Selecting the correct starter

Various factors should be considered when selecting the correct DOL. Firstly the type of environment and mounting position will decide the enclosure material - Either steel or plastic. The size of unit is dictated by the motor that is being supplied and can be selected using the table opposite.

**Note:**
The current on the motor rating plate should not exceed the rating of the DOL.

For Example:

1) 2.2kW motor with FLC of 5 Amps @ 415Volts to be mounted in a protected position in a light commercial application will require a LE1-D123N7.

2) Similarly a 7.5kW motor with FLC of 12Amps@ 415Volts will require the next size of DOL, namely LE1-D253N7.

Selecting the correct Thermal Overload

Having selected the correct DOL for the motor size, a suitable thermal overload now needs to be chosen to match the motor rating. The full load current (FLC) of the motor is shown on the motor rating plate. This should be used to select an overload so that this current falls within the rating of the chosen overload. See table opposite.

For Example:

1) 2.2kW motor with a FLC of 5 Amps @ 415Volts will need a TR2-D09310 overload rated at 4.00-6.00 amps. This will mount in the LE1-D123N7 starter.

2) 7.5kW motor with a FLC of 12 Amps @ 415Volts will need a TR2-D12316 overload rated at 9.00-13.00Amps. This will mount in the LE1-D253N7.

**DOL Dimensions**

<table>
<thead>
<tr>
<th>Dim</th>
<th>Metal Clad 12A</th>
<th>Metal Clad 25/32A</th>
<th>Plastic 12A</th>
<th>Plastic 25/32A</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>116mm</td>
<td>135mm</td>
<td>120mm</td>
<td>135mm</td>
</tr>
<tr>
<td>b</td>
<td>128mm</td>
<td>147mm</td>
<td>140mm</td>
<td>155mm</td>
</tr>
<tr>
<td>c</td>
<td>214mm</td>
<td>252mm</td>
<td>166mm</td>
<td>185mm</td>
</tr>
<tr>
<td>d</td>
<td>134mm</td>
<td>162mm</td>
<td>150mm</td>
<td>165mm</td>
</tr>
<tr>
<td>e</td>
<td>123mm</td>
<td>156mm</td>
<td>88mm</td>
<td>101mm</td>
</tr>
</tbody>
</table>

**Cable Type**

<table>
<thead>
<tr>
<th>Contactor Type</th>
<th>TC1-D09</th>
<th>TC1-D12</th>
<th>TC1-D18</th>
<th>TC1-D25/D32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stranded</td>
<td>2 x 1mm Min</td>
<td>2 x 1.5mm Min</td>
<td>2 x 4mm Max</td>
<td>2 x 6mm Max</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1 x 10mm Max</td>
</tr>
<tr>
<td>Stranded with Ferrule</td>
<td>2 x 2.5mm Max</td>
<td>2 x 4mm Max</td>
<td>1 x 4mm Max</td>
<td>1 x 6mm Max</td>
</tr>
<tr>
<td></td>
<td>2 x 1mm Min</td>
<td>2 x 1.5mm Min</td>
<td>2 x 2mm Max</td>
<td>2 x 6mm Max</td>
</tr>
<tr>
<td>Solid without Ferrule</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1 x 6mm Max</td>
</tr>
</tbody>
</table>
1) Three Phase Supply 230Volt Coil - see wiring diagram 1. The following links are pre-fitted to the starter; 13 - 17 with a flying lead to be connected to Overload terminal 95; A2 - 14 - 18. All other control and power connections have to be made by the installer as per the dotted lines.

2) Three Phase supply 415 Volt Coil - see wiring diagram 2. The following links are pre-fitted to the starter; 13 - 17 with a flying lead to be connected to Overload terminal 95; A2 - 14 - 18; Contactor terminal 1 - A1; Contactor terminal 5 via flying lead to Overload terminal 96. All other control and power connections have to be made by the installer as per the dotted lines.

3) Single Phase supply 230 Volt Coil - see wiring diagram 3. The following links are pre-fitted to the starter; 13 - 17 with a flying lead to be connected to Overload terminal 95; A2 - 14 - 18; Contactor terminal 5 - A1; Contactor terminal 5 via flying lead to Overload terminal 96. All other control and power connections have to be made by the installer as per the dotted line.

---

**Important Safety Notice**

It is the responsibility of the person installing the electrical equipment to ensure that the installation meets the requirements of the IET wiring regulations and is therefore ‘fit for purpose’. Factors such as correct selection of components, cable sizing, protective devices and Earth bonding are all critical and should be checked prior to full testing and power-up. Any other regulations applicable to the equipment being installed such as the Machinery Directive and current health and safety legislation must also be adhered to. Terminals should be checked periodically to ensure correct tightness.
Wiring of additional start stop devices on DOL devices for **400V 3 phase with 230V coil**

**Wiring Key**

--- Customer Wiring

--- Wiring Supplied

Additional start and stop stations can be wired to the DOL control circuit. In principle, the start buttons should be momentary normally open devices and wired in parallel with terminals 17 & 18.

The wire between terminals 95 and 13 must be removed and the stop buttons must be wired in the circuit between terminals 95 & 13 in series with the internal stop contact 95-96.

**Europa remote stop/start stations**

- Metal
  - RM2GES55
  - RM2GR
- Plastic
  - RC2PGES55
  - RC2PGR

**Wiring of additional start stop devices on DOL devices for 230V single phase with 230V coil**