

Miniature Contactors Ex9CS



- Miniature Contactors according to IEC / EN 60947-4-1
- 3 and 4-pole versions
- Rated current AC-3 6, 9 and 12 A at 400 V
- Coil control voltage 24 — 415 V AC
- Rated conditional short circuit current I_q 50 kA
- Suitable for industrial as well as domestic applications
- Mounting onto device rail (DIN) 35 mm or onto panel

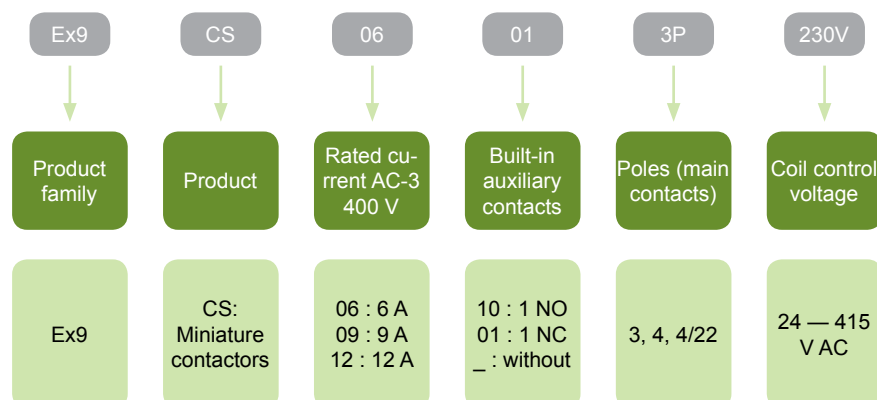
Rated operational voltage of main contacts 690 V AC, I_{th} 20 A, I_e AC-1 20 A/690 V

Rated frequency 50 Hz

Ex9CS contactors bring excellent electric parameters in the form of very compact device. These contactors can be used for both industrial as well as domestic applications. Thermal current and AC-1 load 20 A at 690 V AC allows switching of resistive loads with maximum currents usual for domestic applications. Thanks to compact dimensions, Ex9CS contactors are ideal solution for space limited installations.

Contactors are offered as 3 and 4-pole versions and as a 4-pole version with main contacts configuration 2 normally open and 2 normally closed (4P/22).

Type Key

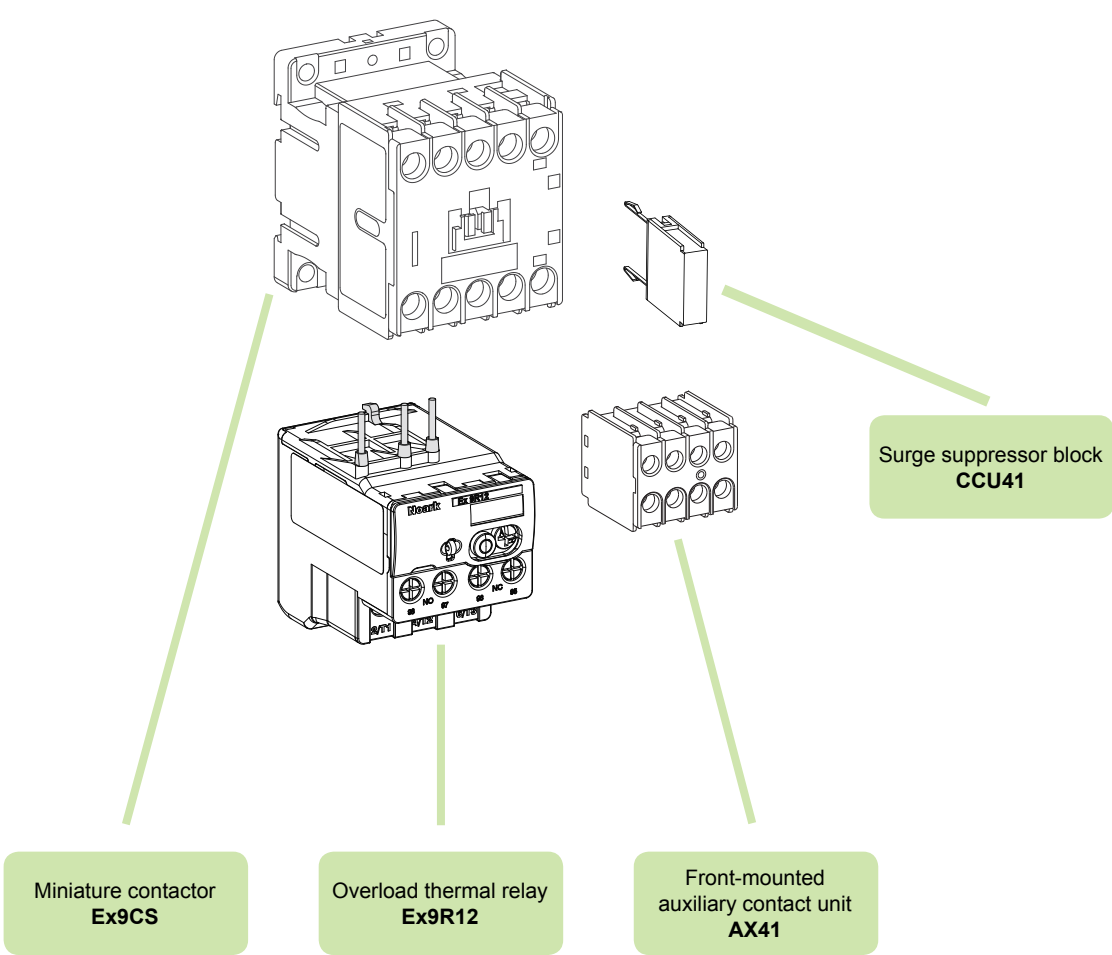


Certification marks



Miniature Contactors Ex9CS

Accessories



Auxiliary contacts AX41

Overload thermal relays Ex9R12

Miniature Contactors Ex9CS

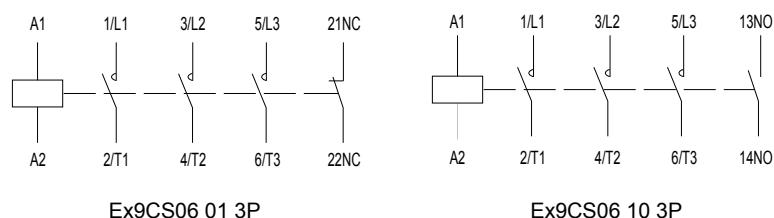
Rated current 6 A, 3-pole

- Miniature version of contactor
- Mounting onto device (DIN) rail 35 mm or onto panel
- Front-mounted auxiliary contacts AX41.. can be used
- Can be combined with overload relays Ex9R12



Control Voltage	I_e	Frame size	Poles	Aux. cont.	Article No.	Type	Packing
415 V AC	6 A	S12	3	1 NC	100956	Ex9CS06 01 3P 415V	1/72
400 V AC	6 A	S12	3	1 NC	100957	Ex9CS06 01 3P 400V	1/72
380 V AC	6 A	S12	3	1 NC	100958	Ex9CS06 01 3P 380V	1/72
240 V AC	6 A	S12	3	1 NC	100959	Ex9CS06 01 3P 240V	1/72
230 V AC	6 A	S12	3	1 NC	100960	Ex9CS06 01 3P 230V	1/72
220 V AC	6 A	S12	3	1 NC	100961	Ex9CS06 01 3P 220V	1/72
127 V AC	6 A	S12	3	1 NC	100962	Ex9CS06 01 3P 127V	1/72
110 V AC	6 A	S12	3	1 NC	100963	Ex9CS06 01 3P 110V	1/72
48 V AC	6 A	S12	3	1 NC	100964	Ex9CS06 01 3P 48V	1/72
42 V AC	6 A	S12	3	1 NC	100965	Ex9CS06 01 3P 42V	1/72
36 V AC	6 A	S12	3	1 NC	100966	Ex9CS06 01 3P 36V	1/72
24 V AC	6 A	S12	3	1 NC	100967	Ex9CS06 01 3P 24V	1/72
415 V AC	6 A	S12	3	1 NO	100968	Ex9CS06 10 3P 415V	1/72
400 V AC	6 A	S12	3	1 NO	100969	Ex9CS06 10 3P 400V	1/72
380 V AC	6 A	S12	3	1 NO	100970	Ex9CS06 10 3P 380V	1/72
240 V AC	6 A	S12	3	1 NO	100971	Ex9CS06 10 3P 240V	1/72
230 V AC	6 A	S12	3	1 NO	100972	Ex9CS06 10 3P 230V	1/72
220 V AC	6 A	S12	3	1 NO	100973	Ex9CS06 10 3P 220V	1/72
127 V AC	6 A	S12	3	1 NO	100974	Ex9CS06 10 3P 127V	1/72
110 V AC	6 A	S12	3	1 NO	100975	Ex9CS06 10 3P 110V	1/72
48 V AC	6 A	S12	3	1 NO	100976	Ex9CS06 10 3P 48V	1/72
42 V AC	6 A	S12	3	1 NO	100977	Ex9CS06 10 3P 42V	1/72
36 V AC	6 A	S12	3	1 NO	100978	Ex9CS06 10 3P 36V	1/72
24 V AC	6 A	S12	3	1 NO	100979	Ex9CS06 10 3P 24V	1/72

Wiring diagrams



Miniature Contactors Ex9CS

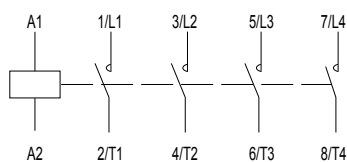
Rated current 6 A, 4-pole

- Miniature version of contactor
- Mounting onto device (DIN) rail 35 mm or onto panel
- Front-mounted auxiliary contacts AX41.. can be used

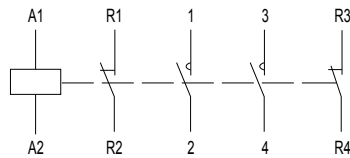


Control Voltage	I_e	Frame size	Poles	Aux. cont.	Article No.	Type	Packing
415 V AC	6 A	S12	4	-	100980	Ex9CS06 4P 415V	1/72
400 V AC	6 A	S12	4	-	100981	Ex9CS06 4P 400V	1/72
380 V AC	6 A	S12	4	-	100982	Ex9CS06 4P 380V	1/72
240 V AC	6 A	S12	4	-	100983	Ex9CS06 4P 240V	1/72
230 V AC	6 A	S12	4	-	100984	Ex9CS06 4P 230V	1/72
220 V AC	6 A	S12	4	-	100985	Ex9CS06 4P 220V	1/72
127 V AC	6 A	S12	4	-	100986	Ex9CS06 4P 127V	1/72
110 V AC	6 A	S12	4	-	100987	Ex9CS06 4P 110V	1/72
48 V AC	6 A	S12	4	-	100988	Ex9CS06 4P 48V	1/72
42 V AC	6 A	S12	4	-	100989	Ex9CS06 4P 42V	1/72
36 V AC	6 A	S12	4	-	100990	Ex9CS06 4P 36V	1/72
24 V AC	6 A	S12	4	-	100991	Ex9CS06 4P 24V	1/72
415 V AC	6 A	S12	2+2	-	100992	Ex9CS06 4P/22 415V	1/72
400 V AC	6 A	S12	2+2	-	100993	Ex9CS06 4P/22 400V	1/72
380 V AC	6 A	S12	2+2	-	100994	Ex9CS06 4P/22 380V	1/72
240 V AC	6 A	S12	2+2	-	100995	Ex9CS06 4P/22 240V	1/72
230 V AC	6 A	S12	2+2	-	100996	Ex9CS06 4P/22 230V	1/72
220 V AC	6 A	S12	2+2	-	100997	Ex9CS06 4P/22 220V	1/72
127 V AC	6 A	S12	2+2	-	100998	Ex9CS06 4P/22 127V	1/72
110 V AC	6 A	S12	2+2	-	100999	Ex9CS06 4P/22 110V	1/72
48 V AC	6 A	S12	2+2	-	101000	Ex9CS06 4P/22 48V	1/72
42 V AC	6 A	S12	2+2	-	101001	Ex9CS06 4P/22 42V	1/72
36 V AC	6 A	S12	2+2	-	101002	Ex9CS06 4P/22 36V	1/72
24 V AC	6 A	S12	2+2	-	101003	Ex9CS06 4P/22 24V	1/72

Wiring diagrams



Ex9CS06 4P



Ex9CS06 4P/22

Miniature Contactors Ex9CS

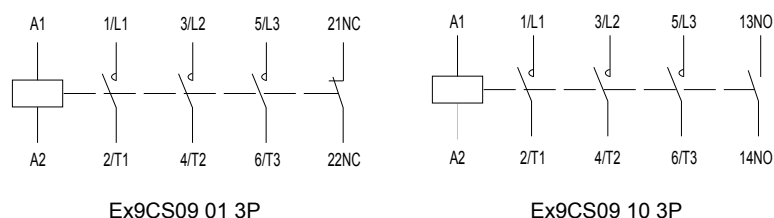
Rated current 9 A, 3-pole

- Miniature version of contactor
- Mounting onto device (DIN) rail 35 mm or onto panel
- Front-mounted auxiliary contacts AX41.. can be used
- Can be combined with overload relays Ex9R12



Control Voltage	I_e	Frame size	Poles	Aux. cont.	Article No.	Type	Packing
415 V AC	9 A	S12	3	1 NC	101004	Ex9CS09 01 3P 415V	1/72
400 V AC	9 A	S12	3	1 NC	101005	Ex9CS09 01 3P 400V	1/72
380 V AC	9 A	S12	3	1 NC	101006	Ex9CS09 01 3P 380V	1/72
240 V AC	9 A	S12	3	1 NC	101007	Ex9CS09 01 3P 240V	1/72
230 V AC	9 A	S12	3	1 NC	101008	Ex9CS09 01 3P 230V	1/72
220 V AC	9 A	S12	3	1 NC	101009	Ex9CS09 01 3P 220V	1/72
127 V AC	9 A	S12	3	1 NC	101010	Ex9CS09 01 3P 127V	1/72
110 V AC	9 A	S12	3	1 NC	101011	Ex9CS09 01 3P 110V	1/72
48 V AC	9 A	S12	3	1 NC	101012	Ex9CS09 01 3P 48V	1/72
42 V AC	9 A	S12	3	1 NC	101013	Ex9CS09 01 3P 42V	1/72
36 V AC	9 A	S12	3	1 NC	101014	Ex9CS09 01 3P 36V	1/72
24 V AC	9 A	S12	3	1 NC	101015	Ex9CS09 01 3P 24V	1/72
415 V AC	9 A	S12	3	1 NO	101016	Ex9CS09 10 3P 415V	1/72
400 V AC	9 A	S12	3	1 NO	101017	Ex9CS09 10 3P 400V	1/72
380 V AC	9 A	S12	3	1 NO	101018	Ex9CS09 10 3P 380V	1/72
240 V AC	9 A	S12	3	1 NO	101019	Ex9CS09 10 3P 240V	1/72
230 V AC	9 A	S12	3	1 NO	101020	Ex9CS09 10 3P 230V	1/72
220 V AC	9 A	S12	3	1 NO	101021	Ex9CS09 10 3P 220V	1/72
127 V AC	9 A	S12	3	1 NO	101022	Ex9CS09 10 3P 127V	1/72
110 V AC	9 A	S12	3	1 NO	101023	Ex9CS09 10 3P 110V	1/72
48 V AC	9 A	S12	3	1 NO	101024	Ex9CS09 10 3P 48V	1/72
42 V AC	9 A	S12	3	1 NO	101025	Ex9CS09 10 3P 42V	1/72
36 V AC	9 A	S12	3	1 NO	101026	Ex9CS09 10 3P 36V	1/72
24 V AC	9 A	S12	3	1 NO	101027	Ex9CS09 10 3P 24V	1/72

Wiring diagrams



Miniature Contactors Ex9CS

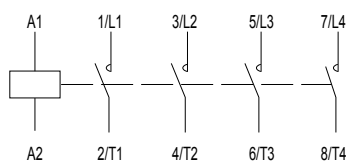
Rated current 9 A, 4-pole

- Miniature version of contactor
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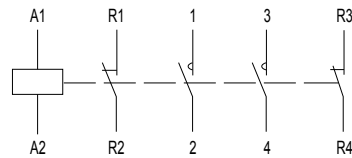


Control Voltage	I_e	Frame size	Poles	Aux. cont.	Article No.	Type	Packing
415 V AC	9 A	S12	4	-	101028	Ex9CS09 4P 415V	1/72
400 V AC	9 A	S12	4	-	101029	Ex9CS09 4P 400V	1/72
380 V AC	9 A	S12	4	-	101030	Ex9CS09 4P 380V	1/72
240 V AC	9 A	S12	4	-	101031	Ex9CS09 4P 240V	1/72
230 V AC	9 A	S12	4	-	101032	Ex9CS09 4P 230V	1/72
220 V AC	9 A	S12	4	-	101033	Ex9CS09 4P 220V	1/72
127 V AC	9 A	S12	4	-	101034	Ex9CS09 4P 127V	1/72
110 V AC	9 A	S12	4	-	101035	Ex9CS09 4P 110V	1/72
48 V AC	9 A	S12	4	-	101036	Ex9CS09 4P 48V	1/72
42 V AC	9 A	S12	4	-	101037	Ex9CS09 4P 42V	1/72
36 V AC	9 A	S12	4	-	101038	Ex9CS09 4P 36V	1/72
24 V AC	9 A	S12	4	-	101039	Ex9CS09 4P 24V	1/72
415 V AC	9 A	S12	2+2	-	101040	Ex9CS09 4P/22 415V	1/72
400 V AC	9 A	S12	2+2	-	101041	Ex9CS09 4P/22 400V	1/72
380 V AC	9 A	S12	2+2	-	101042	Ex9CS09 4P/22 380V	1/72
240 V AC	9 A	S12	2+2	-	101043	Ex9CS09 4P/22 240V	1/72
230 V AC	9 A	S12	2+2	-	101044	Ex9CS09 4P/22 230V	1/72
220 V AC	9 A	S12	2+2	-	101045	Ex9CS09 4P/22 220V	1/72
127 V AC	9 A	S12	2+2	-	101046	Ex9CS09 4P/22 127V	1/72
110 V AC	9 A	S12	2+2	-	101047	Ex9CS09 4P/22 110V	1/72
48 V AC	9 A	S12	2+2	-	101048	Ex9CS09 4P/22 48V	1/72
42 V AC	9 A	S12	2+2	-	101049	Ex9CS09 4P/22 42V	1/72
36 V AC	9 A	S12	2+2	-	101050	Ex9CS09 4P/22 36V	1/72
24 V AC	9 A	S12	2+2	-	101051	Ex9CS09 4P/22 24V	1/72

Wiring diagrams



Ex9CS09 4P



Ex9CS09 4P/22

Miniature Contactors Ex9CS

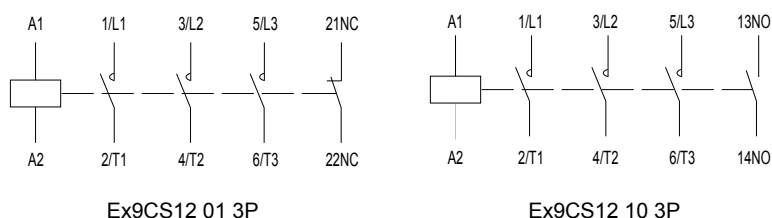
Rated current 12 A, 3-pole

- Miniature version of contactor
- Mounting onto device (DIN) rail 35 mm or onto panel
- Front-mounted auxiliary contacts AX41.. can be used
- Can be combined with overload relays Ex9R12



Control Voltage	I_e	Frame size	Poles	Aux. cont.	Article No.	Type	Packing
415 V AC	12 A	S12	3	1 NC	101052	Ex9CS12 01 3P 415V	1/72
400 V AC	12 A	S12	3	1 NC	101053	Ex9CS12 01 3P 400V	1/72
380 V AC	12 A	S12	3	1 NC	101054	Ex9CS12 01 3P 380V	1/72
240 V AC	12 A	S12	3	1 NC	101055	Ex9CS12 01 3P 240V	1/72
230 V AC	12 A	S12	3	1 NC	101056	Ex9CS12 01 3P 230V	1/72
220 V AC	12 A	S12	3	1 NC	101057	Ex9CS12 01 3P 220V	1/72
127 V AC	12 A	S12	3	1 NC	101058	Ex9CS12 01 3P 127V	1/72
110 V AC	12 A	S12	3	1 NC	101059	Ex9CS12 01 3P 110V	1/72
48 V AC	12 A	S12	3	1 NC	101060	Ex9CS12 01 3P 48V	1/72
42 V AC	12 A	S12	3	1 NC	101061	Ex9CS12 01 3P 42V	1/72
36 V AC	12 A	S12	3	1 NC	101062	Ex9CS12 01 3P 36V	1/72
24 V AC	12 A	S12	3	1 NC	101063	Ex9CS12 01 3P 24V	1/72
415 V AC	12 A	S12	3	1 NO	101064	Ex9CS12 10 3P 415V	1/72
400 V AC	12 A	S12	3	1 NO	101065	Ex9CS12 10 3P 400V	1/72
380 V AC	12 A	S12	3	1 NO	101066	Ex9CS12 10 3P 380V	1/72
240 V AC	12 A	S12	3	1 NO	101067	Ex9CS12 10 3P 240V	1/72
230 V AC	12 A	S12	3	1 NO	101068	Ex9CS12 10 3P 230V	1/72
220 V AC	12 A	S12	3	1 NO	101069	Ex9CS12 10 3P 220V	1/72
127 V AC	12 A	S12	3	1 NO	101070	Ex9CS12 10 3P 127V	1/72
110 V AC	12 A	S12	3	1 NO	101071	Ex9CS12 10 3P 110V	1/72
48 V AC	12 A	S12	3	1 NO	101072	Ex9CS12 10 3P 48V	1/72
42 V AC	12 A	S12	3	1 NO	101073	Ex9CS12 10 3P 42V	1/72
36 V AC	12 A	S12	3	1 NO	101074	Ex9CS12 10 3P 36V	1/72
24 V AC	12 A	S12	3	1 NO	101075	Ex9CS12 10 3P 24V	1/72

Wiring diagrams



Miniature Contactors Ex9CS

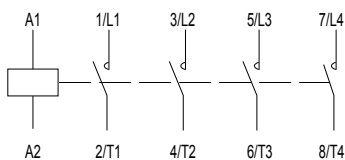
Rated current 12 A, 4-pole

- Miniature version of contactor
- Mounting onto device (DIN) rail 35 mm or onto panel
- Front-mounted auxiliary contacts AX41.. can be used

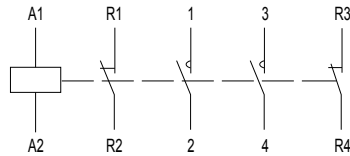


Control Voltage	I_e	Frame size	Poles	Aux. cont.	Article No.	Type	Packing
415 V AC	12 A	S12	4	-	101076	Ex9CS12 4P 415V	1/72
400 V AC	12 A	S12	4	-	101077	Ex9CS12 4P 400V	1/72
380 V AC	12 A	S12	4	-	101078	Ex9CS12 4P 380V	1/72
240 V AC	12 A	S12	4	-	101079	Ex9CS12 4P 240V	1/72
230 V AC	12 A	S12	4	-	101080	Ex9CS12 4P 230V	1/72
220 V AC	12 A	S12	4	-	101081	Ex9CS12 4P 220V	1/72
127 V AC	12 A	S12	4	-	101082	Ex9CS12 4P 127V	1/72
110 V AC	12 A	S12	4	-	101083	Ex9CS12 4P 110V	1/72
48 V AC	12 A	S12	4	-	101084	Ex9CS12 4P 48V	1/72
42 V AC	12 A	S12	4	-	101085	Ex9CS12 4P 42V	1/72
36 V AC	12 A	S12	4	-	101086	Ex9CS12 4P 36V	1/72
24 V AC	12 A	S12	4	-	101087	Ex9CS12 4P 24V	1/72
415 V AC	12 A	S12	2+2	-	101088	Ex9CS12 4P/22 415V	1/72
400 V AC	12 A	S12	2+2	-	101089	Ex9CS12 4P/22 400V	1/72
380 V AC	12 A	S12	2+2	-	101090	Ex9CS12 4P/22 380V	1/72
240 V AC	12 A	S12	2+2	-	101091	Ex9CS12 4P/22 240V	1/72
230 V AC	12 A	S12	2+2	-	101092	Ex9CS12 4P/22 230V	1/72
220 V AC	12 A	S12	2+2	-	101093	Ex9CS12 4P/22 220V	1/72
127 V AC	12 A	S12	2+2	-	101094	Ex9CS12 4P/22 127V	1/72
110 V AC	12 A	S12	2+2	-	101095	Ex9CS12 4P/22 110V	1/72
48 V AC	12 A	S12	2+2	-	101096	Ex9CS12 4P/22 48V	1/72
42 V AC	12 A	S12	2+2	-	101097	Ex9CS12 4P/22 42V	1/72
36 V AC	12 A	S12	2+2	-	101098	Ex9CS12 4P/22 36V	1/72
24 V AC	12 A	S12	2+2	-	101099	Ex9CS12 4P/22 24V	1/72

Wiring diagrams



Ex9CS12 4P



Ex9CS12 4P/22

Technical Data Ex9CS

Miniature Contactors Ex9CS06, Ex9CS09, Ex9CS12

General parameters

Very compact dimensions

Contactors rated at AC-3

Suitable for industrial as well as domestic applications

3 and 4-pole versions

Mounting onto device rail (DIN) 35 mm or onto panel

With or without built-in auxiliary contacts

Accessories

Front-mounted auxiliary contacts	AX41	101435, 101280, 101281, 101282, 101283
Surge suppression blocks	CCU41	104501, 104502, 104503

Electrical parameters - main contacts and general

	Ex9CS06	Ex9CS09	Ex9CS12
Tested according to	IEC/EN 60947-4-1		
Rated op. voltage U_e	690 V AC		
Rated insulating voltage U_i	690 V AC		
Rated impulse withstand voltage U_{imp}	6 kV	6 kV	6 kV
Rated frequency	50/60 Hz		
Interlocked opposing contacts according to EN 60947-4-1, Annex L	yes	yes	yes
Conventional free air thermal current I_{th}	20 A	20 A	20 A
Rated operational current I_e			
AC-1	20 A	20 A	20 A
AC-2/AC-3/AC-4, 380/400 V	6 A	9 A	12 A
AC-2/AC-3/AC-4, 660/690 V	3.8 A	4.9 A	4.9 A
Rated power of 3-phase motor			
AC-3/AC-4, 380/400 V	2.2 kW	4 kW	5.5 kW
AC-3/AC-4, 660/690 V	3 kW	4 kW	4 kW
Maximum short circuit protection fuse			
Coordination type 1 at 500 V AC	25 A gG/gL	25 A gG/gL	25 A gG/gL
Coordination type 2 at 500 V AC	20 A gG/gL	20 A gG/gL	20 A gG/gL
Safe isolation (EN 61140)			
Main contact — main contact	400 V AC	400 V AC	400 V AC
Main contact — coil	400 V AC	400 V AC	400 V AC
3-phase power AC-1			
Maximum back-up fuse gG/gL	36 A	36 A	36 A
Power at 230/240 V	8 kW	8 kW	8 kW
Power at 380/400 V	13 kW	13 kW	13 kW
Power at 660/690 V	23 kW	23 kW	23 kW
Rated current $I_e = I_{th}$	20 A	20 A	20 A
1-phase power AC-1, 3 contacts in parallel			
Maximum back-up fuse gG/gL	63 A	63 A	63 A
Power at 230/240 V	18 kW	18 kW	18 kW
Power at 380/400 V	30 kW	30 kW	30 kW
Power at 660/690 V	51 kW	51 kW	51 kW
Rated current $I_e = I_{th}$	45 A	45 A	45 A

Technical Data Ex9CS

Miniature Contactors Ex9CS06, Ex9CS09, Ex9CS12

Electrical parameters - main contacts and general

	Ex9CS06	Ex9CS09	Ex9CS12
Making capacity			
230/240 V	144 A	144 A	144 A
380/400 V	144 A	144 A	144 A
660/690 V	144 A	144 A	144 A
Breaking capacity			
230/240 V	60 A	90 A	120 A
380/400 V	60 A	90 A	120 A
660/690 V	38 A	49 A	49 A
Mechanical service life	10 000 000 operation cycles		
Electrical service life 380/400 V			
AC-3	1 200 000 operation cycles		
AC-4	50 000 operation cycles	40 000 operation cycles	40 000 operation cycles
Overvoltage category	III		
EMC environment	A		
Comparative Tracking Index	400 V		
Prospective short circuit current I_q	50 kA		

Electrical parameters - coil

	Ex9CS06	Ex9CS09	Ex9CS12
Control Voltage U_c	24, 36, 42, 48, 110, 127, 220, 230, 240, 380, 400, 415 V AC		
Tolerance of Control Voltage U_c	0.8 — 1.1 U_c	0.8 — 1.1 U_c	0.8 — 1.1 U_c
Frequency	50 Hz	50 Hz	50 Hz
Power consumption			
Pick-up	70 VA / 30 W	70 VA / 30 W	70 VA / 30 W
Hold	7.5 VA / 3 W	7.5 VA / 3 W	7.5 VA / 3 W
Duty	100 %	100 %	100 %
Closing delay	10 — 20 ms	10 — 20 ms	10 — 20 ms
Opening delay	4 — 16 ms	4 — 16 ms	4 — 16 ms
Closing delay with front-mounted AX	5 — 15 ms	5 — 15 ms	5 — 15 ms

Electrical parameters - built-in auxiliary contacts

Rated op. voltage U_e	690 V AC
Rated insulating voltage U_i	690 V AC
Rated impulse withstand voltage U_{imp}	6 kV
Rated frequency	50 Hz
Interlocked opposing contacts according to EN 60947-4-1, Annex L	yes
Conventional free air thermal current I_{th}	10 A
Rated operational current I_e	
AC-15	6 A / 120 V, 3 A / 240 V, 1.9 A / 380 V, 1.5 A / 480 V, 1.2 A / 600 V
DC-13	0.55 A / 125 V, 0.27 A / 250 V
Max. back-up fuse	10 A gG/gL
Conditional short circuit current I_k with max. back-up fuse	1 kA

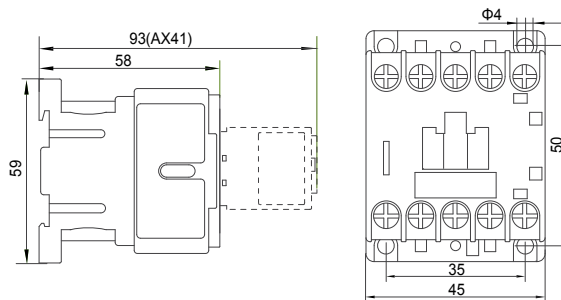
Technical Data Ex9CS

Miniature Contactors Ex9CS06, Ex9CS09, Ex9CS12

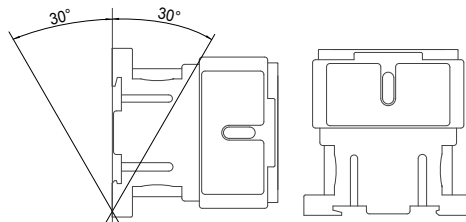
Mechanical parameters

	Ex9CS06	Ex9CS09	Ex9CS12
Device width	45 mm		
Device height	59 mm including rail clip		
Device depth	58 mm (without front-mounted auxiliary contact)		
Mounting	easy fastening onto 35 mm device rail (DIN) or onto panel		
Degree of protection	IP20		
Terminals	lift		
Terminal capacity	1 — 2.5 mm ²		
Fastening torque of terminals	0.7 — 0.8 Nm		
Ambient temperature	-20 — +60 °C		
Altitude	≤ 2000 m		
Relative humidity	≤ 95 %		
Resistance to humidity and heat	class 2		
Pollution degree	3		
Installation class	III		
Weight	0.18 kg	0.18 kg	0.18 kg
Power loss at I_e	0.2 W	0.2 W	0.2 W

Dimensions



Mounting positions



Wiring diagrams

