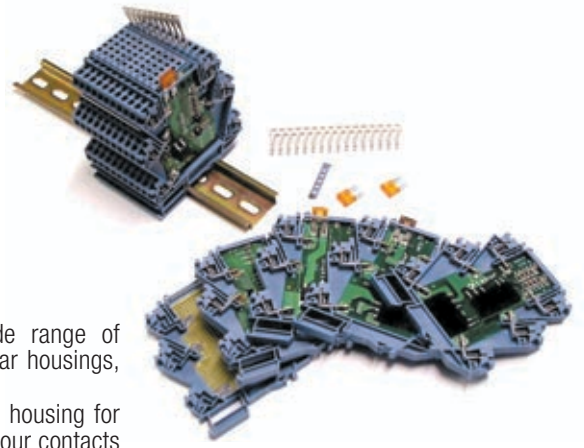


CK system interface



The CK series are interfaces for sensors and actuators, is composed by a wide range of electromechanical relay and solid state relay modules and passive interfaces in modular housings, which are only 6mm wide thus saving valuable space
 All products are mounted inside the CK housing, which are also available for use as a housing for custom. The CK housing can be equipped with six 2.5mm" spring-clamp terminals and four contacts for the insertion of a PTC parallel connection bridge, which provides for quick and easy circuit bridging and saves space and harness time.

The product range is currently composed of a:

- Single electromechanical relay with 6 A/250Vac SPDT protected with replaceable fuse, status Led display on front panel, AC/DC input and positive or negative common on relay coil.
- Double electromechanical relay with 5 A/250Vac SPST (NO) , two status LED displays on front panel, AC/DC input and positive or negative common on relay coil.
- Single solid state relay for common negative load, 5 A /48Vdc output current, protected with replaceable fuse, status LED display on front panel and positive or negative common on input.
- Double solid state relay suitable for 12-24 Vdc 2.5 A loads, status LED display on front panel and positive or negative common of the input and output as well.
- Diode-holder modules with common anode (CK...AC) or common cathode (CK...CC).
- Lamp and LED test modules.
- Supply connection and distribution modules with LED display.

Composition of an interface with CK System:

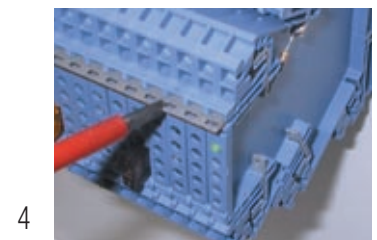
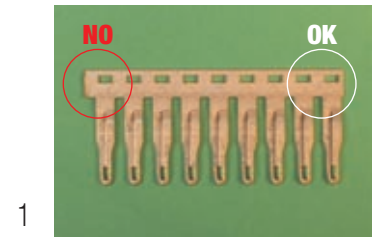
- The required modules must be selected and mounted on the DIN rail.
- The common poles of inputs and outputs, can be connected in parallel using the fast connection bridges **PTC/CK/42**.
- For the connection of inputs and outputs of the relay module interface, we recommend to use the CKF supply distribution module: it allows to connect and distribute the feeding potential to inputs and outputs on all adjacent modules; the CKF module can be mounted as first module, or even better, in the middle position of the interfaces assembly, to divide 50+50% the current on the bridge and to reduce voltage drop and heating; the CKF - - is available with LED for ON display, and is equipped with four 2.5 mm" / AWG 26 ÷ 14 / 24 A rated spring-clamp terminals - input and output.
- In order to assure the IP XXB protection degree, the last module must be protected and insulated using the CK/PT end section.
- Main technical data and block diagram, are printed on one side of each module; for individual terminal block marking, CNU/8 marking tags are available; CNU/8 marking tags are available in blank format for plotter or pen marking, or in CK dedicated series bearing numbers and/or symbols and allows to have 4, 8, 16 relay interface modules, each one individually marked on all poles.
- If the input and output power supply cables of the interface assembly are directly connected to eg. the first module, two cables must be connected on a single terminal block (feeding wire and load wire) forcing to reduce the cross-section of each conductor less than 2,5mm"; consequently, this means a current and a reduction of the total number of relay modules that can be fed; the problem can be solved by using the CKF feeder distribution module as described in the third point.

Easy Bridge system

The fast connection bridge **PTC/CK/42** has 42 poles, and a rated current of 32 A; WARNING: the total current is limited by the rated current of the spring-clamp terminal block (24 A) : if a PTC/CK serves 10 relays, a rated current of 2,4A can be distributed on to each relay .

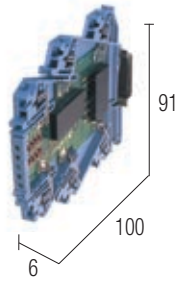
The use of PTC/CK bridges is simple and cost effective; the following instructions must be followed:

- After having cut the PTC/CK/42-pole bar according to required number of poles, in order to maintain the IPXXB protection degree the bar must be sheared in proximity of the end poles (see pictures 1 and 2),
- Insert the jumper in the slot of the CK terminals (see picture 3),
- By using the blade of a screwdriver, the PTC bridge must be pushed down until it snaps into the female contacts; in case of long jumpers, the operation shall be started by pushing the bridge in the middle, then gradually on left / right sides; the jumper will then result completely IPXXB insulated (see picture 4),
- to remove the jumper, the blade of a screwdriver shall be inserted into the slot provided in the upper side of the PTC bridge, then lifted up and finally extracted; in case of long jumpers, the bridge shall be lifted in the middle then gradually on left / right sides (pictures 5 and 6).



Relay module CKR series

- 50% space saving with two relays in only a 6 mm width
- SPST (NO)
- AC/DC common negative or positive input
- Double LED status display, reverse polarity protection, crow-bar diode

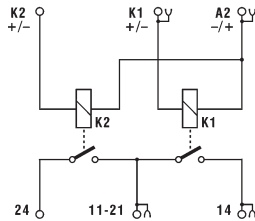


NOTES

(1) A2 is the common pole of the coils of the relays, K1 and K2 are the command poles of the relays. Contacts 11 and 21 are connected in common. With the module in vertical position and the Din rail clamp on the lower side, the lower LED is the K1 status display while the upper LED is the K2 status display. The module can be feed with AC or DC input, with the DC input the polarity of input command can be positive or negative.

(3) In order to assure the IP20 protection degree, the last module must be protected and insulated using the CK/PT end section.

BLOCK DIAGRAM



VERSIONS

CKR25 cod. XCKR25

INPUT TECHNICAL DATA

Rated voltage	24 Vac/dc $\pm 10\%$
Rated current (1 channel)	≤ 13 mA $\pm 10\%$
Turn on time	5 ms
Turn off time	10 ms

OUTPUT TECHNICAL DATA

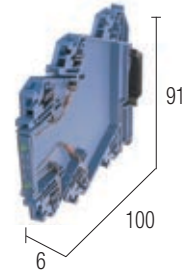
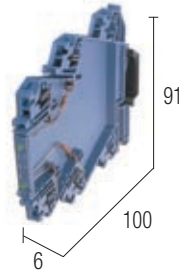
Type and number of contacts	2 x SPST(NO) (1)
Rated voltage	250 Vac
Rated current	5 A / 250 Vac, 1 A / 24 Vdc (DC13 curve)
Current breaking power	30 A (AC15 curve)
Protection fuse	—
Isolation between open contacts	> 1 kVac / 60 s

GENERAL TECHNICAL DATA

Operating temperature	-20 – +60°C
Input/output isolation	3 kVac / 60 s
Max. switching frequency	5 Hz
Protection degree (3)	IP 20 IEC529 EN60529
Reference standards	IEC 664.1, DIN VDE 0110.1
Pollution degree	2
Overvoltage category	2
Connection terminals	2.5 mm ² AWG26-14 spring type
Housing material	polyamide UL 94V0
Approximative weight	43 g
End section	CK/PT cod. XCKPT
Permanent cross connection	PTC/CK/42 cod. PTCK42 (42 poles)
Rated current carrying capacity of jumper	In 32 A
Marking tags	blank
	printed
	printed
Mounting information	adjacent without gap
Mounting rail	according to IEC60715/TH35-7,5
	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

Distribution modules CKF series

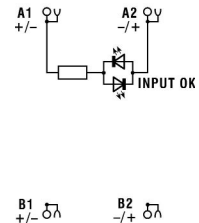
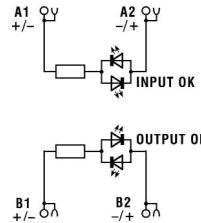
- Terminal blocks having a rated current of 24 A and 250 Vac rated voltage
- Four slots for four parallel connections
- Available with and without LED status display
- 6 mm wide



NOTES

- (1) modules without output status LED display, allow the distribution of any voltage up to ≤ 250 Vac/dc
- (2) modules with output status LED display, allow the distribution of 12-24 Vac/dc voltage and are available on request ; modules suitable for 48Vac/dc, 120Vac/dc with status LED display are available upon request
- (3) In order to assure the IP20 protection degree, the last module must be protected and insulated using the CK/PT end section.

Block diagram



APPLICATION

The use of the CKF modules for the connection and distribution of the common input and output supplies, allows of to feed a maximum number of modules which is limited by the 24 A maximum current allowed by its 2.5mm² (AWG 26 \div 14) terminal blocks; calculation of the distributed maximum current, must consider the maximum simultaneous activation of all relays ; if the distributed current exceeds 24 A, it will be necessary to divide it on more CKF modules.

VERSIONS

CKFAA

cod. XCKFAA

CKFAX

cod. XCKFAX

INPUT TECHNICAL DATA

Input voltage	12 – 24 Vac/dc
Rated current	≤ 10 mA @ 24 Vdc
Bridge voltage	≤ 24 Vac/dc
Distributable current to the bridge	≤ 24 A

Input voltage	12 – 24 Vac/dc
Rated current	≤ 10 mA @ 24 Vdc
Bridge voltage	≤ 24 Vac/dc
Distributable current to the bridge	≤ 24 A

Input voltage	12 – 24 Vac/dc
Rated current	≤ 10 mA @ 24 Vdc
Bridge voltage	≤ 24 Vac/dc
Distributable current to the bridge	≤ 24 A

OUTPUT TECHNICAL DATA

Output voltage	5 – 24 Vac/dc (2)
Rated current	≤ 10 mA @ 24 Vdc
Distributable voltage to the bridge	≤ 24 Vac/dc
Distributable current to the bridge	≤ 24 A

Output voltage	5 – 24 Vac/dc (2)
Rated current	≤ 10 mA @ 24 Vdc
Distributable voltage to the bridge	≤ 24 Vac/dc
Distributable current to the bridge	≤ 24 A

Output voltage	≤ 250 Vac/dc (1)
Rated current	—
Distributable voltage to the bridge	≤ 250 Vac/dc
Distributable current to the bridge	≤ 24 A

GENERAL TECHNICAL DATA

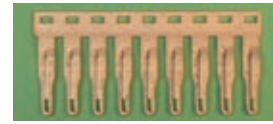
Operating temperature	-20 – +60°C
Input/output isolation	3 kVac / 60 s
Isolation between terminals	3 kVac / 60 s
Protection degree (3)	IP20 IEC529 EN60529
Reference standards	IEC 664.1, EN50081-1
Pollution degree	2
Overvoltage category	2
Connection terminals	2.5 mm ² AWG26-14 spring type
Housing material	poliammide UL94V-0
Approximative weight	24 g
End section	blank printed
Permanent cross connection	printed
Rated current carrying capacity of jumper	In 32 A
Marking tags	blank printed
Mounting information	adjacent without gap
Mounting rail according to IEC60715/TH35-7,5	

Operating temperature	-20 – +60°C
Input/output isolation	3 kVac / 60 s
Isolation between terminals	3 kVac / 60 s
Protection degree (3)	IP20 IEC529 EN60529
Reference standards	IEC 664.1, EN50081-1
Pollution degree	2
Overvoltage category	2
Connection terminals	2.5 mm ² AWG26-14 spring type
Housing material	poliammide UL94V-0
Approximative weight	40 g
End section	CK/PT
Permanent cross connection	PTC/CK/42
Rated current carrying capacity of jumper	In 32 A
Marking tags	blank printed
Mounting information	adjacent without gap
Mounting rail according to IEC60715/TH35-7,5	

Operating temperature	-20 – +60°C
Input/output isolation	3 kVac / 60 s
Isolation between terminals	3 kVac / 60 s
Protection degree (3)	IP 20 IEC529 EN60529
Reference standards	IEC 664.1, EN50081-1
Pollution degree	2
Overvoltage category	2
Connection terminals	2.5 mm ² AWG26-14 spring type
Housing material	poliammide UL94V-0
Approximative weight	40 g
End section	CK/PT
Permanent cross connection	PTC/CK/42
Rated current carrying capacity of jumper	In 32 A
Marking tags	blank printed
Mounting information	adjacent without gap
Mounting rail according to IEC60715/TH35-7,5	

Accessories for CK series

Jumper PTC/CK/42



(1)

Notes :

(1) Example of a pre-cut 9 position jumper.

(2) CK/PT end section must be mounted on last module to assure IP20 protection degree.

(3) 32 A is the maximum current; however this value is limited by the rated current of the spring-clamp terminal blocks down to 24 A; For instance, having a jumper of 11 poles (1 for common and 10 for distribution) a current of 2.4 A can be distributed on every poles.

VERSIONS	
PTC/CK/42	cod. PTCK42
GENERAL TECHNICAL DATA	
Protection degree	IP20 IEC529 EN60529 (2)
Number of poles	42
Pitch	6 mm (0,24 in)
Rated current carrying capacity of jumper	32 A (3)
Insulation color	—
Material	tin copper alloy
Approximative weight	27 g (0,95 oz) (42 poli)

Accessories for CWRE series

CWBK jumper



Notes :

Suitable for use with CWRE

VERSIONS		
CWBK 7-0802 (1) cod. X766802	CWBK 7-0803 (1) cod. X766803	CWBK 7-0804 (1) cod. X766804
GENERAL TECHNICAL DATA		
Protection degree	IP20 IEC529 EN60529	IP20 IEC529 EN60529
Number of poles	16	16
Pitch	6.2 mm	6.2 mm
Rated current carrying capacity of jumper	16 A	16 A
Insulation color	red	white
Material	—	—
Approximative weight	4 g (0,14 oz)	4 g (0,14 oz)

Marking system

CNU/8 series

Notes :

These are the tags suited to be used for the marking of the terminals on CK series, supplied in white polyamide and are provided with black printing; to be applied directly into position either before or after assembling the relays to the din rail. They have a 6 mm standard pitch and are 8 mm high.

In the table below the types suited to be used with CK interface modules are listed; they are available in numbers or symbols marking patterns. For the complete range, please refer to the terminal blocks catalogue on the accessories section.



N8CK1610



N8CK1620



N8CK2518



N8CKD020

Marking	Type of card (100 elements)	Code
Tags suited for CKR16 for the marking of 2 modules from 1 to 10 channels	CNU/8/CK16/10	N8CK1610
Tags suited for CKR16 for the marking of 2 modules from 11 to 20 channels	CNU/8/CK16/20	N8CK1620
Tags suited for CKR25 & CKS21U for the marking of 2 modules from 1 to 18 channels	CNU/8/CK25/18	N8CK2518
Tags suited for CKS15 for the marking of 2 modules from 1 to 10 channels	CNU/8/CK15/10	N8CK1510
Tags suited for CKS15 for the marking of 2 modules from 11 to 20 channels	CNU/8/CK15/20	N8CK1520
Tags suited for CKD for the marking of 2 modules from 1 to 20 diodes	CNU/8/CKD	N8CKD020
N°. 100 tags with "+" symbol	CNU/8/023	N8023
N°. 100 tags with "-" symbol	CNU/8/024	N8024
N°. 100 tags with "~" symbol	CNU/8/026	N8026
N°. 100 blank tags	CNU/8/030	NU008