

NAVITEK ELECTRONICS

DESCRIPTION

The TD301 is **Automatic Transfer Switch control module**, designed to monitor the incoming AC mains supply (3 phases) for under voltage and over voltage.

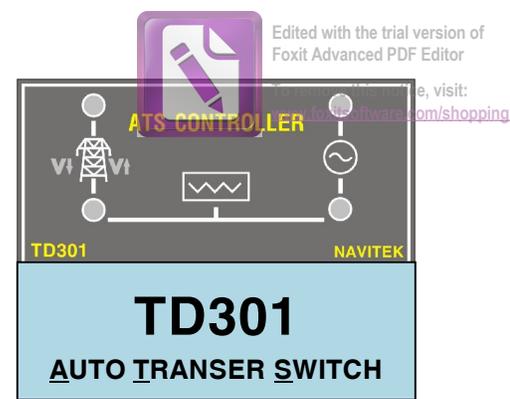
Should the voltage fall out of limits, the module will issue a start command to the generating set controller. Once the set is available, the ATS module will control the transfer devices and switch the load from the mains to the generating set. Should the mains supply return to within limits the module will command a return to the mains supply and stop requesting the generator after run cooling time.

A clear **mimic diagram** with ‘international’ symbols and LED indications provide ‘at a glance’ information as to supply availability and load switching status.

In the event of a mains failure the module operation would normally be as follows:

- **“Mains available”** LED extinguishes and the module de-energises the **‘run Generator’ relay**, causing the **“run” contacts** to close. A generator start module receives this signal and initiates the engine start.
- Once the generator is running and the **“Engine Running” signal** is present. The module will then await the ‘load transfer’ signal from the generator controller, once this is present the module will then energise the **‘Close Mains’ relay** which causes the **‘Close Mains’ contacts** to open, thus opening the mains contactor. The **‘Mains on load’ LED** will extinguish. After a short time delay, allowing the mains contactor to open, the **‘close generator’** relay is energised causing the **‘Close generator’ contacts** to close, thus causing the generator contactor to close. The **‘Generator on load’** LED will illuminate.
- Should the mains supply return to within limits the **‘Mains available’** LED will illuminate and the module will energise the ‘Run generator’ Relay causing the ‘Run’ contacts to open, on the removal of the **‘Load transfer’** signal the **‘Generator close’** relay will de-energise and the **‘Generator close’** contacts will open. The **‘Generator on load’** LED will extinguish. Following the **‘transfer delay’** the module will de-energise the **‘Close mains’** relay and the **‘Close mains’** contacts will close. The **‘Mains On Load’** LED will illuminate. When the ‘Engine Running’ signal is removed the module will then extinguish the ‘Generator Available’ LED. The module will then await the next mains failure event.

The TD301 ATS module is intended for use with the TD5xx Remote Start controllers of **NAVITEK** or DSE 5xxx of Deepsea. The ‘RUN’ contacts connect to the ‘Remote Start’ input, and ‘LOAD TRANSFER’ is fed from relay output on the TD5xx configured accordingly. Sequence times (start delay, warn-up, stop delay and cooling) are configured in the TD5xx module.



Although designed for use with NAVITEK engine controller, the flexibility of the module also allows it to be connected directly to a range of commercially available, and custom built, generator control systems.

The module is mounted in a robust plastic case. Connection to the module is via plug and socket connectors.

SPECIFICATION

DC Supply:

The module DC is powered from the plant battery or from a low voltage supply between 10 to 35V continuous. It is able to operate at 0V for 50 ms during cranking, 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: 85mA @ 12V, 92mA @ 24V.

1. Low voltage Auxiliary relay contact:

5Amp DC rated – NC connected internally to –Ve.

2. Mains rated relay contacts:

5Amp RMS rated 1 of each-NO, NC.

Dimesnions: 92mm x 45mm x 110mm

Operating Temperature Range: 0 to 55°C.

Indications:

Mains available LED.

Mains on load LED.

Under voltage LED.

Over voltage LED.

Generator available LED.

Generator On load LED.

Operating Voltage:

100 – 300V NOMINAL RMS input Range.

Mains trip 75V-260V AC RMS (Adjusted via a potentiometer accessible from the rear of the module).

Transfer Delay: 0.8s (± 0.5 s fixed)

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