shock Resistance: compliant with GB/T 21563 national standard

Outline & Interface



- Electrical Connector: Example configuration — 4 channels, 12-pin connector. Other customized configurations available; please consult technical support.

PIN Configuration

PIN-A	V+ for Channel 1 & 2
PIN-B	Signal+ for Channel 1
PIN-C	Not Connected
PIN-D	Signal+ for Channel 2
PIN-E	V- & Signal- for Channel 1 & 2
PIN-F	Shield for Channel 1 & 2
PIN-G	Not Connected
PIN-H	V+ for Channel 3 & 4
PIN-J	Signal+ for Channel 3
PIN-K	Shield for Channel 3 & 4
PIN-L	Signal+ for Channel 4
PIN-M	V- & Signal- for Channel 3 & 4

Notes

- Follow the wiring definitions in the manual to ensure correct connections with no short-circuits or open-circuits.
- Before installation, power on the sensor & manually rotate the shaft. Normal operation is indicated if each channel's signal output alternates between high and low levels.
- When facing the mounting surface, clockwise shaft rotation causes Channel 1 output to lead Channel 2, and Channel 3 output to lead Channel 4.
- Ensure all mounting screws are securely fastened and the connector is firmly connected.