

# PRODUCT TEST

## Elmdene Universal-1224-L Enclosure

### WHAT'S IN THE BOX?

- Enclosure with power supply unit
- Misc. fixings
- PSU safety sheet

The Universal enclosure range consists of three main variants; from the ENC-M, medium sized, to the ENC-L large enclosure, and then the 1224-L which is the unit reviewed here. This is the large enclosure that includes a switchable 12 / 24-volt power supply. The medium enclosure has dimensions of 337(h) x 382(w) x 90(d) mm and the large is 507(h) x 407(w) x 90(d) mm.

They are all white powder-coated steel enclosures with a universal backing plate for component mounting and cabling.

### GETTING STARTED

The power module is pre-fitted in the top right of the enclosure, with an earth cable linking it to the cabinet's ground point. All terminals are of good size accepting a regular 3mm terminal driver or crosshead screwdriver. The power module has dimension of 128(h) x 158(w) x 57(d) mm. Three 8mm lugs are used to secure the unit so give an overall height of 144mm.

The connections are all arranged along the bottom of the module's PCB. Mains power input is at the left of the board with three well-spaced terminals for Live, Earth, and Neutral. A 3.15mA anti-surge fuse is above in a safety protective fuse-holder. Three three-way connectors in the middle cater for a Mains Fail relay with Common, N/O and N/C contacts. Then, the user relay (Uncommitted) has coil connections of 0v, then 12v or 24v for activation. Next, the user relay contacts are available as Common, N/O and N/C. Finally, at the right of the board are pairs of +volts and -volts output and battery terminals. Above these output terminals are two low-voltage fuses, one for the 24V output rated at 4A and the other for the 12volt supply rated at 8A. A switch to their right defines the single output as either 12 or 24 volts.

The large enclosure can accommodate two 17Ah or up to four 7Ah batteries depending on equipment content.

As long as the mains input connections are suitably dressed, there should be no access to mains rated contacts. The only one identified, was a small contact pad for one of the

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suppression components, however this could not normally be accessed by a finger due to its location.

Battery leads are provided along with an interlink for dual battery 24v operation.

A QR code links to the relevant page of the Elmdene website to give access to the manuals and information sheets relating to the range. A couple of videos show the process of using the supplied standoffs and typical PCB placement.

### PSU OPERATION

When powered, the module has a bright green LED illuminated, that is aligned with a semi-transparent section of the enclosure casing to identify power is connected. Power can be from 110 to 240v AC at 50 or 60Hz. Output was measured as 13.78v or 27.55v, the nominal stated on the specification sheet is 13.8v dc 8A, or 27.6v dc 4A.

You need to carefully check the switch position before making battery connections to ensure that the output is matched to the battery voltage.

With a charged battery connected, the output will be maintained on power loss. There is no status indication apart from the loss of the power LED, but the mains fail relay changes over to allow triggering of appropriate signalling equipment. A further flashing LED is used to identify fault conditions but is normally off.

The uncommitted relay can be driven at 12 or 24v DC from external equipment or via the module's output. It has 10A rated contacts.

### GENERAL

The interior of the enclosure has dimension of approximately 498(h) x 398(w) x 78(d) mm excluding the space required for the power supply module. Wall fixings are supplied as a keyhole slot at the centre top for initial positioning and four main fixing points, two at either side. The enclosure must be fitted at least 100mm from adjacent walls or ceiling.

**A QR CODE LINKS TO THE RELEVANT PAGE OF THE ELMdene WEBSITE TO GIVE ACCESS TO THE MANUALS AND INFORMATION SHEETS RELATING TO THE RANGE**

The rear back plate has 5 x 20mm (~3/4") access holes on the left-hand side and 4 on the right. The top panel has 3 x 25mm and 3 x 20mm knock-outs for gland insertion and the lower panel has 1 x 25mm and 3 x 20mm knock-outs.

A right-hand side mounted tamper switch is activated by the top cabinet screw and the wall surface. Its two screw terminals provide a normally open connection until the cabinet is secured. An indicator and fine adjustment screw can be used to correctly align the tamper activation.

The bulk of the back panel is a honeycomb of 3.5mm holes with ~6mm centres. These holes improve airflow and can be used with the supplied

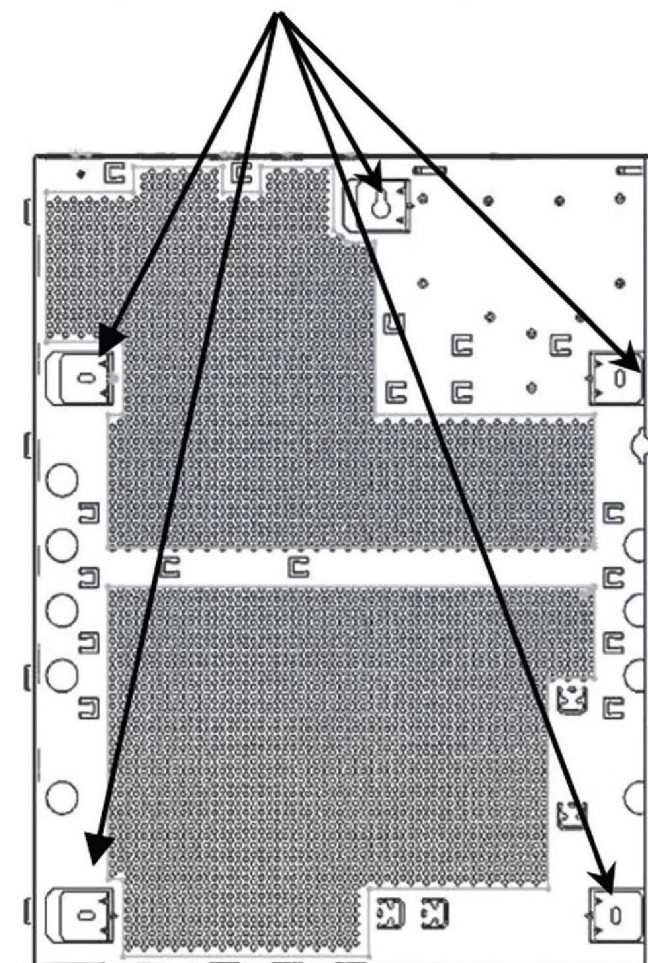
plastic standoffs or self-tapping screws to mount printed circuit boards or to fix pre-assembled modules. Additional tabs in the base allow for fitting of cable ties for cable-form dressing.

The hinged lid can be removed for ease of component installation by fully opening and then lifting slightly from its mounts. The earth link to the door is connected by a spade terminal, so can be readily removed and re-connected when re-fitting.

### CONCLUSION

A flexible equipment enclosure with ease of fitting third-party modules such as control boards and communicators without the need for precision drilling.

Large enclosure: 5 fixing positions



**A FLEXIBLE EQUIPMENT ENCLOSURE WITH EASE OF FITTING THIRD-PARTY MODULES SUCH AS CONTROL BOARDS AND COMMUNICATORS WITHOUT THE NEED FOR PRECISION DRILLING**