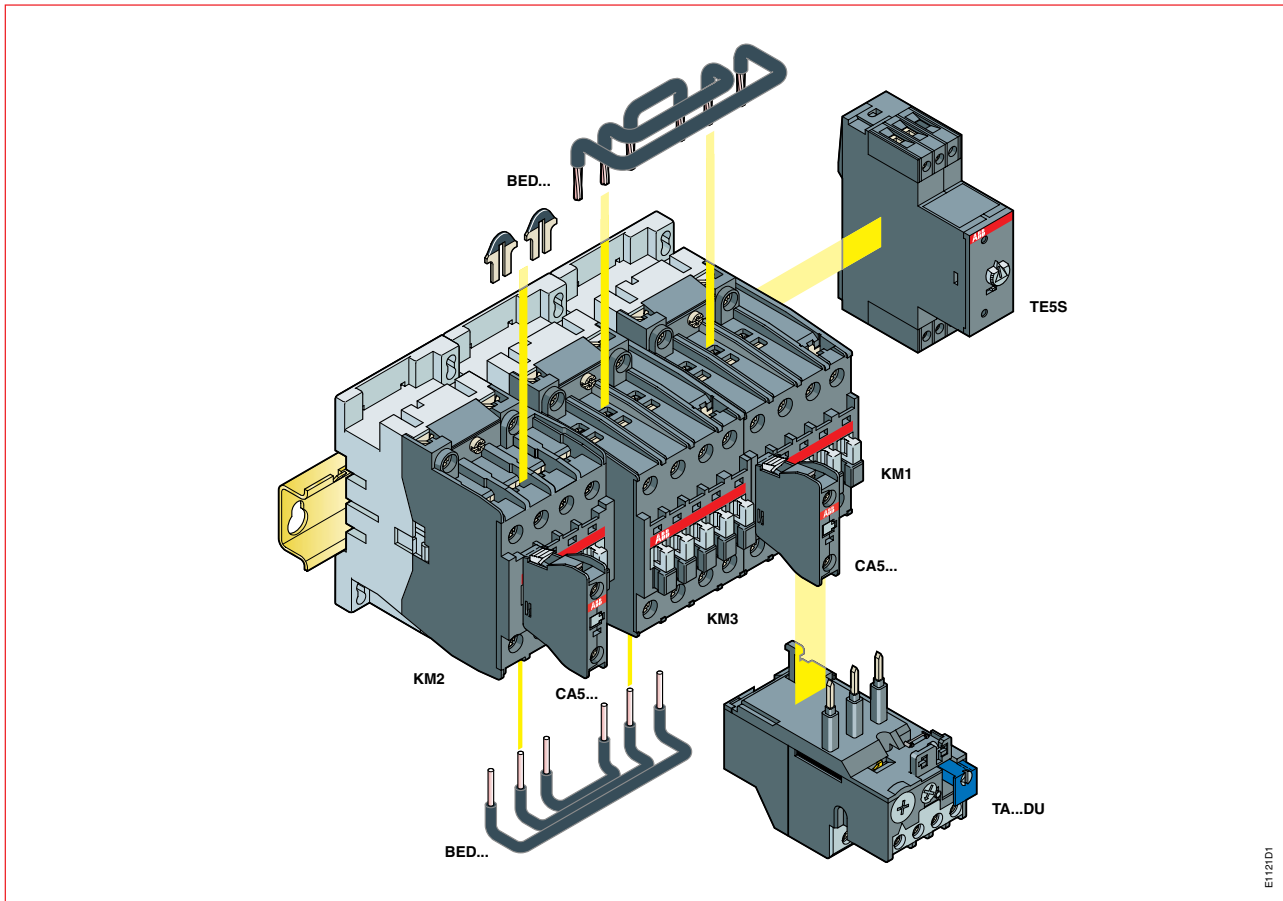
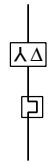


# Star-Delta Starters, Open Type Version

## Protection by Thermal O/L Relay



YKA...-30 version

E112D1

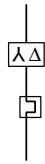
### Starters with electrical interlock

>> YKA...-30 Star-delta starters .....	page 2/1
>> Star-delta starters in kit form .....	page 2/8

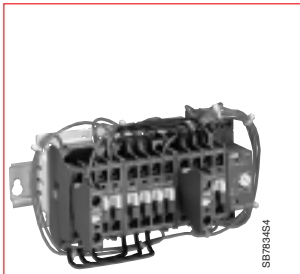
### Starters with mechanical and electrical interlock

>> YKA...-30E Star-delta starters .....	page 2/10
>> Star-delta starters in kit form .....	page 2/16

# YKA ..-30, YDA ..-30 Star-Delta Starters Open Type Version Protection by Thermal O/L Relay

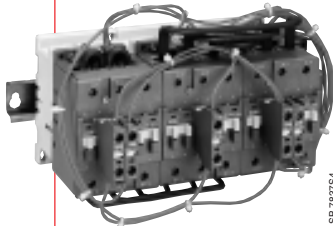


2



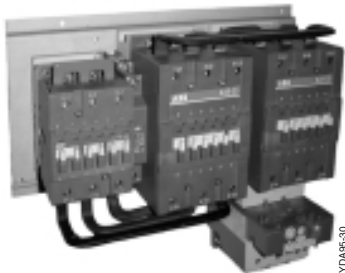
YKA 16-30

SB783454



YKA 75-30

SB783754



YDA 95-30

YDA95-30

## Application

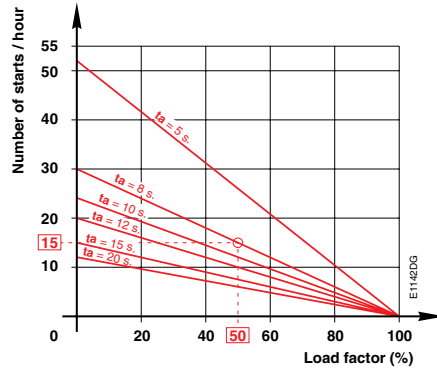
Starters for the control of three-phase asynchronous motors:

- up to an operational voltage of 690 V, 50 or 60 Hz,
- in compliance with standard IEC 947-4-1,
- air temperature close to contactors  $\leq 55^{\circ}\text{C}$ .

### Maximum duty as per the chart below.

(Switching frequency/hour, according to acceleration time and load factor).

Respect of the following conditions enables utilization of the starter without excessive overheating of the connections or nuisance tripping of the thermal O/L relay.



### Example:

- Switching frequency = **15 starts/hr**
- Acceleration time "ta" = **7s** (use the 8 s curve)
- Maximum load factor = **50 %**

This corresponds to a 4-minute operating cycle (15 starts/hr) with 7 seconds acceleration, 2 minutes operation and 2 minutes rest.

## Description

Each starter is delivered assembled, bare, cabled by us and contains:

- 1 KM1 "line" contactor,
- 1 KM2 "star" contactor,
- 1 KM3 "delta" contactor,
- the hold-in contacts,
- the electrical interlocking contacts for both the "star" and "delta" contactors,
- the space for the thermal O/L relay (direct mounting).

The thermal O/L relay must be supplied separately for you to mount and connect in the "delta" circuit. The **setting current** value of the thermal O/L relay must be equal to **motor rated current  $I_n$  x 0.58**; choose the thermal O/L relay with the right setting range for the setting current in question.

- 1 TE5S electronic timer with time lapse,
- the power circuit connections,
- the control circuit connections.

**YKA 9 to YKA 26** : The assembly is mounted on a 35 x 7.5 mm mounting rail acc. to EN 50022

**YKA 30 to YKA 75** : The assembly is mounted on a 35 x 15 mm mounting rail acc. to EN 50022

**YKA 95 and YKA 110** : The assembly is supplied on a plate

- Degree of protection:
- IP20 for the main terminals of contactors A 9 ... A 40
  - IP10 for the main terminals of contactors A 50 ... A 110
  - IP20 for the control circuit terminals.

>> Ordering details .....	page 2/2	>> Accessories .....	page 2/2
>> Starters in kit form .....	page 2/8	>> Dimensions .....	page 2/5
>> Wiring diagrams .....	page 2/4		

# YKA ..-30, YDA ..-30 Star-Delta Starters Open Type Version Protection by Thermal O/L Relay



**Ordering details** - (Order the thermal O/L relay separately, see page 2/3)

Rated operat. current AC-3 400 V A	Power AC-3 4-pole motor - 50/60 Hz 380 V 400 V 415 V 690 V			Short-circuit protection * Type 1 co-ordination as per EN 60947-4-1 / IEC 947-4-1 380-400 V aM fuses gG fuses		Type  State control voltage <input type="checkbox"/>	Order code  to be completed with control voltage code <input type="checkbox"/>	Weight in kg  Packing 1 piece
	kW	kW	kW	aM fuses	gG fuses			
15.5	7.5	7.5	5.5	16	25	YKA 9-30 <input type="checkbox"/>	1SBK 142 301R8 <input type="checkbox"/> 00	1.612
22	11	11	7.5	25	35	YKA 12-30 <input type="checkbox"/>	1SBK 162 301R8 <input type="checkbox"/> 00	1.612
30	15	15	11	32	50	YKA 16-30 <input type="checkbox"/>	1SBK 182 301R8 <input type="checkbox"/> 00	1.612
44	22	22	15	50	63	YKA 26-30 <input type="checkbox"/>	1SBK 242 301R8 <input type="checkbox"/> 00	2.119
50	25	25	18.5	63	100	YKA 30-30 <input type="checkbox"/>	1SBK 282 301R8 <input type="checkbox"/> 00	3.124
72	37	37	37	80	100	YKA 40-30 <input type="checkbox"/>	1SBK 322 301R8 <input type="checkbox"/> 00	3.135
85	45	45	45	100	125	YKA 50-30 <input type="checkbox"/>	1SBK 352 301R8 <input type="checkbox"/> 00	4.130
105	55	55	59	125	160	YKA 63-30 <input type="checkbox"/>	1SBK 372 301R8 <input type="checkbox"/> 00	4.136
119	63	70	63	160	200	YKA 75-30 <input type="checkbox"/>	1SBK 412 301R8 <input type="checkbox"/> 00	4.477
140	75	75	90	160	200	YDA 95-30 <input type="checkbox"/>	1SFK 432 302R8 <input type="checkbox"/> 00	7.000
170	90	100	132	200	250	YDA 110-30 <input type="checkbox"/>	1SFK 452 302R8 <input type="checkbox"/> 00	7.000

\* For other short-circuit protection devices, please consult our co-ordination tables

## Control circuit

### Designed for "separate control supply":

The star-delta starters are delivered with their control circuit not connected to the power circuit.

The control circuit supply is to be connected according to the wiring diagram when putting the starter into service.

Please consult us for "direct control supply".

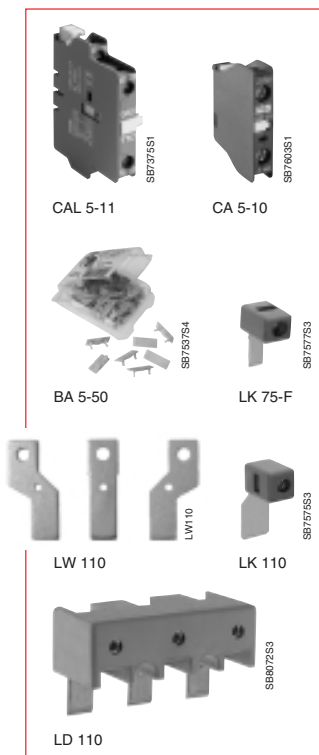
### Control voltage code

Voltage V 50 Hz	V 60 Hz	Code 8 <input type="checkbox"/>	Control circuit
110	110 ... 120	4	- to a separate supply
110 ... 115	115 ... 120	9	
220 ... 230	230 ... 240	0	- or phase-to-phase
230 ... 240	240	8	- or phase-to-neutral
380 ... 400	400 ... 415	5	
400 ... 415	415 ... 440	6	
415 ... 440	440	7*	

\* Unsuitable for YKA 50-30 ... YKA 75-30 starters.

## Ordering details, contactors accessories

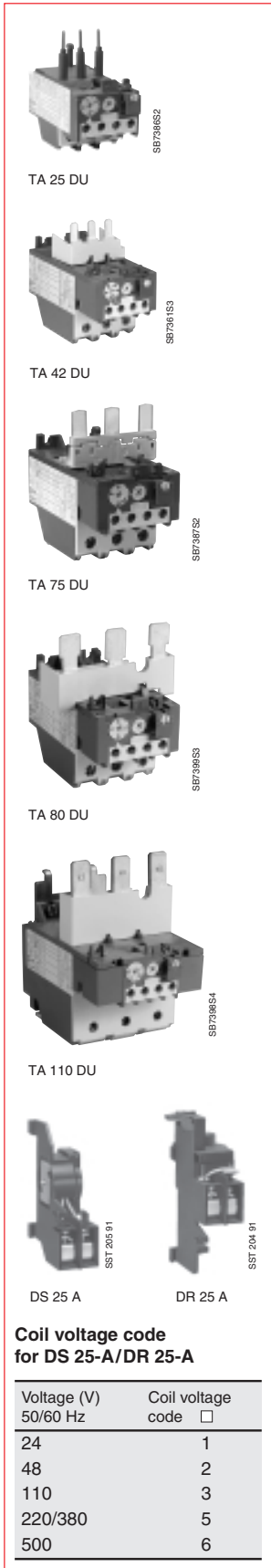
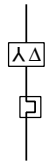
Description	Type	Order code	Pack- ing	Weight in kg
Function markers (50 pieces)	BA5-50	1 SBN 11 0000 R1000	box	0.017
1 x "N.O." auxiliary contact block	CA5-10	1 SBN 01 0010 R1010	10	0.014
1 x "N.C." auxiliary contact block	CA5-01	1 SBN 01 0010 R1001	10	0.014
"N.O."+"N.C." side-mnted cont. blk	CAL5-11	1 SBN 01 0020 R1011	2	0.050
Control lead terminals (A 50 ... A 75)				
Right/left connection	LK 75-L	1 SBN 07 3552 R1003	2	0.006
Front connection	LK 75-F	1 SBN 07 3552 R1002	2	0.006
Control lead terminals (A 95, A 110)				
Right/left connection	LK 110	1 SFN 07 4352 R1000	2	0.010
Add. terminal block (A 95 / A 110)	LD 110	1 SFN 07 4308 R1000	1	0.150
Terminal enlargement pieces (set of 3 bars) for A 95 / A 110	LW110	1 SFN 07 4307 R1000	1	0.100



>> Starters in kit form ..... page 2/8  
>> Wiring diagrams ..... page 2/4

>> Thermal O/L relay ..... page 2/3  
>> Dimensions ..... page 2/5

# YKA ..-30, YDA ..-30 Star-Delta Starters Open Type Version Protection by Thermal O/L Relay



## Ordering details, thermal O/L relay

Starter	Setting range (1)		Type	Order code	Weight in kg Packing 1 piece
	A	... A			
YKA 9-30	0.1	... 0.16	TA 25 DU 0.16	1SAZ 21 1201 R1005	0.150
to	0.16	... 0.25	TA 25 DU 0.25	1SAZ 21 1201 R1009	0.150
YKA 30-30	0.25	... 0.4	TA 25 DU 0.4	1SAZ 21 1201 R1013	0.150
	0.4	... 0.63	TA 25 DU 0.63	1SAZ 21 1201 R1017	0.150
	0.63	... 1.0	TA 25 DU 1.0	1SAZ 21 1201 R1021	0.150
	1.0	... 1.4	TA 25 DU 1.4	1SAZ 21 1201 R1023	0.150
	1.3	... 1.8	TA 25 DU 1.8	1SAZ 21 1201 R1025	0.150
	1.7	... 2.4	TA 25 DU 2.4	1SAZ 21 1201 R1028	0.150
	2.2	... 3.1	TA 25 DU 3.1	1SAZ 21 1201 R1031	0.150
	2.8	... 4.0	TA 25 DU 4.0	1SAZ 21 1201 R1033	0.150
	3.5	... 5.0	TA 25 DU 5.0	1SAZ 21 1201 R1035	0.150
	4.5	... 6.5	TA 25 DU 6.5	1SAZ 21 1201 R1038	0.150
	6.0	... 8.5	TA 25 DU 8.5	1SAZ 21 1201 R1040	0.150
	7.5	... 11	TA 25 DU 11	1SAZ 21 1201 R1043	0.150
	10	... 14	TA 25 DU 14	1SAZ 21 1201 R1045	0.150
	13	... 19	TA 25 DU 19	1SAZ 21 1201 R1047	0.150
	18	... 25	TA 25 DU 25	1SAZ 21 1201 R1051	0.150
	24	... 32	TA 25 DU 32	1SAZ 21 1201 R1053	0.170
YKA 40-30	18	... 25	TA 42 DU 25	1SAZ 31 1201 R1001	0.330
	22	... 32	TA 42 DU 32	1SAZ 31 1201 R1002	0.330
	29	... 42	TA 42 DU 42	1SAZ 31 1201 R1003	0.330
YKA 50-30	18	... 25	TA 75 DU 25	1SAZ 32 1201 R1001	0.330
to	22	... 32	TA 75 DU 32	1SAZ 32 1201 R1002	0.330
YKA 75-30	29	... 42	TA 75 DU 42	1SAZ 32 1201 R1003	0.330
	36	... 52	TA 75 DU 52	1SAZ 32 1201 R1004	0.330
	45	... 63	TA 75 DU 63	1SAZ 32 1201 R1005	0.330
	60	... 80	TA 75 DU 80	1SAZ 32 1201 R1006	0.330
YKA -95-30	29	... 42	TA 80 DU 42	1SAZ 33 1201 R1003	0.360
and	36	... 52	TA 80 DU 52	1SAZ 33 1201 R1004	0.360
YKA 110-30	45	... 63	TA 80 DU 63	1SAZ 33 1201 R1005	0.360
	60	... 80	TA 80 DU 80	1SAZ 33 1201 R1006	0.360
YKA 95-30 and	65	... 90	TA 110 DU 90	1SAZ 41 1201 R1001	0.750
YKA 110-30	80	... 110	TA 110 DU 110	1SAZ 41 1201 R1002	0.750

(1) The setting current value is the motor rated current  $I_n$  x 0.58

**Example:** For a motor rated current of 30 A, the setting current will be 30 A x 0.58 = 17.4 A.

**Choose the thermal O/L relay TA 25 DU 19 - setting range 13 ... 19 A.**

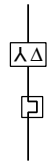
## Ordering details, thermal O/L relay accessories

Description	Type	Order code	Pack- ing	Weight in kg
	State control voltage <input type="checkbox"/>	to be completed with control voltage code <input type="checkbox"/>		
Function markers (50 pieces)	BA5-50	1 SBN 11 0000 R1000	box	0.017
Remote tripping coil for TA 25 DU	DS 25-A- <input type="checkbox"/>	1 SAZ 20 1501 R000 <input type="checkbox"/>	1	0.100
Remote resetting coil for TA 25 DU	DR 25-A- <input type="checkbox"/>	1 SAZ 20 1504 R000 <input type="checkbox"/>	1	0.100

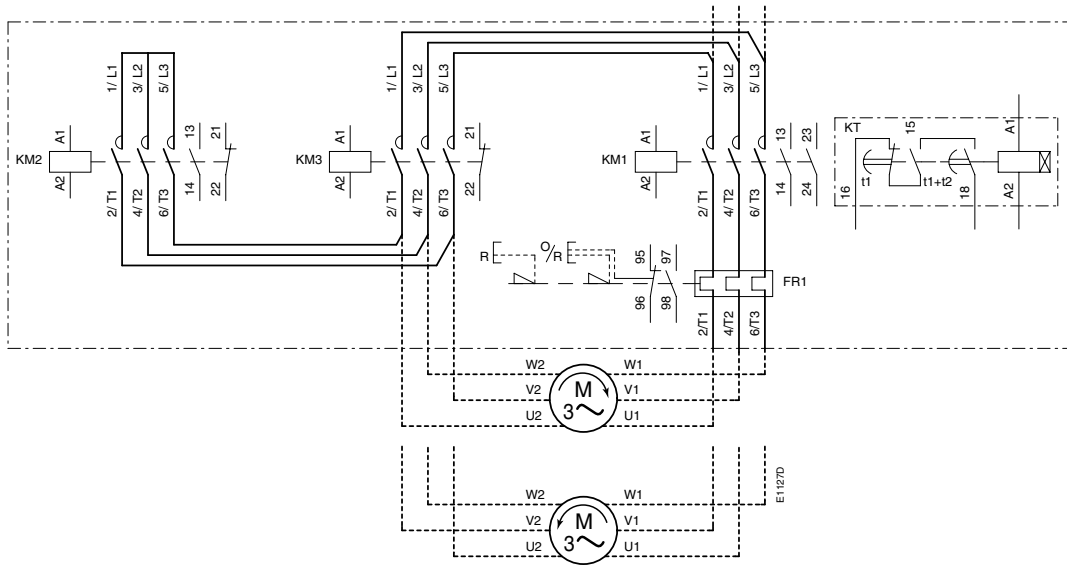
### Coil voltage code for DS 25-A/DR 25-A

Voltage (V) 50/60 Hz	Coil voltage code <input type="checkbox"/>
24	1
48	2
110	3
220/380	5
500	6

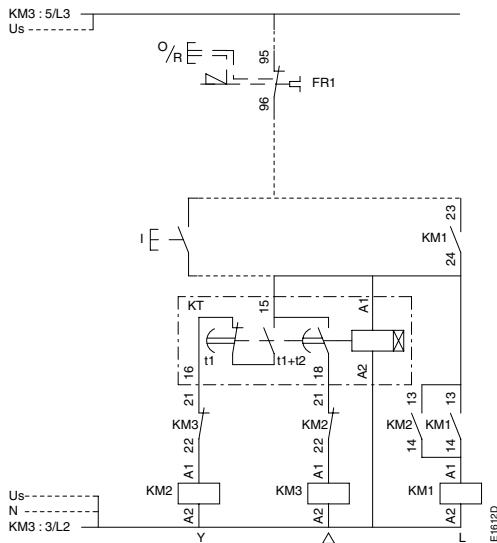
# YKA ..-30, YDA ..-30 Star-Delta Starters Open Type Version Protection by Thermal O/L Relay



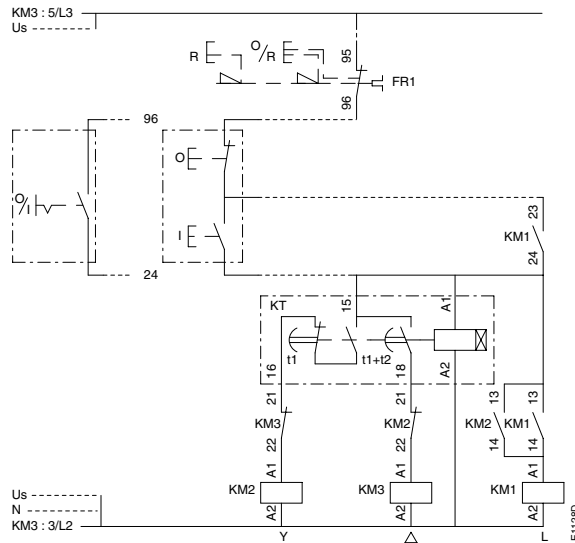
## Wiring Diagrams



## Power Circuit

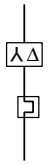


## Local Control

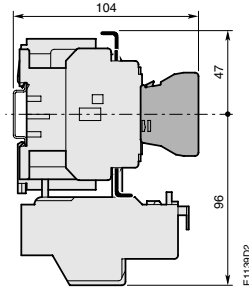
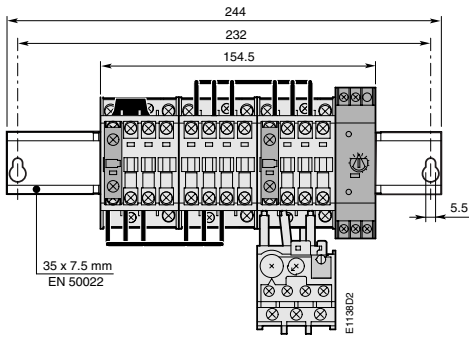


## Remote Control

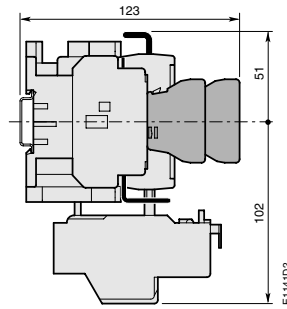
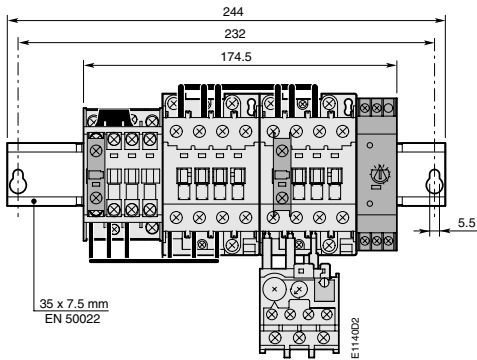
# YKA ..-30, YDA ..-30 Star-Delta Starters Open Type Version Protection by Thermal O/L Relay



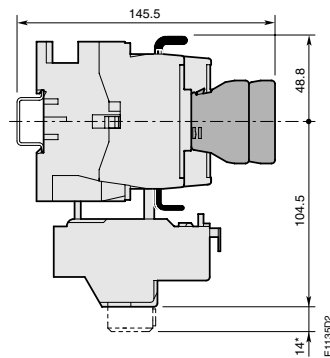
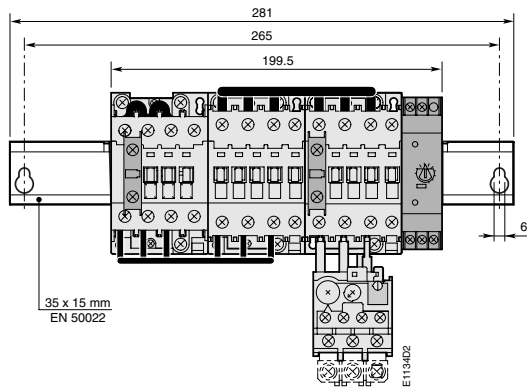
## Dimensions (in mm)



YKA 9-30 ... YKA 16-30 + TA 25



YKA 26-30 + TA 25

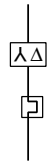


YKA 30-30 + TA 25

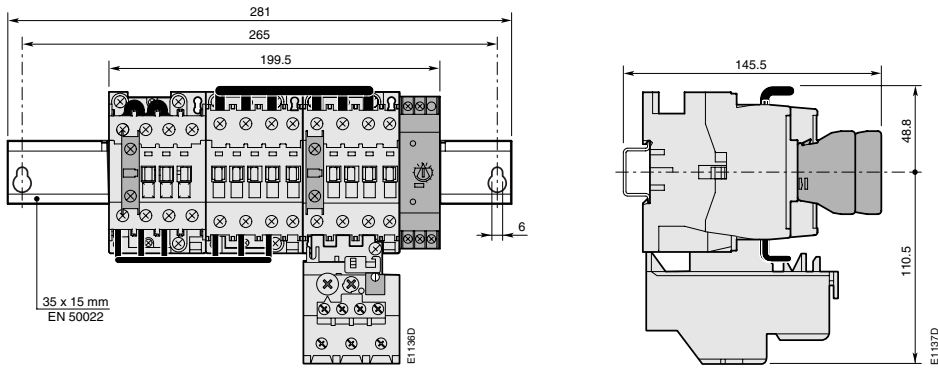
\* for TA 25 DU 32 only

2

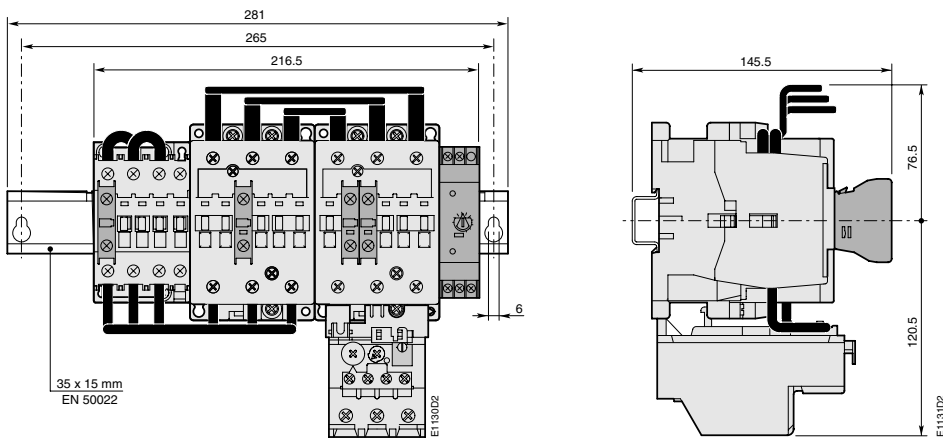
# YKA ..-30, YDA ..-30 Star-Delta Starters Open Type Version Protection by Thermal O/L Relay



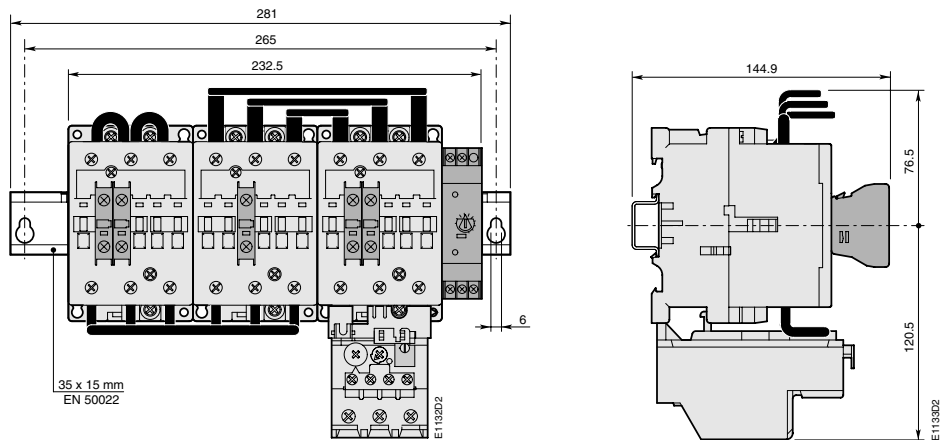
## Dimensions (in mm)



YKA 40-30 + TA 42

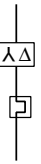


YKA 50-30 ... YKA 63-30 + TA 75

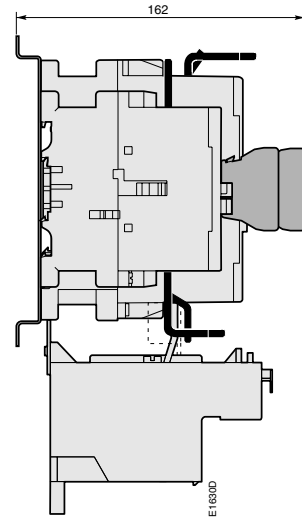
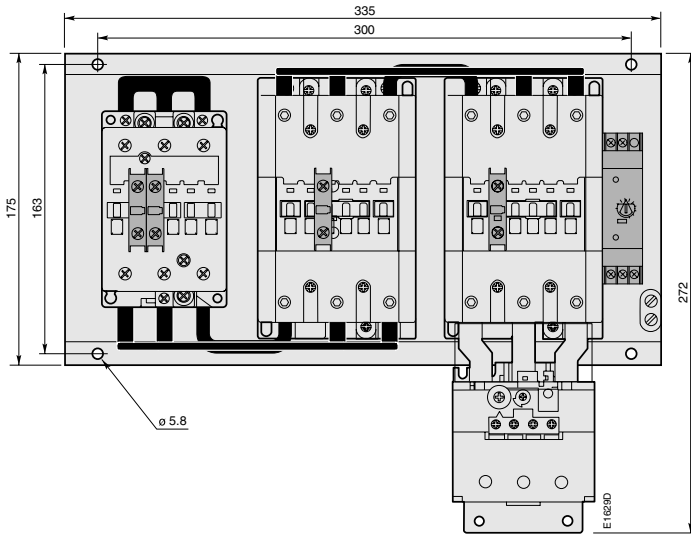


YKA 75-30 + TA 75

# YKA ..-30, YDA ..-30 Star-Delta Starters Open Type Version Protection by Thermal O/L Relay

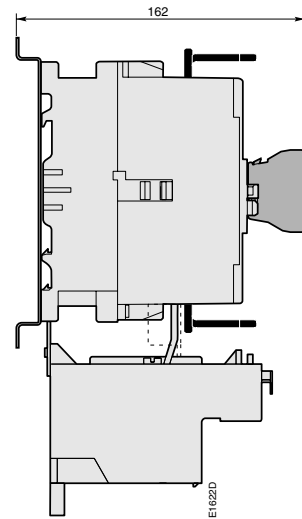
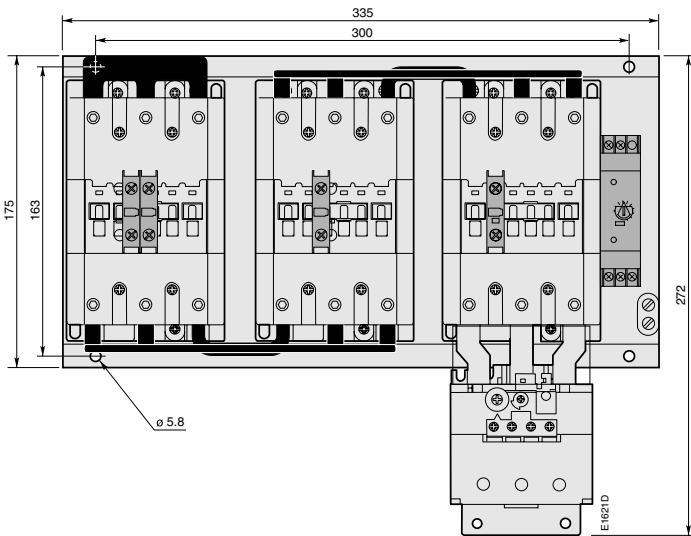


## Dimensions (in mm)



2

## YDA 95-30 + TA 110



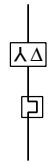
## YDA 110-30 + TA 110



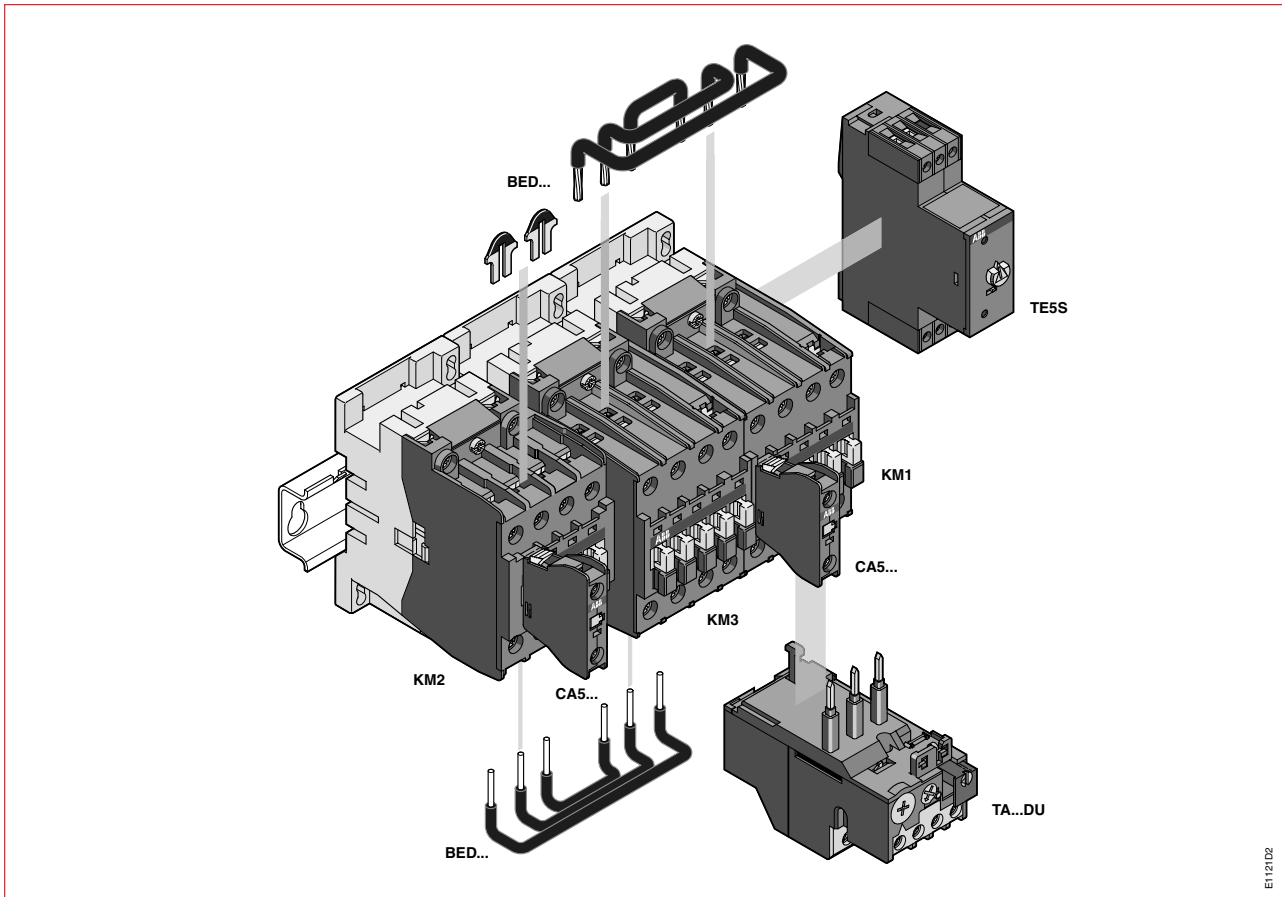
# Star-Delta Starters, in Kit Form

## Open Type Version

### Protection by Thermal O/L Relay

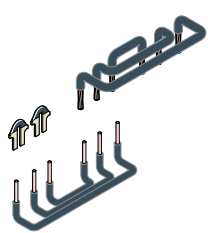
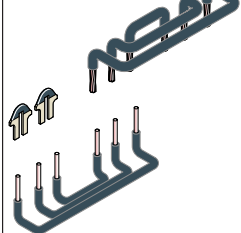
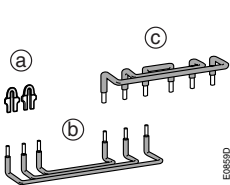
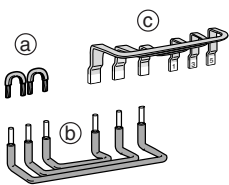
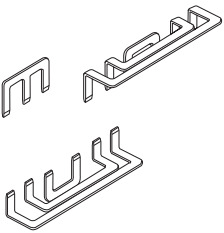


Components for starters in kit form (ordering details on next page)



E1121D2

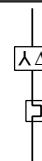
#### Details of power connections

BED 16-1	BED 26-1	BED 40-1	BED 50-1 / BED 75-1	BED 95 / BED 110
				
<b>2.5 mm<sup>2</sup> cable</b> insulated rigid, solid copper	<b>4 mm<sup>2</sup> cable</b> insulated rigid, solid copper	<b>(a) + (b) 4 mm<sup>2</sup> cable</b> <b>(c) 10 mm<sup>2</sup> cable</b> insulated rigid stranded copper	<b>(a) 16 mm<sup>2</sup> cable</b> <b>(b) 6 mm<sup>2</sup> cable</b> insulated rigid stranded copper <b>(c) 8 x 3 mm bar</b> insulated copper	<b>12 x 3 mm bar</b> insulated copper

# Star-Delta Starters, in Kit Form

## Open Type Version

### Protection by Thermal O/L Relay



### Contactors and thermal O/L relay

Rated operat. current AC-3	Power AC-3 4-pole motor 50/60 Hz		Line contactor	∧ Contactor	△ Contactor	Thermal O/L relay (1) FR1 (see page 2/3) Type Order code	Required accessories (see table below)  Reference letter
	Nominal voltage V	kW	KM1	KM2	KM3		
A	15.5	380-400 7.5	<b>A 9-30-10</b> <input type="checkbox"/> 1SBL 14 1001 R8 <input type="checkbox"/> 10	<b>A 9-30-01</b> <input type="checkbox"/> 1SBL 14 1001 R8 <input type="checkbox"/> 01	<b>A 9-30-01</b> <input type="checkbox"/> 1SBL 14 1001 R8 <input type="checkbox"/> 01	<b>TA 25 DU</b> <input type="checkbox"/> 1SAZ 21 1201 R10 <input type="checkbox"/> □□	A
	14	415 7.5	<b>A 12-30-10</b> <input type="checkbox"/> 1SBL 16 1001 R8 <input type="checkbox"/> 10	<b>A 9-30-01</b> <input type="checkbox"/> 1SBL 14 1001 R8 <input type="checkbox"/> 01	<b>A 12-30-01</b> <input type="checkbox"/> 1SBL 16 1001 R8 <input type="checkbox"/> 01	<b>TA 25 DU</b> <input type="checkbox"/> 1SAZ 21 1201 R10 <input type="checkbox"/> □□	A
	6.7	690 5.5	<b>A 16-30-10</b> <input type="checkbox"/> 1SBL 18 1001 R8 <input type="checkbox"/> 10	<b>A 12-30-01</b> <input type="checkbox"/> 1SBL 16 1001 R8 <input type="checkbox"/> 01	<b>A 16-30-01</b> <input type="checkbox"/> 1SBL 18 1001 R8 <input type="checkbox"/> 01	<b>TA 25 DU</b> <input type="checkbox"/> 1SAZ 21 1201 R10 <input type="checkbox"/> □□	A
A	22	380-400 11	<b>A 26-30-10</b> <input type="checkbox"/> 1SBL 24 1001 R8 <input type="checkbox"/> 10	<b>A 16-30-01</b> <input type="checkbox"/> 1SBL 18 1001 R8 <input type="checkbox"/> 01	<b>A 26-30-01</b> <input type="checkbox"/> 1SBL 24 1001 R8 <input type="checkbox"/> 01	<b>TA 25 DU</b> <input type="checkbox"/> 1SAZ 21 1201 R10 <input type="checkbox"/> □□	B
	21	415 11	<b>A 30-30-10</b> <input type="checkbox"/> 1SBL 28 1001 R8 <input type="checkbox"/> 10	<b>A 26-30-01</b> <input type="checkbox"/> 1SBL 24 1001 R8 <input type="checkbox"/> 01	<b>A 30-30-01</b> <input type="checkbox"/> 1SBL 28 1001 R8 <input type="checkbox"/> 01	<b>TA 25 DU</b> <input type="checkbox"/> 1SAZ 21 1201 R10 <input type="checkbox"/> □□	C
	9	690 7.5	<b>A 40-30-10</b> <input type="checkbox"/> 1SBL 32 1001 R8 <input type="checkbox"/> 10	<b>A 30-30-01</b> <input type="checkbox"/> 1SBL 28 1001 R8 <input type="checkbox"/> 01	<b>A 40-30-01</b> <input type="checkbox"/> 1SBL 32 1001 R8 <input type="checkbox"/> 01	<b>TA 42 DU</b> <input type="checkbox"/> 1SAZ 31 1201 R10 <input type="checkbox"/> □□	C
A	30	380-400 15	<b>A 50-30-00</b> <input type="checkbox"/> 1SBL 35 1001 R8 <input type="checkbox"/> 00	<b>A 40-30-01</b> <input type="checkbox"/> 1SBL 32 1001 R8 <input type="checkbox"/> 01	<b>A 50-30-00</b> <input type="checkbox"/> 1SBL 35 1001 R8 <input type="checkbox"/> 00	<b>TA 75 DU</b> <input type="checkbox"/> 1SAZ 32 1201 R10 <input type="checkbox"/> □□	D
	28	415 15	<b>A 63-30-00</b> <input type="checkbox"/> 1SBL 37 1001 R8 <input type="checkbox"/> 00	<b>A 50-30-00</b> <input type="checkbox"/> 1SBL 35 1001 R8 <input type="checkbox"/> 00	<b>A 63-30-00</b> <input type="checkbox"/> 1SBL 37 1001 R8 <input type="checkbox"/> 00	<b>TA 75 DU</b> <input type="checkbox"/> 1SAZ 32 1201 R10 <input type="checkbox"/> □□	D
	13	690 11	<b>A 75-30-00</b> <input type="checkbox"/> 1SBL 41 1001 R8 <input type="checkbox"/> 00	<b>A 63-30-00</b> <input type="checkbox"/> 1SBL 37 1001 R8 <input type="checkbox"/> 00	<b>A 75-30-00</b> <input type="checkbox"/> 1SBL 41 1001 R8 <input type="checkbox"/> 00	<b>TA 75 DU</b> <input type="checkbox"/> 1SAZ 32 1201 R10 <input type="checkbox"/> □□	E
A	44	380-400 22	<b>A 95-30-00</b> <input type="checkbox"/> 1SFL 43 1001 R8 <input type="checkbox"/> 00	<b>A 75-30-00</b> <input type="checkbox"/> 1SBL 41 1001 R8 <input type="checkbox"/> 00	<b>A 95-30-00</b> <input type="checkbox"/> 1SFL 43 1001 R8 <input type="checkbox"/> 00	<b>TA 110 DU</b> <input type="checkbox"/> 1SAZ 41 1201 R10 <input type="checkbox"/> □□	F
	40	415 22	<b>A 110-30-00</b> <input type="checkbox"/> 1SFL 45 1001 R8 <input type="checkbox"/> 00	<b>A 95-30-00</b> <input type="checkbox"/> 1SFL 43 1001 R8 <input type="checkbox"/> 00	<b>A 110-30-00</b> <input type="checkbox"/> 1SFL 45 1001 R8 <input type="checkbox"/> 00	<b>TA 110 DU</b> <input type="checkbox"/> 1SAZ 41 1201 R10 <input type="checkbox"/> □□	G
	17.5	690 15					

(1) The setting current value is : motor rated current  $I_n$  x 0.58.

### Required accessories

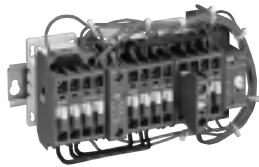
Ref. letter	Connection set Type Order code	KM1 Aux. contacts Type Order code	KM2 Aux. Contacts Type Order code	KM3 Aux. Contacts Type Order code	Timer Type Order code	Plate Type Order code
A	<b>BED 16-1</b> 1SBN 08 1403 R1001					-
B	<b>BED 26-1</b> 1SBN 08 2403 R1001	<b>CA 5-10</b> 1SBN 01 0010 R1010	<b>CA 5-10</b> 1SBN 01 0010 R1010	-	According to the control voltage (50/60Hz) 24 V <b>TE5S-24</b> 1SBN 02 0010 R1001	-
C	<b>BED 40-1</b> 1SBN 08 2803 R1001				110...120 V <b>TE5S-120</b> 1SBN 02 0010 R1002	-
D	<b>BED 50-1</b> 1SBN 08 3503 R1001	<b>2 x CA 5-10</b> 1SBN 01 0010 R1010	<b>CA 5-10</b> 1SBN 01 0010 R1010	<b>CA 5-01</b> 1SBN 01 0010 R1001	220...240 V <b>TE5S-240</b> 1SBN 02 0010 R1003	-
E	<b>BED 75-1</b> 1SBN 08 4103 R1001		<b>1 x CA 5-10</b> 1SBN 01 0010 R1010		380...440 V <b>TE5S-440</b> 1SBN 02 0010 R1004	-
F	<b>BED 95</b> 1 SFN 08 4303 R1000	<b>2 x CA 5-10</b> 1SBN 01 0010 R1010	<b>1SBN 01 0010 R1010</b> <b>1 x CA 5-01</b> 1SBN 01 0010 R1001	<b>CA 5-01</b> 1SBN 01 0010 R1001		<b>PN110-41</b> 1SFN 09 4303 R1000
G	<b>BED 110</b> 1 SFN 08 4503 R1000		<b>1SBN 01 0010 R1001</b>			<b>PN110-41</b> 1SFN 09 4303 R1000



# YKA ..-30E Star-Delta Starters

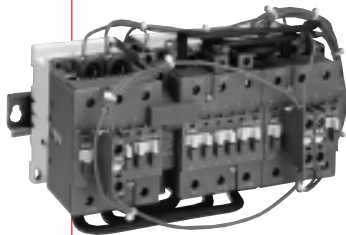
## Open Type Version, with Interlock

### Protection by Thermal O/L Relay



SE782754

YKA 9-30 E



SE782454

YKA 75-30 E

## Application

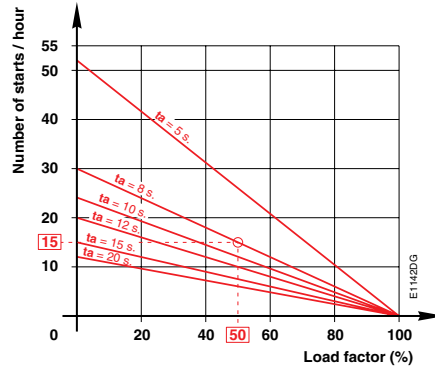
Starters for the control of three-phase asynchronous motors:

- in compliance with standard IEC 947-4-1,
- up to an operational voltage of 690 V, 50 or 60 Hz,
- air temperature close to contactors  $\leq 55^{\circ}\text{C}$

### Maximum duty as per the chart below.

(Switching frequency/hour, according to acceleration time and load factor).

Respect of the following conditions enables utilization of the starter without excessive overheating of the connections or nuisance tripping of the thermal O/L relay.



### Example:

- Switching frequency = **15 starts/hr**
- Acceleration time "ta" = **7s** (use the 8 s curve)
- Maximum load factor = **50 %**

This corresponds to a 4-minute operating cycle (15 starts/hr) with 7 seconds acceleration, 2 minutes operation and 2 minutes rest.

## Description

Each starter is delivered assembled, bare, cabled by us and contains:

- 1 KM1 "line" contactor,
- 1 KM2 "star" contactor,
- 1 KM3 "delta" contactor,
- the hold-in contacts,
- 1 "star" and "delta" contactor mechanical and electrical interlock device,
- the space for the thermal O/L relay (direct mounting).

The thermal O/L relay must be supplied separately for you to mount and connect in the "delta" circuit. The **setting current** value of the thermal O/L relay must be equal to **motor rated current  $I_n$  x 0.58**; choose the thermal O/L relay with the right setting range for the setting current in question.

- 1 TE5S electronic timer with time lapse,
- the power circuit connections,
- the control circuit connections.

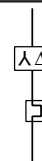
The assembly is mounted on a mounting rail acc. to EN 50022:

- 35 x 7.5 mm for **YKA 9** to **YKA 26** types
- 35 x 15 mm for **YKA 30** to **YKA 75** types

Degree of protection: - IP20 for the main terminals of contactors A 9 ... A 40  
 - IP10 for the main terminals of contactors A 50 ... A 75  
 - IP20 for the control circuit terminals

>> Ordering details .....	page 2/11	>> Accessories .....	page 2/12
>> Starters in kit form .....	page 2/16	>> Dimensions .....	page 2/14
>> Wiring diagrams .....	page 2/13		

# YKA ..-30E Star-Delta Starters Open Type Version, with Interlock Protection by Thermal O/L Relay



**Ordering details** - (Order the thermal O/L relay separately, see page 2/12)

Rated operat. current AC-3 400 V A	Power AC-3			Short-circuit protection *		Type	Order code	Weight in kg  Packing 1 piece
	4-pole motor - 50/60 Hz 380 V	400 V	415 V	690 V	Type 1 co-ordination as per EN 60947-4-1 / IEC 947-4-1 380-400 V			
	kW	kW	kW	aM fuses	gG fuses			
15.5	7.5	7.5	5.5	16	25	YKA 9-30E <input type="checkbox"/>	1SBK 142 501R8 <input type="checkbox"/> 00	1.655
22	11	11	7.5	25	35	YKA 12-30E <input type="checkbox"/>	1SBK 162 501R8 <input type="checkbox"/> 00	1.655
30	15	15	11	32	50	YKA 16-30E <input type="checkbox"/>	1SBK 182 501R8 <input type="checkbox"/> 00	1.655
44	22	22	15	50	63	YKA 26-30E <input type="checkbox"/>	1SBK 242 501R8 <input type="checkbox"/> 00	2.162
50	25	25	18.5	63	100	YKA 30-30E <input type="checkbox"/>	1SBK 282 501R8 <input type="checkbox"/> 00	3.167
72	37	37	37	80	100	YKA 40-30E <input type="checkbox"/>	1SBK 322 501R8 <input type="checkbox"/> 00	3.178
85	45	45	45	100	125	YKA 50-30E <input type="checkbox"/>	1SBK 352 501R8 <input type="checkbox"/> 00	4.197
105	55	55	59	125	160	YKA 63-30E <input type="checkbox"/>	1SBK 372 501R8 <input type="checkbox"/> 00	4.203
119	63	70	63	160	200	YKA 75-30E <input type="checkbox"/>	1SBK 412 501R8 <input type="checkbox"/> 00	4.544

\* For other short-circuit protection devices, please consult our co-ordination tables

## Control circuit

### Designed for "separate control supply":

The star-delta starters are delivered with their control circuit not connected to the power circuit.  
The control circuit supply is to be connected according to the wiring diagram when putting the starter into service.

**Please consult us for "direct control supply".**

### Control voltage code

Voltage		Code	Control circuit
V 50 Hz	V 60 Hz	8 <input type="checkbox"/>	
24	24	1	must be connected
110	110 ... 120	4	- to a separate
110 ... 115	115 ... 120	9	supply
220 ... 230	230 ... 240	0	- or phase-to-phase
230 ... 240	240	8	- or phase-to-neutral
380 ... 400	400 ... 415	5	
400 ... 415	415 ... 440	6	
415 ... 440	440	7*	

\* Unsuitable for YKA 50-30E ... YKA 75-30E starters.



# YKA ..-30E Star-Delta Starters

## Open Type Version, with Interlock

### Protection by Thermal O/L Relay



#### Ordering details, thermal O/L relay

Starter	Setting range (1)		Type	Order code	Weight in kg Packing 1 piece
	A	... A			
YKA 9-30E	0.1	... 0.16	TA 25 DU 0.16	1SAZ 21 1201 R1005	0.150
	0.16	... 0.25	TA 25 DU 0.25	1SAZ 21 1201 R1009	0.150
YKA 30-30E	0.25	... 0.4	TA 25 DU 0.4	1SAZ 21 1201 R1013	0.150
	0.4	... 0.63	TA 25 DU 0.63	1SAZ 21 1201 R1017	0.150
	0.63	... 1.0	TA 25 DU 1.0	1SAZ 21 1201 R1021	0.150
	1.0	... 1.4	TA 25 DU 1.4	1SAZ 21 1201 R1023	0.150
	1.3	... 1.8	TA 25 DU 1.8	1SAZ 21 1201 R1025	0.150
	1.7	... 2.4	TA 25 DU 2.4	1SAZ 21 1201 R1028	0.150
	2.2	... 3.1	TA 25 DU 3.1	1SAZ 21 1201 R1031	0.150
	2.8	... 4.0	TA 25 DU 4.0	1SAZ 21 1201 R1033	0.150
	3.5	... 5.0	TA 25 DU 5.0	1SAZ 21 1201 R1035	0.150
	4.5	... 6.5	TA 25 DU 6.5	1SAZ 21 1201 R1038	0.150
	6.0	... 8.5	TA 25 DU 8.5	1SAZ 21 1201 R1040	0.150
	7.5	... 11	TA 25 DU 11	1SAZ 21 1201 R1043	0.150
	10	... 14	TA 25 DU 14	1SAZ 21 1201 R1045	0.150
	13	... 19	TA 25 DU 19	1SAZ 21 1201 R1047	0.150
18	... 25	TA 25 DU 25	1SAZ 21 1201 R1051	0.150	
24	... 32	TA 25 DU 32	1SAZ 21 1201 R1053	0.170	
YKA 40-30E	18	... 25	TA 42 DU 25	1SAZ 31 1201 R1001	0.330
	22	... 32	TA 42 DU 32	1SAZ 31 1201 R1002	0.330
	29	... 42	TA 42 DU 42	1SAZ 31 1201 R1003	0.330
YKA 50-30E	18	... 25	TA 75 DU 25	1SAZ 32 1201 R1001	0.330
	22	... 32	TA 75 DU 32	1SAZ 32 1201 R1002	0.330
YKA 75-30E	29	... 42	TA 75 DU 42	1SAZ 32 1201 R1003	0.330
	36	... 52	TA 75 DU 52	1SAZ 32 1201 R1004	0.330
	45	... 63	TA 75 DU 63	1SAZ 32 1201 R1005	0.330
	60	... 80	TA 75 DU 80	1SAZ 32 1201 R1006	0.330

(1) The **setting current** value is the motor rated current  $I_n$ , x 0.58

**Example:** For a motor rated current of 30 A, the **setting current** will be 30 A x 0.58 = 17.4 A.


**Choose** the thermal O/L relay **TA 25 DU 19** - setting range **13 ... 19 A**.

#### Ordering details, contactors accessories

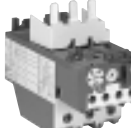
Description	Type	Order code	Pack- ing	Weight in kg
Function markers (50 pieces)	BA5-50	1 SBN 11 0000 R1000	box	0.017
1 x "N.O." auxiliary contact block	CA5-10	1 SBN 01 0010 R1010	10	0.014
1 x "N.C." auxiliary contact block	CA5-01	1 SBN 01 0010 R1001	10	0.014
"N.O."+"N.C." side-mtd cont. blk	CAL5-11	1 SBN 01 0020 R1011	2	0.050
Control lead terminals (A 50 ... A 75)				
Right/left connection	LK 75-L	1 SBN 07 3552 R1003	2	0.006
Front connection	LK 75-F	1 SBN 07 3552 R1002	2	0.006

#### Ordering details, thermal O/L relay accessories


Description	Type	Order code	Pack- ing	Weight in kg
Function markers (50 pieces)	BA5-50	1 SBN 11 0000 R1000	box	0.017
Remote tripping coil for TA 25 DU	DS 25-A- <input type="checkbox"/>	1 SAZ 20 1501 R000 <input type="checkbox"/>	1	0.100
Remote resetting coil for TA 25 DU	DR 25-A- <input type="checkbox"/>	1 SAZ 20 1504 R000 <input type="checkbox"/>	1	0.100



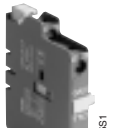
TA 25 DU




TA 42 DU



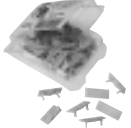
TA 75 DU




CAL 5-11



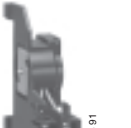
CA 5-10




BA 5-50



LK 75-F



DS 25 A

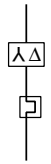


DR 25 A

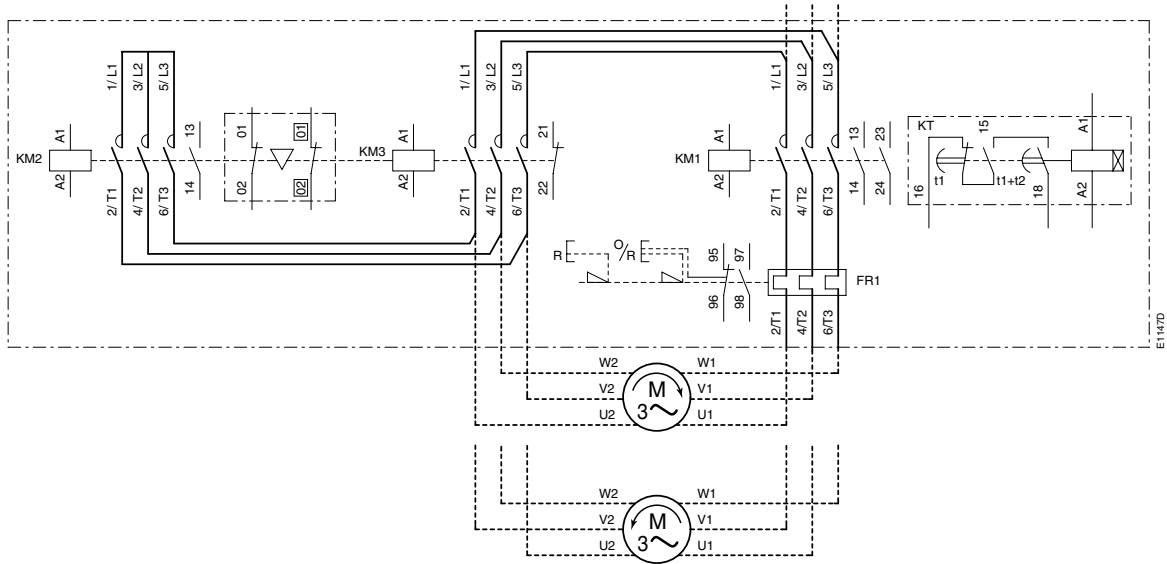
**Coil voltage code for DS 25-A/DR 25-A**

Voltage (V) 50/60 Hz	Coil voltage code <input type="checkbox"/>
24	1
48	2
110	3
220/380	5
500	6

# YKA ..-30E Star-Delta Starters Open Type Version, with Interlock Protection by Thermal O/L Relay

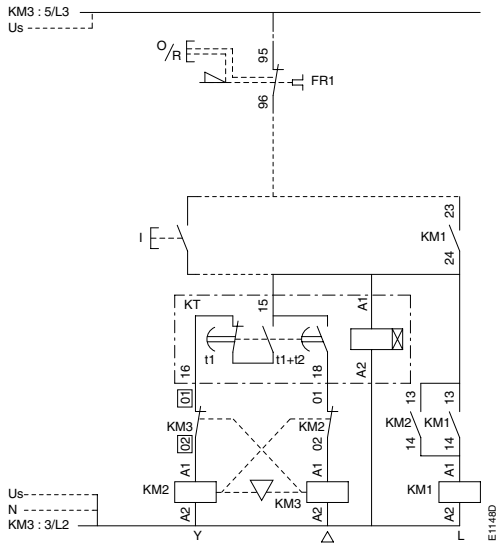


## Wiring diagrams

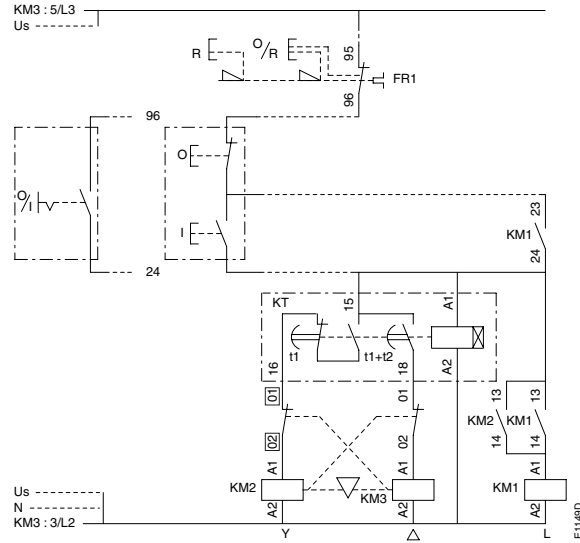


2

## Power circuit



## Local control

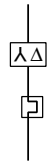


## Remote control

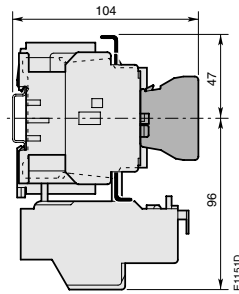
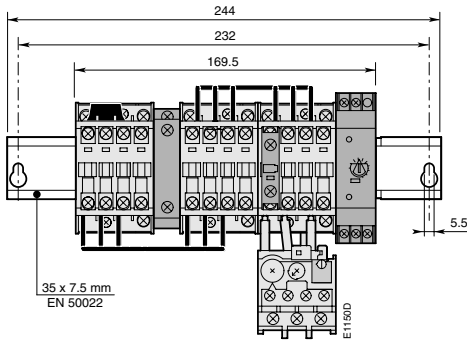
# YKA ..-30E Star-Delta Starters

## Open Type Version, with Interlock

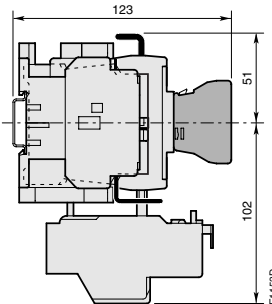
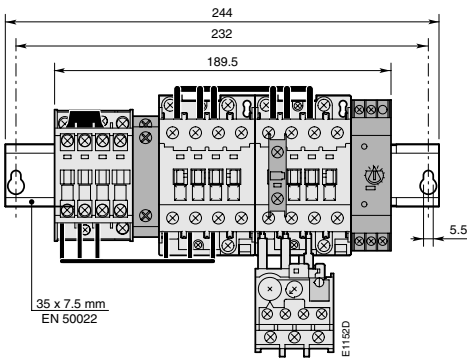
### Protection by Thermal O/L Relay



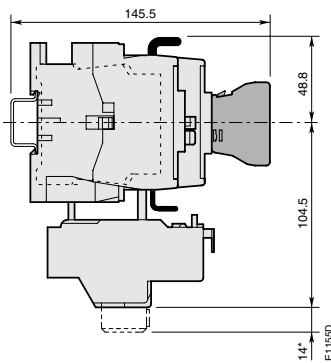
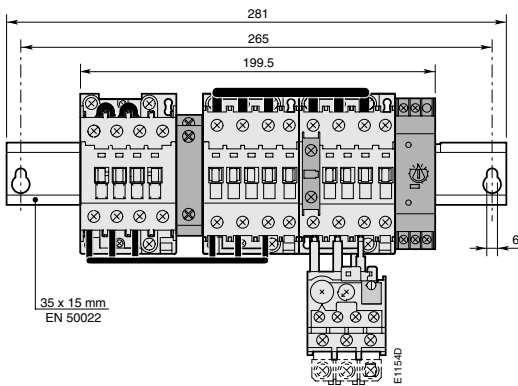
#### Dimensions (in mm)



YKA 9-30E ... YKA 16-30E + TA 25



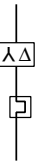
YKA 26-30E + TA 25



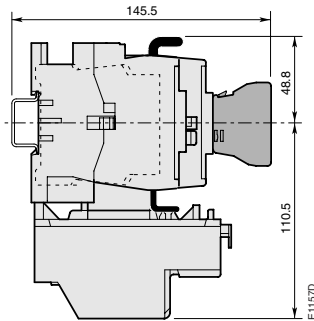
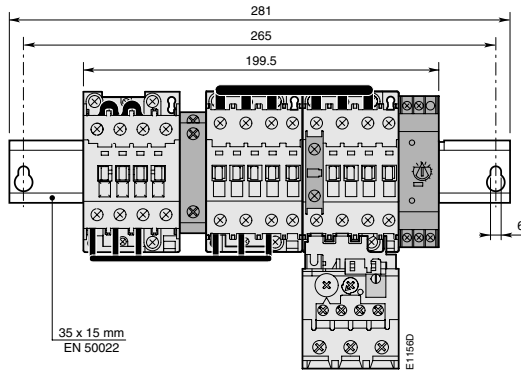
YKA 30-30E + TA 25

\* for TA 25 DU 32 only

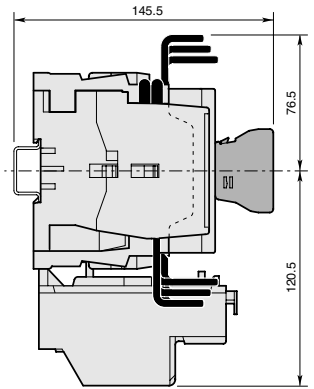
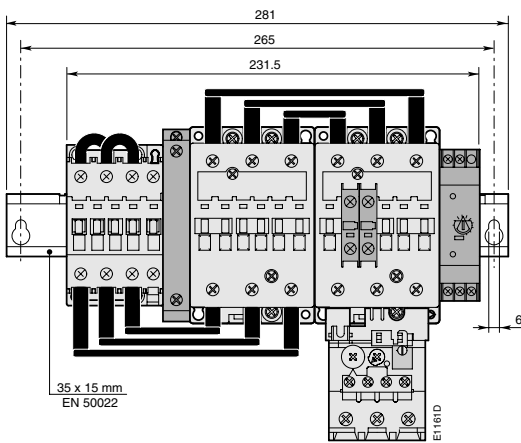
# YKA ..-30E Star-Delta Starters Open Type Version, with Interlock Protection by Thermal O/L Relay



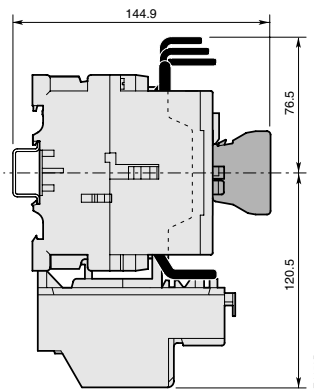
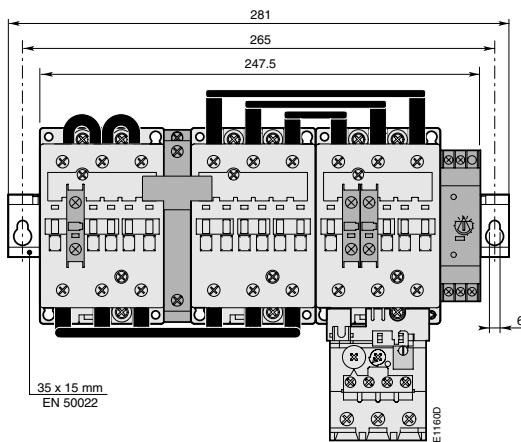
## Dimensions (in mm)



YKA 40-30E + TA 42



YKA 50-30E ... YKA 63-30E + TA 75



YKA 75-30E + TA 75

2