

## ⚠ 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**

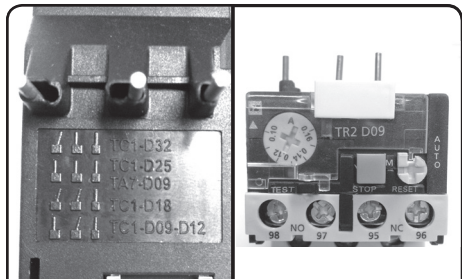


A Star Delta Starter is a type of reduced voltage starter and is generally used on larger 3 phase electric motors with dual supply voltage and 6 terminal connections. It's application is used where the motor speed is to be increased gradually up to full speed (typical applications are fans or pumps where the load is only applied at full motor speed). This type of starter also reduces the inrush current which can be up to 10-12 times the motor Full Load Current (FLC) when using a DOL. The starter consists of 3 contactors (1 main contactor, 1 star contactor and 1 delta contactor), stop button, start button in an IP54 steel enclosure. All Star Delta Starters must be fitted with a thermal overload which is supplied separately. As the overload is to be fitted to the delta contactor, the size of the thermal overload is selected by multiplying the motor Full Load Current (FLC) by 58%. **NOTE: OVERLOAD RELAY TO BE ORDERED SEPERATELY**

Part Number	Max. Motor Size kW@415V	Max. Overload Setting	Coil Voltage	Power Terminal Capacity	Control Terminal Capacity	Isolator Terminal Capacity
MS-SDS11P7MC	11kW	13A	230V AC	6mm <sup>2</sup>	4mm <sup>2</sup>	-
MS-SDS11N7MC			415V AC			
MS-SDS15P7MC	15kW	17A	230V AC	10mm <sup>2</sup>		
MS-SDS15N7MC			415V AC			
MS-SDS22P7MC	22kW	24A	230V AC	10mm <sup>2</sup>		
MS-SDS22N7MC			415V AC			
MS-SDS11P7ISOMC	11kW	13A	230V AC	6mm <sup>2</sup>		10mm <sup>2</sup>
MS-SDS11N7ISOMC			415V AC			
MS-SDS15P7ISOMC	15kW	17A	230V AC	10mm <sup>2</sup>		
MS-SDS15N7ISOMC			415V AC			
MS-SDS22P7ISOMC	22kW	24A	230V AC	10mm <sup>2</sup>		
MS-SDS22N7ISOMC			415V AC			

Please consult the motor manufacturer for Full Load Current (FLC) ratings or from the motor rating plate (Based on 58% of the FLC)

Thermal Overload Part Number	Overload Range (A)	Motor Rating 400-415V / 3 Phase AC-3	
		kW	Hp
TR2-D09306	1.0 to 1.6	1.1	1.5
TR2-D09307	1.6 to 2.5	1.5	2.0
TR2-D09307	1.6 to 2.5	1.8	2.5
TR2-D09308	2.5 to 4.0	2.2	3.0
TR2-D09308	2.5 to 4.0	3.0	4.0
TR2-D09310	4.0 to 6.0	3.7	5.0
TR2-D09310	4.0 to 6.0	4.0	5.5
TR2-D09312	5.5 to 8.0	5.5	7.5
TR2-D09314	7.0 to 10.0	7.5	10.0
TR2-D18321	12.0 to 18.0	11.0	15.0
TR2-D18321	12.0 to 18.0	15.0	20.0
TR2-D25322	17.0 to 25.0	22.0	30.0

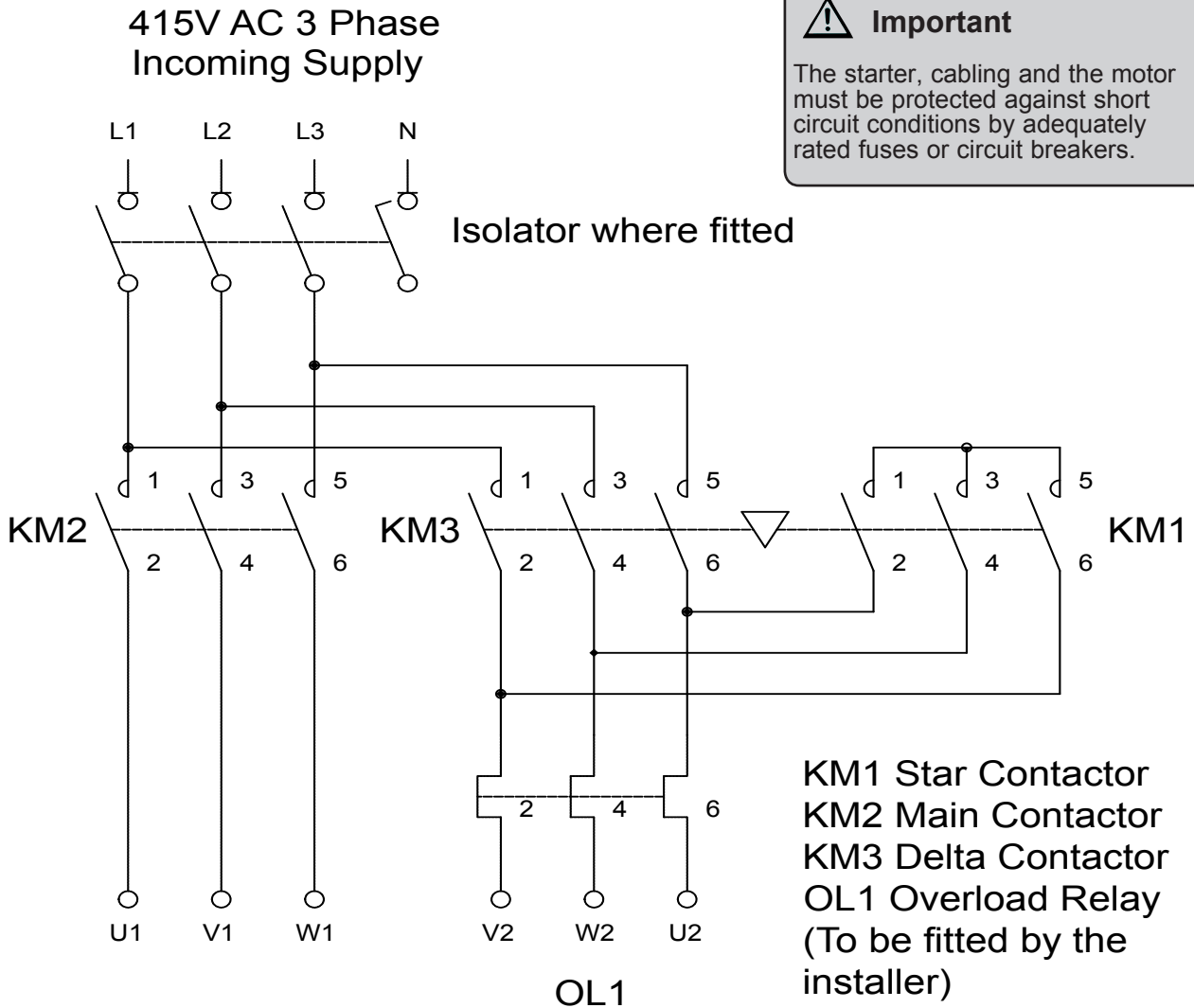


Move pins left or right to fit different contactors

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

Replacement Parts	KM1 Star Contactor	KM2 Main Contactor	KM3 Delta Contactor	Replacement Coil	KM1 Auxiliary Contact Block	KM2 Star Delta Timer	Mechanical Interlock	Isolator	Isolator Neutral Pole
MS-SDS11P7MC	TC1-D1801P7	TC1-D1810P7	TC1-D1801P7	TX1D2P7	TA1-DN20	TA2-DS2	LA9-D09978		
MS-SDS11N7MC	TC1-D1801N7	TC1-D1810N7	TC1-D1801N7	TX1D2N7					
MS-SDS15P7MC	TC1-D2501P7	TC1-D2510P7	TC1-D2501P7	TX1D4P7					
MS-SDS15N7MC	TC1-D2501N7	TC1-D2510N7	TC1-D2501N7	TX1D4N7					
MS-SDS22P7MC	TC1-D3201P7	TC1-D3210P7	TC1-D3201P7	TX1D4P7					
MS-SDS22N7MC	TC1-D3201N7	TC1-D3210N7	TC1-D3201N7	TX1D4N7					
MS-SDS11P7ISOMC	TC1-D1801P7	TC1-D1810P7	TC1-D1801P7	TX1D2P7					
MS-SDS11N7ISOMC	TC1-D1801N7	TC1-D1810N7	TC1-D1801N7	TX1D2N7					
MS-SDS15P7ISOMC	TC1-D2501P7	TC1-D2510P7	TC1-D2501P7	TX1D4P7					
MS-SDS15N7ISOMC	TC1-D2501N7	TC1-D2510N7	TC1-D2501N7	TX1D4N7					
MS-SDS22P7ISOMC	TC1-D3201P7	TC1-D3210P7	TC1-D3201P7	TX1D4P7					
MS-SDS22N7ISOMC	TC1-D3201N7	TC1-D3210N7	TC1-D3201N7	TX1D4N7					

### Wiring Diagram:



## Motor Connections

### Recommended Tightening Torque

	Power Terminals	Control Terminals
11kW	1.7Nm	1.2Nm
15kW	1.8Nm	
22kW	2.5Nm	
Isolator	1.7Nm	-

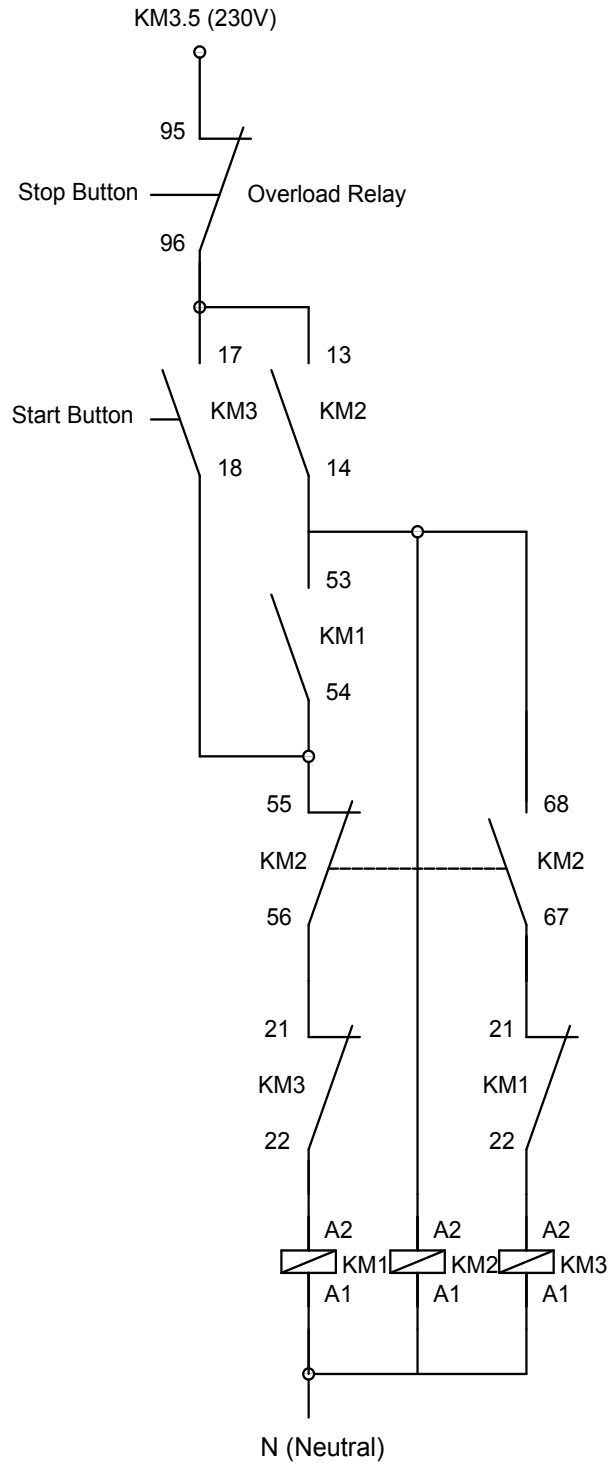
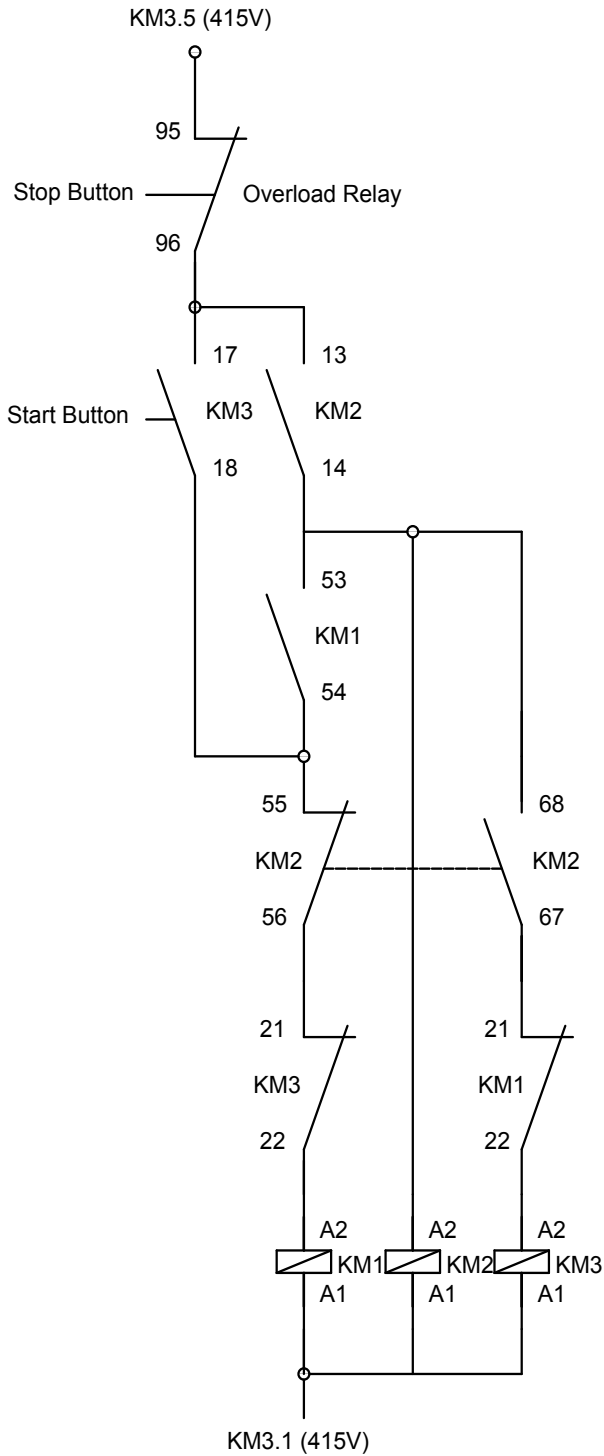
### Important

#### Not suitable for single phase motors

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**

**Wiring Diagram:**



## Dimensions:

