

600 Series Optical Encoders



DESCRIPTION

The 600 Series Optical Encoders are manually operated, rotary devices that output two square waves: Channel A leads Channel B by 90° electrically in a counterclockwise direction at a rate of 128 pulses per channel per revolution. The output is TTL (Transistor to Transistor Logic) compatible. PC terminals, cable and cable with connector are available.

FEATURES AND BENEFITS

- Contactless technology, with a minimum of 10 million shaft rotations, provides long life in the application
- Voltage output eliminates need for A/D converters, providing a more cost-effective solution
- Stainless steel shafts and nickel-plated brass bushings
- Wide operating temperature range of -40 °C to 65 °C [-40 °F to 149 °F]
- TTL-compatible outputs provide application flexibility
- Choice of terminations provides mounting flexibility

POTENTIAL APPLICATIONS

Industrial:

- Motion sensing and control
- Motor control
- Flow control
- Robotics
- Computer peripherals
- Welding equipment

Medical:

- Portable diagnostic equipment (EKG, ultrasound)
- Home health care respiratory equipment
- Surgical equipment
- Precision joysticks

600 Series

Table 1. Electrical Specifications

Characteristic	Parameter
Electrical travel	continuous/360°
Input voltage	5 Vdc ±5%
Output voltage: high low	2.4 V min. with 10 kOhm load to ground 0.4 V max.
Output rate	128 pulses/revolution per channel
Supply current	30 mA max.
Channels	two separate output channels in quadrature, 90° ±45°

Table 2. Mechanical Specifications

Characteristic	Parameter
Mechanical travel	continuous/360°
Operating speed	300 RPM max.
Operating torque	0,011 N m [1.5 in oz] max.
Rotational life	10 million shaft rotations, minimum
Shaft: material diameter end play radial pla axial force	stainless steel 6,35 mm [0.25 in] 0,127 mm [0.005 in] max. 0,254 mm [0.010 in] at 25,4 mm [1 in] 6,8 kg [15 lb] push/pull
Bushing material length diameter	nickel-plated brass 9,53 mm [0.375 in] 9,53 mm [0.375 in] x 32 NEF
Terminal types: PC, type B-66 PC, type C-24 cable cable with connector	4-pin, gold-plated 4-pin, gold-plated four-lead ribbon, color coded, 28 AWG, IL-W-168780 Type B or equivalent insulation four-lead ribbon, color coded, 28 AWG, IL-W-168780 Type B or equivalent insulation, Berg connector
Terminal strength	2 lb push or pull
Mounting hardware	hex mount nut, internal tooth lockwasher (See Figure 5.)
Sealing	Controls are not sealed for board washing. Consult Honeywell for details.

Table 3. Environmental Specifications

Characteristic	Parameter
Operating temperature	-40 °C to 65 °C [-40 °F to 149 °F]
Storage temperature	-55 °C to 110 °C [-67 °F to 230 °F]
Humidity	85 %RH at 40 °C [104 °F] 240 hr

Figure 1. Output Waveform

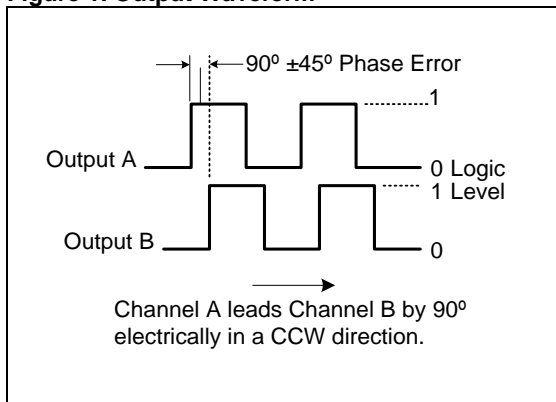
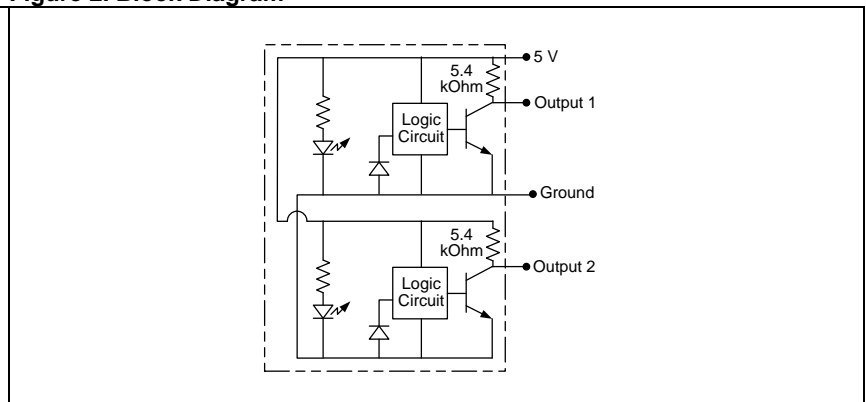


Figure 2. Block Diagram



Optical Encoders

Figure 3. Mounting Dimensions (For reference only: mm [in].)

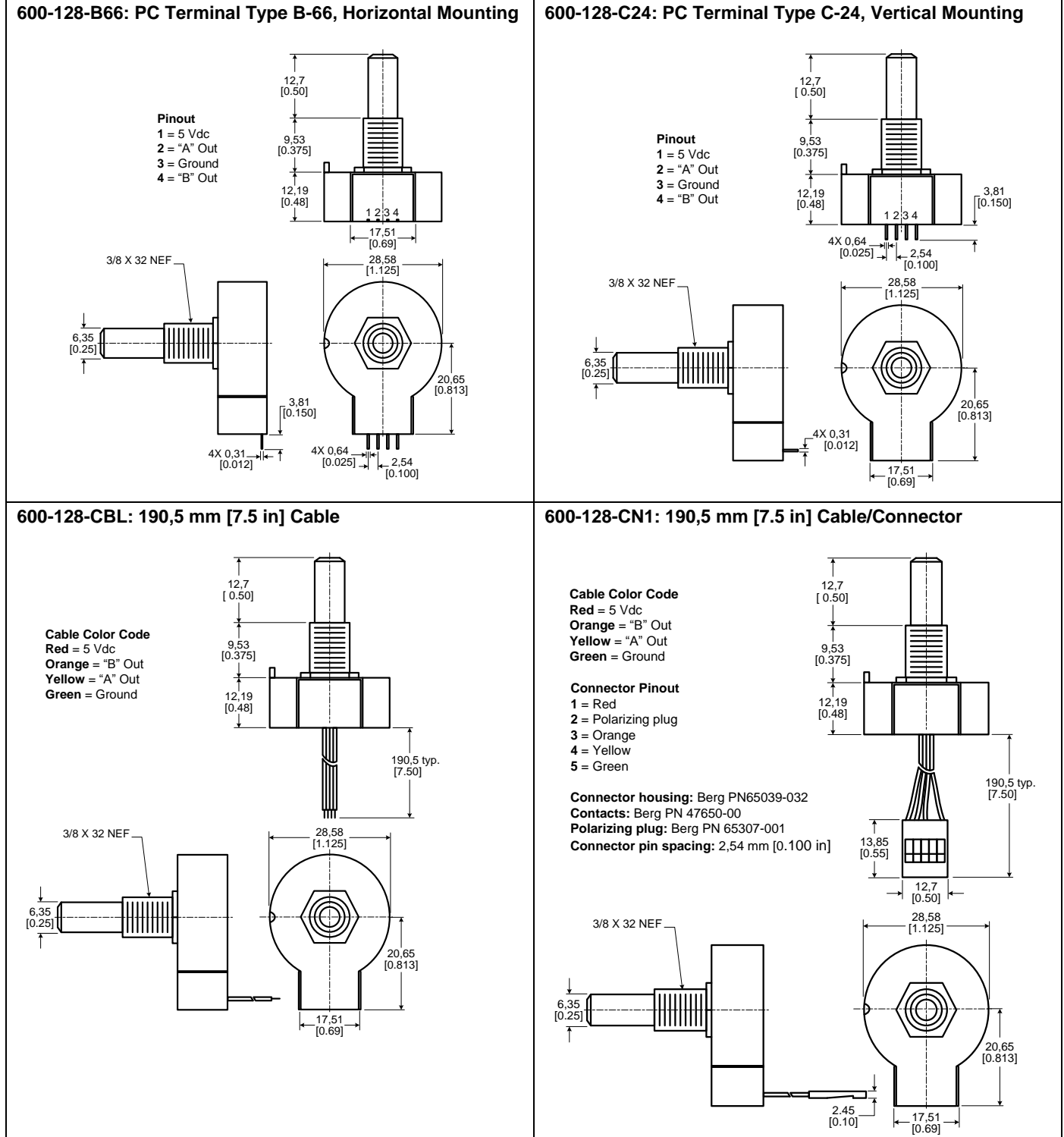
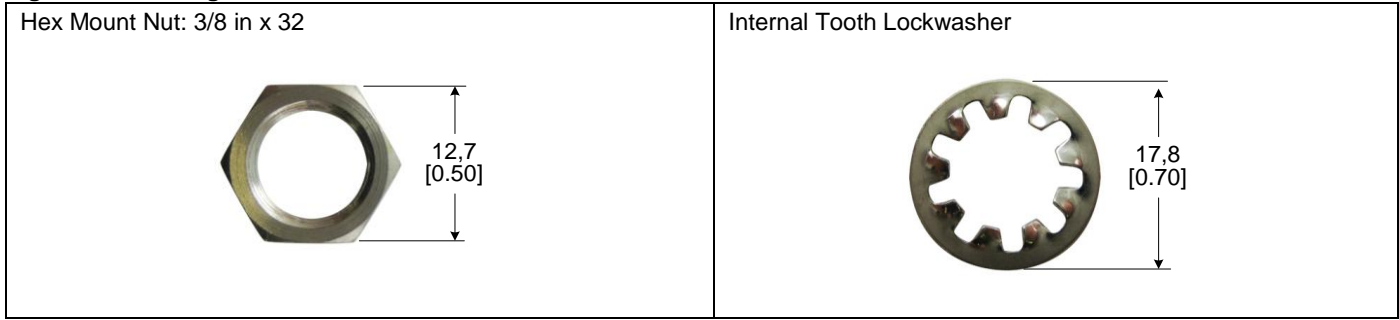


Figure 5. Mounting Hardware



Order Guide

Catalog Listing	Description
600-128-B66	600 Series optical encoder, PC terminal type B-66, horizontal mounting, mounting hardware included
600-128-C24	600 Series optical encoder, PC terminal type C-24, vertical mounting, mounting hardware included
600-128-CBL	600 Series optical encoder, 190,5 mm [7.5 in] cable, mounting hardware included
600-128-CN1	600 Series optical encoder, 190,5 mm [7.5 in] cable/connector, mounting hardware included

⚠ WARNING
PERSONAL INJURY
 DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.
Failure to comply with these instructions could result in death or serious injury.

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

⚠ WARNING
MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

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005940-2-EN
 September 2012
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