**SAFETY NOTES**

**DANGER**

Hazard of Electrical Shock, Explosion or Flash

Applying inappropriate protective equipment (PPE) and/or failing to identify and perform electrical work in a safe manner can result in death or serious injury. This equipment must only be installed and serviced by qualified electrical personnel. Read all warnings and instructions.

The product is not suitable for installation where the of Electro-Magnetic (EM) interference may exist. Proper fall protection must be initiated and completed prior to any work.

The product must be installed in an enclosure with the proper size, type and location of local and national standards. Do not install this product in a multi-tenant structure.

**CAUTION**

Always turn off the power supply before working on equipment.

Always assume a properly grounded work surface to perform power-off.

Always ensure that the work area is free of flammable substances.

Always follow all area and job location requirements.

Always ensure that all working equipment is rated to the power voltage.

Always ensure that shielded cables are recommended for signal wiring.

Signal and power voltage wiring must be kept separate from one another. Where this is impractical, all wires must be rated to the power voltage & shielded cables are recommended for signal wiring.

Do not allow flammable or heat-sensitive parts in the immediate vicinity of heatsink.

Ensure all cables and wiring harness are secured using a relevant strain relief mechanism. Respect electrical installation requirements to ensure optimum IP rating.

**WARNING**

Hazard of Fire

Do not exceed the device’s ratings.

Electrically conductive pollution must be excluded from the cabinet in which the product is installed.

Duty cycle current limiting features (in burst mode), does not limit the peak current value. The user must ensure that the load current does not exceed the device’s rating.

Connection of two conductors in the same terminal is not permitted. Partial or total loss of power connections: The cables must be rated 90°C stranded copper only, the cross section must not exceed 1 year.

Before any other connection is made, the protective earth ground terminal shall be connected to a protective conductor.

Protective conductors must be sized in compliance with local and national regulations and requirements.

Failure to follow these instructions will result in death or serious injury.

**SENTINEL EQUIPMENT OPERATION**

The relay output and fuse holder contacts are compliant with the SELV requirements. For SELV voltage levels, the contact current and power voltage rating must be kept separate from one another. Where this is impractical, all wires must be rated to the power voltage and shielded cables are recommended for signal wiring.

The product has been designed for environment A (Industrial). Use of this product in environment B (domestic, commercial and light industrial) may cause unwanted electromagnetic disturbances in which cases the installer may be required to take adequate mitigation measures.

Use appropriate safety interlocks where personnel and/or equipment hazards exist.

For Electromagnetic Compatibility, panel or DIN rail to which product is attached shall be specifiable at time of order as SELV or PELV circuit.

Respect mechanical installation requirements to allow heatsink to dissipate power. At commissioning ensure that under maximum load condition, the ambient temperature of the product will not exceed the limit stated in that manual.

Whenever necessary, check the wiring first. If the wiring is not damaged, do not replace the fuse and contact the manufacturer’s local service center.

Signal levels are as follows: 1.5V to +5V (with current of 5mA), 3.3V to +5V (with current of 3mA) and 5V to +10V (with current of 1mA).

This diagram does not show the necessary external fuses that are required for branch circuit & short circuit protection.

**2 Phase Power Controller**

This sheet applies to Epacks providing control of two phases. For current ratings of 16A to 125A, if transformer the output load is greater than 200VA then a filter or transformer may be required. Use the information in this document without alteration or addendum. Do not attempt to install or operate the unit without adhering to the Zwick Controller User Guide H02277.

**DVD CONTENTS AND INSTALLATION**

This DVD contains Eurotherm Product Tools utility and Eurotherm User Guide for Eurotherm products. The DVD installer menu should be used on Microsoft® Windows® computers.

- **Epack User Guide**
- **Europack Controller**
- **Eurotherm**
- **WasteLine User Guide**
- **WasteLine Controller**
- **Scales User Guide**
- **Scales Controller**
- **Software User Guide**
- **Software Controller**
- **Technical Support**

**Electrical Installation**

Connections are summarized below for quick reference—Do not attempt electrical installation without referring to the Epack Controller Users Guide HN23115 for full details.

Supply and Load Wiring

A 240V Epack is shown below. Units for other current ratings are of similar appearance and are wired in the same manner. The diagram does not show the necessary external fuses that are required for branch circuit & short circuit protection.

Use a 0.6 × 3.5 mm screwdriver for pluggable connectors.

**Digital Inputs**

- Use the ‘A-D’ interface to connect the Analog Inputs to a digital device. The maximum number of analog inputs connected is 15.

- Terminal V802 connects to the Analog Inputs and should be configured from the EPack via the user potentiometer.

- Terminal V206 is terminated. No user potentiometer is required for this terminal.

- Terminal V206 is terminated. No user potentiometer is required for this terminal.

- Terminal V802 connects to the Analog Inputs and should be configured from the EPack via the user potentiometer.

**Digital Outputs**

- The Analog Outputs can be used in conjunction with the EPack to control load current limiting. The maximum number of analog outputs connected is 8.

- Terminal V504 connects to the Analog Outputs and should be configured from the EPack via the user potentiometer.

- Terminal V104 is terminated. No user potentiometer is required for this terminal.

- Terminal V104 is terminated. No user potentiometer is required for this terminal.

- Terminal V504 connects to the Analog Outputs and should be configured from the EPack via the user potentiometer.

**I/O Wiring**

A 240V Epack is shown below. Units for other current ratings are of similar appearance and are wired in the same manner. Use a 0.5 × 3.5 mm screwdriver for pluggable connectors.
**TECHNICAL SPECIFICATION**

**STANDARDS**

This product is designed and produced to comply with:

<table>
<thead>
<tr>
<th>Countries</th>
<th>Standard symbol</th>
<th>Standard details</th>
</tr>
</thead>
<tbody>
<tr>
<td>European</td>
<td>CE</td>
<td>Low-voltage switchgear and controller - Part 4-1: Controllers and motor-controllers - AC semiconductor controllers and contactors for non-motor loads (identical to IEC60947-4-1-2014). Declaration of conformity available on request.</td>
</tr>
<tr>
<td>USA and Canada</td>
<td>UL</td>
<td>Low-voltage Switchgear and Controller - Part 4-1: Controllers and Motor-Starters – Electrical semiconductor Controllers and Motor-Starters up to 600V. UL file E211280.</td>
</tr>
<tr>
<td>Australia</td>
<td>Approval</td>
<td>Type Approvals and Certificates of Conformity. Based on compliance to EN60947-4-2014.</td>
</tr>
<tr>
<td>China</td>
<td>/</td>
<td>China Compulsory Certification (CCC) for China.</td>
</tr>
<tr>
<td>All</td>
<td>DOCA declaration</td>
<td>Of conformity</td>
</tr>
</tbody>
</table>

**EMC**

- **EMC immunity tests**
  - EN60947-4-3-2014

- **EMC emission tests**
  - EN60947-4-3-2014

<table>
<thead>
<tr>
<th>Power (at 45°C)</th>
<th>Countries Standard symbol</th>
<th>Standard details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage range</td>
<td>Load: 100 to 500V (+15% -15%)</td>
<td></td>
</tr>
<tr>
<td>Frequency range</td>
<td>47 to 63Hz for load and ac auxiliary supplies</td>
<td></td>
</tr>
<tr>
<td>Power requirement</td>
<td>12W</td>
<td></td>
</tr>
<tr>
<td>Voltage range</td>
<td>24V dc supply: 10V</td>
<td></td>
</tr>
<tr>
<td>Voltage range</td>
<td>24V ac supply: 16V</td>
<td></td>
</tr>
<tr>
<td>Voltage range</td>
<td>20V ac supply: 250V</td>
<td></td>
</tr>
</tbody>
</table>

**Environment**

- **Temperature limits**
  - Operating: -10°C to 55°C at 90% non-condensing |
  - Storage: -20°C to 70°C |

- **Altitude**
  - 1000m maximum at 40°C |
  - 2000m maximum at 40°C |

- **Pollution degree**
  - Pollution degree 2

- **Vibration (EN60068-2-6) According to EN60068-2-27 and IEC60947-1 (Annex Q, Category E)

- **Pollution degree**
  - Pollution degree 2

- **Duty cycle**
  - Continuous operation

- **Overload conditions**
  - AC51: 100% continuous

**Nominal load current 16 to 125 Amps**

- Sheet metal protection
  - By external supplemental fuses (high speed fuses) See User Manual HA32715
  - 100A p-cordination type 2

- **Pollution degree**
  - Pollution degree 2

- **Display**
  - 1.5” square TFT colour display allowing viewing of selected parameter value in real time, plus configuration of instrument parameters for users with adequate access permission

- **Pushbuttons**
  - Four pushbuttons provide page and item entry and scroll facilities

- **Input/output**
  - AC51: Non-inductive or slightly inductive loads, resistance categories

**Display**

- **Display types**
  - AC56a: Transformer Primary

- **Input/output**
  - AC51: Transformer Primary

- **Input/output**
  - AC51: Transformer Primary

**Operator Interface**

- **Display**
  - 1.5” square TFT colour display allowing viewing of selected parameter value in real time, plus configuration of instrument parameters for users with adequate access permission

- **Pushbuttons**
  - Four pushbuttons provide page and item entry and scroll facilities

**Mounting**

- **Mounting**
  - The diagram below shows a 125A EPack (doors open), 80 and 100A units are similar—refer to Table 1 for dimensions.

**Mechanical Installation**

- **Mechanical Installation**
  - Front view
  - Top view
  - Bottom view
  - Right side view
  - Bottom view
  - Diagram below shows a 125A EPack (doors open), 80 and 100A units are similar—refer to Table 1 for dimensions.