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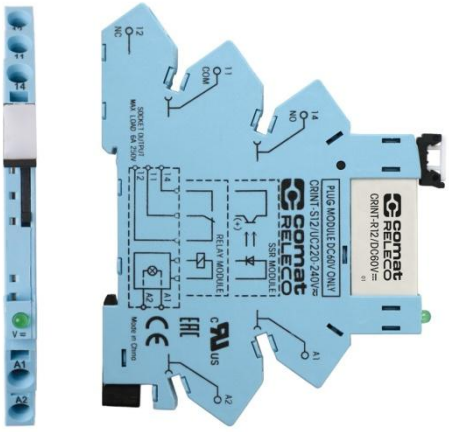
Interface Relay CRINT-1x

1 Features

- **Space saving interface relay to combine with PLCs**
- **Coil voltage UC12, 24, 48, 60, 110-125, 220-240V**
- **Integrated protection circuit**
- **Relay is replaceable separately**
- **Available in different contact versions**
- **Available with screw terminal or cage clamp terminal**
- **Only 14 mm wide**



2 General description

The space saving interface relays CRINT-1x are suitable as coupling relays for PLC or control systems. Typical applications are the input side conversion of 230 VAC to 24 VDC or the output side conversion of 24 VDC to 230 VAC respectively the protection of PLC outputs by signal separation in general. The interface relays are available in different contact versions. The relay and the socket can be replaced and ordered separately. The switching state is indicated by LED. For a simplified wiring, pluggable bridges are available optionally.

Technical specification is subject to change without notice.

3 Order designation

3.1 Interface relay, complete

(**xxx** = 12, 24, 48[1], 60, 110-125, 220-240)

CRINT-C111/UCxxxV R	1 Contact	Screw terminal	$AgSnO_2$
CRINT-C112/UCxxxV R	1 Contact	Screw terminal	$AgSnO_2 + 3_\mu$ Au
CRINT-C115/DCxxxV R[2]	1 Contact	Screw terminal	NO / Solid-state DC
CRINT-C118/DCxxxV R[2]	1 Contact	Screw terminal	NO / Solid-state AC
CRINT-C121/UCxxxV R	1 Contact	Cage clamp terminal	$AgSnO_2$
CRINT-C122/UCxxxV R	1 Contact	Cage clamp terminal	$AgSnO_2 + 3_\mu$ Au
CRINT-C125/DCxxxV R[2]	1 Contact	Cage clamp terminal	NO / Solid-state DC
CRINT-C128/DCxxxV R[2]	1 Contact	Cage clamp terminal	NO / Solid-state AC

3.2 Only relays

(**xx** = 12, 24, 48[1], 60)

CRINT-R11/DCxxV	1 Contact	$AgSnO_2$
CRINT-R12/DCxxV	1 Contact	$AgSnO_2 + 3_\mu$ Au
CRINT-R15/DCxxV	1 Contact	NO / Solid-state DC
CRINT-R18/DCxxV	1 Contact	NO / Solid-state AC

[1] 48V-Version AC output contact with NO / Solid-state not available
[2] Solid-state Relays has to be piloted only with DC voltage

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3.3 Only sockets

(**xxx** = 12, 24, 48, 60, 110-125, 220-240)

CRINT-S11/UCxxxV	1 Contact	Screw terminal
CRINT-S12/UCxxxV	1 Contact	Cage clamp terminal

3.4 Accessories

CRINT-BR20-BK/5	Connection bridge with 20 pins, black	Packaging unit 5 pieces
CRINT-BR20-BU/5	Connection bridge with 20 pins, blue	Packaging unit 5 pieces
CRINT-BR20-RD/5	Connection bridge with 20 pins, red	Packaging unit 5 pieces
CRINT-SEP/5	Spacer, white	Packaging unit 5 pieces
CRINT-LAB/64	Label, white	Packaging unit 64 pieces

3.5 Type designation key

1.		2.	3.	4.	5.	6.		7.	8.
CRINT	**-**	**C**	**1**	**1**	**1**	**R**	**/**	**UC**	**24V**

1. Product family CRINT	**5. Output** 1 = $AgSnO_2$ 2 = $AgSnO_2$ + 3µ Au 5 = NO / Solid-state DC 8 = NO / Solid-state AC
2. Type C = Combined version (Socket and Relay)	**6. Options** - = Standard version R = Railway version
3. Contact 1 = One change-over contact	**7. Supply voltage** UC = AC / DC DC = Only for C1x5 und C1x8
4. Connection type 1 = Screw terminal 2 = Cage clamp terminal	**8. Nominal Voltage** 12V 24V 48V 60V 110-125V 220-240V

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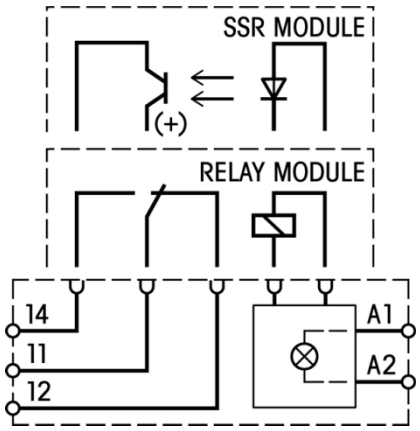
4 Connection diagram



Relay
- NO / Solid-state DC
- NO / Solid-state AC

Relay
- $AgSnO_2$
- $AgSnO_2$ + 3µ Au

Socket
-Screw terminal
-Cage clamp terminal

5 Specifications

5.1 General data

5.1.1 Mechanical data	Socket	Relay
Dimensions (B x H x T):	6.2 x 89 x 72 mm	5 x 28 x 14.5 mm
Fastening	DIN rail TS35	Socket CRINT-S1x
Connection	Screw terminal 2.5 mm^2	Pin
	Cage clamp terminal 0.75 … 2.5 mm^2	
Screw torque	0.5 Nm	-
Ingress protection degree	IP20	RT III
Case material	PA6	-
Weight	25 g	5 g

5.1.2 Ambient conditions	Socket / Relay mech. Contact	Socket / Relay SSR
Storage temperature	-40 °C ... +85° C	-40 °C ... +85° C
Operating temperature	-40 °C ... +70° C	-30 °C ... +70° C
	-40 °C ... +55° C (>UC60V)	
Relative humidity	10 % ... +85 % (non condensing)	10 % ... +85 % (non cond.)

5.1.3 Life cycle	
Mechanical life time	10 x 10^6 operations
Electrical life time AC-1	3 x 10^4 operations

5.2 Electrical data

5.2.1 Coil (A1, A2)

(**x** = **1** *Screw terminal*, **2** *Cage clamp terminal*)
(**y** = **1** *$AgSnO_2$*, **2** *$AgSnO_2$ + 3_μ Au*, **5** NO / Solid-state DC, **8** NO / Solid-state AC)

Type (Combo)	**CRINT-C1xy/UC12V**	**CRINT-C1xy/UC24V**	**CRINT-C1xy/UC48V**
Socket	*CRINT-S1x/UC12V*	*CRINT-S1x/UC24V*	*CRINT-S1x/UC48V*
Relay	*CRINT-R1y/DC12V*	*CRINT-R1y/DC24V*	*CRINT-R1y/DC48V*
Nominal voltage (AC/DC)	12 V	24 V	48 V
Operating voltage (AC/DC)	10...15 V	19.2…30 V	46…60 V
Frequency (AC)	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Release voltage (AC/DC)	<4 V	<9 V	<12 V
CRINT-C1x1/…			
Current consumption typ.	14 mA	17 mA	4.8 mA
Power consumption typ	170 mW	408 mW	200 mW
CRINT-C1x2/…			
Current consumption typ.	14 mA	17 mA	4.8 mA
Power consumption typ	170 mW	408 mW	200 mW

Type (Combo)	**CRINT-C1xy/DC12V**	**CRINT-C1xy/DC24V**	**CRINT-C1xy/DC48V**
Socket	*CRINT-S1x/UC12V*	*CRINT-S1x/UC24V*	*CRINT-S1x/UC48V*
Relay	*CRINT-R1y/DC12V*	*CRINT-R1y/DC24V*	*CRINT-R1y/DC48V*
Nominal voltage (DC)	12 V	24 V	48 V
Operating voltage (DC)	9.6...15 V	19.2…30 V	38.4…60 V
CRINT-C1x5/…			
Current consumption typ.	11 mA	6.7 mA	*n.a.*
Power consumption typ.	130 mW	160 mW	*n.a.*
CRINT-C1x8/…			
Current consumption typ.	11 mA	6.7 mA	*n.a.*
Power consumption typ	130 mW	150 mW	*n.a.*

Type (Combo)	**CRINT-C1xy/UC60V**	**CRINT-C1xy/UC110-125V**	**CRINT-C1xy/UC220-240V**
Socket	*CRINT-S1x/UC60V*	*CRINT-S1x/UC110-125V*	*CRINT-S1x/UC220-240V*
Relay	*CRINT-R1y/DC60V*	*CRINT-R1y/DC60V*	*CRINT-R1y/DC60V*
Nominal voltage (AC/DC)	60 V	110…125 V	220…240 V
Operating voltage (AC/DC)	48…75 V	88…138 V	176…250 V
Frequency (AC)	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Release voltage (AC/DC)	<15 V	<23 V	<50 V
CRINT-C1x1/…			
Current consumption typ.	4.5 mA	4.6 mA	4 mA
Power consumption typ	230 mW	600 mW	900 mW
CRINT-C1x2/…			
Current consumption typ.	4.5 mA	4.6 mA	4 mA
Power consumption typ	230 mW	600 mW	900 mW

Type (Combo)	**CRINT-C1xy/DC60V**	**CRINT-C1xy/DC110-125V**	**CRINT-C1xy/DC220-240V**
Socket	*CRINT-S1x/UC60V*	*CRINT-S1x/UC110-125V*	*CRINT-S1x/UC220-240V*
Relay	*CRINT-R1y/DC60V*	*CRINT-R1y/DC60V*	*CRINT-R1y/DC60V*
Nominal voltage (DC)	60 V	110…125 V	220…240 V
Operating voltage (DC)	48…75 V	88…138 V	176…250 V
CRINT-C1x5/…			
Current consumption typ.	3.0 mA	3.8 mA	3.6 mA
Power consumption typ	165 mW	500 mW	800 mW
CRINT-C1x8/…			
Current consumption typ.	3.6 mA	5.0 mA	3.6 mA
Power consumption typ	225 mW	600mW	800 mW

5.2.2 Contacts

Plug-In Relay type	**CRINT-R11**	**CRINT-R12**	**CRINT-R15**	**CRINT-R18**
Contact quantity	1 change-over	1 change-over	1 solid-state DC	1 solid-state AC
Contact material	$AgSnO_2$	$AgSnO_2$ + 3µ Au	MOSFET	TRIAC
Nominal current	6 A	6 A	2 A	1 A
Nominal voltage	250 V	250 V	24 V DC	240 V AC
Inrush current	15 A / 2.5 ms	15 A / 2.5 ms	48 A / 10 ms	80 A / 10 ms
Switching current AC-1 (250 V)	6 A	6 A	-	-
Switching current AC-15 (250 V)	1.2 A	1.2 A	-	-
Min. switching load	100 mA / 12 V	10 mA / 6 V	1 mA / 2 V	22 mA / 12 V

5.2.3 Insulation

CRINT-C1x1/… und CRINT-C1x2/…	
Electric strength Coil / Contact (1.2 / 50 µs)	6 kVrms (8 mm.)
Electric strength open contact	1 kV (RMS, 1 min.)
CRINT-C1x5/… und CRINT-C1x8/…	
Electric strength Coil / Contact	2.5 kV (RMS, 1 min.)

5.3 Time response

CRINT-C1x1/… und CRINT-C1x2/…	
Response time	7 ms
Release time	15 ms
CRINT-C1x5/… und CRINT-C1x8/…	
Response time	0.2 ms
Release time	0.4 ms

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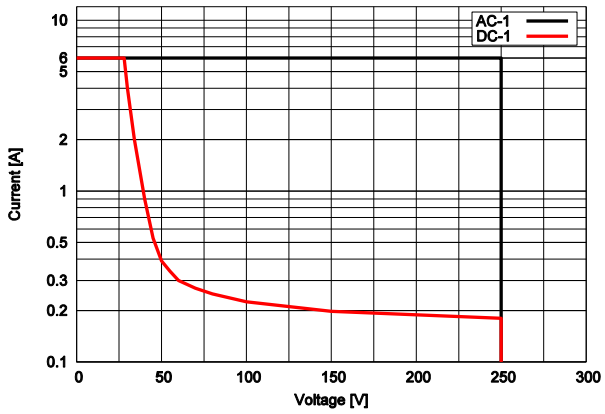
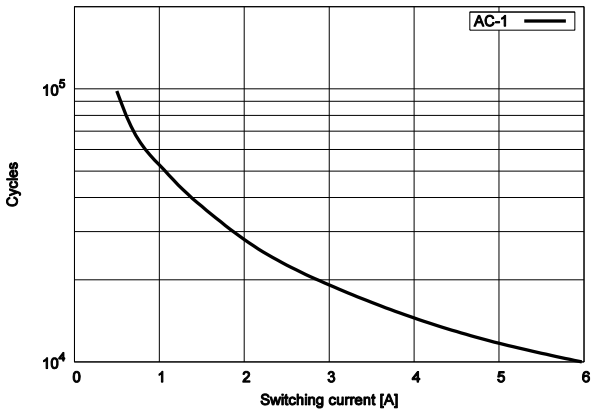
5.4 Typical performance characteristics

(**x** = **1** *Screw terminal*, **2** *Cage clamp terminal*)
(**y** = **1** $AgSnO_2$, **2** $AgSnO_2$ + 3µ Au, **5** NO / Solid-state DC, **8** NO / Solid-state AC)
(**zzz** = 12, 24, 48, 60, 110-125, 220-240)

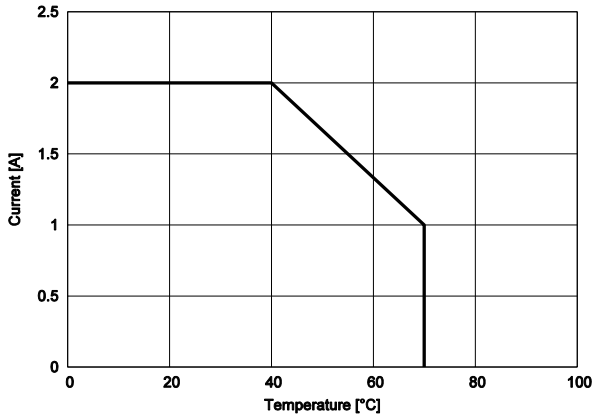
Breaking capacity
CRINT-R11/ -R12



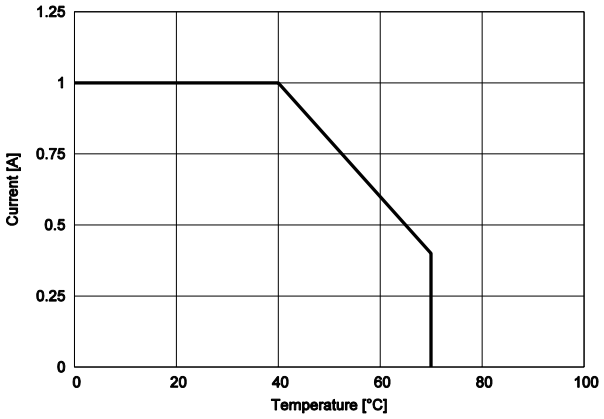
Electrical life time (NC)
CRINT-C1xy/UCzzzV



Output current
CRINT-C1x5/DCzzzV



Output current
CRINT-C1x8/DCzzzV



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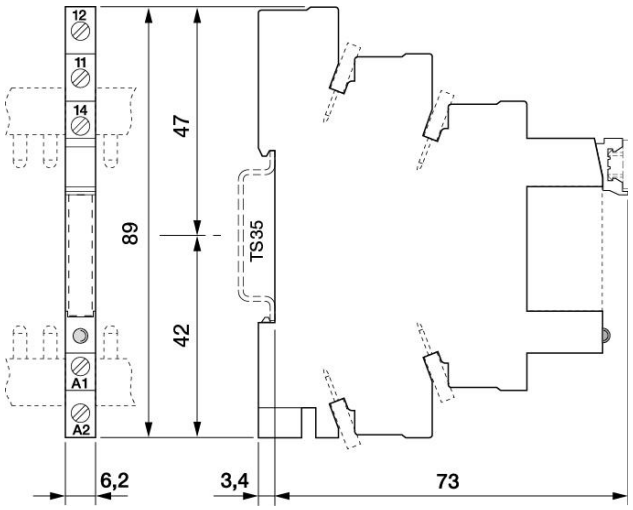
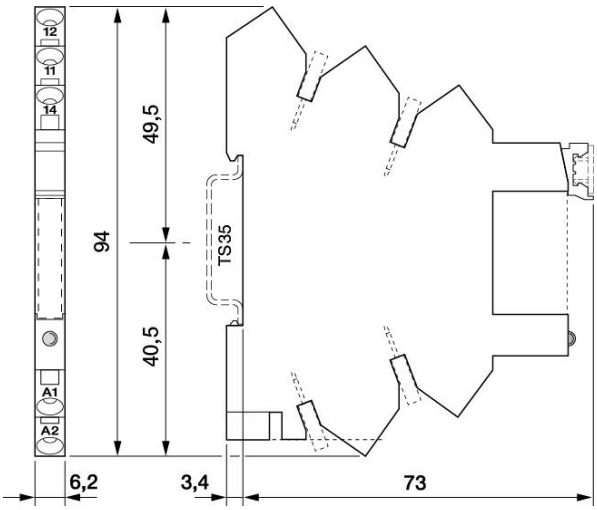
6 Dimensions

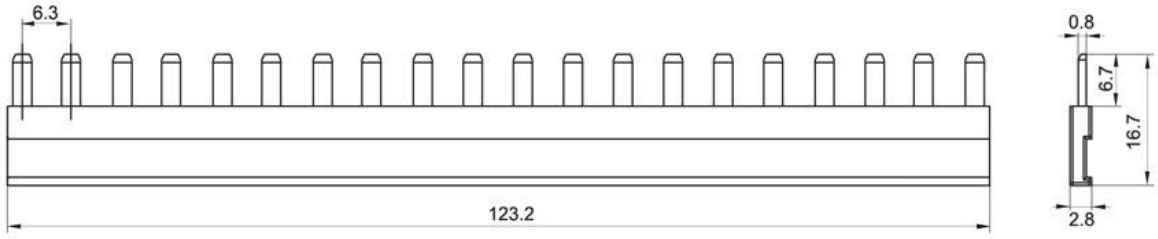
CRINT-S11



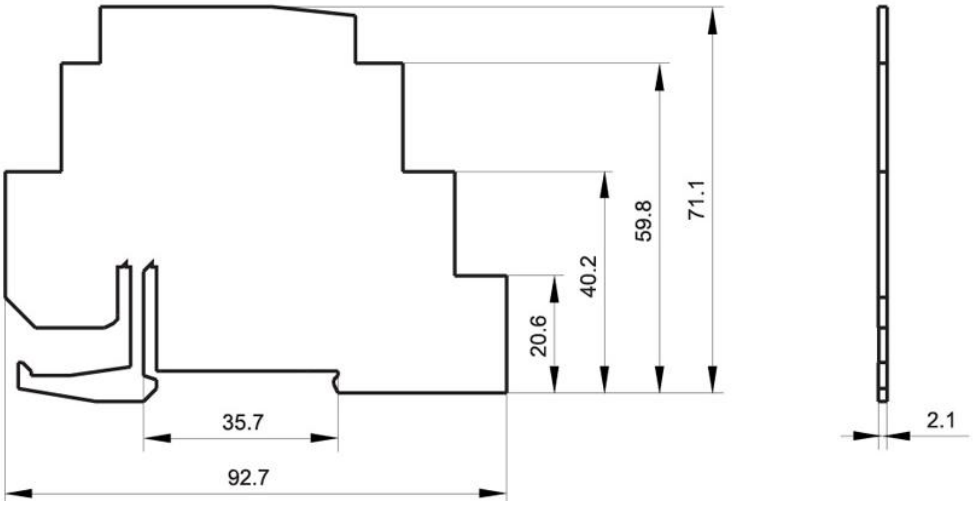
CRINT-S12



CRINT-BR20-/64



CRINT-SEP/5



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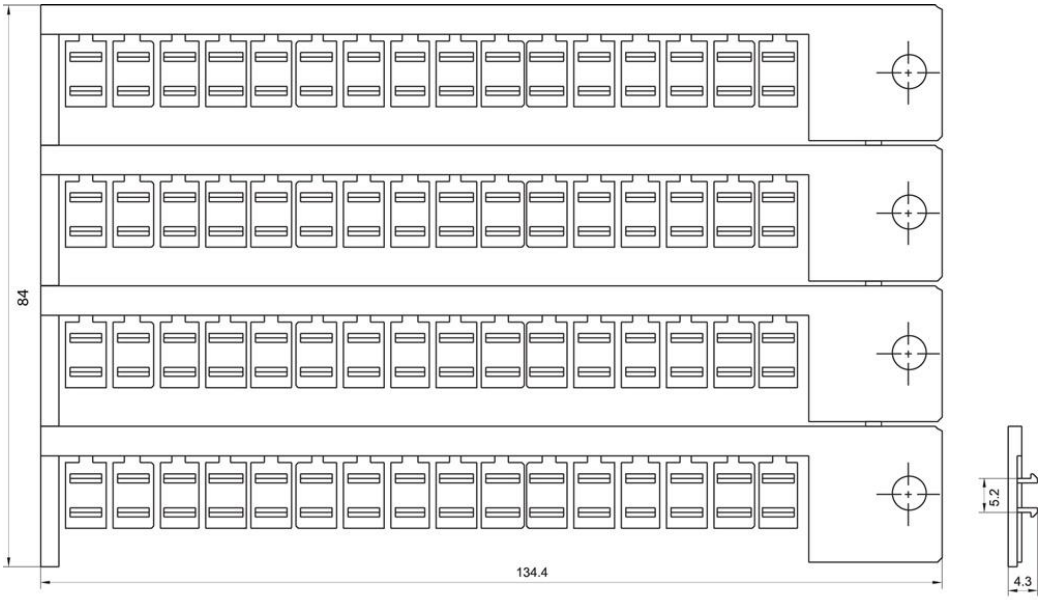
CRINT-LAB/64



7 Standards

Interference immunity	EN 61000-4-2	Level 2 / 3	(Contact: 4 kV / Air: 8 kV)
	EN 61000-4-4	Level 4	(4 kV)
	EN 61000-4-5	Level 4	(2 kV)
Interference emissions	EN 55022	Class B	
Conformities, identifications	CE, cURus, EAC UL Listed NRNT/7 E120922		

8 Revision history

Version	Revision date	Responsible	Modifications
66914-103-57-001		Li, Hy	Version 1
66914-103-57-002	05.05.2015	Li	Parameters C1x5, C1x8, UL Conformities
66914-103-57-003	02.06.2015	Cp	Contacts, breaking capacity DC