Europa components

Instructions for Direct-On-Line (DOL) Motor Starter with Isolator

⚠ 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.
All connections (including factory made) must be checked for the correct tightness prior to commissioning of the electrical installation.
All connections should be checked periodically to ensure correct tightness.
DO NOT USE POWER TOOLS ON THESE PRODUCTS

The Direct on Line motor starter (DOL) is designed to switch a single or three phase induction motor at rated voltage. It comprises of an isolator,steel enclosure, a contactor, start contact, link wires and stop / start buttons. The Thermal overload is supplied as a separate item. Various factors should be considered when selecting the correct DOL. The size of unit is dictated by the motor that is being supplied and can be selected using the table below.

Enclosure Type	Coil Voltage	Current Rating	Max Motor Size Approx kW @ 415V	Part No.
Steel	240V	12 Amps AC3	5.5 kW	BE2-D123U7
Steel	415V	12 Amps AC3	5.5 kW	BE2-D123N7
Steel	240V	25 Amps AC3	11 kW	BE2-D253U7
Steel	415V	25 Amps AC3	11 kW	BE2-D253N7

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.

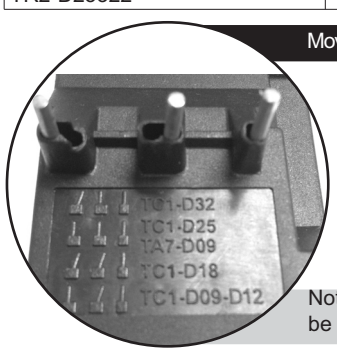
2) Similarly a 7.5kW motor with FLC of 12Amps@ 415Volts will require the next size of DOL, namely LE1-D253N7.

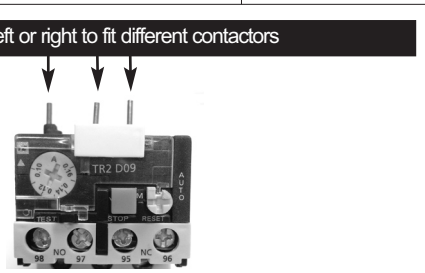
Having selected the correct DOL for the motor size, a suitable thermal overload now needs to be chosen to match the motor rating. The full load current (FLC) of the motor is shown on the motor rating plate. This should be used to select an overload so that this current falls within the rating of the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

Overload Part Number	Relay Range	Useable with 12A DOL	Useable with 25A DOL
TR2-D09301	0.10 - 0.16A	✔	✔
TR2-D09302	0.16 - 0.25A	✔	✔
TR2-D09303	0.25 - 0.40A	✔	✔
TR2-D09304	0.40 - 0.63A	✔	✔
TR2-D09305	0.63 - 1.00A	✔	✔
TR2-D09306	1.00 - 1.65A	✔	✔
TR2-D09307	1.60 - 2.50A	✔	✔
TR2-D09308	2.5 - 4.00A	✔	✔
TR2-D09310	4.00 - 6.00A	✔	✔
TR2-D09312	5.50 - 8.00A	✔	✔
TR2-D09314	7.00 - 10.0A	✔	✔
TR2-D12316	9.00 - 13.0A	✔	✔
TR2-D18321	12.0 - 18.0A	-	✔
TR2-D25322	17.0 - 25.0A	-	✔





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Note: The copper pins of the overload relay need to be correctly positioned to suit the contactor that it is to be mounted to.

Cable Type	Contactor Type			
	TC1-D09	**TC1-D12**	**TC1-D18**	**TC1-D25**
Stranded	2 x 1mm Min	2 x 1mm Min	2 x 1.5mm Min	2 x 1.5mm Min
	2 x 4mm Max	2 x 4mm Max	2 x 6mm Max	2 x 6mm Max
	-	-	-	1 x 10mm Max
Stranded with Ferrule	2 x 1mm Min	2 x 1mm Min	2 x 1mm Min	2 x 1mm Min
	2 x 2.5mm Max	2 x 2.5mm Max	2 x 4mm Max	2 x 4mm Max
	1 x 4mm Max	1 x 4mm Max	1 x 6mm Max	1 x 6mm Max
Solid without Ferrule	2 x 1mm Min	2 x 1mm Min	2 x 1.5mm Min	2 x 1.5mm Min
	2 x 4mm Max	2 x 4mm Max	2 x 6mm Max	2 x 6mm Max
	-	-	1 x 6mm Max	1 x 6mm Max

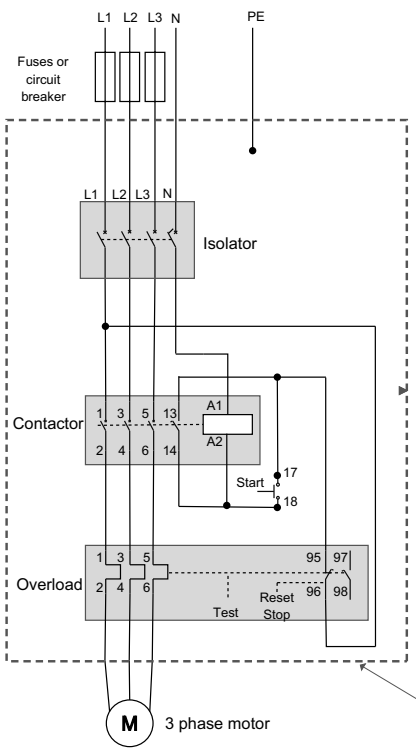
Wiring of the Direct-On-Line **(DOL) Motor Starter with Isolator**

1) Three Phase Supply 240Volt Coil - see wiring **diagram ❶**. 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.

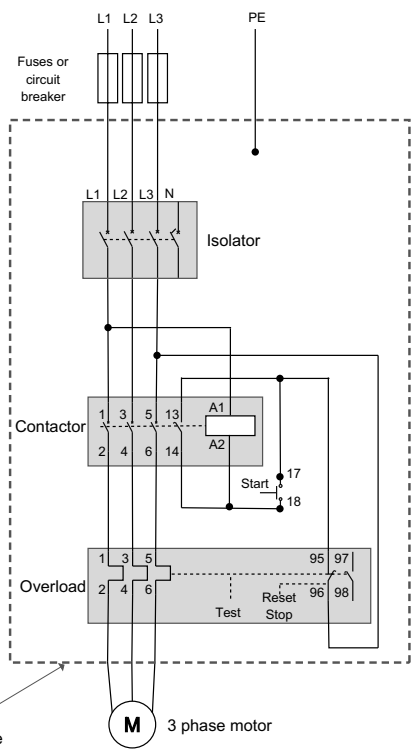
2) Three Phase supply 415 Volt Coil - see wiring **diagram ❷**.The following links are pre-fitted to the starter; 13 - 17 with a flying lead to be connected to Overload terminal 95; A2 - 14 - 18; Contactor terminal 1 - A1; Contactor terminal 5 via flying lead to Overload terminal 96. All other control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

3) Single Phase supply 240 Volt Coil - see wiring **diagram ❸**.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.

❶ **Wiring of DOL devices for 400V 3 phase with 240V coil**

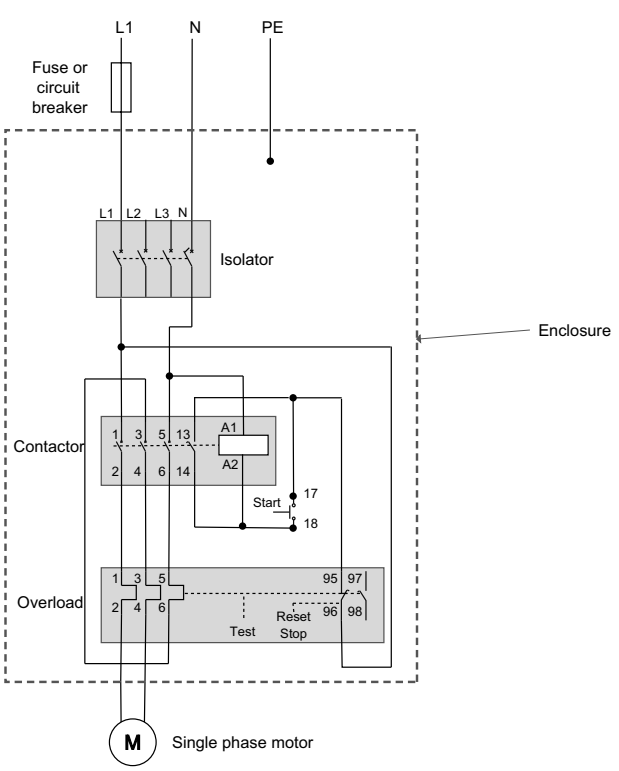


❷ **Wiring of DOL devices for 400V 3 phase with 415V coil**



Enclosure

❸ **Wiring of DOL devices for 240V single phase with 240V coil**



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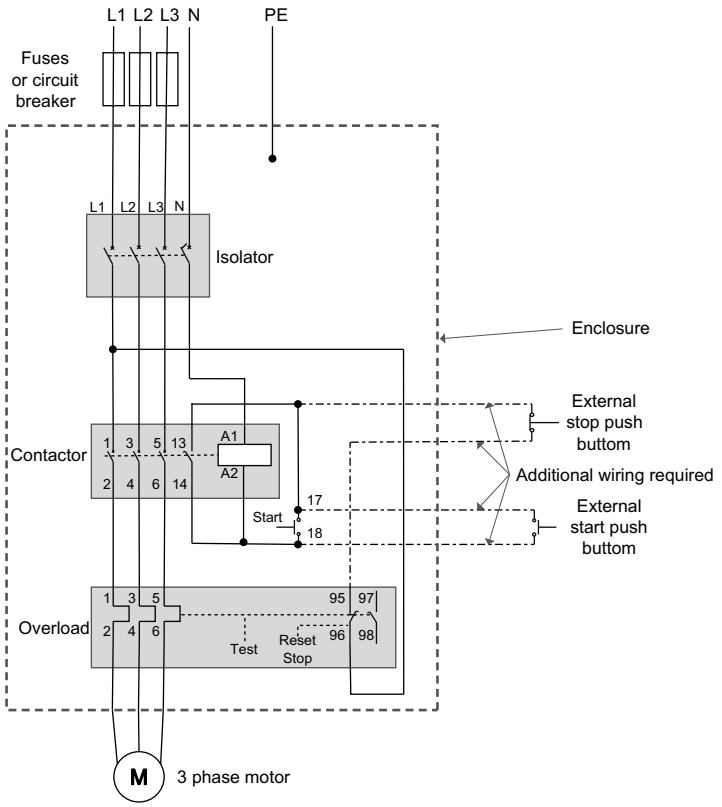
Wiring of additional start stop devices on DOL devices for 400V 3 phase with 240V coil



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

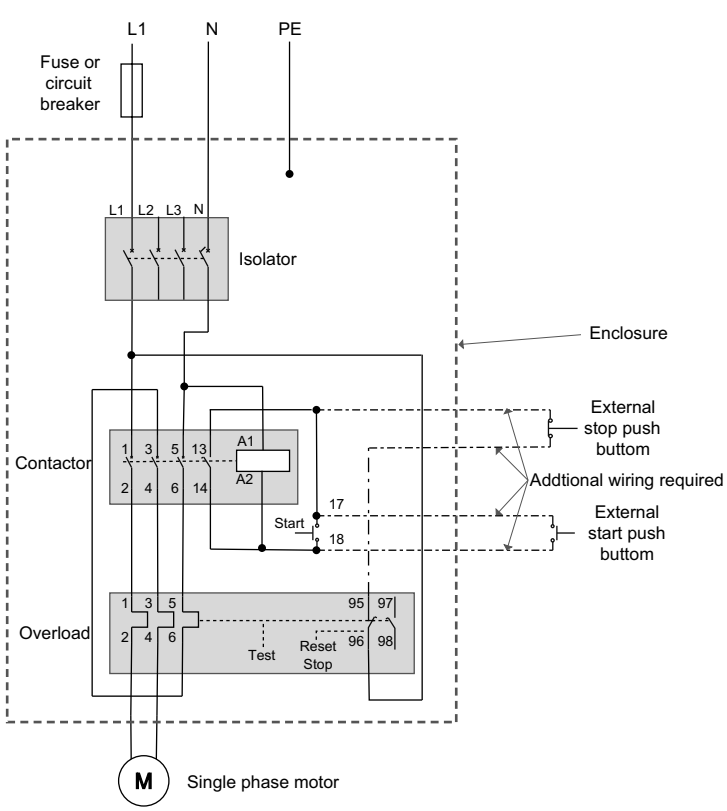
The wire between terminals 95 and 13 must be removed and the stop buttons must be wired in the circuit between terminals 95 & 13 in series with the internal stop contact 95-96

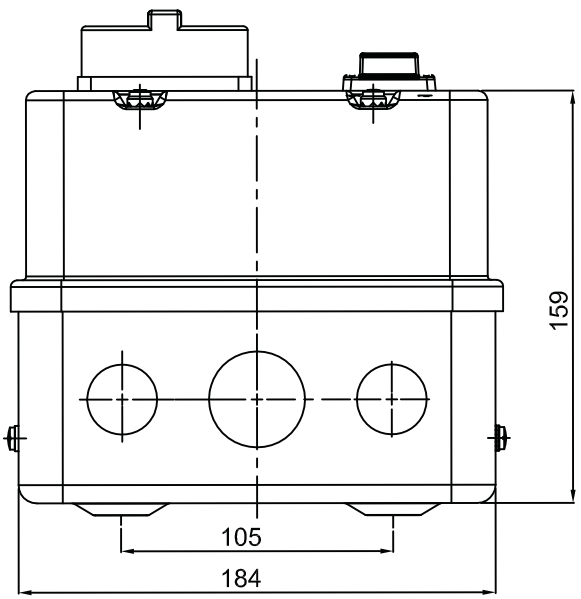
Europa remote stop/start stations

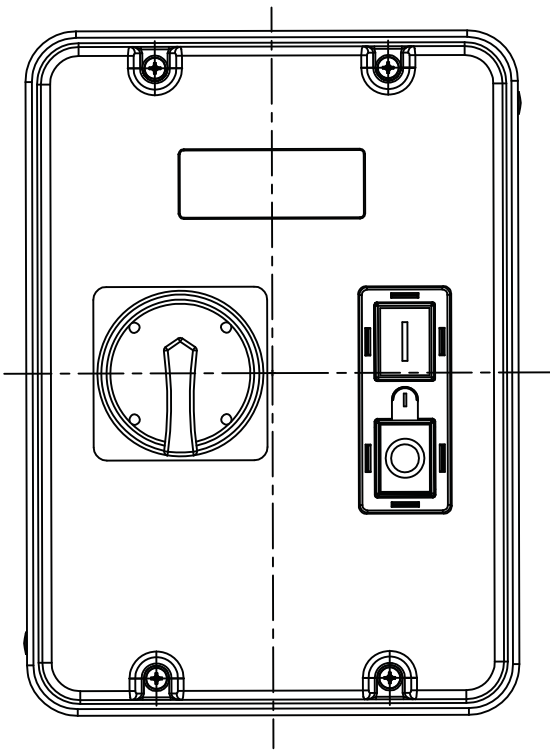
Metal
RM2GES55
RM2GR

Plastic
RC2PGES55
RC2PGR

Wiring of additional start stop devices on DOL devices for 240V single phase with 240V coil







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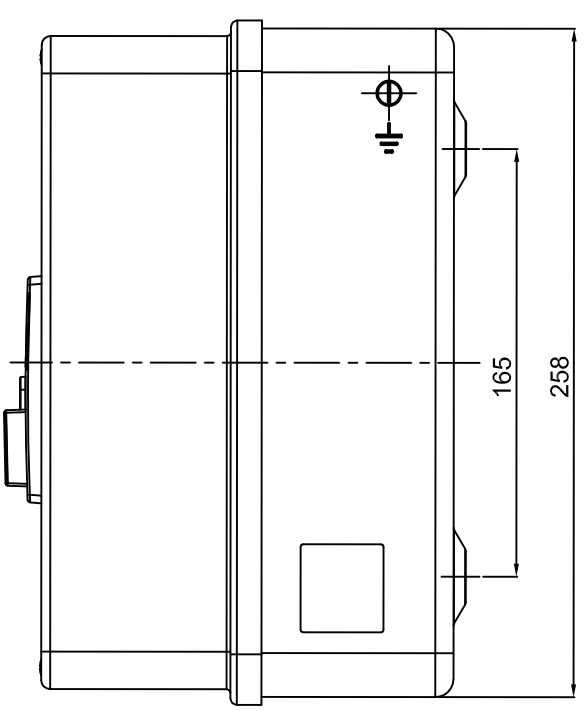

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