

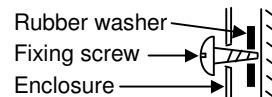
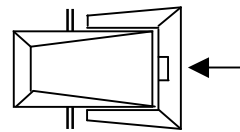
# Star-Delta Starters Type EXE2S

Metal Enclosure to IP65

Installation Instructions

06.01230/6E/1006

1. Remove cover from starter by releasing catches with a screwdriver.  
Insert screwdriver into slot to release catch.  
IF OVERLOAD IS ALREADY FITTED GO TO 3.
2. Wiring to overload:  
Connect leads provided from - terminal 4 (Main Aux) to terminal 95 and terminal 5/L3 (Main) to terminal 96.
3. Check operating coil voltage and frequency.
4. Remove appropriate top/bottom knockouts.
5. Mount base on a vertical surface using top keyhole slot(s) for quick positioning and secure with screws in lower plain holes.  
To maintain environmental protection, ensure that rubber washers are fitted to fixing screws on outside of enclosure. Use large washer for keyhole fixing.
6. Connect conduit bushes.
7. Connect cables and ensure that all terminals are tight.
8. When installed, set the hand/auto reset selector and adjust the current calibration to the desired value.
9. Replace cover and secure catches.



## Ratings

Order references		Overload fitted in Delta Loop. (FLC x 0.58) Overload rating A min. max.		Approximate motor rating				Recommended max. fuse size for short circuit protection A
Coil Voltages (50Hz)				400V/3PH AC3		230V/3PH AC3		
230V	400V			KW	hp	KW	hp	
142EXE2S 1TVL404209E5085	144EXE2S 1TVL404409E5085	6.0	8.5	5.5	7.5	3.0	4.0	20
212EXE2S 1TVL404212E5140	214EXE2S 1TVL404412E5140	10	14	11	15.0	5.5	7.5	35
312EXE2S 1TVL404216E5190	314EXE2S 1TVL404416E5190	13	19	15	20.0	7.5	10.0	80
312EXE2S-OL 1TVL404216E5099	314EXE2S-OL 1TVL404416E5099	13	19	15	20.0	7.5	10.0	80
452EXE2S 1TVL404226E5320	454EXE2S 1TVL404426E5320	24	32	22	30.0	11.0	15.0	80
452EXE2S-OL 1TVL404226E5099	454EXE2S-OL 1TVL404426E5099	24	32	22	30.0	11.0	15.0	80
662EXE2S 1TVL404240E5424	664EXE2S 1TVL404440E5420	29	42	37	50.0	18.5	25	80

Note: This product is not suitable for d.c. applications.

## Terminal capacity

Supply terminals	Main (stranded wire)
< 5.5kW	4mm <sup>2</sup>
11kW	4mm <sup>2</sup>
15kW	4mm <sup>2</sup>
22kW	6mm <sup>2</sup>
37kW	16mm <sup>2</sup>

Overload	Main	Auxiliary
< 5.5kW	4mm <sup>2</sup>	1x4mm <sup>2</sup> / 2x2.5mm <sup>2</sup>
11kW	4mm <sup>2</sup>	" "
15kW	6mm <sup>2</sup>	" "
22kW	6mm <sup>2</sup>	" "
37kW	10mm <sup>2</sup>	" "

## Trip class requirements IEC 947-4-1

<b>1.05 x FLC</b>	No tripping
<b>1.2 x FLC</b>	Trip within 2 hours
<b>1.5 x FLC</b>	Trip within 4 minutes
<b>7.2 x FLC</b>	Trip between 4s and 10s

## Summary

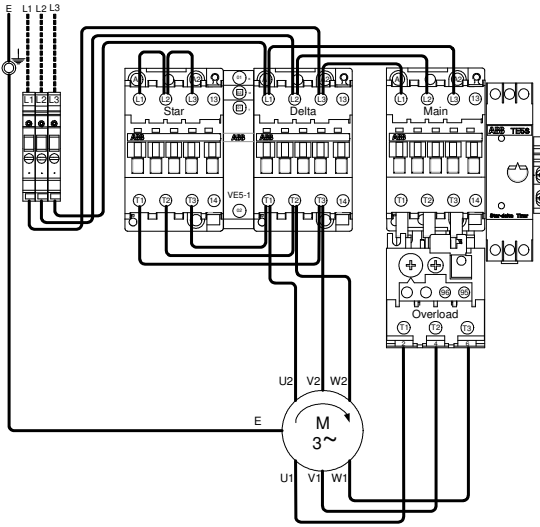
A range of star-delta motor starters.  
Ingress protection to IP65.  
Painted steel enclosure.

N.B. Space is available to fit standard ABB top and side-mounted auxiliary contacts.

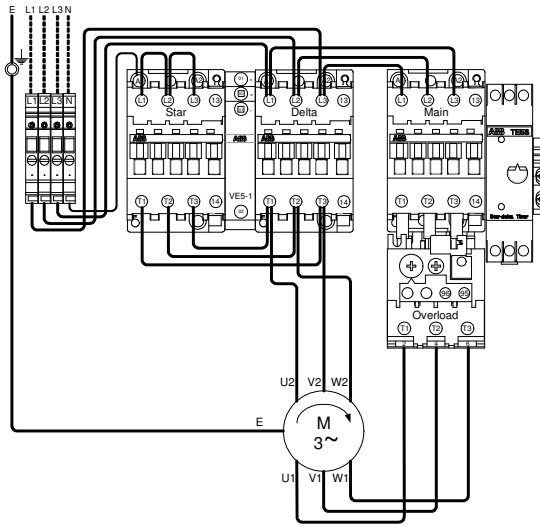
NOTE: FLC = Full load current

## Connection Data

Type 4 EXE2S (400V coil)



Type 2 EXE2S (230V coil)



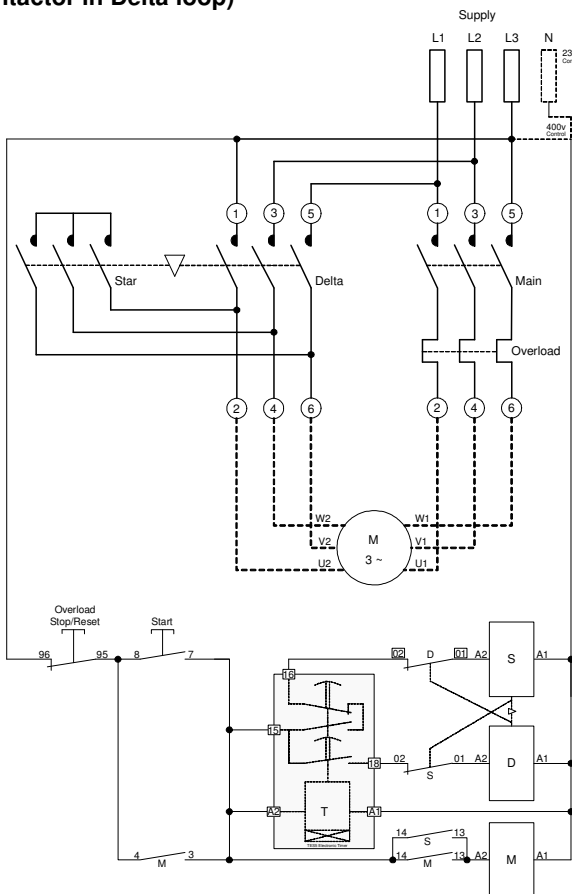
## Conversion Chart

Motor full load current A	Overload setting Delta loop current A
5	2.9
6	3.5
7	4.0
8	4.6
9	5.2
10	5.8
12	7.0
14	8.1
16	9.3
18	10.4
20	11.6
25	14.5
30	17.4
35	20.3
40	23.2
45	26.1
50	29.0
55	32.0

Note : Overload relay is fitted in the delta loop. It is therefore necessary to use the conversion chart to obtain correct overload setting for a particular motor full load current.

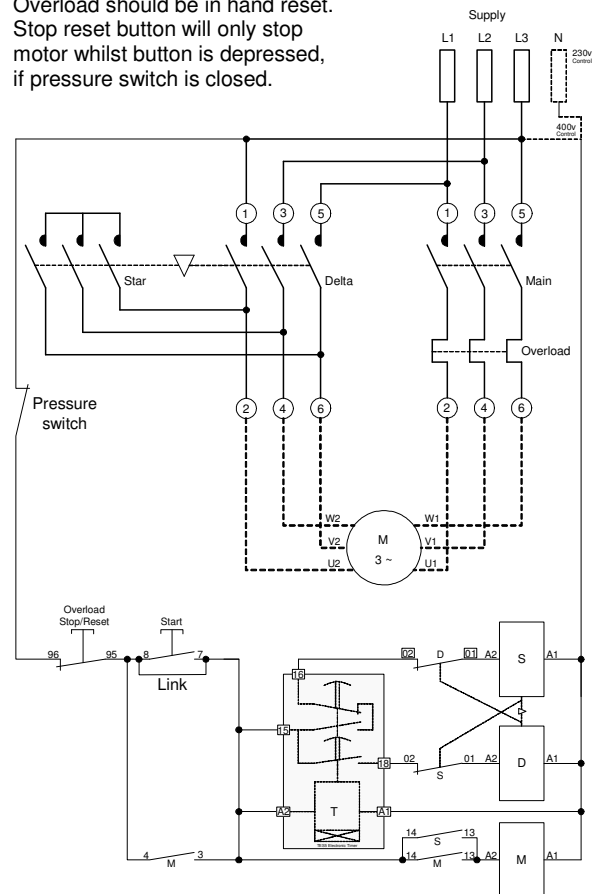
## Circuit

### Star-Delta (main contactor in Delta loop)



### Modification for remote 2-wire control

Overload should be in hand reset. Stop reset button will only stop motor whilst button is depressed, if pressure switch is closed.



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