

## Technical specifications

Type		3RW30 03	3RW3 ...-1.B0.	3RW3 ...-1.B1.
<b>Control electronics</b>				
• <b>Rated control supply voltage</b>	V	24 ... 230 AC/DC (±10 %)	24 AC/DC (+10 %/-15 %)	110 ... 230 AC/DC (+10 %/-15 %)
• <b>Rated control supply current</b> Without fan/with fan	mA	25 ... 4	Approx. 50/ Approx. 180	Approx. 25 ... 20 / Approx. 85 ... 80
• <b>Rated frequency</b> for AC	Hz	50/60 ±10 %		
• <b>Starting time</b>	s	0.1 ... 20 (adjustable)		
• <b>Starting voltage</b>	%	40 ... 100 (adjustable)		
• <b>Ramp-down time</b>	s	0 ... 20 (adjustable)		

Type		3RW3003	3RW3 ...-1.B.4	3RW3 ...-1.B.5	3RW30 ...-1AA12
<b>Power electronics</b>					
Rated operational voltage	V	200 ... 400, AC 3-phase (±10 %)	200 ... 460, AC 3-phase (±10 %)	460 ... 575, AC 3-phase (+10 %/-15 %)	115 ... 240, AC 1-phase (±10 %)
Rated frequency	Hz	50 ... 60 ±10 %			
Permissible installation altitude	Reduction of $I_e$				
	• Up to 1000 m above sea level	%	100		
	• Up to 2000 m above sea level	%	92		
	• Up to 3000 m above sea level	%	85		
	• Up to 4000 m above sea level <sup>1)</sup>	%	78		
Mounting position	Without auxiliary fan	The soft starters have been designed for operation on a vertical mounting surface (+10°/-10°).			
	With auxiliary fan	--	Any mounting position (except vertical, rotated by 180°)		

1) At an altitude from 2000 m, the max. permissible operational voltage for all 3RW30 is reduced to 460 V.

# 3RW Soft Starters

## 3RW30, 3RW31 for standard applications

Type		3RW30 03	3RW30 1. S00	3RW30 2. S0	3RW30 3. S2	3RW30 4. S3
Size						
Continuous operation (% of $I_e$ )	%	100				
Minimum load <sup>1)</sup> (% von $I_e$ ); at 40 °C	%	9	4			
Permissible ambient temperature	• Operation	°C -25 ... +60 (derating from 40 °C, see load rating)				
	• Storage	°C -25 ... +80				
Switching capacity of the auxiliary contacts	230 V/AC-15	A	No auxiliary contacts available	3	3	3
	230 V/DC-13	A		0.1	0.1	0.1
	24 V/DC-13	A		1	1	1

1) The rated motor current (specified on the motor's name plate) should at least amount to the specified percentage of the SIRIUS soft starter unit's rated operational current  $I_e$ .

Type		3RW30 03	3RW30 14	3RW30 16	3RW3 . 24	3RW3 . 25	3RW3 . 26	
<b>Load capacity</b>								
Rated operational current $I_e$								
• According to IEC for individual mounting	at 40/50/60 °C, AC-53b	A	--	6/5/4	9/8/7	12.5/11/9	16/14/12	25/21/18
• According to UL/CSA for individual mounting	at 40/50/60 °C, AC-53b	A	--	4.8/4.8/4	7.8/7.8/7	11/11/9	17.5/14/12	25/21/18
• According to IEC/UL/CSA for individual mounting	at 40/50/60 °C, AC-53a	A	3 / 2.6 / 2.2	--				
• According to IEC/UL/CSA for butt-mounting	at 40/50/60 °C, AC-53a	A	2.6 / 2.2 / 1.8	--				
<b>Power loss</b>								
At uninterrupted rated operational current (40 °C) approx.	W	6.5	5	7	7	9	13	
At utilization of max. operating frequency	W	3	5	6	7	8	9	
<b>Permissible starts per hour when not using a fan</b>								
• For intermittent duty S4, $T_u = 40$ °C, stand-alone installation vertical	1/h	1500	60	40	30		12	
• ON-period = 30 %	% $I_e$ /s	--	250/2		300/2			
• ON-period = 70 %	% $I_e$ /s	300/0.2	--					
<b>Permissible starts per hour when using a fan</b>	1/h	Fans cannot be fitted			54		21	
For intermittent duty S4, $T_u = 40$ °C, ON-period = 30 %; stand-alone installation								
<b>Pause intervals after continuous duty</b>	s	0					200	
With $I_e$ before a new start								
<b>Degree of protection</b>	according to IEC 60529	IP20 (IP00 terminal enclosure)						
<b>Maximum conductor length</b> between soft starter and motor	m	100 <sup>1)</sup>						
<b>Conductor cross-sections</b>								
<b>Screw terminals</b> (1 or 2 conductors connectable) For standard screwdriver size 2 and Pozidriv 2								
• <b>Main conductors</b>	- Solid	mm <sup>2</sup>	1 x (0.5 ... 4); 2 x (0.5 ... 2.5)	2 x (0.5 ... 1.5); 2 x (0.75 ... 2.5)	2 x (1 ... 2.5) 2 x (2.5 ... 6)			
	- Finely stranded with end sleeve	mm <sup>2</sup>	1 x (0.5 ... 2.5); 2 x (0.5 ... 1.5)	2 x (0.5 ... 2.5)	2 x (1 ... 2.5) 2 x (2.5 ... 6)			
	- Stranded	mm <sup>2</sup>	--	--	--			
	- AWG conductors, solid or stranded	AWG	2 x (20 ... 14)	2 x (18 ... 14)	2 x (14 ... 10)			
	- Terminal screws	Nm	M3, PZ2 0.8 ... 1.2	M3, PZ2	M4, PZ2 2 ... 2.2			
	- Tightening torque	lb.in	7.1 ... 8.9	7 ... 10.3	18 ... 22			
	• <b>Auxiliary conductors</b>	- Solid	mm <sup>2</sup>	1 x (0.5 ... 4); 2 x (0.5 ... 2.5)	2 x (0.5 ... 1.5) 2 x (0.75 ... 2.5)	according to IEC 60947; max. 2 x (0.75 ... 4)		
		- Finely stranded with end sleeve	mm <sup>2</sup>	1 x (0.5 ... 2.5) 2 x (0.5 ... 1.5)	2 x (0.5 ... 1.5) 2 x (0.75 ... 2.5)			
		- AWG conductors, solid or stranded	AWG	2 x (20 ... 14)	2 x (18 ... 14)			
		- Terminal screws	Nm	M3, PZ2 0.8 ... 1.2	0.8 ... 1			
		- Tightening torque	lb.in	7 ... 8.9	7.1 ... 8.9			
<b>Spring-loaded terminals</b>								
• <b>Main and auxiliary conductors</b>	• Solid	mm <sup>2</sup>	2 x (0.25 ... 1.5)	--				
	• Finely stranded with end sleeve	mm <sup>2</sup>	2 x (0.25 ... 1)	--				
	• AWG conductors, solid or stranded	mm <sup>2</sup>	2 x (24 ... 16)	--				

1) If this value is exceeded, problems with line capacities may arise, which can result in false firing.

# 3RW Soft Starters

**3RW30, 3RW31**  
for standard applications

Type		3RW30 34	3RW30 35	3RW30 36	3RW30 44	3RW30 45	3RW30 46	
<b>Power electronics</b>								
<b>Load rating</b>								
With rated operational current $I_e$								
• According to IEC for individual mounting	at 40/50/60 °C, AC-53b	A	32/27/23	38/32/27	45/38/32	63/54/46	75/64/54	100/85/72
• According to UL/CSA for individual mounting	at 40/50/60 °C, AC-53b	A	27/27/23	34/32/27	42/38/32	62/54/46	68/64/54	99/85/72
<b>Power loss</b>								
• At uninterrupted rated operational current (40 °C) approx.		W	10	13	17	13	16	26
• (40 °C) at utilization of max. operating frequency		W	11	11	10	18	29	26
<b>Permissible starts per hour when not using a fan</b>								
• For intermittent duty S4, $T_u = 40$ °C, stand-alone installation vertical	1/h	20	15	5	20	30	15	
• ON-period = 30 %	% $I_e/s$	300 /3			300 /4			
<b>Permissible starts per hour when using a fan</b>								
For intermittent duty S4, $T_u = 40$ °C, ON-period = 30%; stand-alone installation	1/h	44	27	9	32	48	24	
<b>Pause intervals after continuous duty</b>								
With $I_e$ before a new start	s	0		400	0			
<b>Degree of protection</b> according to IEC 60529								
		IP20 (IP00 terminal enclosure)			IP20 <sup>1)</sup>			
<b>Maximum conductor length</b> between soft starter and motors								
	m	100						
<b>Conductor cross-sections</b>								
<b>Screw terminals</b> (1 or 2 conductors connectable) For standard screwdriver size 2 and Pozidriv 2								
• <b>Main conductors:</b>								
- Solid	mm <sup>2</sup>	2 x (0.75 ... 16)						
- Finely stranded with end sleeve	mm <sup>2</sup>	2 x (0.75 ... 16) 1 x (0.75 ... 25)						
- Stranded	mm <sup>2</sup>	2 x (0.75 ... 25) 1 x (0.75 ... 35)				2 x (10 ... 50) 1 x (10 ... 70)		
- AWG conductors, solid or stranded	AWG	2 x (18 ... 3) 1 x (18 ... 2)				2 x (10 ... 1/0); 1 x (10 ... 2/0)		
- Terminal screws	Nm	M6, box terminal, PZ2				M6, hexagon socket		
- Tightening torque	lb.in	3 ... 4.5 27 ... 40				4 ... 6 35 ... 53		
• <b>Auxiliary conductors:</b>								
- Solid	mm <sup>2</sup>	2 x (0.5 ... 1.5) 2 x (0.75 ... 2.5) accord. to IEC 60947; max. 2 x (0.75 ... 4)						
- Finely stranded with end sleeve	mm <sup>2</sup>	2 x (0.5 ... 1.5) 2 x (0.75 ... 2.5)						
- AWG conductors, solid or stranded	AWG	2 x (18 ... 14)						
- Terminal screws	Nm	M3						
- Tightening torque	lb.in	0.8 ... 1 7.1 ... 8.9						

1) IP20 only with installed box terminal ('as-delivered'). Without box terminal IP00.

2) If this value is exceeded, problems with line capacities may arise, which can result in false firing.

	Standard	Parameters
<b>Electromagnetic compatibility according to EN 60947-4-2</b>		
<b>EMC interference immunity</b>		
<b>Electrostatic discharge (ESD)</b>	IEC 61000-4-2	Degree of severity 3: 6/8 kV
<b>Electromagnetic RF fields</b>	IEC 60947-4-2	Frequency range: 80 to 1000 MHz with 80 % at 1 kHz Degree of severity 3, 10 V/m
<b>Conducted RF interference</b>	IEC 61000-4-6 IEC 60947-4-2 SN-IACS	Frequency range: 80 to 1000 MHz with 80 % at 1 kHz 10 V at 0.15 ... 80 MHz 3 V at 10 kHz ... 80 MHz
<b>Burst Surge</b>	IEC 61000-4-4 IEC 61000-4-5	Degree of severity 3: 1/2 kV Degree of severity 3: 1/2 kV
<b>EMC interference emission</b>		
<b>EMC interference field strength</b>	CISPR 11/09. 1990	Limit value of Class B at 30 to 1000 MHz
<b>Radio interference voltage</b>	CISPR 11/09. 1990 IEC 60947-4-2	(0.15 ... 30 MHz): Unit Class A (industry)

# 3RW Soft Starters

## 3RW30, 3RW31 for standard applications

### Is an RI suppression filter necessary?

	24 V AC/DC control voltage		110 ... 240 V AC/DC control voltage	
	Main circuit	Control circuit	Main circuit	Control circuit
<b>Degree of noise suppression A</b> (industrial applications)	No	No	No	No
<b>Degree of noise suppression B</b> (applications for residential areas)	No	No	Yes <sup>2)</sup> (see table Recommended Filters)	Yes <sup>1)2)</sup>

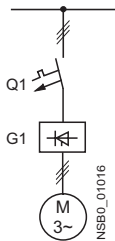
- "No" only applies if the control voltage is taken from the main circuit downstream of the RI suppression filter.
- It may be preferable to use a device with 24 V AC/DC control voltage here; in that case the control voltage must be adapted with a transformer.

Soft starter type	Rated current Soft starters A	Recommended filters					
		Voltage range 200 ... 460 V			Voltage range 460 ... 575 V		
		Filter type	Rated current filter A	Terminals mm <sup>2</sup>	Filter type	Rated current filter A	Terminals mm <sup>2</sup>
<b>3RW30 14</b>	6	B84143-G8-R110	8	4	--	--	--
<b>3RW30 16</b>	9	B84143-G20-R110	20	4	--	--	--
<b>3RW30 24</b>	12.5	B84143-G20-R110	20	4	B8413-A25-R21	25	10
<b>3RW30 25</b>	16	B84143-G20-R110	20	4	B8413-A25-R21	25	10
<b>3RW30 26</b>	25	B84143-G36-R110	36	6	B8413-A25-R21	25	10
<b>3RW30 34</b>	32	B84143-G36-R110	36	6	B8413-A36-R21	36	10
<b>3RW30 35</b>	38	B84143-G36-R110	36	6	B8413-A36-R21	36	10
<b>3RW30 36</b>	45	B84143-G50-R110	50	6	B8413-A50-R21	50	10
<b>3RW30 44</b>	63	B84143-G66-R110	66	25	B8413-A80-R21	80	25
<b>3RW30 45</b>	75	B84143-G120-R110	120	50	B8413-A80-R21	80	25
<b>3RW30 46</b>	100	B84143-G120-R110	120	50	B8413-A120-R21	120	50

### Fuse assignment

The coordination type to which the motor feeder with soft starter is mounted depends on the application-specific requirements. Normally, fuseless mounting (combination of circuit-breaker and soft starter) is sufficient. If type 2 coordination is to be fulfilled, semiconductor fuses must be fitted in the motor feeder.

### Fuseless version



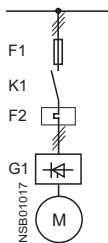
Soft starters	Motor starter protectors <sup>1)</sup>	Link modules <sup>2)</sup>
Type	Type	Type
G1	Q1	

### Coordination type 1<sup>3)</sup> : I<sub>q</sub> = 50 kA at 400 V

<b>3RW30 03</b>	3RV10 11	--
<b>3RW30 14</b>	3RV10 11	3RA19 11-1A
<b>3RW30 16</b>	3RV10 11	3RA19 11-1A
<b>3RW30 24/3RW31 24</b>	3RV10 21	3RA19 21-1A
<b>3RW30 25/3RW31 25</b>	3RV10 21	3RA19 21-1A
<b>3RW30 26/3RW31 26</b>	3RV10 21	3RA19 21-1A
<b>3RW30 34</b>	3RV10 31	3RA19 31-1A
<b>3RW30 35</b>	3RV10 31	3RA19 31-1A
<b>3RW30 36</b>	3RV10 31	3RA19 31-1A
<b>3RW30 44</b>	3RV10 41	3RA19 41-1A
<b>3RW30 45</b>	3RV10 41	3RA19 41-1A
<b>3RW30 46</b>	3RV10 41	3RA19 41-1A

- The rated motor current must be considered when selecting the devices.
- Pay attention to quantity units.
- The types of coordination are explained in more detail under Fuseless Load Feeders in Catalog LV 1 T.

### Fused version (line protection only)



Soft starters	Line protections			Overload relays		Contactors
	Type	Rated current	Size	Thermal Type	Solid-state Type	
Type G1	F1	A		F2		K1
<b>Type of coordination 1:<sup>1)</sup> <math>I_q = 50 \text{ kA at } 400 \text{ V}</math></b>						
3RW30 03	3NA3 805 <sup>2)</sup>	20	000	3RU11 16	3RB10 16	3RT10 15
3RW30 14	3NA3 807	20	000	3RU11 16 <sup>3)</sup>	3RB10 16 <sup>3)</sup>	3RT10 15
3RW30 16	3NA3 807	20	000	3RU11 16 <sup>3)</sup>	3RB10 16 <sup>3)</sup>	3RT10 16
3RW30 24/3RW31 24	3NA3 807	20	000	3RU11 26 <sup>4)</sup>	3RB10 26 <sup>4)</sup>	3RT10 24
3RW30 25/3RW31 25	3NA3 810	25	000	3RU11 26 <sup>4)</sup>	3RB10 26 <sup>4)</sup>	3RT10 25
3RW30 26/3RW31 26	3NA3 814	35	000	3RU11 26 <sup>4)</sup>	3RB10 26 <sup>4)</sup>	3RT10 26
3RW30 34	3NA3 822	63	000	3RU11 36 <sup>4)</sup>	3RB10 36	3RT10 34
3RW30 35	3NA3 822	63	000	3RU11 36 <sup>4)</sup>	3RB10 36	3RT10 35
3RW30 36	3NA3 824	80	000	3RU11 36 <sup>4)</sup>	3RB10 36	3RT10 36
3RW30 44	3NA3 830	100	000	3RU11 46 <sup>4)</sup>	3RB10 46	3RT10 44
3RW30 45	3NA3 132	125	1	3RU11 46 <sup>4)</sup>	3RB10 46	3RT10 45
3RW30 46	3NA3 140	200	1	3RU11 46 <sup>4)</sup>	3RB10 46	3RT10 46

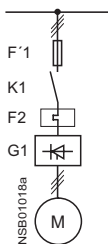
1) The types of coordination are explained in more detail under Fuseless Load Feeders in Catalog LV 1 T.

2) 3NA38 05-1 (NH00), 5SB26 1 (DIAZED), 5SE22 01-6 (NEOZED).

3)  $I_q = 50 \text{ kA}$  up to max. 400 V

4)  $I_q = 50 \text{ kA}$  up to max. 500 V

### Fused version with 3NE1 SITOR fuses (semiconductor and line protection)<sup>1)</sup>



Soft starters	All-range fuses					
	Type	Rated current	Size	Type	Rated current	Size
Type G1	F'1	A		F'1	A	
<b>Type of coordination 2<sup>2)</sup>: <math>I_q = 50 \text{ kA at } 400 \text{ V}/500 \text{ V}</math></b>						
3RW30 03	3NE1 813-0 <sup>3)</sup>	16	000	3NE1 813-0 <sup>3)</sup>	16	000
3RW30 14	3NE1 813-0 <sup>3)</sup>	16	000	3NE1 814-0 <sup>4)</sup>	20	000
3RW30 16	3NE1 813-0 <sup>3)</sup>	16	000	3NE1 815-0 <sup>5)</sup>	25	000
3RW30 24/3RW31 24	3NE1 814-0 <sup>4)</sup>	20	000	3NE1 815-0 <sup>5)</sup>	25	000
3RW30 25/3RW31 25	3NE1 815-0 <sup>5)</sup>	25	000	3NE1 815-0 <sup>5)</sup>	25	000
3RW30 26/3RW31 26	3NE1 803-0 <sup>5)</sup>	35	000	3NE1 802-0 <sup>5)</sup>	40	000
3RW30 34	3NE1 817-0 <sup>5)</sup>	50	000	3NE1 818-0 <sup>5)</sup>	63	000
3RW30 35	3NE1 818-0 <sup>5)</sup>	63	000	3NE1 820-0 <sup>5)</sup>	80	000
3RW30 36	3NE1 818-0 <sup>5)</sup>	63	000	3NE1 820-0 <sup>5)</sup>	80	000
3RW30 44	3NE1 820-0 <sup>5)</sup>	80	000	3NE1 820-0 <sup>5)</sup>	80	000
3RW30 45	3NE1 021-0 <sup>5)</sup>	100	00	3NE1 021-0 <sup>5)</sup>	100	00
3RW30 46	-- <sup>6)</sup>	--	--	-- <sup>6)</sup>	--	--

1) Contactor and overload relay as in "Fused version (line protection only)" table.

2) The types of coordination are explained in more detail under Fuseless Load Feeders in Catalog LV 1 T.

3) No SITOR fuse required!  
Alternatively: 3NA38 03 (NH00), 5SB22 1 (DIAZED), 5SE22 06 (NEOZED).

4) Fuse coordination for up to 400 V.

5) Fuse coordination for up to 500 V.

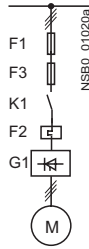
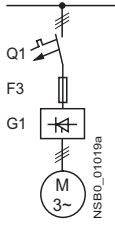
6) Fuse coordination with all-range fuses not possible; it may be necessary to use a pure semiconductor protection fuse plus a motor starter protector.

# 3RW Soft Starters

## 3RW30, 3RW31 for standard applications

### Fused versions with 3NE8 SITOR fuses

(semiconductor protection by fuse, lead and overload protection by motor starter protector; alternatively, installation with contactor and overload relay possible)



### Soft starters

Soft starters	Solid-state protection fuses						Semiconductor fuses (cylinder)					
	Min. Type	Rated current	Size	Max. Type	Rated current	Size	Min. Type	Rated current	Size	Max. Type	Rated current	Size
G1	F3	A		F3	A		F3	A	mm x mm	F3	A	mm x mm

### Type of coordination 2<sup>1)</sup>: $I_q = 50 \text{ kA at } 400 \text{ V}$

3RW30 03	3NE8 015-1	25	00	3NE8 015-1	25	00	3NC1 006	6	10 x 38	3NC1 010	10	10 x 38
3RW30 14	3NE8 015-1	25	00	3NE8 003-1	35	00	3NC1 006	6	10 x 38	3NC1 430	30	14 x 51
3RW30 16	3NE8 015-1	25	00	3NE8 003-1	35	00	3NC1 010	10	10 x 38	3NC1 430	30	14 x 51
3RW30 24/3RW31 24	3NE8 015-1	25	00	3NE8 003-1	35	00	3NC1 016	16	10 x 38	3NC1 430	30	14 x 51
3RW30 25/3RW31 25	3NE8 015-1	25	00	3NE8 003-1	35	00	3NC1 025	25	10 x 38	3NC1 430	30	14 x 51
3RW30 26/3RW31 26	.. <sup>2)</sup>	--	--	.. <sup>2)</sup>	--	--	.. <sup>2)</sup>	--	--	.. <sup>2)</sup>	--	--
3RW30 34	3NE8 002-1	63	00	3NE8 022-1	125	00	3NC1 450	50	14 x 51	3NC2 280	80	22 x 58
3RW30 35	3NE8 020-1	80	00	3NE8 024-1	160	00	3NC2 263	63	22 x 58	3NC2 200	100	22 x 58
3RW30 36	3NE8 021-1	100	00	3NE8 024-1	160	00	3NC2 280	80	22 x 58	3NC2 200	100	22 x 58
3RW30 44	3NE8 021-1	100	00	3NE8 024-1	160	00	3NC2 200	100	22 x 58	3NC2 200	100	22 x 58
3RW30 45	3NE8 022-1	125	00	3NE8 024-1	160	00	.. <sup>2)</sup>	--	--	.. <sup>2)</sup>	--	--
3RW30 46	3NE8 024-1	160	00	3NE8 024-1	160	00	.. <sup>2)</sup>	--	--	.. <sup>2)</sup>	--	--

### Soft starters

Soft starters	Motor starter protectors <sup>3)</sup>	Link modules <sup>4)</sup>	Overload relays		Contactors
	Type	Type	Thermal Type	Solid-state Type	Type
G1	Q1		F2		K1

### Type of coordination 2<sup>1)</sup>: $I_q = 50 \text{ kA at } 400 \text{ V}$

3RW30 03	3RV10 11 <sup>5)</sup>	3RA19 11-1A	3RU11 16	3RB10 16	3RT10 15
3RW30 14	3RV10 11	3RA19 11-1A	3RU11 16	3RB10 16	3RT10 15
3RW30 16	3RV10 11	3RA19 11-1A	3RU11 16	3RB10 16	3RT10 16
3RW30 24/3RW31 24	3RV10 21	3RA19 21-1A	3RU11 26	3RB10 26	3RT10 24
3RW30 25/3RW31 25	3RV10 21	3RA19 21-1A	3RU11 26	3RB10 26	3RT10 25
3RW30 26/3RW31 26	3RV10 21	3RA19 21-1A	3RU11 26	3RB10 26	3RT10 26
3RW30 34	3RV10 31	3RA19 31-1A	3RU11 36	3RB10 36	3RT10 34
3RW30 35	3RV10 31	3RA19 31-1A	3RU11 36	3RB10 36	3RT10 35
3RW30 36	3RV10 31	3RA19 31-1A	3RU11 36	3RB10 36	3RT10 36
3RW30 44	3RV10 41	3RA19 41-1A	3RU11 46	3RB10 46	3RT10 44
3RW30 45	3RV10 41	3RA19 41-1A	3RU11 46	3RB10 46	3RT10 45
3RW30 46	3RV10 41	3RA19 41-1A	3RU11 46	3RB10 46	3RT10 46

- The types of coordination are explained in more detail under Fuseless Load Feeders in Catalog LV 1 T.
- Fuse coordination with semiconductor fuses not possible; it may be necessary to use pure 3NE1 all-range fuses or the next highest soft starter.
- The rated motor current defines the selection of devices.
- Pay attention to quantity units.
- No SITOR fuse required!  
Alternatively: 3NA38 03 (NH00), 5SB22 1 (DIAZED), 5SE22 06 (NEOZED).