Digital Tach/Hourmeter w/Adjustable Overspeed Trip Point

SHD30 and SHD30-45 Models

The SHD30 and SHD30-45 are microprocessor-based tachometers with hourmeter and an overspeed trip point. The trip point can be connected as either a form C relay output or as a normally open SCR output for alarm or shutdown on overspeed.

The SHD30 features a panel-mounting design, plastic enclosure that is 5-1/16 (129 mm) long and 4-1/4 in. (108 mm) high.

The SHD30-45 has the same enclosure, but it also has a backplate with studs to mount like an OPLFC.

The SHD30 models power and RPM data are supplied by either a magnetic pickup or a capacitor discharge (CD) ignition. The hourmeter is adjustable to a preset time and resettable to zero. Should power be lost, onboard batteries maintain the run hours display and allow for resetting the overspeed relay output.

When a tach signal is present the SHD30 models display RPM. When a tach signal is not present, the display is blank unless the Read Hours membrane key on the faceplate is pressed and held.

The five-digit, liquid crystal display is updated every second. The run hours, overspeed set point and current pulses per engine revolution can be displayed by manipulating the membrane switches. Run hours can be displayed even after power is lost. The run hours display can be configured to alternate with the RPM display.

Applications

- Gas Compressors
- Oil Field Equipment

Specifications

Power input:

CD ignition:
- 90 to 350 VDC
- 150 µA typical @ 90 VDC
- 300 µA @ 350 VDC

Magnetic Pickup:
- 5 to 120 Vrms
- 325 µA typical @ 5 Vrms, 100 Hz
- 450 µA typical @ 5 Vrms, 1 kHz
- 1 mA typical @ 5 Vrms, 5 kHz
- 2 mA typical @ 5 Vrms, 10 kHz
- 15 mW max. @ 5 Vrms, 10 kHz
- 2.8 W max. @ 120 Vrms, 10 kHz

Backup Batteries: 2 replaceable, long-life Lithium batteries, Panasonic CR2032 or equivalent, 3 V, 220 mAh power. Shelf life expectancy 10 yr.

Operating Temperature: -4° to 158° F (-20° to 70° C)

Storage Temperature: -40° to 300° F (-40° to 150° C)

Case Material: Plastic

Ignition Frequency Range: 3 to 666 Hz

Magnetic Pickup Frequency Range: 1 to 10 kHz

Overspeed Output:
- Connected to S.C.R. (Silicon Controlled Rectifier) terminals: 0.5 A, 350 VDC continuous
- Connected to Form C Relay terminals:
  - Relay Contact, 0.5 A, 30 VDC, 125 VAC resistive

Tachometer Accuracy: ±0.5% of the display reading or ±1 RPM whichever is greater

Hourmeter Range: 0 to 65535 hrs

Hourmeter Accuracy: ±15 minutes per year

Laboratory Approvals: CSA (Canadian Standards Association) approved for Class I, Division 2, Groups C & D hazardous areas

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WARNING: In hazardous areas the overspeed relay contact is certified for use ONLY with FW Murphy non-incendive or intrinsically safe products. In non-hazardous areas overspeed relay contact may be used to switch electromechanical Tattletale® or Magnetic Switches that do not exceed the relay contact rating: 1 A, 30 VDC; 0.3 A, 110 VDC; 0.5 A, 125 VAC. However, the preferred output to switch electromechanical Tattletale® or Magnetic Switches is the N.O. SCR.

### How to Order

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Model and Description</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Specify Model Number</td>
<td>SHD30 Tach/Hourmeter with Overspeed</td>
<td></td>
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<tr>
<td></td>
<td>SHD30-45 Tach/Hourmeter with Overspeed to mount like SHD45</td>
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<tr>
<td></td>
<td>or OPLFC</td>
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### Approximate Shipping Weight and Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Weight</th>
<th>Dimension</th>
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<tbody>
<tr>
<td>SHD-30</td>
<td>1 lb (0.5 kg)</td>
<td>9-1/4 x 8-1/4 x 5-1/4 in. (235 x 210 x 133 mm)</td>
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<tr>
<td>SHD30-45</td>
<td></td>
<td>(adds backplate and studs to shipping weight)</td>
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