

Honeywell Sensing and Control



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Home > Products > Encoders > 510 > Product Page

510E1A48F204PB



Actual product appearance may vary.

510 Series Encoder, Mechanical 4 pulse/rev/channel 2-bit Gray code

Features

- Cost effective, eliminates need for A/D converters
- High resolution up to 36 positions
- Stability from -40 °C to 105 °C [-40 °F to 221 °F]
- Horizontal and vertical mounting

Potential Applications

Applications

- Level control
- Cursor control
- Frequency control
- Temperature control
- Time Control
- Position sensing

Description

The 510 Series controls are manually operated, rotary, mechanical encoders that provide a two-bit gray code for relative reference applications and a four-bit gray code for absolute electrical reference applications. The "L" channel leads the "R" channel by 90 deg. electrically in the Clockwise position. It features continuous electrical travel and has a rotational life of more than 100,000 shaft revolutions with a positive detent feel.

This series is relatively small in size measuring 21,08 mm [0.83 in] - square by 8.71 mm [0.343 in] - deep. They are commonly used in limited-space panel-mounted applications where the need for costly, front-panel displays can be completely eliminated. Digital gray-code outputs eliminate the need for A/D converters.

Supporting Documentation

▣ [Dimensions](#)

▣ [Accessories: Mounting Bracket](#)

▣ [Output Table](#)

Product Specifications	
Encoder Type	Mechanical
Pulse Per Revolution	4 cycles/rev
Detents	16
Pulse	1/4 cycle per detent
Dome Switch	No
Output	2-bit gray code, Channel L leads Channel R by 90° electrically in clockwise direction
Contact resistance	5 Ohm
Open Resistance	100 kOhm
Contact Rating	28 Vdc max at 250 mA
Jitter (Bounce)	5 ms/cycle at 15 RPM

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Electrical Travel	Continuous
Operating Speed	50 RPM
Operating Torque	0,0216 N m to 0,036 N m [3.0 oz in to 5.0 oz in]
Panel Mounting Torque	1,13 N m [7.0 lb] max.
Body Size (Single Module)	21,1 mm [0.83 in] square, ±0,127 mm [0.005 in]
Terminals	PC terminals straight Type B-110 (Horizontal mount)
Housing Type	Molded thermoplastic
Mechanical Travel	Continuous
Rotational Life	100,000 detented cycles at rated load typical (1 cycle=720 degrees)
Shaft Pull Force	4,536 kg [10 lb]
Shaft Side Load Force	1.13 N m [7 lb in] max.
Shaft Material	Plastic
Shaft Diameter	6,35 mm [0.25 in]
Shaft Length	19,05 mm [0.75 in]
Bushing Material	Plastic
Bushing Diameter	9,53 mm [0.375 in] x 32 NEF-2A
Bushing Length	6,35 mm [0.25 in]
Operating Temperature	-40 °C to 105 °C [-40 °F to 221 °F]
Storage Temperature	-55 °C to 120 °C [-67 °F to 248 °F]
Humidity	90% RH at 25 °C [77 °F] Insulation resistance 1 MOhm max.; Per MIL-STD 202, Method106C
Shock	Per MIL-STD-202; method 213, Condition G
Series Name	510
Availability	Global
UNSPSC Code	30211929
UNSPSC Commodity	30211929 Encoders