



*Representative photograph, actual product appearance may vary.*

*Due to regional agency approval requirements, some products may not be available in your area. Please contact your regional Honeywell office regarding your product of choice.*

## 600EN-128-CBL

600 Series Optical, 128 Pulse Per Rev, 2-square wave

### Features

- Long life-10 million revolutions minimum (no contacts)
- Cost effective, eliminates need for A/D converters
- Stainless steel shafts and nickel-plated bushings
- Stability from -40 °C to 65 °C [-40 °F to 149 °F]
- Cable and printed circuit terminations available

### Typical Applications

- Motion sensing and control
- Motor control
- Flow control
- Low-to-high input for test and measurement
- Medical and instrumentation
- Robotics
- Computer peripherals

### Description

The 600 Series controls are manually operated, rotary, optical encoders that output two square waves in quadrature at a rate of 128 pulses per channel per revolution as a standard with other resolutions down to 60 pulses available. The outputs are TTL compatible. PC terminals or cable leads are available.



## 600EN-128-CBL

600 Series Optical, 128 Pulse Per Rev, 2-square wave

| Product Specifications |   |
|------------------------|---|
| Encoder Type           | Optical   |
| Pulse Per Rev          | 128 pulses/rev  |
| Dome Switch            | No  |
| Output                 | 2-square wave, Channel A leads Channel B by 90 ° electrically in counterclockwise direction |
| Electrical Travel      | Continuous  |
| Source Voltage Range   | 4.75 Vdc min., 5.0 Vdc nom., 5.25 V max.  |
| Supply Current         | 30 mA   |
| Voltage Out High       | 2.4 Vdc min.  |
| Voltage Out Low        | 0.4 Vdc max.  |

|                              |  |
|------------------------------|--|
| <b>Pull-up Resistor</b>      | 10 kOhms   |
| <b>Operating Speed</b>       | 300 RPM max.   |
| <b>Operating Torque</b>      | 0,011 Nm [1.5 oz in] max.                                    |
| <b>Terminals</b>             | 190,5 mm [7.5 in] long cable/lead                            |
| <b>Terminals Strength</b>    | 0,9 kg [2.0 lbs]   |
| <b>Housing</b>               | Molded thermoplastic   |
| <b>Mechanical Travel</b>     | Continuous   |
| <b>Rotational Life</b>       | 10 million shaft rotations                                   |
| <b>Shaft Axial Force</b>     | 6,8 kg [15 lbs] push/pull                                    |
| <b>Shaft End Play</b>        | 0,127 mm [0.005 in] max.                                     |
| <b>Shaft Radial Play</b>     | 0,254 mm [0.01 in] at 25,4 mm [1 in]                         |
| <b>Shaft Material</b>        | Stainless Steel  |
| <b>Shaft Diameter</b>        | 6,35 mm [0.25 in]  |
| <b>Shaft length</b>          | 19,05 mm [0.75 in]   |
| <b>Bushing Material</b>      | Nichel plated brass  |
| <b>Bushing Diameter</b>      | 9,53 mm [0.375 in] x 32 NEF-2A                               |
| <b>Bushing length</b>        | 9,53 mm [0.375 in]   |
| <b>Operating Temperature</b> | -40 °C to 65 °C [-40 °F to 149 °F]                           |
| <b>Storage Temperature</b>   | -55 °C to 110 °C [-67 °F to 230 °F]                          |
| <b>Humidity</b>              | 85% RH at 40 °C [104 °F] 240 Hr                              |
| <b>Shock</b>                 | 100 G at 6 per MIL-STD-202; Method 213, Condition C          |
| <b>Vibration</b>             | 10 Hz to 2000 Hz, 15 G; MIL-STD-202, Method 204, Condition C |
| <b>Series Name</b>           | 600 Series   |
| <b>Availability</b>          | Global   |
| <b>UNSPSC Code</b>           | 30211929   |
| <b>UNSPSC Commodity</b>      | 30211929 Encoders  |

# Honeywell

## 600EN-128-CBL

600 Series Optical, 128 Pulse Per Rev, 2-square wave

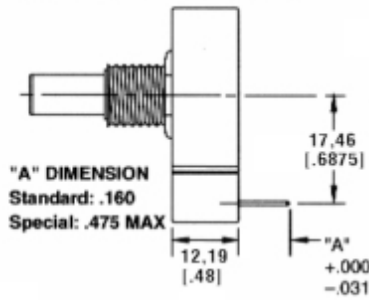
# DIMENSIONS (For Reference Only) mm [in]

## Styles

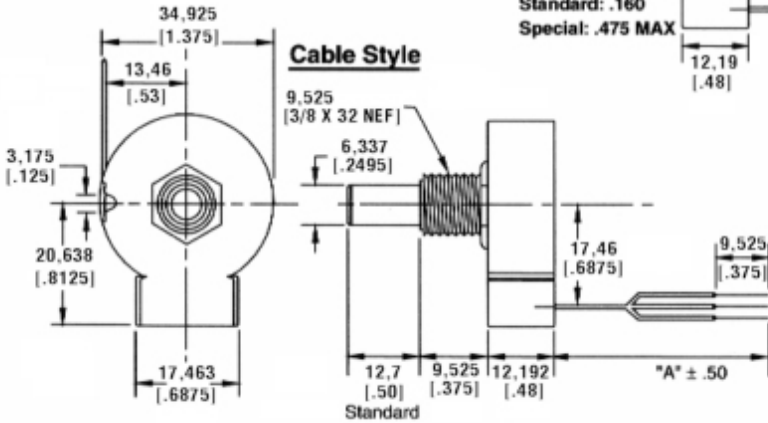
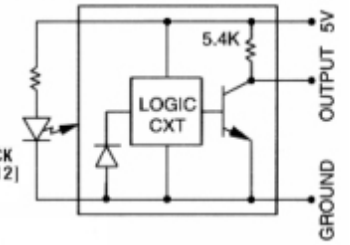
### 600 Series

- 600 Sleeve Bearing
- 605 Sleeve, single channel
- 610 Ball bearing
- 615 Ball bearing, single channel

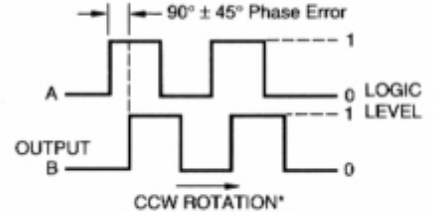
### PC Terminals: Type C-24



### Block Diagram One Output

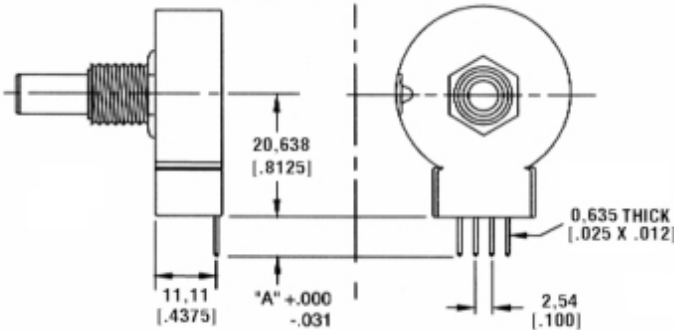


### Output Waveform



\*Channel A leads Channel B by 90° electrically in CCW direction

### PC Terminals Type B-66



| TERM # | FUNCTION             |
|--------|----------------------|
| 1      | 5VDC ± 5% @ 30ma MAX |
| 2      | "A" Out              |
| 3      | Ground               |
| 4      | "B" Out              |

| "A" DIMENSIONS |                   |
|----------------|-------------------|
| Standard       | 4.57 [.180]       |
| Special        | 10.16 [.400] MAX. |

Dimension Tolerances, Unless Otherwise Specified  
 FRACTIONS = ± 1/64 (0.40mm) DECIMALS = ± .005

GRDS = ±.010 (0.25mm)

#### NOTE:

- "A" Cable Length Standard 190.5 [7.5] Other lengths available, specified by customer
- "A" and "B" Outputs are TTL compatible on all models

#### CABLE CODE

| COLOR  | FUNCTION             |
|--------|----------------------|
| Red    | 5VDC ± 5% @ 30ma MAX |
| Green  | Ground               |
| Yellow | "A" Out              |
| Orange | "B" Out              |



## 600EN-128-CBL

600 Series Optical, 128 Pulse Per Rev, 2-square wave

### 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.

** WARNING**

**MISUSE OF DOCUMENTATION**

- The information presented in this product sheet (or catalog) is for reference only. DO NOT USE this document as product installation information.
- 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.**

© Copyright Honeywell Inc. 1998-2004 All rights reserved.