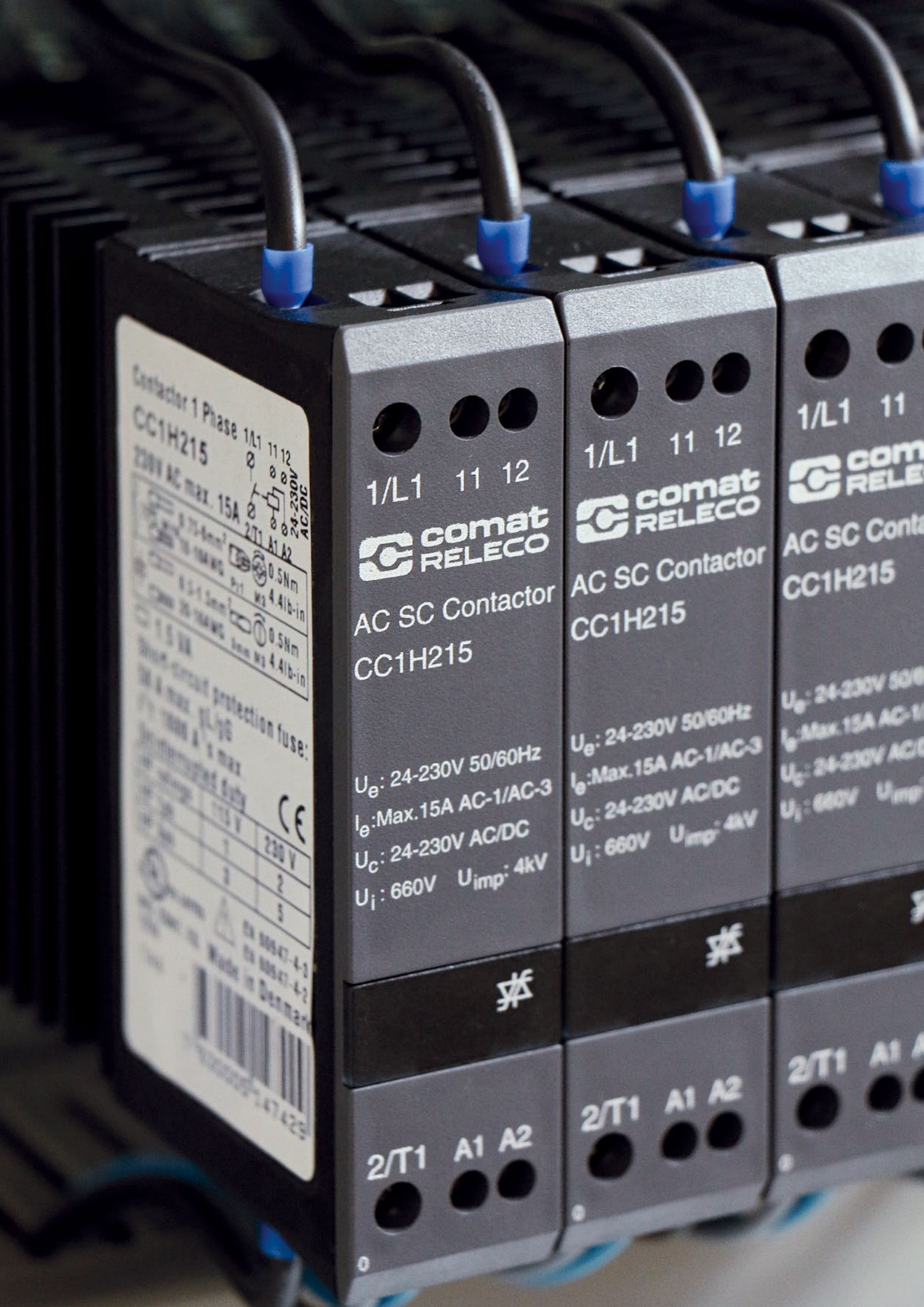
comat RELECO
WORLD OF RELAYS

SOLID-STATE CONTACTORS

For frequent switching without contact bounce
No wear and tear and silent operation thanks to semiconductor technology
Non-hazardous switching of inductive loads
Reduction of switch-on current thanks to zero voltage switching

Clear LED status display
Integrated overload protection
DIN rack or screw assembly
Space-saving: standard module width from 22.5 to 90 mm
Integrated cooling element with optional thermal protector

08.2015
This edition replaces all previous issues.
Availability, errors and changes reserved.
COMAT AG | Bernstrasse 4 | CH-3076 Worb | Phone +41 (0)31 838 55 77 | Fax +41 (0)31 838 55 99
www.comat.ch | info@comat.ch | www.releco.com


1/L1 11 12
comat RELECO
AC SC Contactor
CC1H215
U_e: 24-230V 50/60Hz
I_e:Max.15A AC-1/AC-3
U_c: 24-230V AC/DC
U_i: 660V U_{imp}: 4kV
2/T1 A1 A2
Contactor 1 Phase
CC1H215
24-230V AC/DC
0.5Nm 4.4lb-in
0.5Nm 4.4lb-in
Short-circuit protection fuse:
230 V
Made in Denmark

Solid-state contactor

Comat Releco solid-state contactors are used wherever almost infinite service life and a high number of switching cycles, high switching frequencies and silent switching is required.
Unlike mechanical contactors, the solid-state contactor does not show any signs of wear and tear. A lack of movable components prevents wear and creates resistance against vibrations. A varistor switch protects against damage caused by overvoltage. Comat Releco solid-state contactors have an integrated cooling element with optional thermal protector to provide a high degree of safety during operation. This feature creates great reliability, saves regular and expensive service work and prevents against costly system downtimes.

The series CC and CR solid-state contactors come with one and three phases. They are designed for the switching of AC loads up to 125 A at 230 up to 600 VAC. The trigger voltage is 5 to 230 V.

The reversing contactor of the CCR series for motor loads up to 10 A has an integrated electronic interlock for both control Mechanical datas to prevent application errors.

The one-phase solid-state performance regulator CPC is suitable for triggering heating elements, lamps and transformers up to 50 A.

CC1

Solid-state contactor one phase

The CC series solid-state contactors are suitable for the contactless and non-wearing switching of ohmic and inductive AC loads at high switching frequency. They come with an operating voltage up to 600 VAC and nominal current up to 50 A with two and three phases. They come with control voltages of either 5–24 VDC or 24–230 VAC/VDC.

		CC1H215	CC1H230 [1]	CC1H250 [1]	CC1H415	CC1H450 [1]
Output						
Switching element		Thyristor	Thyristor	Thyristor	Thyristor	Thyristor
Numbers of phases		1	1	1	1	1
Nominal voltage (U_{nom})	VAC	230	230	230	400	400
Output voltage range	VAC	12–240	12–240	12–240	24–480	24–480
Reverse voltage	Vrrm	1000	1000	1000	1200	1200
Peak reverse voltage	Vrsm	1100	1100	1100	1300	1300
Min. load	mA	10	10	10	10	10
Max. leakage current	mA	1	1	1	1	1
Operation current AC-1/51 @ U_{nom}	A	15	30	50	15	50
Operation current AC-3 @ U_{nom}	A	15	15	15	15	15
Operation current AC-55b @ U_{nom}	A	15	20	20	15	20
Operation current AC-56a @ U_{nom}	A	15	15	15	15	15
Response/Release time	ms	20	20	20	20	20
Limit load	A^2t	1800	1800	1800	1800	1800
Mechanical data						
Dimension drawing		a	b	c	a	c
Cross section	mm^2	6	10	10	6	10

[1] Also available for class B applications (CC1…H)

General data CC1, CC2 and CC3

Input: Voltage: 24–230 VAC/VDC | Min. voltage: 20.4 VAC/VDC | Max. voltage: 253 VAC/VDC | Release voltage: 7.2 VAC/VDC
Max. current: 6 mA | **Insulation:** Insulation voltage: 4 kV | Dielectric strength: 660 V | **Approvals and conformities:** uL
Ambient conditions: Opertaing temperature: -5–40 °C | Storage temperature: -20–80 °C | Protection: IP20

Solid-state contactor two and three phases

		CC2H230	CC3H410	CC3H420	CC3H610
Output					
Switching element		Thyristor	Thyristor	Thyristor	Thyristor
Numbers of phases		2	3	3	3
Nominal voltage (U_{nom})	VAC	230	400	400	600
Output voltage range	VAC	12–240	24–480	24–480	24–600
Reverse voltage	Vrrm	1000	1200	1200	1200
Peak reverse voltage	Vrsm	1100	1300	1300	1300
Min. load	mA	10	10	10	10
Max. leakage current	mA	1	1	1	1
Operation current AC-1/51 @ U_{nom}	A	30	10	20	10
Operation current AC-3 @ U_{nom}	A	15	10	10	10
Operation current AC-55b @ U_{nom}	A	20	10	10	10
Operation current AC-56a @ U_{nom}	A	15	5	5	5
Response/Release time	ms	20	20	20	20
Limit load	A^2t	1800	610	610	610
Mechanical data					
Dimension drawing		b	b	c	b
Cross section	mm^2	10	6	10	6

CR11 | CR22 | CR33

Solid-state contactor switching of ohmic

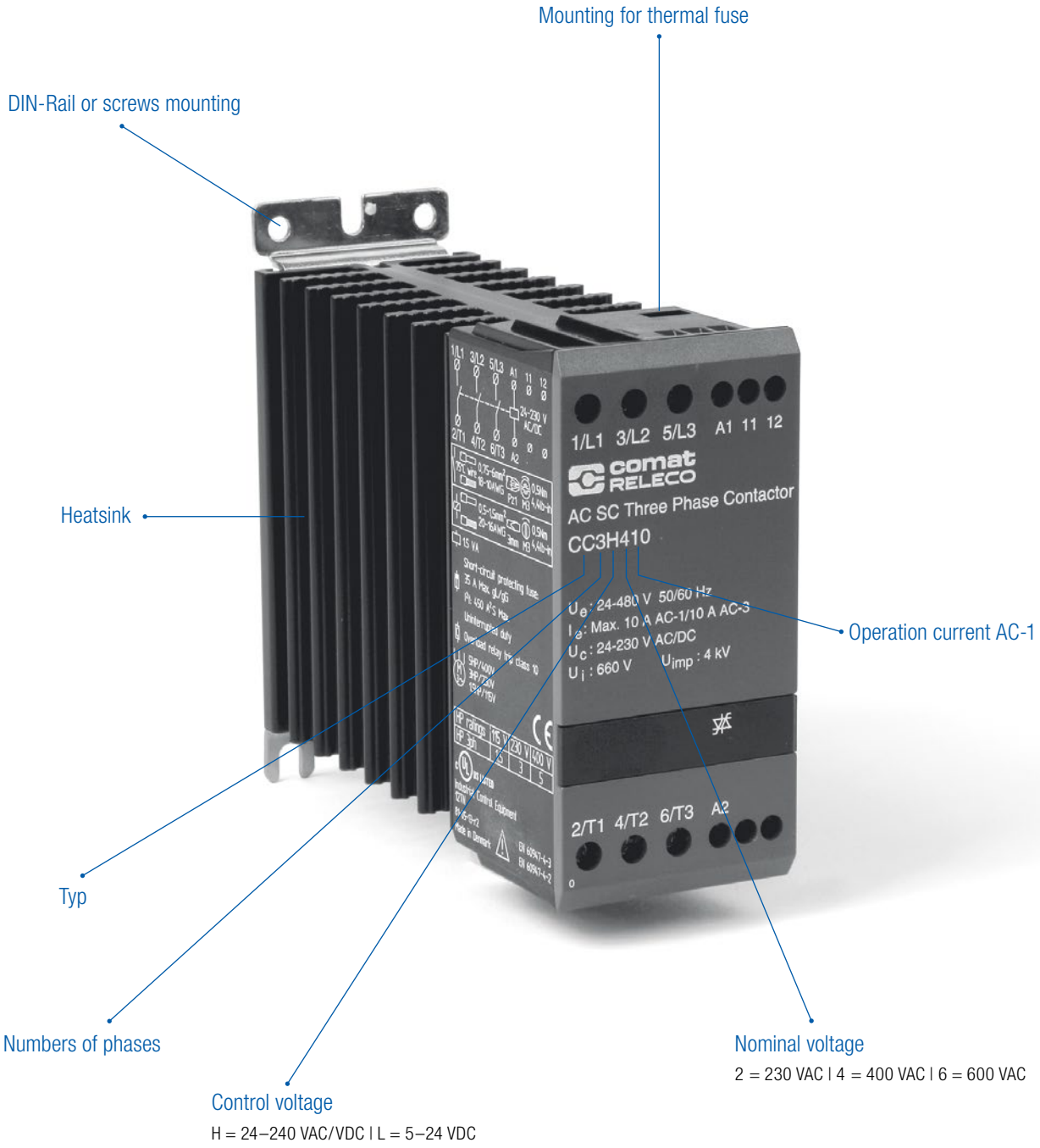
The CR series solid-state contactors are suitable for the contactless and non-wearing switching of ohmic and inductive AC loads at high switching frequency. They come with an operating voltage up to 400 VAC and nominal current up to 63 A with two and three phases. They come with control voltages of either 5–24 VDC or 24–230 VAC/VDC.

		CR11H210	CR11H430	CR11H480	CR11H4125	CR22H430	CR33H420
Output							
Switching element		Thyristor	Thyristor	Thyristor	Thyristor	Thyristor	Thyristor
Numbers of phases		1	1	1	1	2	3
Nominal voltage (U_{nom})	VAC	230	400	400	400	400	400
Output voltage range	VAC	12–240	24–480	24–480	24–480	24–480	24–480
Reverse voltage	Vrrm	1000	1200	1200	1200	1200	1200
Peak reverse voltage	Vrsm	1100	1300	1300	1300	1300	1300
Min. load	mA	10	10	10	10	10	10
Max. leakage current	mA	1	1	1	1	1	1
Operation current AC-1/51 @ U_{nom}	A	10	30	80	125	30*	20
Response/Release time	ms	20	20	20	20	20	20
Limit load	A^2t	180	610	25300	25300	610	610
Mechanical data							
Dimension drawing		a	b	c	c	b	c
Cross section	mm^2	6	10	35	35	10	10

General data CR11, CR22 and CR33

Input: Voltage: 24–230 VAC/VDC | Min. voltage: 20.4 VAC/VDC | Max. voltage: 253 VAC/VDC | Release voltage: 7.2 VAC/VDC Max. current: 8 mA | **Insulation:** Insulation voltage: 4 kV | Dielectric strength: 660 V | **Approvals and conformities:** uL
Ambient conditions: Opertaing temperature: -5–40 °C | Storage temperature: -20–80 °C | Protection: IP20

*Max. 30 A accumulated


Mounting for thermal fuse
DIN-Rail or screws mounting
Heatsink
Typ
Numbers of phases
Control voltage
H = 24–240 VAC/VDC I L = 5–24 VDC
Operation current AC-1
Nominal voltage
2 = 230 VAC I 4 = 400 VAC I 6 = 600 VAC
1/L1 3/L2 5/L3 A1 11 12
comat RELECO
AC SC Three Phase Contactor
CC3H410
2/T1 4/T2 6/T3 A2

CCR

Reversing contactor

The CCR is a reversing contactor for asynchronous motors up to 10 A / 400 VAC. It has two separate electric control inputs for right and left motion that are interlocked. It comes with control voltages of either 5–24 VDC or 24–230 VAC/VDC.

		CCR3H410
Output		
Switching element		Thyristor
Numbers of phases		3
Nominal voltage (U_{nom})	VAC	400
Output voltage range	VAC	24–480
Reverse voltage	Vrrm	1200
Peak reverse voltage	Vrsm	1300
Min. load	mA	50
Max. leakage current	mA	5
Operation current AC-1/AC-51 @ U_{nom}	A	10
Operation current AC-53 @ U_{nom}	A	10
Response/Release time	ms	20
Limit load	A^2t	610
Mechanical data		
Dimension drawing		b
Cross section	mm^2	6

General data CCR

Input: Voltage: 24–230 VAC/VDC I Min. voltage: 20.4 VAC/VDC
Max. voltage: 253 VAC/VDC I Release voltage: 7.2 VAC/VDC I Max. current: 6 mA
Insulation: Insulation voltage: 4 kV I Dielectric strength: 660 V I **Approvals and conformities:** uL [1]
Ambient conditions: Opertaing temperature: -5–40 °C I Storage temperature: -20–80 °C I Protection: IP20

[1] Use upstream mounted thermal protection

CPC

Performance regulator one phase

The one-phase solid-state performance regulator CPC is suitable for triggering heating elements, lamps and transformers up to 50 A. Performance is controlled through a potentiometer or analogue standard signal. It has a 24 VDC voltage supply.

		CPC1230	CPC1430	CPC1450
Output				
Switching element		Thyristor	Thyristor	Thyristor
Numbers of phases		1	1	1
Nominal voltage (U_{nom})	VAC	230	400	400
Output voltage range	VAC	380–480	380–480	380–480
Reverse voltage	Vrrm	1000	1200	1200
Peak reverse voltage	Vrsm	1100	1300	1300
Min. load	mA	10	10	10
Max. leakage current	mA	1	1	1
Operation current AC-1/AC-51 @ U_{nom}	A	30	30	50
Operation current AC-53 @ U_{nom}	A	30 (non uL)	30 (non uL)	30 (non uL)
Response/Release time	ms	20	20	20
Limit load	A^2t	1800	1800	1800
Mechanical data				
Dimension drawing		b	b	c
Cross section	mm^2	10	10	10

General data CPC

Input: Voltage: 24 VAC/VDC

Control signal: 0 – 10 V, 10–0 V, 0 – 20 mA, 20 – 0 mA, 4 – 20 mA, 20–4 mA, Potentiometer: 0 – 10 kΩ, 10 – 0 kΩ

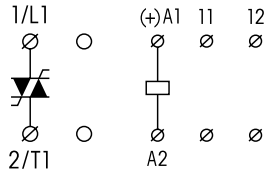
Insulation: Insulation voltage: 4 kV I Dielectric strength: 660 V I **Approvals and conformities:** uL [1]

Ambient conditions: Opertaing temperature: -5–40 °C I Storage temperature: -20–80 °C I Protection: IP20

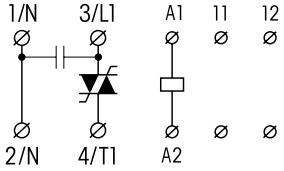
[1] Use upstream mounted thermal protection

Connections

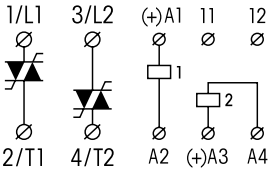
CC1 I CR11



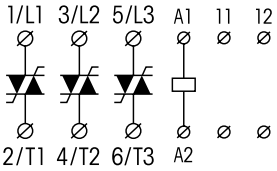
CC1...H



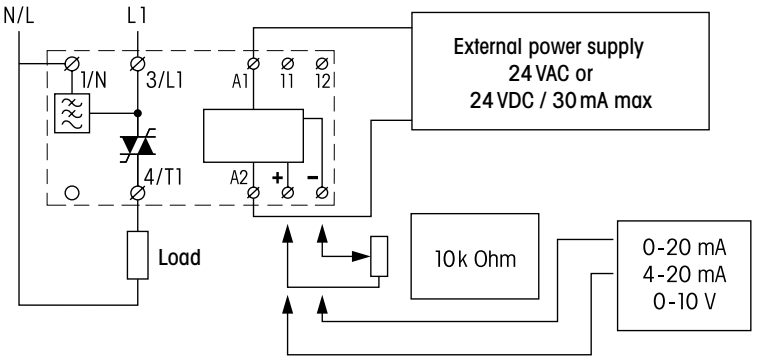
CC2 I CR22



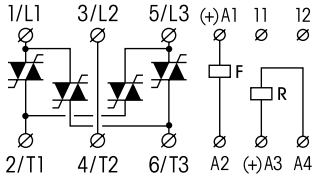
CC3 I CR33



CPC

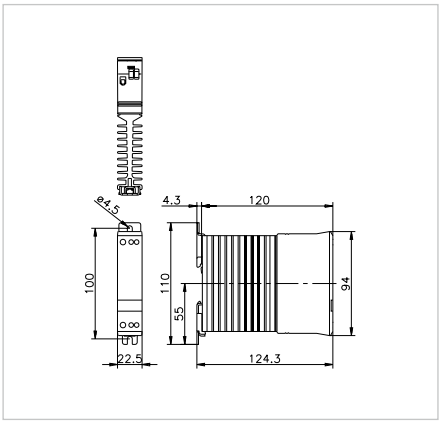


CCR

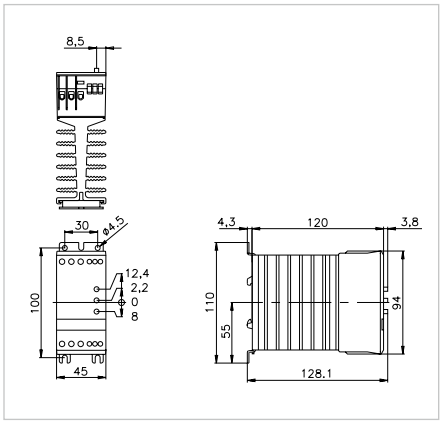


Dimensions

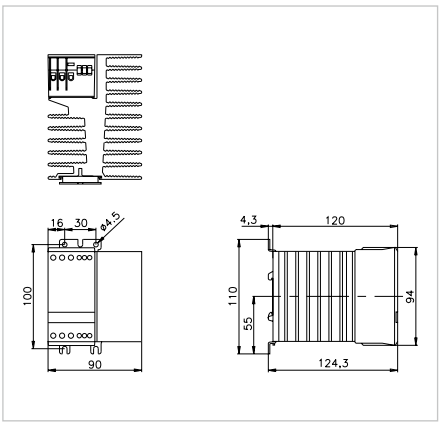
«Dimension drawing a» 22.5 mm module



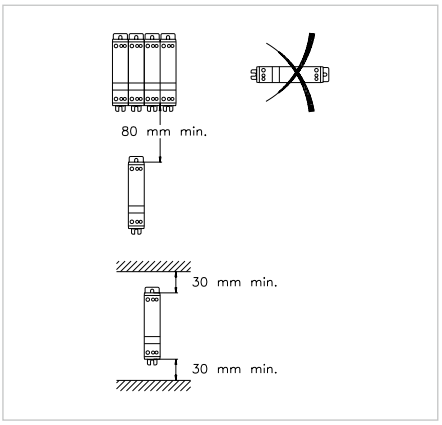
«Dimension drawing b» 45 mm module



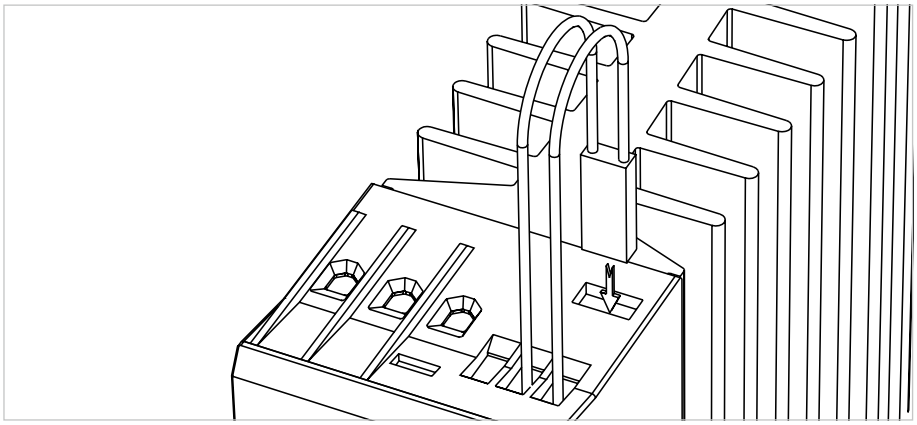
«Dimension drawing c» 90 mm module



Mounting distances



Thermal fuse P82-100C



This edition replaces all previous issues.
Availability, errors and changes reserved.

COMAT AG | Bernstrasse 4 | CH-3076 Worb | Phone +41 (0)31 838 55 77 | Fax +41 (0)31 838 55 99
www.comat.ch | info@comat.ch | www.releco.com