Position and proximity sensors

Draw-Wire Displacement Sensor, RS485 plus 4–20mA, 0–5V or 0–10V, up to 20 m

Model DW-DWS

Absolute draw-wire displacement sensor with power-off memory, 0.5 to 20 m measuring ranges and RS485 (Modbus RTU) plus a 4–20 mA, 0–5 V or 0–10 V output, in an aluminium housing with IP54 as standard and IP68 as an option.



Range
0.5–20 m

Output
RS485 + 4–20 mA, 0–5 V or 0–10 V

Non-linearity
±0.1% FS

Features

- Absolute magnetic encoder with power-off memory
- Dual output: RS485 (Modbus RTU) plus 4–20 mA, 0–5 V or 0–10 V
- Ceramic wire outlet for wear resistance
- Nylon-coated Ø0.8 mm stainless steel wire
- Pull head tolerates 15° of angular misalignment
- Teach wires for minimum, maximum and midpoint; settable direction
- IP54 standard, IP68 optional; explosion-proof version available on request

Applications

AGVs, Industrial trucks and commercial vehicles, Packaging machines, Logistics, Agricultural and forestry machinery, Construction and mining equipment

Specifications

Performance

Measuring range	0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10 m; 11–15 m; 16–20 m
Sensing element	Absolute magnetic encoder with power-off memory
Resolution	1024 or 4096 PPR (default 4096), e.g. 0.0244 mm at 4096 PPR on 0.5–1 m ranges

Non-linearity	±0.1% FS
Repeatability	±0.3% FS
Refresh cycle	< 50 µs

Output	
Output signal	RS485 (Modbus RTU) + 4–20 mA / 0–5 V / 0–10 V
Baud rate	9600–115200 (default 9600)
Device address	1–255 (default 1)

Electrical	
Supply voltage	5–24 V DC; 12–24 V DC for analog outputs
Operating current	Max. 100 mA
Electrical life	> 100,000 h

Mechanical	
Wire	Ø0.8 mm AISI 304 stainless steel, nylon coated
Pull-out force	2–30 N depending on range
Maximum wire speed	1 m/s
Wire breaking force	Typ. 330 N
Housing material	Aluminium alloy (anti-static surface); stainless steel pull head
Weight	Approx. 0.5 kg
Electrical connection	Connector or cable (1–1.2 m)
Mechanical life	> 5 million cycles

Environmental	
Ingress protection	IP54 (standard); IP68 (optional)
Operating temperature	−40 to +85 °C
Shock	50 g, 11 ms, 100 shocks per axis
Vibration	10–500 Hz, 10 g, 2 h per axis
Hazardous-area version	Explosion-proof version available on request

Ordering and support

Pricing, samples, lead time and custom versions: xyx@gzdwin.com, +86 181 0280 8901.

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