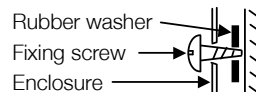
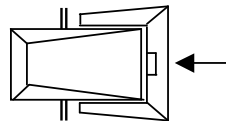


# Star-Delta Starters Type EXE2S

Metal Enclosure to IP65

Installation Instructions

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 54 (Main) to terminal 95 and terminal 1 (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				Approximate motor rating				Recommended max. fuse size for short circuit protection A
Coil Voltages (50Hz)		Overload rating Full load A		400V/3PH AC3		230V/3PH AC3		
230V	400V	min.	max.	KW	hp	KW	hp	
<b>142EXE2S</b> 1TVL404209E5085	<b>144EXE2S</b> 1TVL404409E5085	6.0	8.5	<b>5.5</b>	7.5	<b>3.0</b>	4.0	
<b>212EXE2S</b> 1TVL404212E5140	<b>214EXE2S</b> 1TVL404412E5140	10	14	<b>11</b>	15.0	<b>5.5</b>	7.5	35
<b>312EXE2S</b> 1TVL404216E5190	<b>314EXE2S</b> 1TVL404416E5190	13	19	<b>15</b>	20.0	<b>7.5</b>	10.0	80
<b>312EXE2S-OL</b> 1TVL404216E5099	<b>314EXE2S-OL</b> 1TVL404416E5099	13	19	<b>15</b>	20.0	<b>7.5</b>	10.0	80
<b>452EXE2S</b> 1TVL404226E5320	<b>454EXE2S</b> 1TVL404426E5320	24	32	<b>22</b>	30.0	<b>11.0</b>	15.0	80
<b>452EXE2S-OL</b> 1TVL404226E5099	<b>454EXE2S-OL</b> 1TVL404426E5099	24	32	<b>22</b>	30.0	<b>11.0</b>	15.0	80

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

## Terminal capacity

Supply terminals	Main
All ratings	6mm <sup>2</sup>

Overload	Main	Auxiliary
< 7.5kW	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>	" "

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

NOTE: FLC = Full load current

## Summary

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

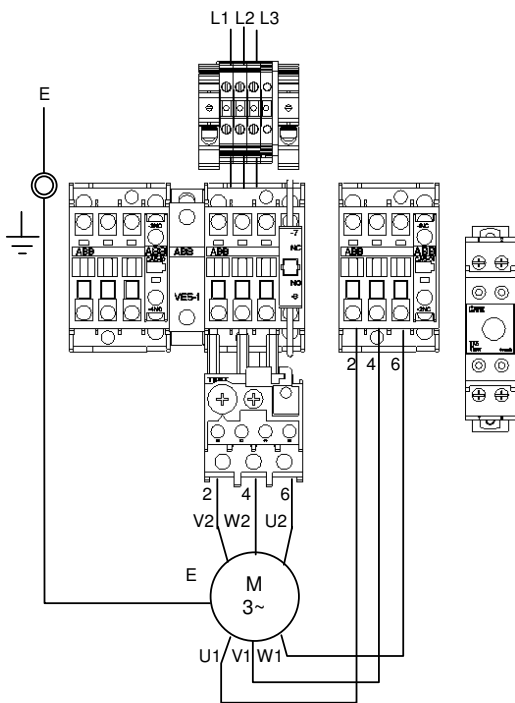
N.B. Space is available to fit standard ABB top and side-mounted auxiliary contacts.

06.12230/5E/0205

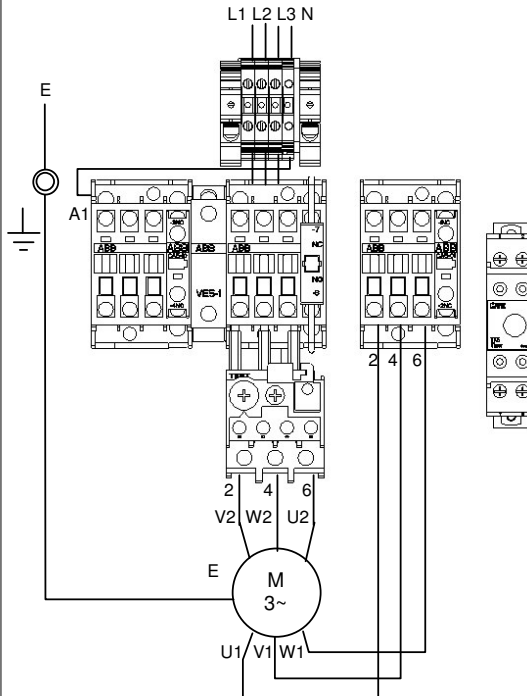
**ABB**

## Connection Data

Type 4 EXE2S (400V coil)



Type 2 EXE2S (230V coil)



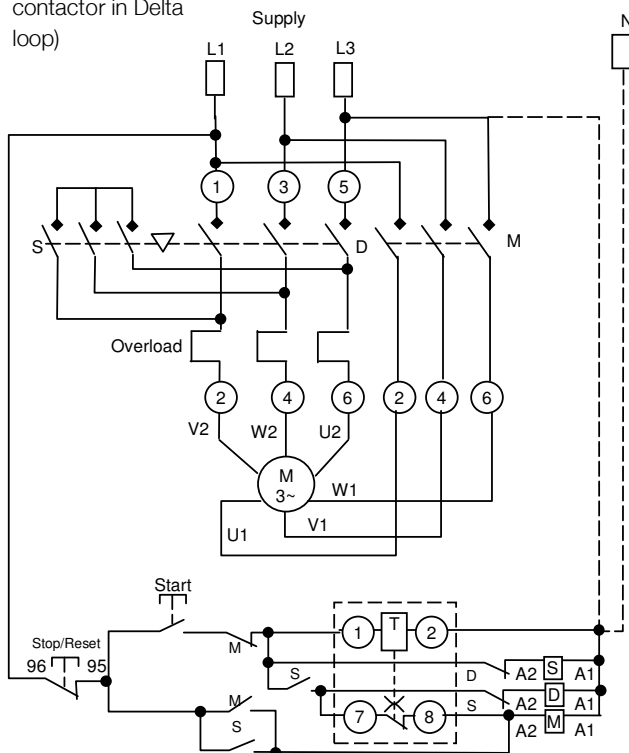
## Conversion Chart

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.

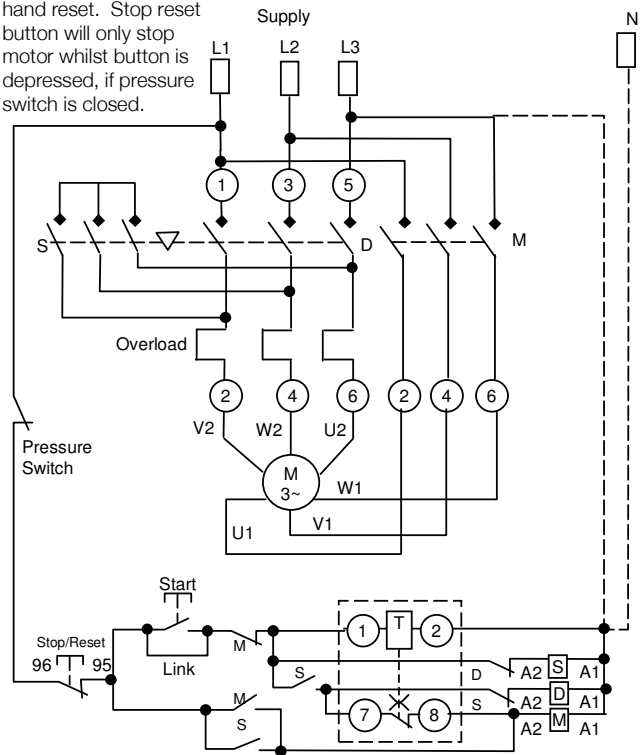
## Circuit

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.



# ABB

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CE **PACK**  
IEC947-4-1