

Digital Fault Annunciator



US Patent 6,144,116
(model TTDJ-IGN-T only)

TTDJ Series

- Alarm and Shutdown Control System for Engine-Driven Pumps and Compressors
- Monitors 32, User-Configurable, Sensor Inputs from N.O. and/or N.C. Sensors
- RS485 Serial Communications Port (DC Models)
- Built-In Power Supply and Elapsed Time Meter (Hour Meter) All Models
- Models with Tachometer and Overspeed Available
- Powered by 12/24VDC or CD Ignition (neg. grnd.)
- CSA Certified for Use in Class I, Division 2, Hazardous Areas



Description

The innovative new TTDJ Series now gives you a unique configurable annunciator with a built-in power supply and hourmeter. A new modular design for easy retrofit to most existing systems features an alphanumeric Liquid Crystal Display window with 1/2 inch (13 mm), easy-to-read characters. It displays any fault from the sensor inputs, elapsed engine running time, and engine speed (optional, TTDJ-DC-T and TTDJ-IGN-T models only). Also located on the faceplate are membrane keys for easy operation and configuration.

Highly reliable and versatile, the TTDJ accepts 32 sensor inputs supplied from normally open and normally closed sensors. Plus each of the first 16 inputs can be easily configured for Shutdown or Alarm Before Shutdown*; can be locked out by one of two Start-Run timers or configured as a Class C lockout. The Start-Run timers are adjustable from: 0 to 5 minutes (B1); 0 to 9 minutes 59 seconds (B2).

The TTDJ-DC and TTDJ-DC-T are capable of communicating with controllers, PLC's, computers or SCADA systems by an RS485 serial communications port. An optional Tachometer with Overspeed sensing feature is available for all TTDJ Series models.

Test mode is provided for testing sensor circuits without shutting down the equipment, plus on-board Elapsed Time Meter is standard with all models.

Models are available for 12 or 24 VDC systems or for negative ground CD Ignition systems.

Basic Models

TTDJ-DC: 12-24 VDC powered w/o tachometer

TTDJ-DC-T: 12-24 VDC with tachometer

TTDJ-IGN: ignition powered w/o tachometer

TTDJ-IGN-T: ignition powered with tachometer

Features

- Fully-Configurable, with Internal Power Supply
- On-Board RS485 Serial Communications to PLC's, PC's, Controllers or SCADA systems (TTDJ-DC models only)
- Modular Design for Easy-Retrofit to most Existing Control Systems
- Accepts 32 N.O. or N.C. Sensor Inputs
- Remote Reset and Remote Lockout Options
- Built-In Elapsed Time Meter
- Time Delay to Allow Fuel Valve Closure prior to Killing Ignition

Applications

This solid-state fault alarm and shutdown control system is designed to protect engines, compressors, etc., and their associated equipment.

Warranty

A limited warranty on materials and workmanship is given with this FW Murphy product. A copy of the warranty may be viewed or printed by going to www.fwmurphy.com/support/warranty.htm

Specifications

Power Input (Operating Voltages):

TTDJ-DC; TTDJ-DC-T: 10- 32VDC, 500 mW max.

TTDJ-IGN; TTDJ-IGN-T: 90-350 VDC negative ground CD ignition; approx. 650µA @ 100VDC.

*Alarm Before Shutdown is a function that causes annunciation and the alarm output, but will not cause a shutdown.

Sensor Inputs: 32 N.O. or N.C. passive switches.

Inputs 1-16: Configurable as Class "A"; "B1"; "B2"; or "C" shutdown or alarm before shutdown*.

Inputs 17-28: Dedicated Class "A" shutdowns.

Inputs 29: Selectable as Class "A" or Class "ESD".

Input 30: Selectable Remote Reset or Class "A".

Input 31: Remote Lockout or Class "A"; inhibits the Class "B1 & B2" Lockout Timers.

Input 32: Overrides Test Timer, typically used for emergency shutdown.

Outputs: 0.5 A @ 350 VDC.

Outputs Selection: Ground ignition immediately or trip fuel valve and ground ignition after time delay.

Communications: RS485 Serial Port, Modbus RTU slave (TTDJ-DC models only).

Operating Temperature: -40 to 185°F (-40 to 85°C).

Storage Temperature: -40 to 185°F (-40 to 85°C).

Sensor Scan Rate: Within 1 second.

B1 Start/Run Timer: Adjustable, 0-5 minutes.

B2 Start/Run Timer: Adjustable, 0-9:59 minutes.

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.

Pulses per Revolution Range for Tach. Calibration: 32-360 (TTDJ-DC-T); 1-16 (TTDJ-IGN-T).

Overspeed Set point: 0-9999 rpm.

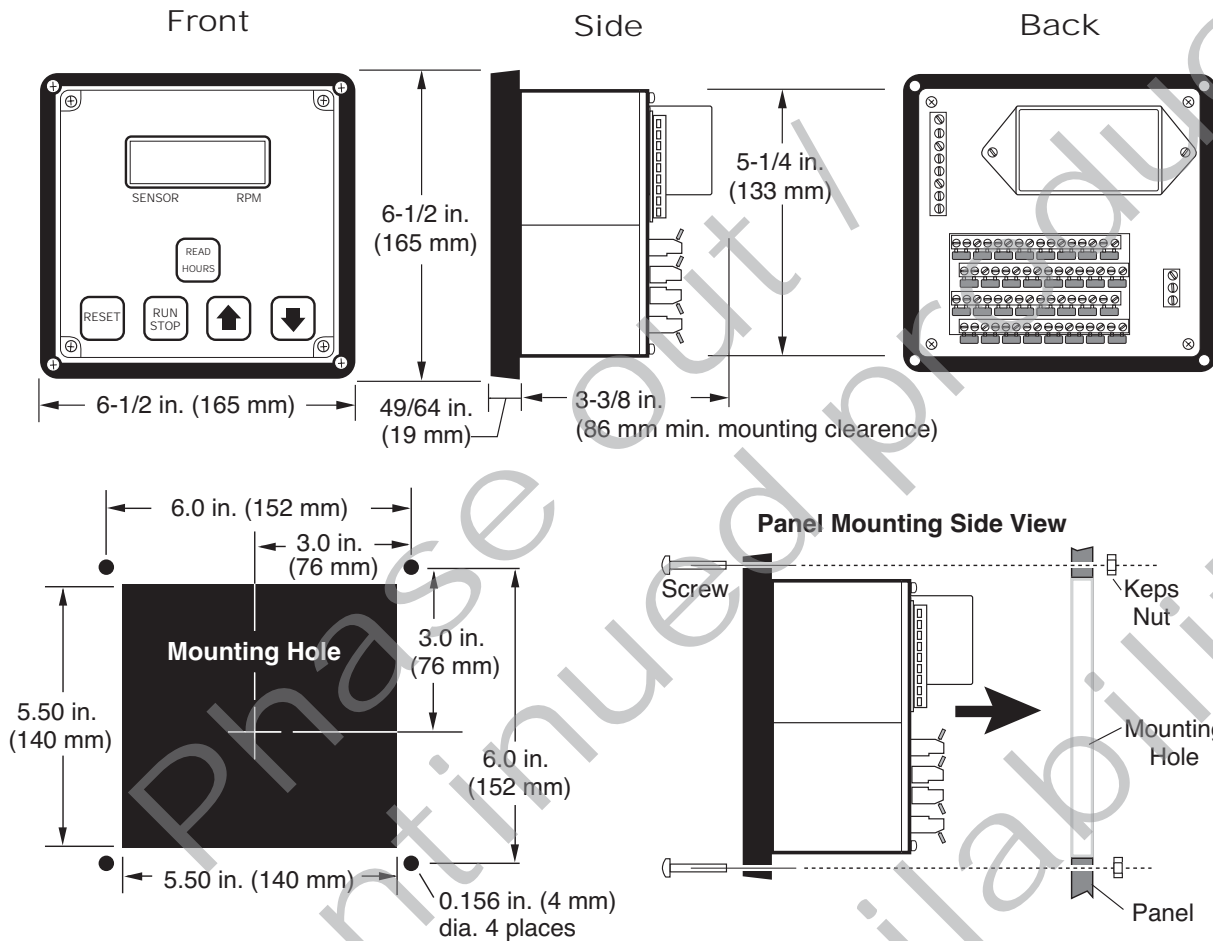
Underspeed Set point: 0-5000 rpm.

Magnetic Pickup: 5-120 Vrms, 0-10 kHz.

On-Board Backup Power (-IGN Versions only): 6 VDC, 1300 mAh, Duracell® DL223A or Sanyo® CR-P2 Lithium battery.



TTDJ Module Dimensions



How to Order Your TTDJ

Select from the following part numbers:

Head/Module

TTDJ-DC (50700109): 12-24 VDC model, without tachometer.

TTDJ-DC-T (50700110): 12-24 VDC with tachometer.

TTDJ-IGN (50700111): CD ignition (negative ground) model, without tachometer.

TTDJ-IGN-T (50700112): CD ignition (negative ground) model, with tachometer.

Replacement Parts

Plug, kit, TTDJ IGN:

Terminal Plug replacement kit-P/N 50-00-0884

Plug, kit, TDDJ DC:

Terminal Plug replacement kit-P/N 50-00-0885

Replacement Battery

Duracell® DL223A or Sanyo® CR-P2 (0005125):

6 VDC, 1300 mAh, Lithium battery.

Shipping Weights and Dimensions

Shipping Weight (all Models): 3 lb. (1.36 kg) approximately.

Shipping Dimensions (all Models):

5-1/2 x 9 x 9-1/2 in. (140 x 229 x 241 mm) approximately.

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www.fwmurphy.com

918.317.4100 Email: sales@fwmurphy.com

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