



# ED890

## NAVIGATION LIGHT CONTROL PANEL

# INSTRUCTION MANUAL

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# GENERAL

**IMPORTANT: THE EQUIPMENT MUST NOT BE MODIFIED IN ANY WAY AND MUST BE INSTALLED AND SERVICED BY COMPETENT PERSONNEL ONLY. IF IN DOUBT CONSULT ELECTRONIC DEVICES LTD (01684) 891500**

The ED890 is a navigation light control and monitoring panel which can be provided to suit individual boat and ship requirements. Operating from a Main and Emergency 24Vdc supply, with automatic changeover, the ED890 provides switching for both six main and six reserve lamps.

## INSTALLATION

### CONTROL PANEL

The control unit should be mounted in a convenient position for the operator away from possible mechanical damage. Remove the enclosure and use it to mark out the mounting holes and cut out on to the bulkhead. Mount the control panel on to the bulkhead temporarily using the M3 nuts and bolts provided. Once the electrical installation is completed, remove the nuts and screw the M3 bolts directly in to the captive nuts mounted on the enclosure.

Cable entry must be made through the cable glands supplied. The enclosure has 12 x 20mm holes and the cable glands, should be mounted in the most suitable positions. The unused holes should have the 20mm blind grommets (supplied) fitted.

### NAVIGATION LAMPS

The ED890, as standard, is designed for filament lamps with the following rating:

12V model	12VDC	5 - 20W
24V model	24VDC	10 - 40W

An extended range is available, to include the use of low consumption LED lamps, please contact E.D for more details. The choice of navigation lamps, colours, power, location etc., Should conform to appropriate marine standards.

F1 - F8, F13 - F16 = 2.5A Quick Blow, Maximum

F9 - F10 = 600mA

F11 = 2A

F12 = 15A

The current, drawn from the vessels power supply, will depend upon peripheral items connected. The control unit (not including navigation lamps) typically will draw no more than 150mA in worst case.

### WIRING

It is important that cable with the correct cross sectional area is chosen, keeping the voltage drop along the cable to a minimum. In particular the two DC input cables should be capable of carrying sufficient current for all of the navigation lamps being operated. All cables used should be suitable for marine applications.

### PERIPHERAL EQUIPMENT

Voltage free relay contacts are provided, allowing the use of external and more powerful sounders and or beacons. The relays provided are rated at 1A Max @ 30VDC non-inductive.

For low consumption sounders and beacons a fused output is provided. The current drawn from this terminal MUST be less than 500mA.

# OPERATION

## POWER FAILURE AND LOW VOLTAGE

With both Main and Emergency dc inputs present the corresponding front panel LEDs will be illuminated green. If either supply is not present the corresponding front panel LED will be illuminated yellow and the appropriate relay contacts will change state. If the Main dc input or Emergency dc input (when in Emergency power) falls below approximately 18Vdc the front panel fault LED will illuminate yellow and the Lamp Fail / Fault contacts will change state.

## NAVIGATION LAMP OPERATION

With all navigation lamps turned off only the power LEDs should be illuminated. The four front panel toggle switches are centre off. Pressing to the left will operate the Main navigation lamp while pressing to the right will operate the reserve navigation lamp for the same location. When either the main or reserve navigation lamp is on the corresponding front panel LED will illuminate green. If one of the "ON" navigation lamps fail the associated front panel LED will illuminate yellow and the internal buzzer, and any external devices fitted, will operate. To silence the internal and external buzzer press the front panel toggle switch to operate the other navigation lamp in that location or to turn that position off.

## SELF TEST AND SOFT START

Incandescent bulbs, when turned on from cold, have a very high inrush current which can damage inline switches, relays etc.. To combat this the ED890 employs a built in soft start circuit which limits the inrush current.

This circuitry also serves as a self test feature. When switching on a navigation lamp the external fault lamps and internal fault buzzer should operate for approximately half a second. If this is not the case the internal fault circuit and or soft start circuit maybe faulty and Electronic Devices Ltd should be contacted.

## AUTOMATIC DIMMER FACILITY

The ED890 monitors the ambient light at the front panel and automatically dims the front panel LEDs. Please note the lamp fail and fault LEDs are not dimmed for safety reasons, ensuring that any failures are not missed or forgotten.

# PRINTED CIRCUIT BOARD LAYOUT



