



DT-136 Rev-Counter

General Overview:

The DT- 136 is a flexible High-speed pulse counter featuring the power and precision of Microchips Pic18f.

The DT-136 is an application specific programmed unit to ensure accurate rpm measurement is achieved.

The DT-136 was designed for the purpose and application of Diesel Fire Pump rpm monitoring to ensure the engines starter motor Bendix gear is released at an adjustable pre-set rpm value.

General Specifications:

1. Supply input voltage: 10-30vdc. (Voltage can be configured for 110Vac and 230Vac)
2. Supply input current: 40ma.
3. Input option 1: 2 x Discreet Tactile Switches.
4. Input option 2: 1 x Pulsed input (Namur).
5. Input option 3: 1 x Sinusoidal input (Magnetic).
6. Clock speed: 8 MHz
7. Output option 1: Relay Contacts (1A @ 30VDC).
8. Output option 2: 0 to 1 ma.
9. Output option 3: Isolated PWM (pulse width modulation).
10. Display: 4 digits (Seven segment display).
11. Programming: 2x5 DIL header pin ICSP.
12. Pulse edge: Configurable for both Rising and falling edges.
13. Eeprom: Configured to record set points into its non-volatile memory.
14. Sensor fault indication: Led indication.

General Operation:

The DT136 has been designed to offer a single ended pulse counter with the use of the capture compare module of the pic18f45k22 micro controller.

With the use of the pic18f45k22 allows the embedded controller to be programed to suit the applications needs, should this be required.

The discreet pushbuttons on the front panel of the controller allow for simple human interaction such as sensor type selection, RPM set points and Number of ring gear teeth.

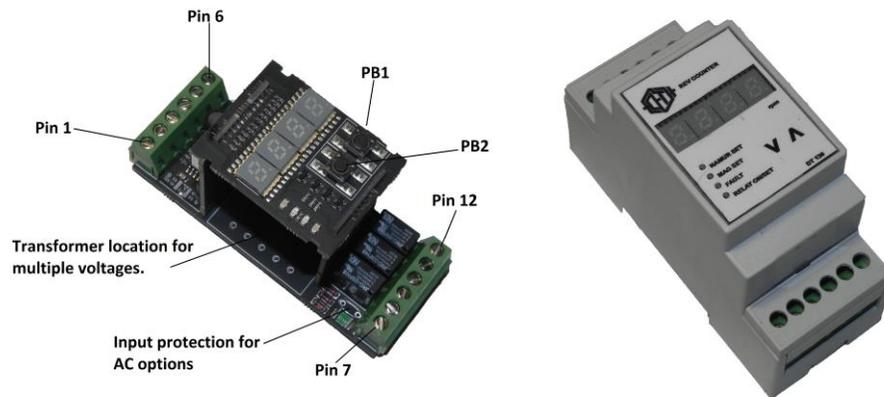
The pulsed input is Schmitt trigger regulated to limit noise and unwanted pulses that may be present on the input line

The PWM and 0-1ma outputs are isolated with the use of an opto-isolator to protect the controller from field connections and noise

Set Up Steps:

1. Namur or Magnetic sensor must be selected on first power up of unit. This is achieved by pressing PB1 (Right Button) and holding it depressed for 15 seconds. The unit will enter input selection mode and the relevant input led will be illuminated. The selection is changed by then depressing PB1 or PB2
2. Namur mode selected
 - PB2 has no function
 - PB1 depressed for 15 sec will enter into input selection mode as per step 1
 - PB1 and PB2 depressed simultaneously for 10 sec will enter into relay energize set point. The set point can be adjusted by depressing PB1 or PB2 as required. If no buttons are pressed for 5 seconds then relay set point is confirmed and wrote to memory.
3. Magnetics mode selected
 - PB2 hold for 5 seconds will enter into ring gear teeth selection. The set point can be adjusted by depressing PB1 or PB2 as required. If no buttons are pressed for 10 seconds then the number of teeth set point is confirmed and wrote to memory.
 - PB1 depressed for 15 sec will enter into input selection mode as per step 1
 - PB1 and PB2 depressed simultaneously for 10 sec will enter into relay energize set point. The set point can be adjusted by depressing PB1 or PB2 as required. If no buttons are pressed for 5 seconds then relay set point is confirmed and wrote to memory.

General Layout:



Pin Out:

From top left = Pin1.
Bottom Right = Pin12.
NC = Not connected.
NF = No Function

Pin1 = Pulse Input.
Pin2 = Common / Magnetic sensor negative.
Pin3 = Namur Positive supply.
Pin4 = 0-1mm output.
Pin5 = NC.
Pin6 = NC.
Pin7 = A1.
Pin8 = A2.
Pin9 = Relay Common input.
Pin10 = Relay 1 output.
Pin11 = NF
Pin12 = NF

Contact us:

For further details or requirements please contact us at Info@day-tec.com