

# Deep Sea Electronics Plc

300 series CONTROL MODULES

## MODEL 306 VOLTAGE DETECTION UNIT

### DESCRIPTION

The series 300 Voltage Detection Unit is a compact modular control unit designed to complement the other units in the 300 Series of generator control and system monitoring equipment. The function of the Voltage Detection Unit is to give warning and provide automatic disconnection facilities in the event of a departure from normal running conditions. Automatic trip is provided for over-voltage and under-voltage at selectable percentages of the rated line voltage. For the under-voltage condition, delay and return circuits are incorporated which control the time to trip and the automatic reset of the unit. In the normal operating condition, a red LED ("Return") indicates that the "under voltage" relay is operated. If the voltage on any phase of the controlled supply falls below the pre-set percentage "under" voltage for a period of time exceeding the pre-set "Delay" time, the "under voltage" relay releases and the LED is extinguished. The two-pole changeover contacts at terminals 1 to 6 can be used to provide remote indication or to cut off line supplies as required. The unit rests automatically after an under voltage trip when the voltages on all the phases exceed the pre-set "Return %" of the rated line voltage. If the automatic rest is not required, the Voltage Detection Unit may be rest by a manual push-button connected between terminals 20 and 19. If the voltage on any phase exceeds the pre-set percentage "over" voltage, then the "over voltage" relay will operate and yellow "over" LED will light. The two-pole changeover contacts at terminals 11 to 16 can be used to give remote indication, or to cut off line supplies as required. The relay releases as the phase voltages return below the pre-set percentage "over voltage", and the yellow LED is extinguished. If a manual rest is preferred, this may be achieved with a push-button connected between terminals 17 and 20.



### SPECIFICATION

MANUFACTURED TO: BS 5149 & BS 5458  
IEC 414 & IEC 144 LR/UK  
VOLTAGE: 100 to 130v nominal or  
200 to 260v nominal  
FREQUENCY: 50Hz or 60 Hz  
OVERLOAD: (continuous) 1.2 times rated value  
(10 second) 1.5 times rated value  
RATING: 6VA max  
OVER VOLTAGE TRIP RANGE:  
100 to 120% of nominal  
UNDER VOLTAGE TRIP RANGE:  
70 to 90% of nominal  
UNDER VOLTAGE TRIP DELAY:  
3 to 30 seconds  
REPEATABILITY OF TRIP: 0.5%  
OVER VOLTS HYSTERESIS: 1%  
OPERATIONAL LIFE: Minimum 2 x 10<sup>5</sup>  
operations  
TRIP OUTPUT: for over-voltage and under-  
voltage  
two pole changeover relay  
Contact rating 6A, 220 V, resistive  
RESET: Automatic or manual by external  
push-button  
DIMENSIONS: 100 X 112 X 70mm  
(W x D x H)

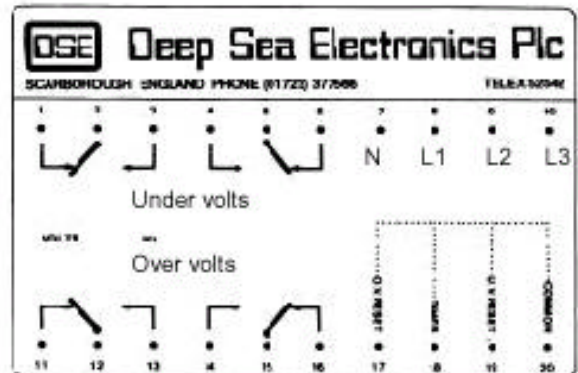
TELEPHONE +44 (0) 1723 377566 FAX +44 (0) 1723 354453

## INSTALLATION

The series 300 Voltage Detection Unit is designed for control panel mounting. Line voltage connections are made to terminals 7, 8, 9 and 10 and the changeover relay contacts for use on remote trip relays are available on terminals 1 to 6 and terminals 11 to 16, as indicated on Connection Diagram.

If manual reset is required, normally open push-buttons may be wired between terminals 17 and 20 (for over-volts reset) and between terminals 19 and 20 (for under-volts reset). Alternatively, it may be preferable to use a single reset push-button between terminal 20 and both 19/17. If the automatic "Delay" function is required, a short-circuit link should be fitted between terminal 18 and 20. If this link is not fitted, operational delay on the under voltage trip will be approximately 1second.

## CONNECTION DIAGRAM



## MECHANICAL DIMENSIONS

