

NAVITEK ELECTRONICS

DESCRIPTION:

The TD555 automatic mains failure module has been primarily designed to monitor the mains supply, starting the generator automatically should it fall out of limits. Transfer of the load is automatic upon a mains supply failure. If required the generator and can be started and stopped manually. The user also has the facility to view all the system operating parameters via the LCD display.

The TD555 module monitors the mains supply indicating the status of the mains on the module's integral LCD display. Additionally the module monitors the engine, indicating the operational status and fault conditions, automatically the shutting down the engine and giving a true first up fault condition of an engine failure by a flashing common alarm led the exact failure mode is indicated by the LCD display on the front panel.

OPERATION:

The following description details the sequences followed by a module containing the standard 'factory configuration' always refer to your configuration source for the exact sequences and timers observed by any particular module in the field.

AUTOMATIC MODE OF OPERATION

This mode is activated by pressing the **AUTO** pushbutton. An led indicator beside the button confirms this action.

Should the mains supply fall outside the configurable limits for the longer than the period of the mains transient delay timer, the mains failure indicator will illuminate and the mains available GREEN indicator LED extinguishes. Additionally, while in AUTO mode, the remote start input (if configured) is monitored. If action, the **remote start active** indicator (if configured) illuminates.

Whether the start sequence is initiated by mains or by remote start input, the follow sequence followed:

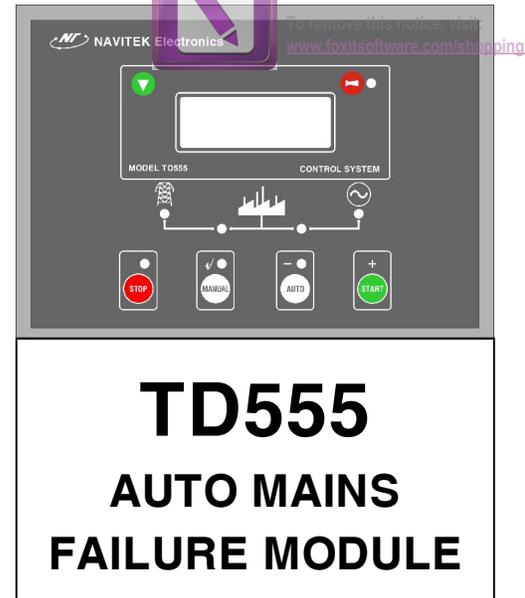
To allow for short term mains supply

Easy pushbutton control.

Operation of the module is via pushbutton controls (with security locking facility) mounted on the front panel with STOP, MANUAL, AUTO and START pushbuttons. The first three pushbuttons feature LED "selected" indications. Further pushbuttons provide LCD DISPLAY SCROLL functions.

Microprocessor control.

The module features 16 Bit microprocessor control and a comprehensive list of timers and pre-configured sequences. This allows demanding specifications to be achieved. Configurable expansion facilities are also provided.



TD555 AUTO MAINS FAILURE MODULE



Metering.

The TD500 module provides metering via the LCD display through the following instrumentation displays, accessed via the LCD DISPLAY SCROLL push-buttons:

- Generator Volts, amps, Frequency: LG1-N, LG1, Hz
- Generator Volts LG1-N, LG2-N, LG3-N
- Generator Volts LG1-LG2, LG2-LG3, LG3-LG1
- Generator amps L1, L2, L3
- Generator Frequency Hz
- Main Volts LM1-N, LM2-N, LM3-N.
- Main Volts LM1-LM2, LM2-LM3, LM3-LM1.
- Engine Oil Pressure
- Fuel Level %
- Engine Temperature
- Plant battery Volts
- Engine Hours Run

Digital input

The module accepts the following digital inputs:

Emergency stop input-A N/C DC positive input.

Fully configurable warning or shutdown input.

With the exception of the Emergency Stop Input, these are configurable to be either N/C or N/O contacts connected to the -Ve DC.

The 2 fully configurable auxiliary inputs can be selected to be indication, warning or shutdown input either immediate or held off during start up to allow for use as protection expansion inputs.

Alternatively they may be configured to control extra functions such as Remote start input, and any others- refer to appropriate manuals for details.

Analog input.

Provided for Oil Pressure, Engine temperature and Fuel Level. These connect to conventional engine mounted resistive sender units (such as VDO or Datcon Type) to provide accurate monitoring and protection facilities. Alternatively they can be configured to interface with digital switch type inputs for Low Oil Pressure and High Engine Temperature shutdowns. Fuel Level alarm.

Relay outputs.

Provided for Fuel Solenoid Output, Start Output and configurable outputs.

The configurable relay functions can be selected from a range of different functions, conditions or alarms. The relay supply positive plant supply out refer to appropriate manuals for details.

Multiple alarm channels

Provided to monitor the following:

- Under/Over Generator Volts
- Over current
- Under/Over Generator Frequency
- Charge Fail
- Emergency Stop
- Low Oil Pressure
- High Engine Temperature



- Fail to Stop
- Fail to Start
- Low DC battery Volts
- Loss of speed sensing signal

DC supply:

11 to 35V continuous.

Cranking Dropouts:

Able to survive 0V for 50mS, providing supply was at least 10V before dropout and supply recovers to 5V. This is achieved without the need for internal batteries.

Max. Operating Current: 425mA at 12V and 215mA at 24V.

Alternator input Range: 75V (ph-N) to 277V (ph-N) AC (+20%)

Alternator Input Frequency: 50-60 Hz at rated engine speed (minimum 25V AC (ph-N))

Magnetic Input Frequency: 10000Hz (max)

Start Relay Output: 10Amp. DC at supply voltage.

Fuel Relay Output: 10Amp. DC at supply voltage.

Auxiliary Relay Outputs: 7 Amp. DC at supply voltage.

Dimensions: 240mm X 172mm X 75mm

charge Fail: 0V to 35V

Operating Temperature Range: 0 to +70°C

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