

1 Phase electronic contactor



- Rated operational voltage up to 600VAC 50/60 Hz
- Rated operational current up to 10/15/30/50/63A 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

Item selection and technical specifications

Load AC-1/51 Heating-element	Load AC-3 Motor	Load AC-55b Lamp	Load AC-56a Transformer	Control voltage	Item number by 12-240VAC 50/60Hz Line Voltage	Item number by 24-480VAC 50/60Hz Line Voltage	Item number by 48-600VAC 50/60Hz Line Voltage	Module-width
10A	NA	2A	3A	5-24 VDC	SC 1 DD 2310			22.5mm
15A	15A 10A by 600 VAC	15A	15A	5-24 VDC	SC 1 DD 2315	SC 1 DD 4015	SC 1 DD 6015	22.5mm
				24-230 VAC/DC	SC 1 DA 2315	SC 1 DA 4015	SC 1 DA 6015	22.5mm
30A	15A	20A	15A	5-24 VDC	SC 1 DD 2330	SC 1 DD 4030	SC 1 DD 6030	45mm
				24-230 VAC/DC	SC 1 DA 2330	SC 1 DA 4030	SC 1 DA 6030	45mm
50A	15A	20A	15A	5-24 VDC	SC 1 DD 2350	SC 1 DD 4050	SC 1 DD 6050	90mm
				24-230 VAC/DC	SC 1 DA 2350	SC 1 DA 4050	SC 1 DA 6050	90mm
63A	30A	40A	30A	5-24 VDC	SC 1 DD 2363	SC 1 DD 4063	SC 1 DD 6063	90mm
				24-230 VAC/DC	SC 1 DA 2363	SC 1 DA 4063	SC 1 DA 6063	90mm

Output load specification

Leakage current	1mA ACmax.	Min. operational current	10mA
Duty cycle	100%		

Control terminal specifications

SC 1 DD XXXX (DC)		SC 1 DA XXXX (AC/DC)	
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 voltage min.	1.5 VDC	Drop-out voltage min.	7.2 VAC/DC
Control current voltage	15 mA@4 VDC	Control current / power max.	6 mA / 2.5VA@24 VDC
Max. control voltage	32 VDC	Max. control voltage	253 VAC/DC
Response time max.	1/2 cycle	Response time max.	1 cycle

Thermal specification

Power dissipation for continuous operation PDmax	1.2 W/A	Operation in ambient temperatures exceeding 40°C is possible if the power dissipation is limited either by reducing the steady-state current or by reducing the duty-cycle as shown in the table. Max.cycle time 15min.		
Power dissipation for intermittent operation PD	1.2 W/A x dutycycle			
Cooling method	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. 0.65
Operating temperature range EN 60947-4-2	-5°C to 40°C			
Storage temperature EN 60947-4-2	-20°C to 80°C			
Max. operating temperature with current derating	60°C			

Environment

Degree of protection	IP 20	Pollution degree	3
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*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.

*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.

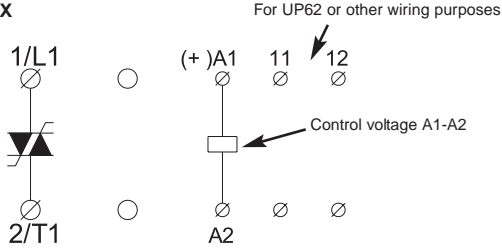
Insulation specifications

Rated insulation voltage	Ui 660 Volt
Rated impulse withstand voltage	Uimp. 4 kVolt
Installation catagory	III

1 Phase electronic contactor

Wiring specifications

SC 1 DX XXXX



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

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

b) Short-circuit protection by fuses

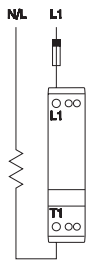
Type 1: SC 1 DX XX10 Protection max. 16A gL/gG
 Type 1: SC 1 DX XX15 Protection max. 50A gL/gG
 Type 1: SC 1 DX XX30 Protection max. 50A gL/gG
 Type 1: SC 1 DX XX50 Protection max. 50A gL/gG
 Type 1: SC 1 DX XX63 Protection max. 80A gL/gG

Type 2: SC 1 DX XX10 Protection max. I_{zt} of the fuse 180 A2S
 Type 2: SC 1 DX XX15 Protection max. I_{zt} of the fuse 1800 A2S
 Type 2: SC 1 DX 6015 Protection max. I_{zt} of the fuse 610 A2S
 Type 2: SC 1 DX XX30 Protection max. I_{zt} of the fuse 1800 A2S
 Type 2: SC 1 DX XX50 Protection max. I_{zt} of the fuse 1800 A2S
 Type 2: SC 1 DX XX63 Protection max. I_{zt} of the fuse 6300 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

Short Circuit Protection with standard fuse for SC1DX..15



Short Circuit Protection for SC1 DX XX15 (15 A Type) Co-ordination Type 2
 Line Voltage up to 480 V. Due to the oversized 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

Approval

ULC Std No. 508 / CAN/CSA-C22.2 (10A not included)

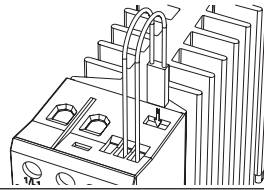
EMC

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

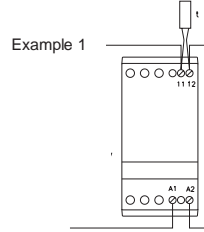
Utilisation Categories (EN 60947-4-3)

- 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 36)



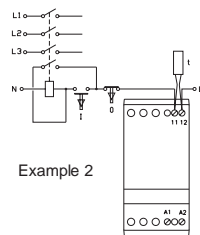
Optional thermal overload protection is possible by inserting a thermostat in a slot on the right hand side of the electronic contactor. Type number UP62



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:

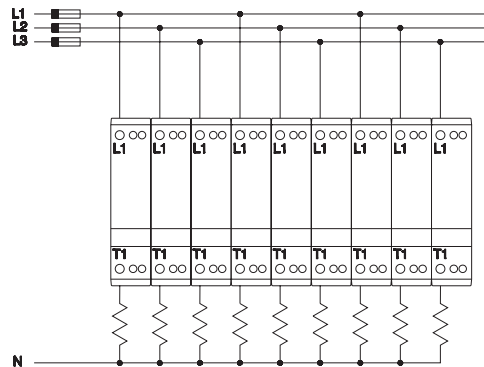
When the temperature has dropped approx. 30°C the electronic contactor will automatically be switched on again.



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.

A manual reset is necessary to restart this circuit.

Common Short Circuit Protection SC 1 DX XX15



Short Circuit 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 A²s
 e.g. Siemens SILIZED 5SD4 60
 Short Circuit Coordination type 2

SC1 DX 6015

Max Fuse 450 A²s
 e.g. Siemens SILIZED 5SD4 50
 Short Circuit Coordination type 2

Dimensions (see also page 36)

Type	H	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 36 / Cable wiring see page 37