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DT-400m Abortive Start Sequence

General Overview:

The DT- 400m is a Diesel Fire Pump abortive start sequence relay, developed for the fire protection industry featuring the power and precision of Microchips Pic18f45k22.

The DT-400m offers flexibility in timing specific relay switching for the control of the diesel engine starter motor crank cycle.

General Specifications:

1. Supply input voltage - 10-30vdc.
2. Supply input current - 40ma.
3. Clock speed – 8 MHz.
4. Output option 1 – 3 x Relay Contacts 3A@30VDC.
5. Display – 1 digit (Seven segment display).
6. Display LED1 – Relay 1 Operating (Battery 1 Crank) .
7. Display LED2 – Relay 2 Operating(Battery 2 Crank).
8. Display LED3 – Relay 3 Operating(Fail To Start).
9. Display LED4 – 400m power available.
10. Programming – 2x5 header pin ICSP.

General Operation:

The DT- 400m is an 11 pin modulated relay controller designed to control cranking cycles of Diesel Fire Pump Engines.

The standard operation of the DT - 400m is such that when the unit is powered up the cranking sequence is initiated. The operation of this unit can be programed and configured to suit your timed switching requirements.

The DT-400m utilizes its non-volatile memory to store the last known crank relay operation and will always alternate between crank relays to ensure equal loading of engine batteries.

Switching Sequence of standard programing on power up:

- Relay1 (Battery 1) – Energized / Crank for 15 sec
- Dwell 6 sec– All relays De-Energized
- Relay2 (Battery 2) – Energized / Crank for 15 sec
- Dwell 6 sec– All relays De-Energized
- Relay1 (Battery 1) – Energized / Crank for 15 sec
- Dwell 6 sec– All relays De-Energized
- Relay2 (Battery 2) – Energized / Crank for 15 sec
- Dwell 6 sec– All relays De-Energized
- Relay1 (Battery 1) – Energized / Crank for 15 sec
- Dwell 6 sec– All relays De-Energized
- Relay2 (Battery 2) – Energized / Crank for 15 sec
- Dwell 6 sec – All relays De-Energized
- Relay 3 (Pump Fail) – Energized

Please Note:
Should the DT-400m be de-energized at any stage in the above sequence then on the next power up the first relay to operate will be opposite to the last relay operated. (With exception to Relay3).

Relay Pin-Out
Pin1 = Com of relay 1 (Crank 1).
Pin2 = 10 – 30 VDC positive supply (A1).
Pin3 = NO of relay 1 (Crank 1).
Pin4 = NC of relay 1 (Crank 1).
Pin5 = NC of relay 3 (Fail to Start).
Pin6 = Com of relay 3 (Fail to Start).
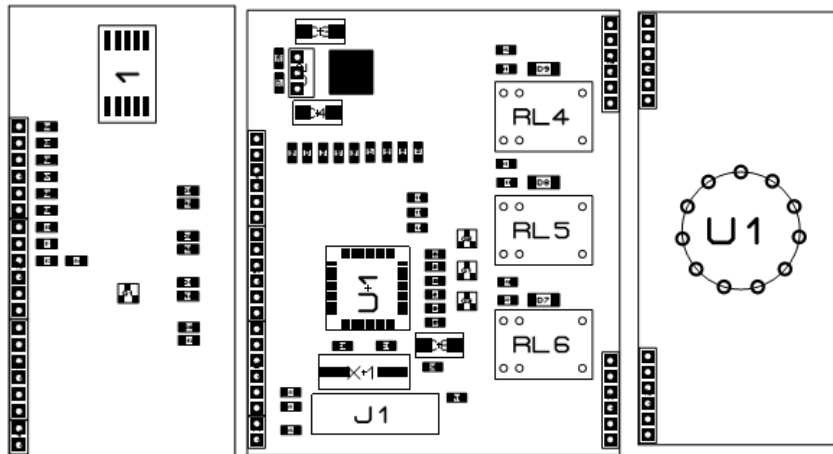Pin7 = NO of relay 3 (Fail to Start).
Pin8 = NC of relay 2 (Crank 2).
Pin9 = NO of relay 2 (Crank 2).
Pin10 = 10-30 VDC negative supply (A2).
Pin11 = Com of relay 2 (Crank 2).

General Layout of PCB:

Please Note: the above is enclosed in an 11 pin module enclosure.

Contact us:

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