MULTI-FUNCTIONAL- TYPE ED 700

ELECTRONIC DEVICES LTD

In constant production since 1985 the well proven ED700 system provides an economic solution to many alarm and detection problems in both industrial and marine applications. Custom build capability, Ease of installation, maintainence, servicing and full type approval provides major savings. The standard alarm functions are complemented by a range of zener barriers, custom built power supplies with long battery backup times, relays and shutdown functions (ESD) individually tailored to customers needs which allow often unique solutions to long standing problems. Suitable for Industrial or Marine applications, either Hazardous Area or Safe Area, the ED700 is a totally flexible system custom built to your exact requirements.

APPROVED BY

Type approved by the American Bureau of Shipping

Number - 0598
Certificate
BAS99ATEX7150
(With appropriate bariers)

Number - 1180
Certificate
BAS21UKEX0601
(With appropriate bariers)

SGS Baseefa
Certified
II(1)G [Ex ia Ga] IIC
(With appropriate bariers)

Quality Assurance
SGS Baseefa
Cerificate
Number: 0344
(With appropriate barriers)

FEATURES

- Gas detection: Catalytic, electro-chemical, semi-conductor and Infra red sensors available certified flameproof or Intrinsically safe.
- Level detection: Robust float swtiches certified intrinsically safe where necessary.
- Alarm monitoring
- Navigation light monitor
- Digital repeater option
- Simple to install and operate
- Can be custom built to suit requirements

GENERAL

The ED700 system is based upon the standard Eurorack of 84HP in width and 3U in height. Although we can provide subracks for insertion into other systems full approval is only maintained when supplied in our approved environmental enclosure. Individual modules are described below but early contact with our design team is recommended to ensure all requirements are fully met. In particular output functions, alarm voting etc. can be accommodated easily at low cost.

ED 710 GAS SENSOR MODULE - 1 SENSOR PER MODULE - 5HP WIDE

A separate leaflet is available detailing gas sensors. The ED710 may be used with our well proven, very long life semi-conductor sensors for general, specific, flammable and toxic gases. The ED710I allows our Ex certified Transmitters to be used, available in Intrinsically Safe or Flameproof. With a wide range of pellistors and electro-chemical cells most Toxic or Flammable gases can be detected. Double level alarms, adjustable over the full range provide the basis for shutdown and alarm outputs. Sensor wiring fault warnings are provided together with automatic alarm inhibit, if required. All alarm functions may be auto or manual reset. Continuous monitoring utilising a digital meter together with 0-5VDC outputs are provided as standard on each module. Total power consumption is generally less than 1W but depends on sensor type. I.S. versions will require a combination of ZBD/ZBPD Zener Barriers.

ED730 LEVEL DETECTOR MODULE – 2 ZONES PER MODULE - 5HP WIDE

The ED730 Level Monitor provides two zones per module with any number of level switches type ED735 per zone. Continuous zone wiring fault monitoring is provided with open and short circuit visual indication. External alarms are driven via DIN rail mounted relays as necessary and all the facilities provided by the ED740 Control Module.

ED740 CONTROL MODULE – 5HP WIDE

Normally intended for use with ED730 the ED740 can be used whenever Auto Power Changeover, Delayed Alarms, Card Insertion Monitoring, Fault Extension, Alarm Test, Manual Reset and Alarm Accept facilities are required.

ZBD CERT NO. BAS99ATEX 7150 & BAS21UKEX0601
ZBPD CERT NO. BAS99ATEX 7151 & BAS21UKEX0602

The ED ZBD and ED ZBPD range of zener barriers allows many of our systems to be certified I.S. for Hazardous Area use. In particular Gas, Level, LED Indicators and apparatus agreed by SGS Baseefa to be “simple” may be certified to Ex ia IIC and hence suitable for Zones 0, 1 and 2. The barriers are certified for mains input power supplies up to 250V. Note that although environmentally tested to +70Deg.C SGS Baseefa certification ceases at 60Deg.C All our barriers are DIN rail mounted.

ED760 POWER SUPPLY – BACKPLATE MOUNTED

The ED760 Power Supply provides 12V or 24V at 5A DC from mains inputs in the range 110/120/220/240V 50/60Hz. For low current applications the supply can be set to float charge appropriate sealed lead acid batteries which may be mounted within the enclosure. If temperatures greater than 50Deg.C are envisaged within the enclosure then external mounting is preferred. For higher current capability and particularly where rack space is at a premium the PSU Type 3, also fully approved, will provide up to 5A at 27.6VDC maximum together with space for 2 x 12V 12AH SLA batteries. Also custom built power supplies with up to 20A capability and 200Ah battery back up are available.

ED 780 RELAY MODULE - 5HP WIDE

This module is custom built to user requirements and permits selective combination alarm outputs. Alarm accept/ disconnect facilities can be incorporated.

ED782 CURRENT LOOP MODULE – 5HP WIDE

The ED782 current loop transmitter provides four individual 4/20mA current loop transmitters per module. A wide range of DC input signal voltages may be accommodated including those which require level shifting and voltages which are not in the 5-1 ratio necessary. The output current loop has one pole connected to the system OV line. The integrity of the loop will be maintained for load resistances up to the industry standard 500ohms.

ED784 ZONE/ALARM TEST MODULE – 28 ZONES PER MODULE – 10HO WIDE

The ED784 allows, via rotary front panel switches, individual testing of Gas and Level Detection zones. One module will allow 28 zones to be tested.

ED785 ZONE ISOLATE MODULE – 10 ZONES PER MODULE – 10HP WIDE

Each ED785 module allows ten zones to be isolated either individually or collectively. Front panel visual indication is given of isolated zones and in conjunction with Gas Detection modules facilitates servicing. Provision is made to extend zone isolate signals to remote repeaters where necessary.

ED790 ALARM MONITOR MODULE – 5HP WIDE

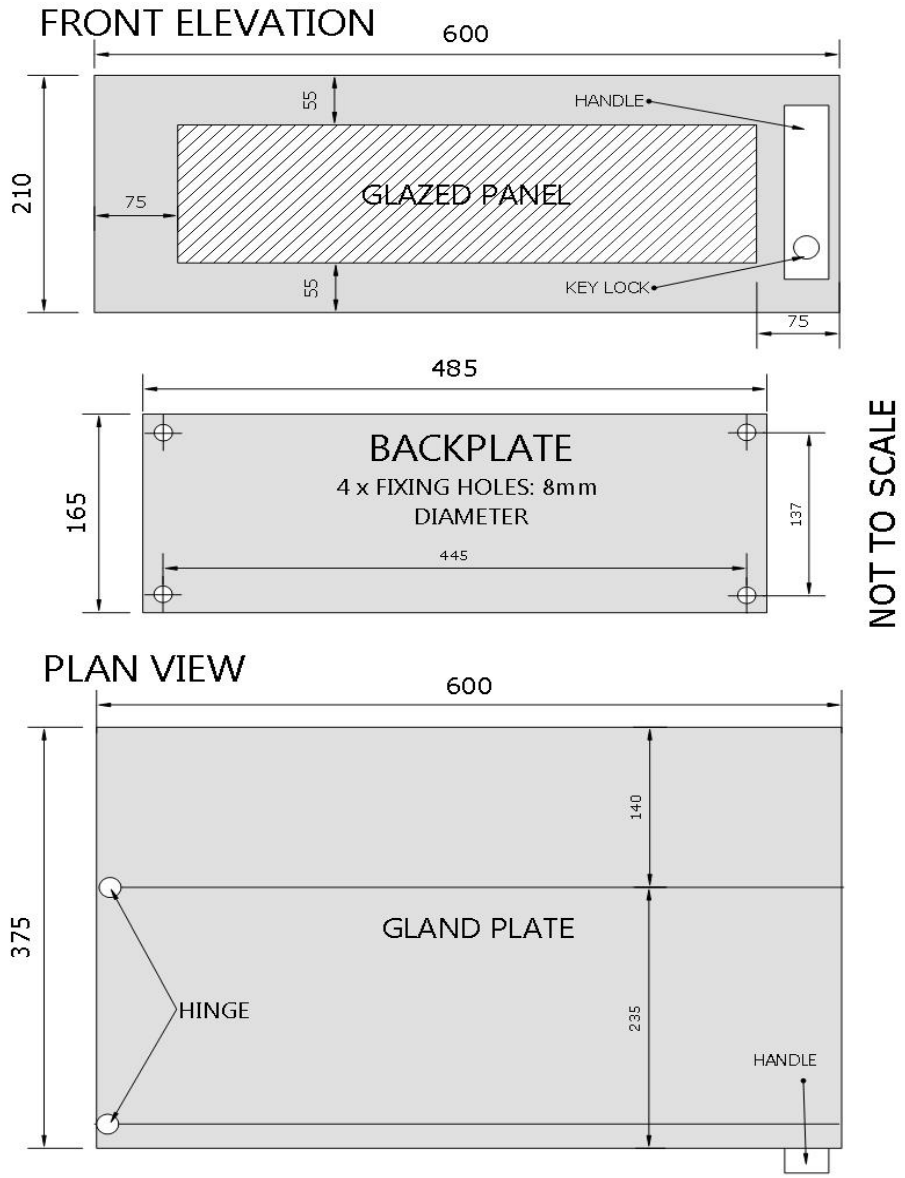
The ED790 accepts either normally closed or normally open input switches and gives visual indication and alarm extension facilities for each of up to five zones individually, green, for correct, and red, for fault, front panel lamps provide continuous visual indication.

ED791 LIGHT MONITOR MODULE – 6 LIGHTS PER MODULE – 5HP WIDE

Monitors six lights between 10W and 60W at 24V DC as standard. Mains AC lamp monitoring and switching is also available. Continuous green is replaced by red for fault conditions while a general alarm is extended by voltage free changeover contacts obtained with DIN rail mounted relays.

APPROVALS – ABS CERTIFICATE NO. 09-LD-533230- PDA

Type ED700 system has been approved by the American Bureau of Shipping. To achieve this status the system and sensors function satisfactorily when subjected to the following and when driven by appropriate Electronic Devices Ltd Control units. NB: Some tests eg “Salt Mist” only apply to control equipment and not to the sensing heads.



NOT TO SCALE

INSULATION RESISTANCE:
Greater than 100M ohm at 500V and greater than 10M ohm after humidity, low temperature and salt mist tests (see below).

POWER SUPPLY PERMANENT:
+/- 10% voltage variation, combined with +/- 5% frequency variation.

POWER SUPPLY TRANSIENT:
+/-20% voltage variation for 1.5 seconds and +/-10% frequency variation for 5 seconds.

POWER SUPPLY FAILURE:
3 power interruptions with a minimum break time of 30 seconds.

INCLINATION STATIC:
22.5 deg on either side of the vertical in all planes.

INCLINATION DYNAMIC:
22.5 deg on either side of the vertical with a roll period of 10 seconds.

VIBRATION:
2-13.2 Hz at +/-1mm displacement.
25-100 Hz at +/-4.0g acceleration.

HUMIDITY CYCLIC:
25 to 55 deg C +/-3 deg C
at 95% RH

SALT MIST:
Exposure to standard salt solution at 35 deg C, 95% RH for 28 days.

DRY HEAT:
+70 deg C.

LOW TEMPERATURE:
-25 deg C.

HIGH VOLTAGE:
2.5KV AC.

ELECTRO STATIC DISCHARGE:
8KV direct to enclosure.

ELECTRO MAGNETIC INTERFERENCE:

CONDUCTED LF:
10% of input voltage to the 15th harmonic, decreasing to 1% at the 100th harmonic maintained to the 200th harmonic min. Input supply frequency 50Hz to 10KHz.

CONDUCTED HF:
150 kHz to 80 MHz modulated 80% at 1kHz, with a carrier level of 3V.

SPATIAL RFI:
80 kHz to 6 GHz amplitude modulated 80% at 1 kHz, with an electric field strength of 10 V/m.

POWER LINE TRANSIENTS:
1 kV amplitude 50 ns width pulses with a rise time of 5 ns at 300ms
1 kV amplitude 50 microsec width pulses with a rise time of 1.2 microsec

TYPICAL MODULE PANEL LAYOUTS