

1 Phase electronic contactor (SC 1)



- Rated operational voltage up to 600VAC 50/60 Hz
- Rated operational current up to 15/30A/50/63A AC-1
- Control voltage from 5-24 VDC or 24-230 VAC/DC Compact modular design 22.5, 45, or 90 mm
- LED Status indication
- Meets EN 60947-4-3 requirements
- Requires no additional components
- Built-in varistor protection
- IP-20 Protection

Load AC-1/51 Heating - element	Load AC-3 Motor	Load AC-55b Lamp	Load AC-56a Trans- former	Contro	12-240VAC		by	by Item nummer by 24-480VAC 24-600VAC 50/60Hz 50/60Hz Line Voltage Line Voltage		;		Modul- breite	
	15A			5-24 VI	OC .	C SC 1 DD 2315		SC 1 DD 4015	SC 1 DD 6	015		22.5mm	
15A	10A by 600 VAC	15A	15A	24-230	VAC/DC	SC 1 DA 2315	5	SC 1 DA 4015	SC 1 DA 6	015		22.5mm	
224	454		454	5-24 VI	OC	SC 1 DD 2330)	SC 1 DD 4030				45mm	
30A	15A	20A	15A	24-230	VAC/DC SC 1 DA 2330)	SC 1 DA 4030				45mm	
				5-24 VI	OC .			SC 1 DD 4050				90mm	
50A	15A	20A	15A	24-230	VAC/DC			SC 1 DA 4050				90mm	
COA	004	40.4	004	5-24 VI	OC			SC 1 DD 4063 *	SC 1 DD 6	063 *		90mm	
63A	30A	40A	30A	24-230	VAC/DC			SC 1 DA 4063 *				90mm	
Output	load spec	ification	1	I						•		ı	
Leakage current					1mA ACm	ax.	Min. operational current				10mA		
Duty cycle					100%								
Control	terminal	specifica	tions								1		
SC 1 DD XXXX (DC)								DA XXXX (AC/DC)					
Control voltage					5-24 VDC		Cont	rol voltage			24-230 VAC/	DC	
Pick-up voltage max.					4.25 VDC			Pick-up voltage max.				;	
Drop-out	voltage min	l.			1.5 VDC			-out voltage min.			7.2 VAC/DC		
Control c	urrent volta	ge			15 mA@24 VDC			rol current / power r	6 mA / 1.5VA	@24 VDC			
Max. con	trol voltage				32 VDC			control voltage			253 VAC/DC		
Response	e time max.				1/2 cycle		Resp	oonse time max.			1 cycle		
Therma	l specifica	ation			l						II.		
Power dis	sipation for	continuous	s operation	PDmax	1.2 W/A			ation in ambient tem					
Power dis	ssipation for	intermitte	ent operatio	n PD	1.2 W/A x	dutycycle		luty-cycle as shown i				y roudonig	
Cooling n	nethod				Natural convection		By 40°C		By 50°C		By 60°C		
Mounting					Vertical +/	-30°	100% load Duty-cycle 100%		80% load Duty-cycle max. 0.8		70% load Duty-cycle max. 0.6		
Operating	g temperatu	re range E	EN 60947-4	-3	-5°C to 40	°C	Fnv	ironment	ı		1		
Max. oper	ating temper	ature with	current dera	ting	60°C		Environment Degree of protection IP 20 Pollution			Pollution d	legree	3	
Storage temperature EN 60947-4-3					-20°C to 8	0℃	Approval			1 Gilduoii d			
Insulati	on specific	cations			ı				proved SC1 D	(6015-1 + 50	1 DX XX63 + SC	DX 69YY	
Rated ins	ulation volt	age			Ui 660 V	olt	cUL Std No. 508. Not approved SC1 DX 6015-1+ SC1 DX XX63 + SC1 DX 69XX UL:Use thermal overload protection as required by the National Electric Code. When protected by a non-time delay K5 or H Class fuse, rated 266% of motor FLA, this device is rated for use on a circuit capable of delivering not more than 5,000 rms. symmetrical amperes, 600 V maximum. Maximum surrounding temperature 40°C.						
Rated ins	ulation volta	age #			Ui 690 V	olt 'olt							
Rated im	pulse withst	and voltag	je		Uimp. 4	kVolt							
Installatio	n catagory				III								

^{*} NOT cUL APPROVED

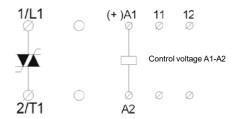


1 Phase electronic contactor (SC 1)

Wiring specifications

SC 1 DX XXXX

11-12: for UP62 or other wiring purposes



Short-circuit protection by fuses

Two type of short-circuit protection can be used:

Short-circuit protection by fuses

Fuse short-circuit protection is divided into 2 levels Type 1 or Type 2

Co-ordination Type 1: Short-circuit protects the installation SC 1 DX XX15 Protection max. 50A gL/gG SC 1 DX XX15-1 Protection max. 50A gL/gG SC 1 DX XX30 Protection max. 50A gL/gG SC 1 DX XX50 Protection max. 50A gL/gG SC 1 DX XX63 Protection max. 80A gL/gG

Co-ordination Type 2: Short-circuit protects the installation and the semi conductors inside the motor controller

SC 1 DX 2315 / 4015

SC 1 DX 6X15 / 6X15-1

Protection max. int of the fuse 1800 ArS
SC 1 DX 6X30 / 4030

SC 1 DX 6X30

Protection max. int of the fuse 610 ArS
SC 1 DX 6X30

Protection max. int of the fuse 6300 ArS
SC 1 DX 2330 / 4050

Protection max. int of the fuse 6300 ArS
SC 1 DX 6X50

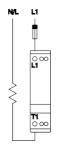
Protection max. int of the fuse 6300 ArS
SC 1 DX XX63

Protection max. int of the fuse 6300 ArS
SC 1 DX XX63

Protection max. int of the fuse 6300 ArS

Fuses from e.g. Ferraz, Siba, Bussmann can be used as short-circuit protection Type 2 More information concerning Co-ordination Type 2 see page 45

Short Circuit Protection with standard fuse for SC1DX..15



Short Cicuit Protection for SC1 DX XX15 (15 A Type) Co-ordination Type 2

Line Voltage up to 480 V. Due to the over sized Output SCR's the contactor is fully protected by a standard fuse up to 16 A. Operating Class gL/gG..

No need for Ultra Fast Fuses Max Load at 230 V: 3.5 kW Max Load at 400 V: 6.0 kW Max Load at 480 V: 7.2 kW

EMC

This component meets the requirements of the product standard EN 60947-4-3 and is CE marked according to this standard. This products has been designed for class A equipment. Use of the product in domestic environments may cause radio interference, in which case the user may be required to employ additional mitigation methods.

Utilisation Categories (EN 60947-4-3)

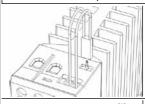
AC - 51 Switching of resistive loads

AC - 55a Switching of electric discharge lamp controls

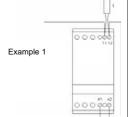
AC - 55b Switching of incandescent lamps

AC - 56a Switching of transformers

Thermal overload protection (see also page 44)



Optional thermal overload protection is possible by inserting a thermostat in a slot on the right hand side of the electronic contactor. Type number UP62

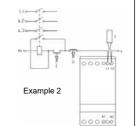


The thermostat can be connected in series with the control circuit of the electronic contactor.

When the temperature of the heatsink exceeds 90°C the electronic contactor will switch Off.

Note:

When the temperature has dropped approx. 30°C the electronic contactor will automatically be switched on again.



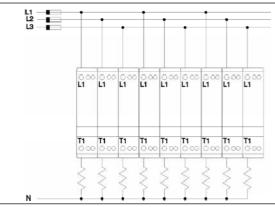
The thermostat is connected in series with the control circuit of the main contactor.

When the temperature of the heatsink exceeds 90°C the main contactor will switch Off.

Note:

A manual reset is necessary to restart this circui

Common Short Circuit Protection SC 1 DX XX15



Short Cicuit Protection for several Contactors e.g. SC1 DX XX15

Max Fuse 50 A gL/gG for Short Circuit Coordination type 1

SC1 DX 2315 / SC 1 DX 4015 Max Fuse 1800 Ars e.g. Siemens SILIZED 5SD4 60

SC1 DX 6015 Max Fuse 450 A2s

e.g. Siemens SILIZED 5SD4 50 Short Circuit Coordination type 2

Short Circuit Coordination type 2 Dimensions (se also page 44)

Туре	Н	D	W
22.5 mm module	94 mm	124.3 mm	22.5 mm
45 mm module	94 mm	124.3 mm	45 mm
90 mm module	94 mm	124.3 mm	90 mm

Mounting and cable wiring information

Mounting information see page 44 / Cable wiring see page 45



1 Phase dual pole electronic contactor (SC 2)



Load

Item selection and technical specifications

Load

Load

Load

- Rated operational voltage up to 600VAC 50/60 Hz
- Rated operational current up to 30 / 50A AC-1 (accumulated)
- Control voltage from 5-24 VDC or 24-230 VAC/DC
- Compact modular design 45 or 90 mm
- LED Status indication
- Meets EN 60947-4-3 requirements
- Requires no additional components

Item number by

- Built-in varistor protection IP-20 Protection

AC-1/51 Heating- element	AC-3 Motor	AC-55b Lamp	AC-56a Trans- former	Contro	24-480VΔC 50/60Hz				Modu width						
30A ¹	15A	20A	15A	5-24 VI	OC .			SC 2 DD 403	30					45mn	n
accumulated	IDA	20A	15A	24-230	VAC/DC			SC 2 DA 403	80					45mn	n
50A ¹	15A	20A	15A	5-24 VI	OC .			SC 2 DD 405	50				90mn		n
accumulated	IJA	20/4	13/4	24-230	VAC/DC			SC 2 DA 405	50		(90mn	n
¹ The indic	ated loads	are accumul	ated. E.g. th	e total su	m of the curi	rent in L1 & L2 (1	Ix30A or 2x	15A)							
Output	load sp	ecificatio	n												
Leakage current					1mA ACm	ax.	Min. opera	tional current					10mA		
Duty cycle					100%										
Contro	l termina	al specifi	cations												
SC 2 DD XXXX (DC)				SC 2 DA XXXX (AC/DC			(XXX (AC/DC)	C)							
Control voltage				5-24 VDC		Control voltage						24-230 VAC/DC			
Pick-up voltage max.				4.25 VDC		Pick-up voltage max.						20.4 VAC/DC			
Drop-out	Drop-out voltage min.				1.5 VDC		Drop-out v	oltage min.					7.2 VAC/DC		
Control co	Control current voltage				15 mA@2	4 VDC	Control cu	rrent / power n	nax.				6mA / 1.5VA	.@24	VDC
Max. con	trol voltage	•			32 VDC		Max. conti	ol voltage					253 VAC/DC	;	
Response	e time max	ί.			1/2 cycle Response time max.				1 cycle						
Therma	al specifi	ication													
Power dis	ssipation fo	r continuous	operation F	PDmax	2.2 W/A a	ccumulated		in ambient tem							
Power dis	ssipation fo	or intermitte	nt operation	n PD	2.2 W/A x	dutycycle		cle as shown						by real	icing
Cooling n	nethod				Natural convection		By 40°C		By 50°C				By 60°C		
Mounting					Vertical +/	Vertical +/-30 ^o		Outy-cycle 100%	80% load Duty-cycle max. 0.8		ax. 0.8	70% load Duty-cycle max. 0.6		ax. 0.65	
Operating	g temperatu	ıre range E	N 60947-4-	2	-5°C to 40)oC	Environment								
Max. oper	Max. operating temperature with current derating			ing	60°C		Degree of protection			IP 20	Pollu	ution de	egree 3		
Storage to	Storage temperature EN 60947-4-2				-20 ^o C to 8	30°C	Approval								
Insulat	ion spec	ifications	3				ULc Std N	o. 508							
Rated ins	ulation volt	age			Ui 660 V	olt		ermal overload en protected b							
Rated imp	pulse withs	tand voltag	е		Uimp. 4 k	Volt	of motor F	LA, this device han 5,000 rms	ė is i	ated for u	use or	ı a circı	uit capable of	delive	
Installatio	on category	1			III			surrounding te	•			, 0		•	
					1		1								

Specifications are subject to change without notice

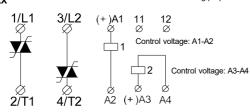


1 Phase dual pole electronic contactor (SC 2)

Wiring specifications

SC 2 DX XXXX

11-12: for UP62 or other wiring purposes



Short-circuit protection by fuses

Two type of short-circuit protection can be used:

Short-circuit protection by fuses

Short-circuit protection is divided into 2 levels Type 1 or Type 2

 Co-ordination Type 1: Short-circuit protects the installation

 SC 2 DX XX30
 Protection max. 50A gL/gG

 SC 2 DX XX50
 Protection max. 50A gL/gG

Co-ordination Type 2: Short-circuit protects the installation and the semiconductors inside the motor controller

SC 2 DX XX30 Protection max. i²t of the fuse 1800 A²S SC 2 DX XX50 Protection max. i²t of the fuse 1800 A²S

Fuses from e.g. Ferraz, Siba, Bussmann can be used as short-circuit protection Type 2

More information concerning Co-ordination Type 2 see page 45

EMC

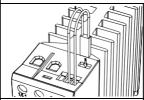
This component meets the requirements of the product standard EN 60947-4-3 and is CE marked according to this standard.

This products has been designed for class A equipment. Use of the product in domestic environments may cause radio interference, in which case the user may be required to employ additional mitigation methods.

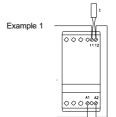
Dimensions (se also page 44)

Туре	Н	D	W
45 mm module	94 mm	124.3 mm	45 mm
90 mm module	94 mm	124.3 mm	90 mm

Thermal overload protection (see also page 44)



Optional thermal overload protection is possible by inserting a thermostat in a slot on the right hand side of the electronic contactor. Type number UP62

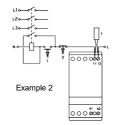


The thermostat can be connected in series with the control circuit of the electronic contactor.

When the temperature of the heatsink exceeds 90°C the electronic contactor will switch Off.

Note:

When the temperature has dropped approx. 30°C the electronic contactor will automatically be switched on again.



The thermostat is connected in series with the control circuit of the main contactor.

When the temperature of the heatsink exceeds 90°C the main contactor will switch Off.

Note:

A manual reset is necessary to restart this circuit.

Utilisation Categories (EN 60947-4-3)

AC - 51 Switching of resistive loads

AC - 55a Switching of electric discharge lamp controls

AC - 55b Switching of incandescent lamps

AC - 56a Switching of transformers

Mounting and cable wiring information

Mounting information see page 44 / Cable wiring see page 45



3 Phase electronic contactor (SC 3)



- Rated operational voltage up to 600VAC 50/60 Hz
- Rated operational current up to 10 ,15 and 20 A AC-1
- Control voltage from 5-24 VDC or 24-230 VAC/DC
- Compact modular design 45 or 90 mm
- LED Status indication
- Meets EN 60947-4-3 requirements
- Requires no additional components
 Built-in varistor protection
 IP-20 Protection

Item se	lection a	nd techni	cal specif	cations	<u> </u>								
Load AC-1/51 Heating- element	Load AC-3 Motor	Load AC-55b Lamp	Load AC-56a Trans- former	Contro		Item number by 24-480VAC 50/60Hz Line Voltage			50/60Hz		n number by 600VAC 50/60Hz voltage		
				5-24 VI	OC .			SC 3 DD 40	10	SC 3 DD 60	10	45mm	
10A	10A	10A	5A	24-230	VAC/DC			SC 3 DA 401	10	SC 3 DA 60	10	45mm	
				5-24 VI	DC			SC 3 DD 402	20			90mm	
20A	10A	10A	5A	24-230	VAC/DC			SC 3 DA 4020				90mm	
Output	load spe	cification	•			•		•		•		•	
Leakage	current				1mA ACm	ax.	Min. opera	ational current			10mA		
Duty cycle				100%									
Control	terminal	specifica	tions										
SC 3 DD	XXXX (DC	C)			SC 3 DA X			XXXX (AC/DC)				
Control voltage					5-24 VDC		Control vo	Control voltage				C/DC	
Pick-up voltage max.					4.25 VDC		Pick-up vo	oltage max.			20.4 VAC/DC		
Drop-out	voltage mi	in.			1.5 VDC Drop-ou			oltage min.			7.2 VAC/D0		
Control c	urrent volta	age			15 mA@24 VDC Control co			rrent / power r	max.		6mA / 1.5V	A@24 VDC	
Max. con	trol voltage	e			32 VDC Max. con			rol voltage			253 VAC/D	С	
Respons	e time max	c. (ON/OFF))		1/2 cycle		Response	time max. (Ol	N/OFF)		1 cycle		
Therma	al specific	ation			l						•		
Power dis	ssipation fo	r continuous	operation I	PDmax	3.3 W/A			in ambient ten					
Power di	ssipation fo	or intermitte	nt operatio	n PD	3.3 W/A x	dutycycle		cle as shown				<i>2</i> ,	
Cooling r	method				Natural co	nvection	By 40°C		By 50°C		By 60°C		
Mounting					Vertical +/	-30 ^o	100% load I	d Duty-cycle 100% 80% load Dut		ty-cycle max. 0.8 70% load D		outy-cycle max. 0.65	
Operatin	g temperat	ure range E	N 60947-4-	3	-5 ^O C to 40	°C	Environr	ment					
Max. ope	rating tempe	erature with	current dera	ing	60°C			Degree of protection IP 20		Pollution degree		3	
Storage t	emperatur	e EN 60947	7-4-3		-20 ^o C to 8	80°C	Approval						
Insulati	on specif	ications						o. 508 (Not	approved S	C3DX4015)			
Rated ins	sulation vol	tage			Ui 660 V	olt	UL: Use th	nermal overloa en protected b	d protection	as required b			
Rated im	pulse withs	stand voltag	е		Uimp. 4 k	Volt	266% of m	notor FLA, this more than 5,0	device is rat	ed for use on	a circuit cap	able of deli-	
Installatio	on catagory	/			III			surrounding to			5155, 000 V II	iaaliiiulii.	



3 Phase electronic contactor (SC 3)

Wiring specifications		Thermal overlo	oad protection	(see also page 44)					
1/L1 3/L2	11-12: for UP62 or other wiring purposes 5/L3 (+)A1 11 12 Control voltage: A1-A2			Optional thermal overload protection is possible by inserting a thermostat in a slot on the right hand side of the electro nic contactor. Type number UP62					
2/T1 4/T2	Ø Ø Ø Ø 6/T3 A2	Example 1	00000	The thermostat can be series with the control tronic contactor.	circuit of the elec-				
Short-circuit protection by	fuses	_		When the temperature exceeds 90 ^o C the elec					
Two type of short-circuit protect Short-circuit protection by fuses Short-circuit protection is divide			A1 A2	will switch Off. Note: When the temperature approx. 30 ^o C the elect automatically be switcl	ronic contactor will				
Co-ordination Type 1: Short-circ SC 3 DX XX10	cuit protects the installation Protection max. 50A gL/gG	No. of a		automatically be switch	led on again.				
SC 3 DX XX20 Co-ordination Type 2: Short-circl ductors inside the motor control SC 3 DX XX10	Protection max. 50A gL/gG uit protects the installation and the semicon- ler Protection max. i²t of the fuse 610 A²S	L2000	1 000000	The thermostat is connwith the control circuit contactor. When the temperature	of the main of the heatsink				
SC 3 DX XX20	Protection max. i ² t of the fuse 610 A ² S	Evenne 2		exceeds 90 ⁰ C the ma switch Off.	in contactor will				
Fuses from e.g. Ferraz, Siba, Bussm be used as short-circuit protection Ty		Example 2		Note: A manual reset i restart this circuit.	s necessary to				
More information concerning Co-ordi	nation Type 2 see page 45			20.47 4.0)					
EMC		Utilisation Categories (EN 60947-4-3)							
60947-4-3 and is CE marked at This products has been designed	for class A equipment. Use of the product in eradio interference, in which case the user	AC - 55a Switchi	ning of resistive loa ng of electric disc ng of incandescer ing of transformer	harge lamp controls					
Mounting and cable wiring	j information	Dimensions (se	e also page 44)						
Mounting information see page	44 / Cable wiring see page 45	Type 45 mm module 90 mm module	D 124.3 mm 124.3 mm	W 45 mm 90 mm					



3-Phase electronic reversing contactor



- Rated operational voltage up to 480 VAC 50/60Hz
- Rated operational current up to 10A AC-3
- Two independent control inputs with mutual interlock
- Control voltage from 5-24VDC or 24-230VAC/DC

- LED Status indication
 Meets EN 60947-4-2 requirements
 Requires only 45 mm DIN rail space

	l		1	\neg					
Load ratings AC-53 motor load stand. AC-4 motor load inching / plugging	Control voltage		Item number by 24-480VAC 50/60Hz Line Voltage				Mod	lule-widt	h
10A AC-53 / 8A AC-4	5-24 VDC		SRC 3 DD 4010				45m	m	
10A AC-53 / 8A AC-4	24-230 VAC/DC		SRC 3 DA 4010				45m	m	
Output load specif	fication		1						
Operational current AC-	3	10A	Leakage current				5mA	A ACmax.	
Operational current AC-	4	8A	Min. operational current	t			50m	Α	
Duty cycle		100%							
Control terminal s	pecifications								
SRC 3 DD 4010			SRC 3 DA 4010						
Control voltage		5 - 24 VDC	Control voltage				24- 2	230 VAC/	DC
Pick-up voltage max.		4.25 VDC	Pick-up voltage max.				20.4	20.4 VAC/DC	
Drop-out voltage min.		1.5 VDC	Drop-out voltage min.			7.2 \	7.2 VAC/DC		
Control current		25mA @ 4VDC	Control current / power	Control current / power max.			6mA	A / 1.5VA	@24VD0
Response time max.		1/2 cycle	Response time max.				1cycle		
Interlock time max.		80 msec.	Interlock time max.					150 msec.	
Thermal specificat	tion		•				•		
Power dissipation for cor	ntinuous operation PDmax	2.2 W/A	Operation in ambient te dissipation is limited eith						
Power dissipation for int	ermittent operation PD	2.2 W/A x dutycycle	the duty-cycle of the cor						
Cooling method		Natural convection	By 40°C By 50°C		By 60 ⁰	 РС			
Mounting		Vertical +/-30 ^o	100% load Duty-cycle 100% 100% load Duty-cycle max. 0.8				00% load Duty-cycle max. 0.65		
Operating temperature r	ange EN 60947-4-2	-5C ^o to 40 ^o C	Environment						
Storage temperature EN	1 60947-4-2	-20C ^o to 80 ^o C	Degree of protection			Pollution de	egree 3		3
Max. operating temperatu	re with current derating	60°C		*This products has been designed for class A equipme			<u> </u>		
Insulation specific	ations		domestic environments n	nay c	ause radio	interference,			
Rated insulation voltage		Ui 660 Volt	be required to employ additional mitigation methods. *UL:Use thermal overload protection as required by the National Electric Co						Code.
Rated impulse withstand	l voltage	Uimp. 4 kVolt	When protected by a nor	n-time	e delay K5	or H Class fus	e, ratec	d 266% of	motor
Installation catagory		III		FLA, this device is rated for use on a circuit capable of de 5,000 rms. symmetrical amperes, 600 V maximum. Maxim perature 40°C					
Functional diagrar	n		Approval						
Maina I 1 I 2 I 2			ULc Std No. 508 / CAN	/CSA	A-C22.2				
Mains L1,L2,L3 Forward A1-A2			Mounting and cal	ole v	wiring ir	formation			
roiward A1-A2			Mounting information s	ee pa	age 36 / C	able wiring s	ee page	e 37	
Dovorco A2 A4			-						
Reverse A3-A4			Dimensions (se als	o pa	ge 36)				

45 mm module

94 mm

128.1 mm

45 mm



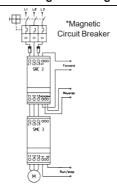
3-Phase electronic reversing contactor

Wiring specifications

SRC 3 DX 4010

For UP 62 or other wiring purposes 1/L1 3/L2 5/L3 (+)A1 11 12 2/T1 4/T2 6/T3 A2 (+)A3 A4 Control voltage A1-A2 Control voltage A3-A4

Combining Reversing Electronic Contactor & Soft Starter



Soft-reversing of motors up to 10A

A Soft-Reversing of a motor can easily be achieved by connecting a reversing relay to the Soft Starter. The reversing relay type SRC 3 DX will determine the direction of rotation Forward or Reverse and the Soft Starter type SMC 33 DA XXXX will perform soft-starting and soft-stopping of the motor. If soft-stop is not required the application can be simplified by connecting the control circuit of the Soft Starter to the main terminals as shown under Line Controlled Soft-Start. A delay of approx. 0.5 sec. between forward and reverse control signal must be allowed to avoid influence from the voltage generated by the motor during turn Off.

Short-circuit protection by circuit breaker or fuses

Two type of short-circuit protection can be used:

- a) Short-circuit protection by circuit breaker.
- b) Short-circuit protection by fuses.

Short-circuit protection is divided into 2 levels Type 1 or Type 2

Co-ordination Type 1: Short-circuit protects the installation

Co-ordination Type 2: Short-circuit protects the installation and the semiconductors inside the motor controller

a) Short-circuit protection by circuit breaker

A 3-Phase motor with correctly installed and adjusted overload relay will not short circuit totally to earth or between the 3 phases. Part of the winding will normally limit the short circuit current to a value that will cause instantaneous magnetic tripping of the circuit breaker without damage to the electronic contactor. The magnetic trip response current is approx. 11 times the max. adjustable current.

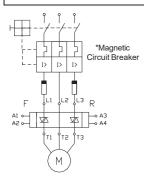
b) Short-circuit protection by fuses

Type 1: SRC 3 DX 4010 Protection max. 50 A gL/gG

Type 2: SRC 3 DX 4010 Protection max. l2t of the fuse 610 A2S

Fuses from e.g. Ferraz, Siba, Bussmann can be used as short-circuit protection Type 2 More information concerning Co-ordination Type 2 see page 37

Overload Protection in Motor Control Reversing



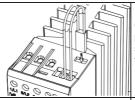
Overload protection of the motor is easily achieved by installing a manual thermal magnetic circuit breaker on the supply side of the motor.

The circuit breaker provides means for padlocking and the necessary clearance for use as a circuit isolator according to EN 60204-1

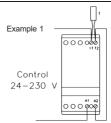
Adjust the current limit on the MCB according to the rated nominal current of the motor

*Use UL approved Magnetic Circuit Breaker or UL specified back-up fuse type K5 or H Class

Thermal overload protection (see also page 36)



Optional thermal overload protection is possible by inserting a thermostat in a slot on the right hand side of the contactor. Type number UP62

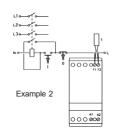


The thermostat can be connected in series with the control circuit of the contactor

When the temperature of the heatsink exceeds 90°C the soft starter will switch Off

Note:

When the temperature has dropped approx. 30°C the contactor will automatically be switched on again.



The thermostat is connected in series with the control circuit of the main contactor.

When the temperature of the heatsink exceeds 90°C the main contactor will switch Off

A manual reset is necessary to restart this circuit.

Utilisation Categories EN60947-4-2

Category AC-53: Starting, switching off motors during running

Category AC-4: Starting, plugging, reversing the motors rapidly while the motor is during.

EMC

This component meets the requirements of the product standard EN60947-4-2 and is CE marked according to this standard.