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3NW7 Cylindrical fuse systems, fuse holders for motor starter combinations

BETA Low-Voltage Circuit Protection

These three-pole fuse holders for motor starter combinations are characterized by a particularly compact design; they have a width of only 45 mm - exactly as wide as the corresponding contactor.

- **Flexible installation**
  The fuse holders are installed on DIN mounting rails (top hat rails) or on a busbar adapter for the 8US busbar system.

- **Global use**
  Devices for IEC fuses size 10 x 38 mm and UL-approved devices (UL 512 listed) for Class CC fuses allow global use. The terminals are suitable for field wiring.

Highlights

- Compact design for motor starter combinations
- For 10x38 IEC fuses up to 32 A and Class CC UL-fuses up to 30 A
- Meets the requirements of UL 508 with regard to clearances
- UL-approved microswitches, busbars and adapters for 60 mm busbar systems
- Optical signal detector for fast troubleshooting

Answers for infrastructure.

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Low-Voltage Fuse Systems

3NW7 fuse system, Class CC fuse system

Overview

Fused motor starter combinations can be configured with the fuses holders. The contactor and the fuse holder can be mounted directly next to each other.

The strong current-limiting fuses ensure a type 2 protection level (coordination according to IEC 60947-4, no damage protection) for the contactor.

The UL version has a SCCR value of 200 kA.
The accessories are generally UL-approved.

Customers can mount an auxiliary switch that signals the switching state or prevents the fuse holder from switching off under load by interrupting the contactor control and therefore increases operating safety.

Busbars and a matching three-phase feeder terminals complete the product range.

Cylindrical fuse holder Class CC with signal detector and mounted auxiliary switch

Installation configuration of a cylindrical fuse holder and a SIRIUS contactor on busbar adapter for a 60 mm busbar system.

Technical specifications

		Cylindrical fuse holders	
		3NW7 0..-1	**3NW7 5..-1HG**
Sizes	mm x mm	10 x 38	Class CC
Standards		IEC 60269, UL512, CSA	UL 512, CSA
Approvals		UL file number E171267	
Rated voltage U_n	V AC	690	600
Rated current I_n	A AC	32	30
Rated short-circuit strength	kA	120 (at 500V), 80 (at 690V)	200
Switching capacity			
• Utilization category		AC-20B (switching without load)	--
Rated impulse withstand voltage	kV	6	
Overvoltage category		III	
Degree of pollution		2	
Max. power dissipation of the fuse link		3 W	
No-voltage changing of fuse links		Yes	
Sealable when installed, **lockable with padlock**		Yes Yes	
Mounting position		Any, but preferably vertical	
Current direction		any	
Degree of protection acc. to IEC 60529		IP20, with connected conductors	

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		Cylindrical fuse holders 3NW7 0..-1	 3NW7 5..-1HG
Terminals are touch-protected according to BGVA3 at the incoming and outgoing unit		Yes	
Ambient temperature	°C	-5 ... +40, humidity 90 % at +20	
Conductor cross-sections			
• Finely stranded, with end sleeve	mm^2	1 - 4	
• AWG (American Wire Gauge)		18 - 10 AWG	
Tightening torque Terminal screws	Nm	1.5 Nm (13 lb in) PZ2	

		Microswitch 3NW7903-1							
Standards									
Approvals		IEC 60947, UL 508, CSA, UL file number E334003							
Utilization category		AC-12	DC-13			AC-15			Acc. to UL
Rated voltage U_n	V AC	250				24	120	240	240
Rated voltage U_n	V DC		24	120	240				
Rated current I_n	A		2	0.5	0.25	4	3	1.5	5

		Busbars 5ST2 60.	 3NW7 5..-1HG
For cylindrical fuse holders		3NW7 0..-1	
Pin spacing	mm	15	
Standards		DIN EN 60974-1, VDE 0660 part 100, IEC 60947-1:2004, UL 508, CSA 22.2	
Approvals		UL 4248-1, UL file number E337131	
Busbar material		E-Cu 58 F25	
Partition material		PA66-V0	
Glow wire resistance/1.5 mm²	°C	960	
Insulation coordination		Overvoltage category III, degree of pollution 2	
Rated voltage U_n			
Acc. to UL	V AC		600
Acc. to IEC	V AC	690	
Maximum busbar current I_n			
Acc. to UL	A		65
Acc. to IEC	A	80	

		Terminal 5ST2 600	 3NW7 5..-1HG
For cylindrical fuse holders		3NW7 0..-1	
Pin spacing	mm	15	
Standards		IEC 60999:2000, UL 508	
Approvals		UL 4248-1, UL file number E337131	
Enclosure/cover material		PA66-V0	
Glow wire resistance/1 mm²	°C	960	
Temperature resistance PA66-V0, HDT B ISO179, UL94-V0/1.5	°C	200	
Insulation coordination		Overvoltage category III, degree of pollution 2	
Max. operational voltage U_{max}			
Acc. to UL	V AC		600
Acc. to IEC	V AC	690	
Maximum electrical load I_{max}			
Acc. to UL	A		65
Acc. to IEC	A	80	
Rated current I_n	A	63	
Conductor cross-sections			
Max. conductor cross-section solid/stranded	mm^2	2.5 ... 35	
Min. conductor cross-section solid (with end sleeve)	mm^2	2.5 ... 25	
Tightening torque of terminal	Nm	2.5 ... 3.5	

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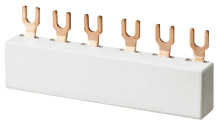
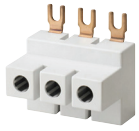
Selection and ordering data (Dated 04/2010)

	Number of poles	I_n	For fuse links of size	MW	DT	Order No.	PKG*)/ VPE	PG	Weight per PU approx.
		A	mm x mm				Unit(s)		kg
3NW7 cylindrical fuse holder									
	Cylindrical fuse holder without signal detector								
	3P	32	10 x 38	2.5	B	**3NW7033-1**	1	018	7.700
	with signal detector								
	3P	32	10 x 38	2.5	B	**3NW7034-1**	1	018	7.700
	Class CC cylindrical fuse holder, without signal detector								
	3P	30	Class CC	2.5	B	**3NW7533-1HG**	1	018	7.700
	with signal detector								
	3P	30	Class CC	2.5	B	**3NW7534-1HG**	1	018	7.700
Accessories									
	Auxiliary switch								
	Auxiliary switch AC-12 5A, ... 250V, 1NO, 1NC			2.5	B	**3NW7903-1**	1	018	0.010

	Version	I_n	Pin spacing	Length	MW	DT	Order No.	PKG*)/ VPE	PG	Weight per PU approx.
		A	mm	mm				Unit(s)		kg
5ST busbar systems										
	**Busbar**									
	2x 3P	63	15	45		B	**5ST2 601**	10/1	020	0.450
	3x 3P			90		B	**5ST2 602**	10/1	020	0.705
	4x 3P			135		B	**5ST2 603**	10/1	020	0.950
	5x 3P			180		B	**5ST2 604**	10/1	020	1.230
Accessories										
	**Terminal**									
	Terminal for 2.5 ... 35 mm conductor cross-section					B	**5ST2 600**	10/1	020	0.500

	Size	Number of moun. trails (35 mm)	Rated current	Con-necting cable	Length of adapter	Width of adapter	Rate current	DT	Order No.	PKG*)/ VPE	PG	Weight per PU approx.
			A	AWG	mm	mm	V			Unit(s)		kg
Device adapters												
	Busbar device adapter for connecting cables (above) [1]											
	S00	1	25	12	200	45	690	▶	**8US1251-5DS10**	1	143	0.183
					260			▶	**8US1251-5DT10**	1	143	0.183
	Mounting rails for busbar device adapter											
	For assembly of additional devices					45		A	**8US1998-7CB45**	10/1	143	0.009

* You can order this quantity or a multiple thereof.

[1] For additional device adapters and accessories, see also Catalog LV1

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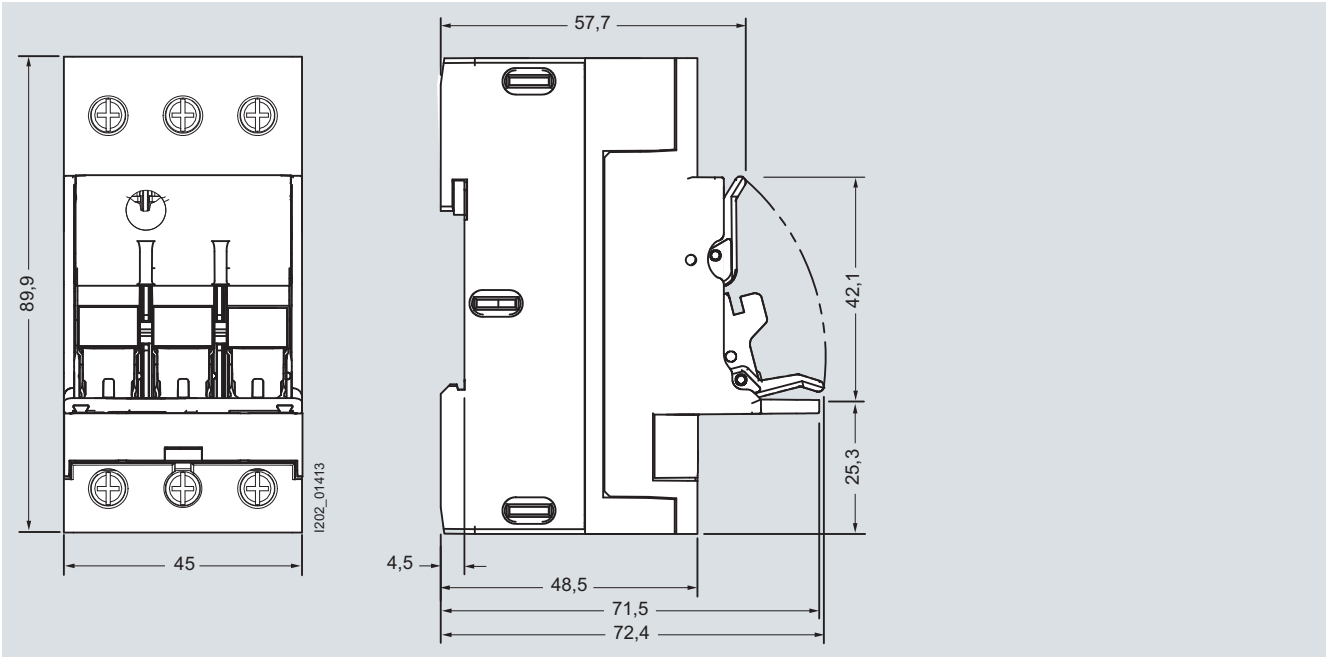
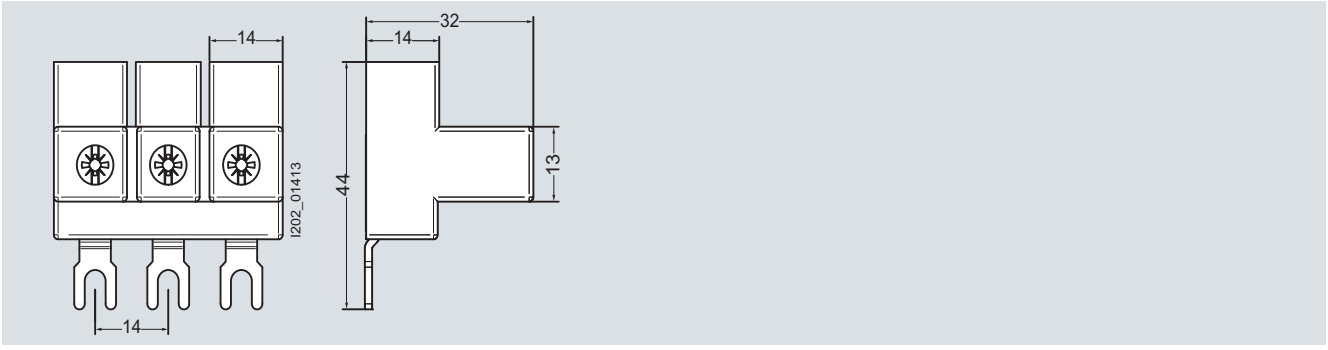
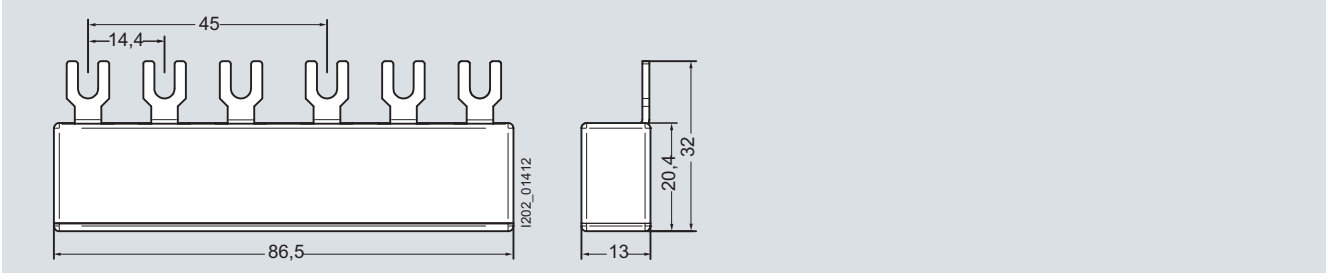
Dimensional drawings

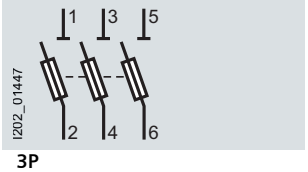






Shematics

3NW7



3P

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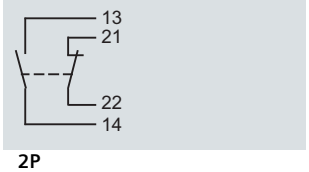

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