

Relay systems

Relay technology continues to play a large role in the reliability of industrial control and automation solutions. Because of their thin design, relay couplers are suitable for use in rail-oriented control designs. CONTA-CLIP relay couplers have features which make them perfect for use in secure electrical isolation of circuits or for the multiplication of contacts.

Whether for manufacturing, electrical machine and plant instrumentation, control engineering, building automation, or process engineering – it is always important to guarantee that the signal exchange between the peripheral devices and the upper-level central control and instrumentation systems remains potential-free and operationally safe.





Interface Relay Compact IRC, Multifunction Timing Relay MFR IRC

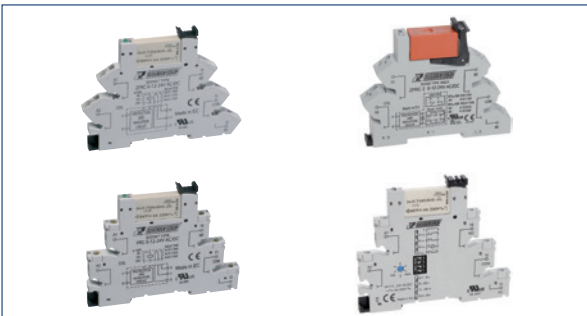
IRC relay couplers and **MFR-IRC timing relays** embody a new strategy for 6.2 mm coupling relays. Our five different relay versions provide optimized use of space, simple installations, ease of use, and excellent functionality. They can be adapted for various application requirements because of the interchangeable mechanical relays and optocouplers (SSRs). The different coloured cross-connection combs help minimize the installation effort. The basic version of the **IRC** is the well-known coupling relay that can be used in all systems.

Similar to the basic version, the **IRCP** with the integrated **SM-IRC** fuse module can be used in all systems. It is unique in the way it meets the requirement that each coupling relay output must be protected by a replaceable 5x20 mm standard micro-fuse. This limits the effects of over-currents (surges) – such as those caused by cable short circuits, short circuit to the controlled devices, blocked AC control valves, AC contactors or motors – to the area up to the fuse.

The **IRCP** and **IRCPO** provide the advantage of an additional wire connection that can be cross-connected. All three wires of a sensor in a PLC input or all wires of an output-side power relay or contactor can be connected directly to the coupling relay. This saves space and provides for a clear, user-friendly installation.

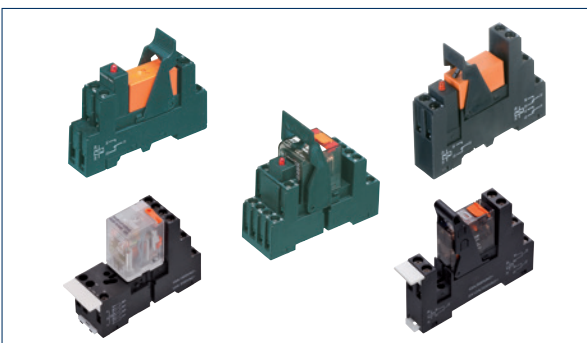
The **MFR-IRC** is a time-function coupler component with four time ranges and eight time functions. It features an innovative receptacle for holding additional 5x20 mm **SM-IRC** fuse modules. This component functions as a timer relay with a fuse, in a width of 6.2 mm.

All five types of relays in the **IRC relay system** are available with our innovative pressure spring wire connection system (Push-In) or the established screw wire-connect system.



Plug relay compact PRC, Multifunction timing relay MFR-PRC

Our **PRC** relay couplers and **MFR-PRC** timing relays are distinguished by their compact shape in their terminal block design. With a width of only 6.2 mm (for 1 CO relay) and 14 mm (for 2 CO relays), they can be used in a wide variety of applications. The basis relay offers 28 versions, including screw and tension-spring connections, and available coil voltages from 6 to 24 VDC and from 12 to 240 VAC/DC. With the AQI cross-connection system, mutual potentials can be carried out over the coil or contact sides.

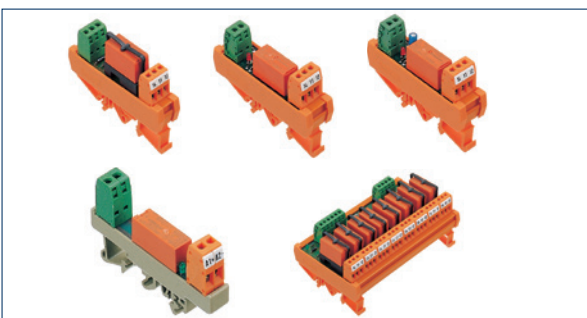


Plug relay system PRS

PRS relay couplers are available with one, two, or four CO contacts. The relay plug-in modules are designed for a rated voltage of 300 V. They can be combined with relays (in the coil-voltage range of 12 to 220 VDC and 12 to 230 VAC) and the appropriate insert modules or status displays. In order to guarantee that the relay is mechanically snug in the frame, a relay holding clamp can be mounted. The switchable continuous current is 12 amps for the one- and two-CO versions, and 6 amps for the four-CO versions. The **PRS...G** types have electrical contacts which are designed so that the coil side and the contact side are arranged separately from another. The relay frame, relay insert module and holding clamp can be modularly assembled and combined.

Relay modules RM and RIM

The **RM** and **RIM** are relay interfaces which offer an advantage over the single-relay base systems. On a PCB, the circuit track can be pre-wired, such as the shared plus, minus, and neutral wire potentials on the coil side. The **RIM S** versions also feature a toggle switch in the input/coil circuit. This enables switching to MANUAL, OFF, or AUTOMATIC.



Interface Relay Compact IRC

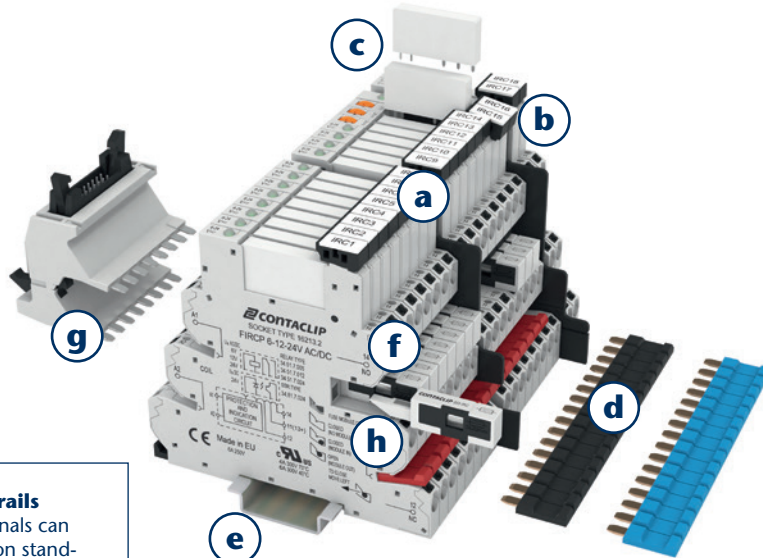
Relay terminals

1. Overview

a Labelling | Marking
The socket bases have a labelling surface which is optimally suited for our standard marking system **MC Maxi Card** (MC GS 6 x 12 R). **Conta-Clip** can also provide "just in time" labelling for you.

b Using the mount/dismount lever
The mounting and dismounting mechanism forms a reliable connection by latching the relay with the socket base. The fitted relay can be removed, easily and without force, from the socket base by using the dismount function of the lever!

c Pluggable relay
Pluggable relays are also available with AgSNO and gold contacts, to fit with the many functions of your individual requirements!



d Pluggable external cross-connections
The AQI/IRC pluggable cross-connection system helps you to save time when distributing potentials. The AQI/IRC is constructed so that it is protected against accidental touch. It is available as a 16-pole unit, in either red, blue or black. The cross-connection can be shortened to fewer poles in order to fit the required interface. Insulation plating can be used to insulate the ends.

e Mounts on TS 35 DIN rails
CONTA-CLIP relay terminals can be arranged as required on standard TS 35 DIN rails in accordance with EN 60715.

f Connection types
All IRC relay terminals are optionally available with screw wire connections or pressure spring connection system.



g The IRC/FCA adapter connects eight IRC interface relays via a two-wire cable with 24 V operating voltage and with a 14-pole cable from the PLC.

h A version with fuse insert module is also available. Thus the coupling relay output can be protected using an individual, replaceable standard micro-fuse (5 x 20 mm) within the available width of 6.2 mm.

2. Relay types



IRCUB and FRCUB Basic
All-purpose use as coupling relay in the PLC input or in the PLC output for controlling actuators.



IRCUP and FRCUP Plus
All-purpose use as coupling relay in the PLC input or in the PLC output for controlling actuators. With the option for holding a micro-fuse (5x20) in the relay contact.



IRCUI and FRCUI Input
In addition to their well-known coupling relay functionality, these components also have an additional advantage: all three lines from a sensor can be connected in the input to the PLC, or the lines from the output-side power relay or contactor can be connected directly to the corresponding coupling relay. This saves space and provides for a clear, user-friendly installation.



IRCUI and FRCUI Output
In addition to their well-known coupling relay functionality, these components also have an additional advantage: the three lines from a sensor can be connected in the input to the PLC, or the lines from the output-side power relay or contactor can be connected to the corresponding coupling relay. This saves space and provides for a clear, user-friendly installation.

3. Approvals (details upon request)



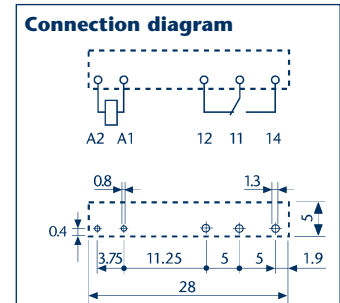
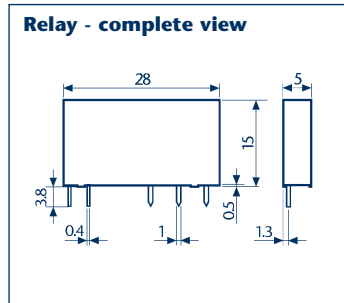
Interface Relay Compact IRC

Relay terminals

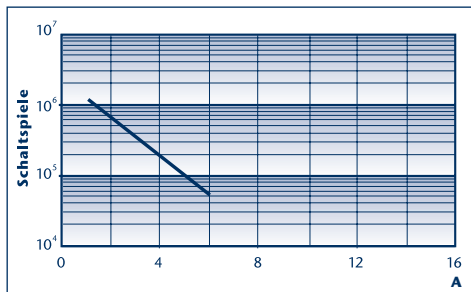
4. Features:

I. Relay

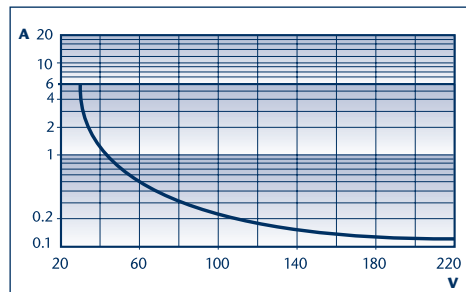
- 5 mm width, extremely narrow monitoring relay
- Sensitive DC coil, 170 mW
- Secure isolation between the coil and the contacts, according to VDE 0160/EN 50178
- 6 mm clearance and creepage distance
- 6 kV (1.2/50 μ s)
- Protection class II, according to VDE 0631/EN 60730



5. Contact data



Service life of contact under AC 1 load



Switching capacity under DC 1 load

- Under resistive load (DC 1) and with an intersection of current and voltage that lies under the curve: this is an indication of an electrical service life greater or equal to 100,000 switching cycles.
- Under inductive load (DC 13), a free-wheel diode should be switched parallel to the load. Note: the return time increases.

Ratings for the FCA/IRC adapter

- Max. continuous current per signal
- Min. power rating for eight coupling relays
- Rated voltage (UN)
- Operating range
- Control logic

Connection for signal level: 24 V

Connection type

Connection for 24 V power supply

Stripping length

Torque

Max. wire cross-section, solid | finely stranded

Max. wire cross-section, solid | finely stranded

1A

3W

24V DC

(0.8-1.1) U_N

Positive switching (+ at A1)

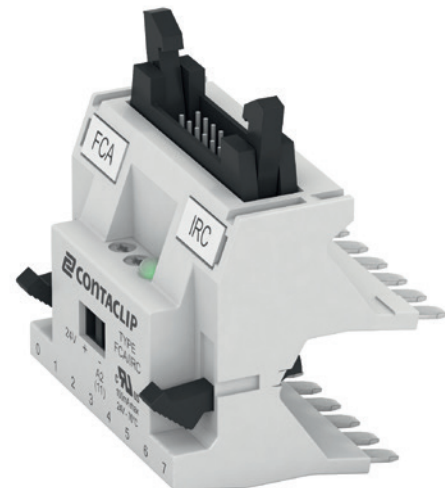
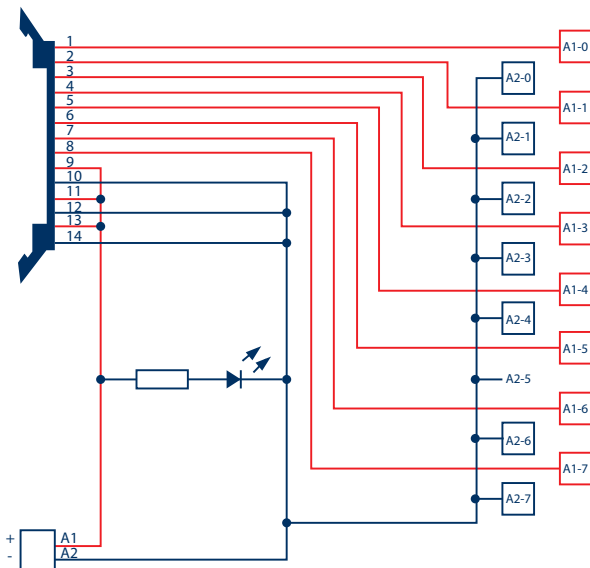
Flat-ribbon cable plug-in connector, 14-poles acc. to IEC 60603-13

9.5 mm

0.5 Nm

1 x 4 mm² / 1 x 2.5 mm²

1 x 12 AWG / 1 x 14 AWG

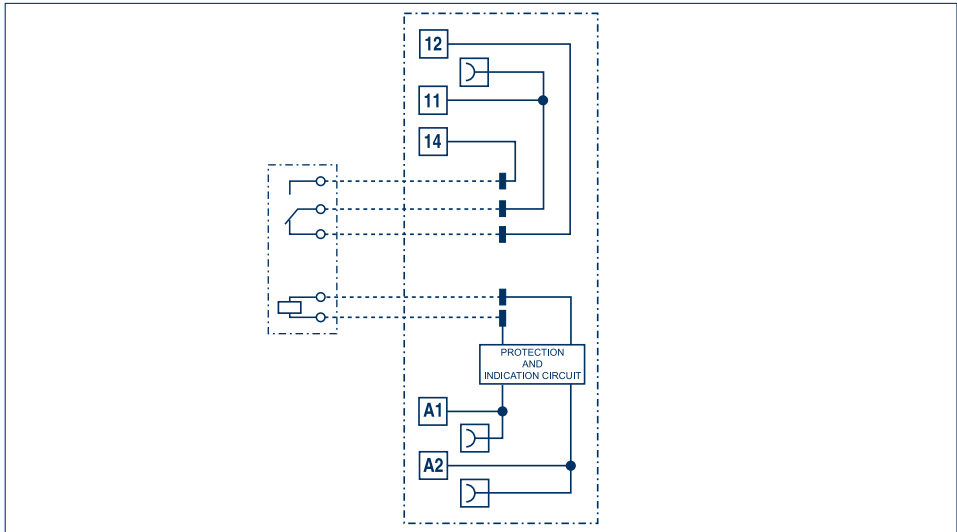


Interface Relay Compact IRC

IRC Basic series

- Consisting of:
- Base terminal and pluggable relay
 - Mounts on TS 35
- All-purpose use as coupling relay at PLC input, or in the output of the PLC for controlling actuators
- Internal EMC coil circuitry and LED display
- Pluggable cross-connection (blue, black, red) makes installations easier
- Screw or pressure-spring wire connection

(F)IRCU



General specifications:

Mech. service life AC/DC switching cycles	10 x 10 ⁶
Electrical service life AC 1 switching cycles	60 x 10 ³
Response time/Release time	5/6 ms
Ambient temperature	- 40 °C – + 70 °C
Relay protection type	IP 20
Bounce time at the NO of the NO/NC contact	1 ms / 6 ms
Vibration resistance (10-55) Hz NO/NC contact	10 g / 5 g
Ambient heat dissipation without contact current	0.2 W (24 V) – 0.4 W (230 V)
Ambient heat dissipation under continuous current	0.6 W (24 V) – 0.9 W (230 V)

Insulation properties acc. to EN 61810-1

Rated voltage of power supply system	230 / 400 V AC
Rated insulation voltage / contamination degree	250 V AC / 3 400 V AC / 2

Insulation between coil and contact set

Overvoltage category	III
Rated impulse voltage	6 kV (1.2/50 μs)
Dielectric strength	4,000 V AC

Insulation at open contact

Dielectric strength	1,000 V AC / 1.5 kV (1.2/50 μs)
---------------------	---------------------------------

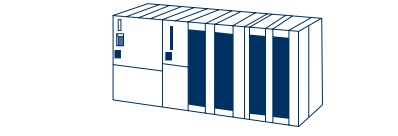
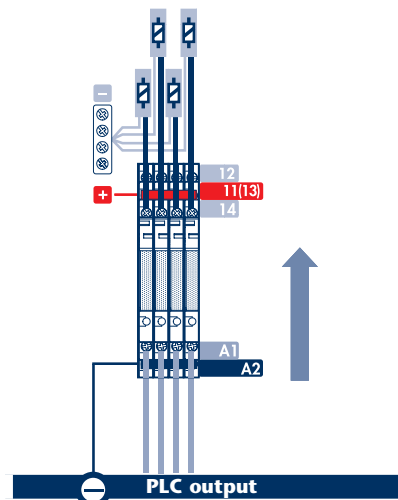
EMC - interference immunity of the input circuit

	UN ≤ 60 V	UN = 125 V	UN = 230 V
Burst (5/50 ns, 5 kHz) on A1 - A2 according to EN 61000-4-4	4 kV	4 kV	4 kV
Surge (1.2/50 μs) on A1 - A2 according to EN 61000-4-5 (differential mode)	0.8 kV	2 kV	4 kV

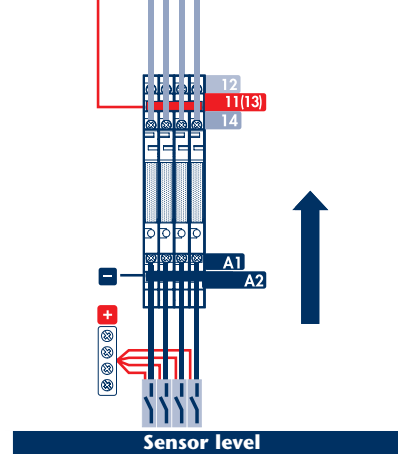
Rated data for the base

	Screw connection IRC	Pressure-spring connection
Stripping length	10 mm	8 mm
Torque	0.5 Nm	-
Max. wire cross-section, solid finely stranded	1 x 2.5 1 x 2.5 mm ²	1 x 2.5 1 x 2.5 mm ²
Min. wire cross-section, solid finely stranded	1 x 0.2 1 x 2.5 mm ²	1 x 0.2 1 x 2.5 mm ²
Max. wire cross-section, solid finely stranded	1 x 14 AWG 1 x 14 AWG	1 x 14 AWG 1 x 14 AWG
Min. wire cross-section, solid finely stranded	1 x 24 AWG 1 x 24 AWG	1 x 24 AWG 1 x 24 AWG

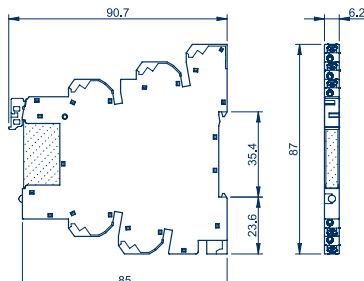
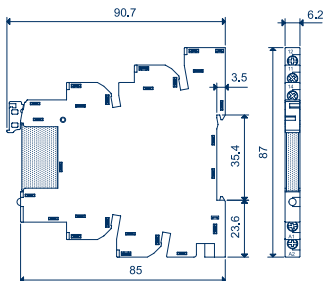
Actuator level



PLC input



Sensor level



Interface Relay Compact IRC

IRC Basic series

IRCU



FIRCU



Screw wire connection	IRCU 1/6 V AC/DC Cat. no./Qty. 16230.2 / 10	IRCU 1/12 V AC Cat. no./Qty. 16231.2 / 10	IRCU 1/24 V AC/DC Cat. no./Qty. 16232.2 / 10	IRCU 1/125 V AC/DC Cat. no./Qty. 16233.2 / 10	IRCU 1/240V AC/DC Cat. no./Qty. 16234.2 / 10
Size (L x W x H) with TS35 x 7.5	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm
Weight	33 g	33 g	33 g	33 g	33 g
Operating voltage	6 V AC / DC	12 V AC / DC	24 V AC / DC	125 V AC / DC	240 V AC
Input data					
Rated voltage (Un)	6 V AC / DC	12 V AC / DC	24 V AC / DC	110-125 V AC / DC	220-240 V AC (50/60 Hz)
Power rating AC / DC	0.2 VA / 0.2 W	0.2 VA / 0.2 W	0.25 VA / 0.25 W	0.7 VA / 0.7 W	1 VA / 0.4 W
Operating range	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un
Holding current	0.6 Un	0.6 Un	0.6 Un	0.6 Un	0.6 Un
Drop-out voltage	0.1 Un	0.1 Un	0.1 Un	0.1 Un	0.1 Un
Output specifications					
Number of contacts	1 CO contact	1 CO contact	1 CO contact	1 CO contact	1 CO contact
Max. continuous current Max. inrush current	6/10 A	6/10 A	6/10 A	6/10 A	6/10 A
Rated voltage Max. switching voltage	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC
Max. switching capacity AC 1	1,500 VA	1,500 VA	1,500 VA	1,500 VA	1,500 VA
Max. switching capacity AC 15 (230 V AC)	300 VA	300 VA	300 VA	300 VA	300 VA
1-phase motor load, AC 3-mode (230 V AC)	0.185 kW	0.185 kW	0.185 kW	0.185 kW	0.185 kW
Max. switching current DC 1:30/110/220 V	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A
Min. switching load	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)
Standard contact material	AgNi	AgNi	AgNi	AgNi	AgNi
Component, screw socket base					
Type	IRC 6-12-24 V AC/DC	IRC 6-12-24 V AC/DC	IRC 6-12-24 V AC/DC	IRC 110-125 V AC/DC	IRC 230-240 V AC
Cat. no./Qty.	16190.2 / 10	16190.2 / 10	16190.2 / 10	16191.2 / 10	16192.2 / 10
Components, plug relays					
Type	PRC 1/5 V DC	PRC 1/12 V DC	PRC 1/24 V DC	PRC 1/60 V DC	PRC 1/60 V DC
Cat. no./Qty.	15500.2 / 10	15501.2 / 10	15502.2 / 10	15503.2 / 10	15503.2 / 10

Pressure-spring wire connection	FIRCU 1/6 V AC/DC Cat. no./Qty. 16260.2 / 10	FIRCU 1/12 V AC/DC Cat. no./Qty. 16261.2 / 10	FIRCU 1/24 V AC/DC Cat. no./Qty. 16262.2 / 10	FIRCU 1/125 V AC/DC Cat. no./Qty. 16263.2 / 10	FIRCU 1/240 V AC Cat. no./Qty. 16264.2 / 10
Size (L x W x H) with TS 35 x 7.5	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm
Weight	33 g	33 g	33 g	33 g	33 g
Operating voltage	6 V AC / DC	12 V AC / DC	24 V AC / DC	125 V AC / DC	240 V AC
Input data					
Rated voltage (Un)	6 V AC / DC	12 V AC / DC	24 V AC / DC	110-125 V AC / DC	220-240 V AC (50/60 Hz)
Power rating AC / DC	0.2 VA / 0.2 W	0.2 VA / 0.2 W	0.25 VA / 0.25 W	0.7 VA / 0.7 W	1 VA / 0.4 W
Operating range	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un
Holding current	0.6 Un	0.6 Un	0.6 Un	0.6 Un	0.6 Un
Drop-out voltage	0.1 Un	0.1 Un	0.1 Un	0.1 Un	0.1 Un
Output specifications					
Number of contacts	1 CO contact	1 CO contact	1 CO contact	1 CO contact	1 CO contact
Max. continuous current Max. inrush current	6/10 A	6/10 A	6/10 A	6/10 A	6/10 A
Rated voltage Max. switching voltage	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC
Max. switching capacity AC 1	1,500 VA	1,500 VA	1,500 VA	1,500 VA	1,500 VA
Max. switching capacity AC 15 (230 V AC)	300 VA	300 VA	300 VA	300 VA	300 VA
1-phase motor load, AC 3-mode (230 V AC)	0.185 kW	0.185 kW	0.185 kW	0.185 kW	0.185 kW
Max. switching current DC 1:30/110/220 V	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A
Min. switching load	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)
Standard contact material	AgNi	AgNi	AgNi	AgNi	AgNi
Component, pressure-spring socket base					
Type	FIRC 6-12-24 V AC/DC	FIRC 6-12-24 V AC/DC	FIRC 6-12-24 V AC/DC	FIRC 110-125 V AC/DC	FIRC 230-240 V AC
Cat. no./Qty.	16210.2 / 10	16210.2 / 10	16210.2 / 10	16211.2 / 10	16212.2 / 10
Components, plug relays					
Type	PRC 1/5 V DC	PRC 1/12 V DC	PRC 1/24 V DC	PRC 1/60 V DC	PRC 1/60 V DC
Cat. no./Qty.	15500.2 / 10	15501.2 / 10	15502.2 / 10	15503.2 / 10	15503.2 / 10

Accessories	Type	Cat. no./Qty.
Partition plate	TW/IRC	16228.2 / 10
External cross-connector, blue	AQI/IRC/16 BU	16209.5 / 10
External cross-connector, black	AQI/IRC/16 BK	16209.4 / 10
External cross-connector, red	AQI/IRC/16 RD	16209.9 / 10
Ribbon cable adapter	FCA/IRC	16229.2 / 10
Tool / screwdriver	SDB 0.6 x 3.5	1086.0 / 10
Labelling/markers, blank	MC GS 6x12 R WH	3884.7 / 600
Labelling/markers, special print	MC GS 6x12 R So WH	3885.7 / 600

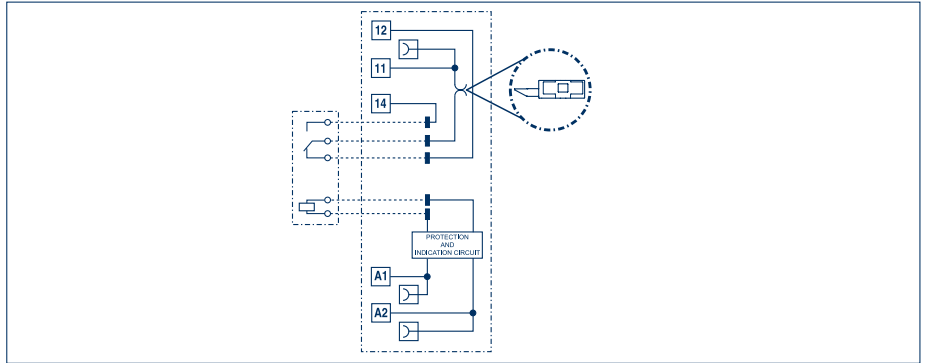
Interface Relay Compact IRC

IRC Plus series

Consisting of:

- Base terminal and pluggable relay
- Mounts on TS 35
- All-purpose use as coupling relay at PLC input, or in the output of the PLC for controlling actuators
- Output fuse module for individual standard micro-fuse (5x20 mm) available as accessory
- Internal EMC coil circuitry and LED display
- LW version with internal AC residual current suppression and LED display
- Pluggable cross-connection (blue, black, red) makes installations easier
- Screw or pressure-spring wire connection

(F)IRCPU



General specifications:

Mech. service life AC/DC switching cycles	10 x 10 ⁶
Electrical service life AC 1 switching cycles	60 x 10 ³
Response time/Release time	5/6 ms
Ambient temperature	- 40 °C – + 70 °C
Relay protection type	IP 20
Bounce time at the NO of the NO/NC contact	1 ms/6 ms
Vibration resistance (10-55) Hz NO/NC contact	10 g / 5 g
Ambient heat dissipation without contact current	0.2 W (24 V) – 0.4 W (230 V)
Ambient heat dissipation under continuous current	0.6 W (24 V) – 0.9 W (230 V)

Insulation properties acc. to EN 61810-1

Rated voltage of power supply system	230 / 400 V AC	
Rated insulation voltage / contamination degree	250 V AC / 3	400 V AC / 2

Insulation between coil and contact set

Overvoltage category	III	
Rated impulse voltage	6 kV (1.2/50 µs)	
Dielectric strength	4,000 V AC	

Insulation at open contact

Dielectric strength	1,000 V AC / 1.5 kV (1.2/50 µs)		
---------------------	---------------------------------	--	--

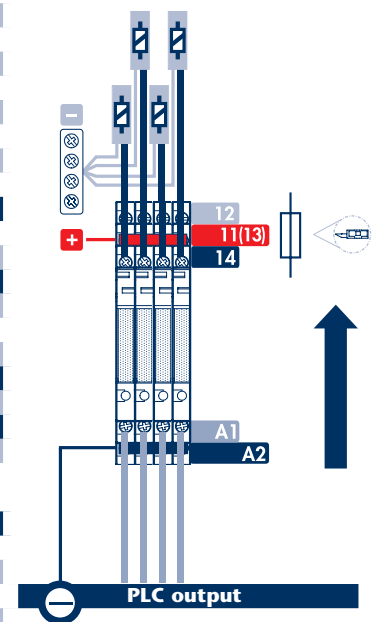
EMC - interference immunity of the input circuit

	UN ≤ 60 V	UN = 125 V	UN = 230 V
Burst (5/50 ns, 5 kHz) on A1 - A2 acc. to EN 61000-4-4	4 kV	4 kV	4 kV
Surge (1.2/50 µs) on A1 - A2 according to EN 61000-4-5 (differential mode)	0.8 kV	2 kV	4 kV

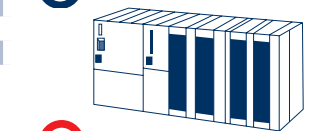
Rated data for the base

	Screw connection IRC	Pressure-spring connection
Stripping length	10 mm	8 mm
Torque	0.5 Nm	-
Max. wire cross-section, solid finely stranded	1 x 2.5 1 x 2.5 mm ²	1 x 2.5 1 x 2.5 mm ²
Min. wire cross-section, solid finely stranded	1 x 0.2 1 x 2.5 mm ²	1 x 0.2 1 x 2.5 mm ²
Max. wire cross-section, solid finely stranded	1 x 14 AWG 1 x 14 AWG	1 x 14 AWG 1 x 14 AWG
Min. wire cross-section, solid finely stranded	1 x 24 AWG 1 x 24 AWG	1 x 24 AWG 1 x 24 AWG

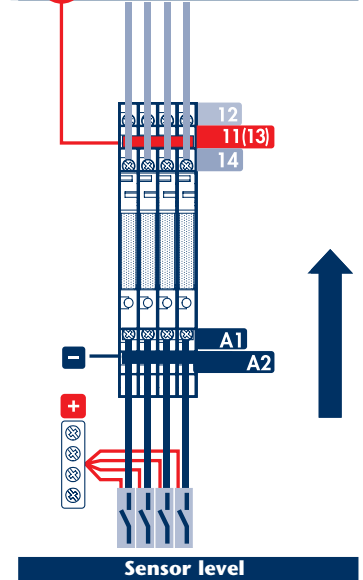
Actuator level



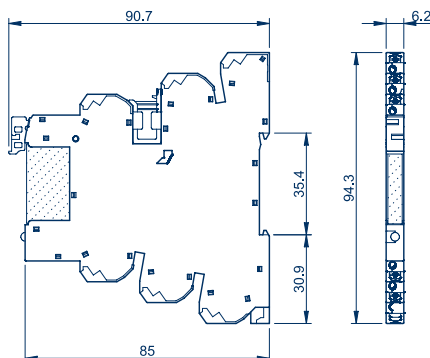
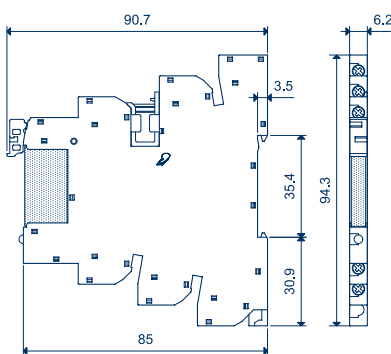
PLC output



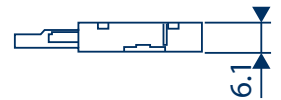
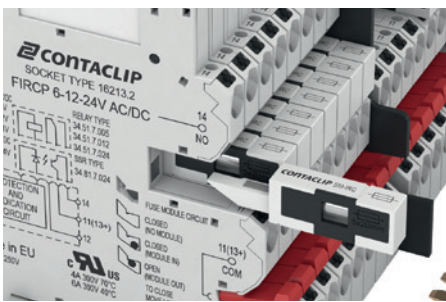
PLC input



Sensor level

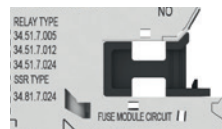


Interface Relay Compact IRC



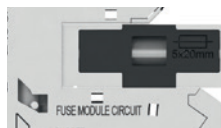
Similar to the IRCU version, the IRCPU with the fuse insert module can be used in all systems. It is unique in the way it meets the requirement that each coupling relay output must be protected by a replaceable 5x20 mm standard micro-fuse within the available 6.2 mm width.

It is delivered with a dummy plug inserted in the frame. The connections for the fuse are bridged internally, so that it can be used without a fuse module. The indicator pin is not visible when the product is delivered.



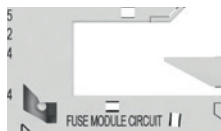
The indicator pin is not visible when the product is delivered.

When the fuse module is plugged in with an inserted fuse (dummy plug has been removed), the fuse is in series with the CO of the output connection (11).



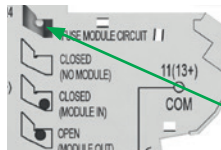
Status of the indicator pin

When the fuse module is pulled out (e.g. due to a failed fuse), the output remains cut off so that the cause of the blown fuse can be found (security logistics).



Status of the indicator pin

In order to reactivate the output, either the fuse module must be fitted with a functional fuse and plugged in again, or the indicator pin must be moved gently in the direction of the arrow, as shown initially.

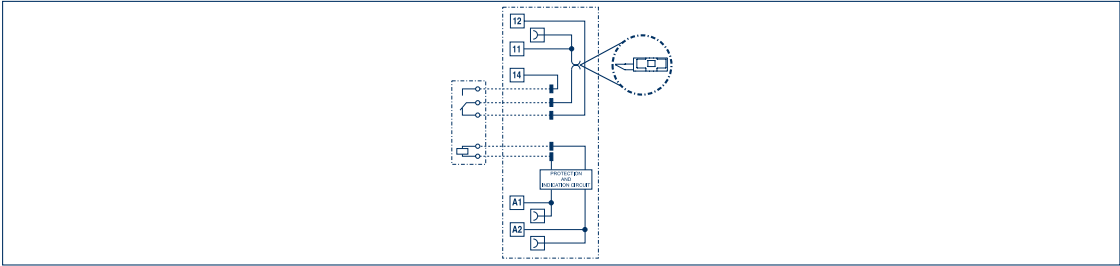


Moving the indicator pin

Rated data for the fuse module	
Size (L x W)	38.3 x 6.1 mm
Rated voltage of fuse	250 V
Rated current of fuse	6 A
Size of fuse	5 x 20 mm

Interface Relay Compact IRC

IRC Plus series (F)IRCPU



Screw wire connection	IRCPU 1/6 V AC/DC 16235.2 / 10	IRCPU 1/12 V AC/DC 16236.2 / 10	IRCPU 1/24 V AC/DC 16237.2 / 10	IRCPU 1/60 V AC/DC 16238.2 / 10	IRCPU 1/125 V AC/DC 16239.2 / 10
Size (LxWxH) with TS 35 x 7.5	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm
Weight	33 g	33 g	33 g	33 g	33 g
Operating voltage	6 V AC / DC	12 V AC / DC	24 V AC / DC	60 V AC / DC	125 V AC / DC
Input data					
Rated voltage (Un)	6 V AC / DC	12 V AC / DC	24 V AC / DC	60 V AC / DC	110-125 V AC / DC
Power rating AC / DC	0.2 VA / 0.2 W	0.2 VA / 0.2 W	0.25 VA / 0.25 W	0.35 VA / 0.35 W	0.7 VA / 0.7 W
Operating range	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un
Holding current	0.6 Un	0.6 Un	0.6 Un	0.6 Un	0.6 Un
Drop-out voltage	0.1 Un	0.1 Un	0.1 Un	0.1 Un	0.1 Un
Output specifications					
Number of contacts	1 CO contact	1 CO contact	1 CO contact	1 CO contact	1 CO contact
Max. continuous current Max. inrush current	6/10 A	6/10 A	6/10 A	6/10 A	6/10 A
Rated voltage Max. switching voltage	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC
Max. switching capacity AC 1	1,500 VA	1,500 VA	1,500 VA	1,500 VA	1,500 VA
Max. switching capacity AC 15 (230 V AC)	300 VA	300 VA	300 VA	300 VA	300 VA
1-phase motor load, AC 3-mode (230 V AC)	0.185 kW	0.185 kW	0.185 kW	0.185 kW	0.185 kW
Max. switching current DC 1:30/110/220 V	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A
Min. switching load	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)
Standard contact material	AgNi	AgNi	AgNi	AgNi	AgNi
Component, screw socket base					
Type	IRCP 6-12-24 V AC/DC	IRCP 6-12-24 V AC/DC	IRCP 6-12-24 V AC/DC	IRCP 60 V AC/DC	IRCP 110-125 V AC/DC
Cat. no./Qty.	16193.2 / 10	16193.2 / 10	16193.2 / 10	16194.2 / 10	16195.2 / 10
Components, plug relays					
Type	PRC 1/5 V DC	PRC 1/12 V DC	PRC 1/24 V DC	PRC 1/60 V DC	PRC 1/60 V DC
Cat. no./Qty.	15500.2 / 10	15501.2 / 10	15502.2 / 10	15503.2 / 10	15503.2 / 10
Pressure-spring wire connection					
Cat. no./Qty.	FIRCPU 1/6 V AC/DC 16265.2 / 10	FIRCPU 1/12 V AC/DC 16266.2 / 10	FIRCPU 1/24 V AC/DC 16267.2 / 10	FIRCPU 1/60 V AC/DC 16268.2 / 10	FIRCPU 1/125 V AC/DC 16269.2 / 10
Size (L x W x H) with TS 35 x 7.5	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm
Weight	33 g	33 g	33 g	33 g	33 g
Operating voltage	6 V AC / DC	12 V AC / DC	24 V AC / DC	60 V AC / DC	125 V AC / DC
Input data					
Rated voltage (Un)	6 V AC / DC	12 V AC / DC	24 V AC / DC	60 V AC / DC	110-125 V AC / DC
Power rating AC / DC	0.2 VA / 0.2 W	0.2 VA / 0.2 W	0.25 VA / 0.25 W	0.35 VA / 0.35 W	0.7 VA / 0.7 W
Operating range	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un
Holding current	0.6 Un	0.6 Un	0.6 Un	0.6 Un	0.6 Un
Drop-out voltage	0.1 Un	0.1 Un	0.1 Un	0.1 Un	0.1 Un
Output specifications					
Number of contacts	1 CO contact	1 CO contact	1 CO contact	1 CO contact	1 CO contact
Max. continuous current Max. inrush current	6/10 A	6/10 A	6/10 A	6/10 A	6/10 A
Rated voltage Max. switching voltage	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC
Max. switching capacity AC 1	1,500 VA	1,500 VA	1,500 VA	1,500 VA	1,500 VA
Max. switching capacity AC 15 (230 V AC)	300 VA	300 VA	300 VA	300 VA	300 VA
1-phase motor load, AC 3-mode (230 V AC)	0.185 kW	0.185 kW	0.185 kW	0.185 kW	0.185 kW
Max. switching current DC 1:30/110/220 V	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A
Min. switching load	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)
Standard contact material	AgNi	AgNi	AgNi	AgNi	AgNi
Component, pressure-spring socket base					
Type	FIRCP 6-12-24 V AC/DC	FIRCP 6-12-24 V AC/DC	FIRCP 6-12-24 V AC/DC	FIRCP 60 V AC/DC	FIRCP 110-125 V AC/DC
Cat. no./Qty.	16213.2 / 10	16213.2 / 10	16213.2 / 10	16214.2 / 10	16215.2 / 10
Components, plug relays					
Type	PRC 1/5 V DC	PRC 1/12 V DC	PRC 1/24 V DC	PRC 1/60 V DC	PRC 1/60 V DC
Cat. no./Qty.	15500.2 / 10	15501.2 / 10	15502.2 / 10	15503.2 / 10	15503.2 / 10
Accessories	Type	Cat. no./Qty.			
Partition plate	TW/IRC	16228.2 / 10			
External cross-connector, blue	AQI/IRC/16 BU	16209.5 / 10			
External cross-connector, black	AQI/IRC/16 BK	16209.4 / 10			
External cross-connector, red	AQI/IRC/16 RD	16209.9 / 10			
Ribbon cable adapter	FCA/IRC	16229.2 / 10			
Fuse module	SM-IRC	16208.2 / 10			
Tool / screwdriver	SDB 0.6 x 3.5	1086.0 / 10			
Labelling/markers, blank	MC GS 6x12 R WH	3884.7 / 600			
Labelling/markers, special print	MC GS 6x12 R So WH	3885.7 / 600			

Interface Relay Compact IRC

IRCPU



FIRCPU



Screw wire connection	IRCPU 1/240 V AC 16240.2 / 10	IRCPU 1/125 V DC 16241.2 / 10	IRCPU 1/220 V DC 16242.2 / 10	IRCPU LW 1/125 V AC/DC 16243.2 / 10	IRCPU LW 1/240 V AC 16244.2 / 10
Cat. no./Qty.					
Size (L x W x H) with TS35 x 7.5	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm
Weight	33 g	33 g	33 g	33 g	33 g
Operating voltage	240 V AC	125 V DC	220 V DC	125 V AC / DC	240 V AC
Input data					
Rated voltage (Un)	220-240 V AC (50/60 Hz)	125 V DC	24 AC / DC	110-125 V AC / DC	220-240 V AC (50/60 Hz)
Power rating AC / DC	1 VA / 0.4 W	- / 0.6 W	- / 0.6 W	1.1 VA / 1 W	1.4 VA / 0.5 W
Operating range	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un
Holding current	0.6 Un	0.6 Un	0.6 Un	0.6 Un	0.6 Un
Drop-out voltage	0.1 Un	0.1 Un	0.1 Un	0.3 Un	0.3 Un
Output specifications					
Number of contacts	1 CO contact	1 CO contact	1 CO contact	1 CO contact	1 CO contact
Max. continuous current Max. inrush current	6/10 A	6/10 A	6/10 A	6/10 A	6/10 A
Rated voltage Max. switching voltage	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC
Max. switching capacity AC 1	1,500 VA	1,500 VA	1,500 VA	1,500 VA	1,500 VA
Max. switching capacity AC 15 (230 V AC)	300 VA	300 VA	300 VA	300 VA	300 VA
1-phase motor load, AC 3-mode (230 V AC)	0.185 kW	0.185 kW	0.185 kW	0.185 kW	0.185 kW
Max. switching current DC 1:30/110/220 V	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A
Min. switching load	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)
Standard contact material	AgNi	AgNi	AgNi	AgNi	AgNi
Component, screw socket base					
Type	IRCP 230-240 V AC	IRCP 110-125 V DC	IRCP 220 V DC	IRCP LW 110-125 V AC/DC	IRCP LW 230-240 V AC
Cat. no./Qty.	16196.2 / 10	16197.2 / 10	16198.2 / 10	16199.2 / 10	16200.2 / 10
Components, plug relays					
Type	PRC 1/60 V DC	PRC 1/60 V DC	PRC 1/60 V DC	PRC 1/60 V DC	PRC 1/60 V DC
Cat. no./Qty.	15503.2 / 10	15503.2 / 10	15503.2 / 10	15503.2 / 10	15503.2 / 10
Pressure-spring wire connection					
Cat. no./Qty.					
Size (L x W x H) with TS 35 x 7.5	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm
Weight	33 g	33 g	33 g	33 g	33 g
Operating voltage	240 V AC	125 V DC	220 V DC	125 V AC / DC	240 V AC
Input data					
Rated voltage (Un)	220-240 V AC (50/60 Hz)	125 V DC	24 AC / DC	110-125 V AC / DC	220-240 V AC (50/60 Hz)
Power rating AC / DC	1 VA / 0.4 W	- / 0.6 W	- / 0.6 W	1.1 VA / 1 W	1.4 VA / 0.5 W
Operating range	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un
Holding current	0.6 Un	0.6 Un	0.6 Un	0.6 Un	0.6 Un
Drop-out voltage	0.1 Un	0.1 Un	0.1 Un	0.3 Un	0.3 Un
Output specifications					
Number of contacts	1 CO contact	1 CO contact	1 CO contact	1 CO contact	1 CO contact
Max. continuous current Max. inrush current	6/10 A	6/10 A	6/10 A	6/10 A	6/10 A
Rated voltage Max. switching voltage	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC
Max. switching capacity AC 1	1,500 VA	1,500 VA	1,500 VA	1,500 VA	1,500 VA
Max. switching capacity AC 15 (230 V AC)	300 VA	300 VA	300 VA	300 VA	300 VA
1-phase motor load, AC 3-mode (230 V AC)	0.185 kW	0.185 kW	0.185 kW	0.185 kW	0.185 kW
Max. switching current DC 1:30/110/220 V	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A
Min. switching load	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)
Standard contact material	AgNi	AgNi	AgNi	AgNi	AgNi
Component, pressure-spring socket base					
Type	FIRCP 230-240 V AC	FIRCP 110-125 V DC	FIRCP 220 V DC	FIRCP LW 110-125 V AC/DC	FIRCP LW 230-240 V AC
Cat. no./Qty.	16216.2 / 10	16217.2 / 10	16218.2 / 10	16219.2 / 10	16220.2 / 10
Components, plug relays					
Type	PRC 1/60 V DC	PRC 1/60 V DC	PRC 1/60 V DC	PRC 1/60 V DC	PRC 1/60 V DC
Cat. no./Qty.	15503.2 / 10	15503.2 / 10	15503.2 / 10	15503.2 / 10	15503.2 / 10
Accessories	Type	Cat. no./Qty.			
Partition plate	TW/IRC	16228.2 / 10			
External cross-connector, blue	AQI/IRC/16 BU	16209.5 / 10			
External cross-connector, black	AQI/IRC/16 BK	16209.4 / 10			
External cross-connector, red	AQI/IRC/16 RD	16209.9 / 10			
Ribbon cable adapter	FCA/IRC	16229.2 / 10			
Fuse module	SM-IRC	16208.2 / 10			
Tool / screwdriver	SDB 0.6 x 3.5	1086.0 / 10			
Labelling/markers, blank	MC GS 6x12 R WH	3884.7 / 600			
Labelling/markers, special print	MC GS 6x12 R So WH	3885.7 / 600			

Interface Relay Compact IRC

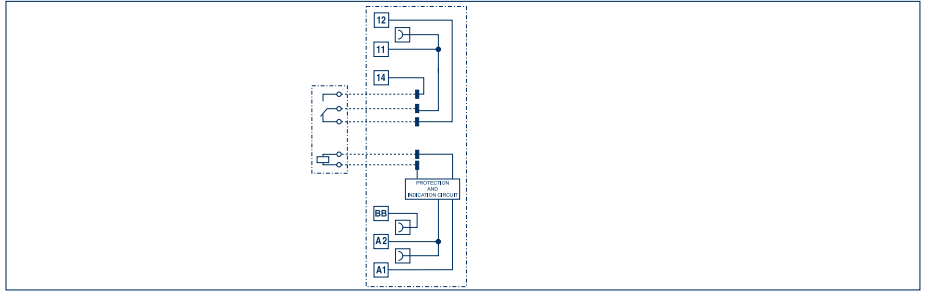
IRC Input series

Consisting of:

- Base terminal and pluggable relay
- Mounts on TS 35

- Advantageous for connecting sensors to the PLC input/output, and the sensor power supply can be connected to the same coupling relay
- Internal EMC coil circuitry and LED display
- Pluggable cross-connection (blue, black, red) makes installations easier
- Screw or pressure-spring wire connection

(F)IRCIU



General specifications:

Mech. service life AC/DC switching cycles	10 x 10 ⁶
Electrical service life AC 1 switching cycles	60 x 10 ³
Response time/Release time	5/6 ms
Ambient temperature	- 40 °C – + 70 °C
Relay protection type	IP 20
Bounce time at the NO of the NO/NC contact	1 ms/6 ms
Vibration resistance (10-55) Hz NO/NC contact	10 g / 5 g
Ambient heat dissipation without contact current	0.2 W (24 V) – 0.4 W (230 V)
Ambient heat dissipation under continuous current	0.6 W (24 V) – 0.9 W (230 V)

Insulation properties acc. to EN 61810-1

Rated voltage of power supply system	230 / 400 V AC
Rated insulation voltage / contamination degree	250 V AC / 3 400 V AC / 2

Insulation between coil and contact set

Overvoltage category	III
Rated impulse voltage	6 kV (1.2/50 µs)
Dielectric strength	4,000 V AC

Insulation at open contact

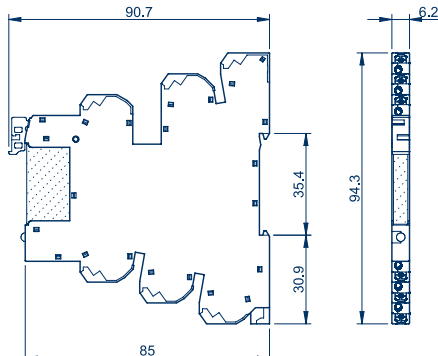
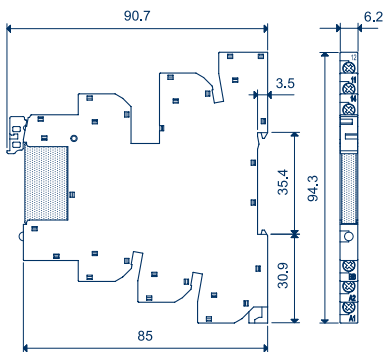
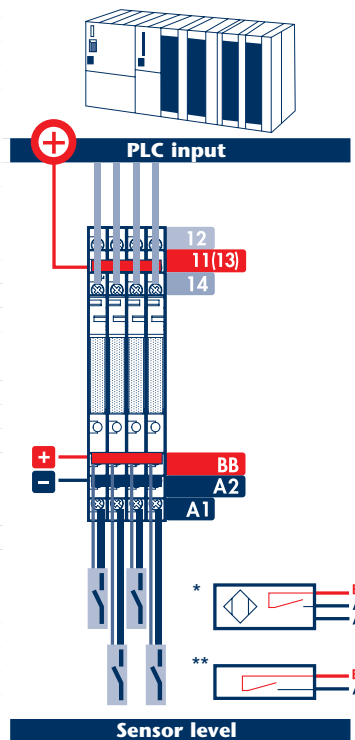
Dielectric strength	1,000 V AC / 1.5 kV (1.2/50 µs)
---------------------	---------------------------------

EMC - interference immunity of the input circuit

	UN ≤ 60 V	UN = 125 V	UN = 230 V
Burst (5/50 ns, 5 kHz) on A1 - A2 according to EN 61000-4-4	4 kV	4 kV	4 kV
Surge (1.2/50 µs) on A1 - A2 according to EN 61000-4-5 (differential mode)	0.8 kV	2 kV	4 kV

Rated data for the base

	Screw connection IRC	Pressure-spring connection
Stripping length	10 mm	8 mm
Torque	0.5 Nm	-
Max. wire cross-section, solid finely stranded	1 x 2.5 1 x 2.5 mm ²	1 x 2.5 1 x 2.5 mm ²
Min. wire cross-section, solid finely stranded	1 x 0.2 1 x 2.5 mm ²	1 x 0.2 1 x 2.5 mm ²
Max. wire cross-section, solid finely stranded	1 x 14 AWG 1 x 14 AWG	1 x 14 AWG 1 x 14 AWG
Min. wire cross-section, solid finely stranded	1 x 24 AWG 1 x 24 AWG	1 x 24 AWG 1 x 24 AWG



For sensors with 2 connections or for control via the NO contact:

BB = + (plus) for multiple sensors / NO contact is bridgeable
 A1 = individual sensor/ NO-contact output

For sensors with 3 connections:

BB = + (plus) for multiple sensors Bridgeable
 A2 = - (minus) for multiple sensors Bridgeable
 A1 = individual sensor output/

* Sensor with 3 connections (PNP output)

** Sensor with 2 connections or for control via NO contact

Interface Relay Compact IRC

IRCIU



FIRCIU



Screw wire connection	IRCIU 1/6 V AC/DC Cat. no./Qty. 16245.2 / 10	IRCIU 1/12 V AC/DC Cat. no./Qty. 16246.2 / 10	IRCIU 1/24 V AC/DC Cat. no./Qty. 16247.2 / 10	IRCIU 1/125 V AC/DC Cat. no./Qty. 16248.2 / 10	IRCIU 1/240 V AC Cat. no./Qty. 16249.2 / 10
Size (L x W x H) with TS 35 x 7.5	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm
Weight	33 g	33 g	33 g	33 g	33 g
Operating voltage	6 V AC / DC	12 V AC / DC	24 AC / DC	125 V AC / DC	240 V AC
Input data					
Rated voltage (Un)	6 V AC / DC	12 V AC / DC	24 AC / DC	110-125 V AC / DC	220-240 V AC (50/60 Hz)
Power rating AC / DC	0.2 VA / 0.2 W	0.2 VA / 0.2 W	0.25 VA / 0.25 W	0.7 VA / 0.7 W	1 VA / -
Operating range	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un
Holding current	0.6 Un	0.6 Un	0.6 Un	0.6 Un	0.6 Un
Drop-out voltage	0.1 Un	0.1 Un	0.1 Un	0.1 Un	0.1 Un
Output specifications					
Number of contacts	1 CO contact	1 CO contact	1 CO contact	1 CO contact	1 CO 1 CO contact
Max. continuous current Max. inrush current	6/10 A	6/10 A	6/10 A	6/10 A	6/10 A
Rated voltage Max. switching voltage	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC
Max. switching capacity AC 1	1,500 VA	1,500 VA	1,500 VA	1,500 VA	1,500 VA
Max. switching capacity AC 15 (230 V AC)	300 VA	300 VA	300 VA	300 VA	300 VA
1-phase motor load, AC 3-mode (230 V AC)	0.185 kW	0.185 kW	0.185 kW	0.185 kW	0.185 kW
Max. switching current DC 1:30/110/220 V	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A
Min. switching load	50 mW (5 V / 2 mA)	50 mW (5 V / 2 mA)	50 mW (5 V / 2 mA)	50 mW (5 V / 2 mA)	50 mW (5 V / 2 mA)
Standard contact material	AgNi + Au	AgNi + Au	AgNi + Au	AgNi + Au	AgNi + Au
Component, screw socket base					
Type	IRCI 6-12-24 V AC/DC	IRCI 6-12-24 V AC/DC	IRCI 6-12-24 V AC/DC	IRCI 110-125 V AC/DC	IRCI 230-240 V AC
Cat. no./Qty.	16201.2 / 10	16201.2 / 10	16201.2 / 10	16202.2 / 10	16203.2 / 10
Components, plug relays					
Type	PRC 1/5 V DC Au	PRC 1/12 V DC Au	PRC 1/24 V DC Au	PRC 1/60 V DC Au	PRC 1/60 V DC Au
Cat. no./Qty.	15557.2 / 10	15558.2 / 10	15559.2 / 10	15568.2 / 10	15568.2 / 10

Pressure-spring wire connection	FIRCIU 1/6 V AC/DC Cat. no./Qty. 16275.2 / 10	FIRCIU 1/12 V AC/DC Cat. no./Qty. 16276.2 / 10	FIRCIU 1/24 V AC/DC Cat. no./Qty. 16277.2 / 10	FIRCIU 1/125 V AC/DC Cat. no./Qty. 16278.2 / 10	FIRCIU 1/240 V AC Cat. no./Qty. 16279.2 / 10
Size (L x W x H) with TS 35 x 7.5	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm	94.3 x 6.2 x 95.4 mm
Weight	33 g	33 g	33 g	33 g	33 g
Operating voltage	6 V AC / DC	12 V AC / DC	24 AC / DC	125 V AC / DC	240 V AC
Input data					
Rated voltage (Un)	6 V AC / DC	12 V AC / DC	24 AC / DC	110-125 V AC / DC	220-240 V AC (50/60 Hz)
Power rating AC / DC	0.2 VA / 0.2 W	0.2 VA / 0.2 W	0.25 VA / 0.25 W	0.7 VA / 0.7 W	1 VA / -
Operating range	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un
Holding current	0.6 Un	0.6 Un	0.6 Un	0.6 Un	0.6 Un
Drop-out voltage	0.1 Un	0.1 Un	0.1 Un	0.1 Un	0.1 Un
Output specifications					
Number of contacts	1 CO contact	1 CO contact	1 CO contact	1 CO contact	1 CO contact
Max. continuous current Max. inrush current	6/10 A	6/10 A	6/10 A	6/10 A	6/10 A
Rated voltage Max. switching voltage	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC
Max. switching capacity AC 1	1,500 VA	1,500 VA	1,500 VA	1,500 VA	1,500 VA
Max. switching capacity AC 15 (230 V AC)	300 VA	300 VA	300 VA	300 VA	300 VA
1-phase motor load, AC 3-mode (230 V AC)	0.185 kW	0.185 kW	0.185 kW	0.185 kW	0.185 kW
Max. switching current DC 1:30/110/220 V	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A
Min. switching load	50 mW (5 V / 2 mA)	50 mW (5 V / 2 mA)	50 mW (5 V / 2 mA)	50 mW (5 V / 2 mA)	50 mW (5 V / 2 mA)
Standard contact material	AgNi + Au	AgNi + Au	AgNi + Au	AgNi + Au	AgNi + Au
Component, pressure-spring socket base					
Type	FIRCI 6-12-24 V AC/DC	FIRCI 6-12-24 V AC/DC	FIRCI 6-12-24 V AC/DC	FIRCI 110-125 V AC/DC	FIRCI 230-240 V AC
Cat. no./Qty.	16221.2 / 10	16221.2 / 10	16221.2 / 10	16222.2 / 10	16223.2 / 10
Components, plug relays					
Type	PRC 1/5 V DC Au	PRC 1/12 V DC Au	PRC 1/24 V DC Au	PRC 1/60 V DC Au	PRC 1/60 V DC Au
Cat. no./Qty.	15557.2 / 10	15558.2 / 10	15559.2 / 10	15568.2 / 10	15568.2 / 10

Accessories	Type	Cat. no./Qty.
Partition plate	TW/IRC	16228.2 / 10
External cross-connector, blue	AQI/IRC/16 BU	16209.5 / 10
External cross-connector, black	AQI/IRC/16 BK	16209.4 / 10
External cross-connector, red	AQI/IRC/16 RD	16209.9 / 10
Ribbon cable adapter	FCA/IRC	16229.2 / 10
Tool / screwdriver	SDB 0.6 x 3.5	1086.0 / 10
Labelling/markers, blank	MC GS 6x12 R WH	3884.7 / 600
Labelling/markers, special print	MC GS 6x12 R So WH	3885.7 / 600

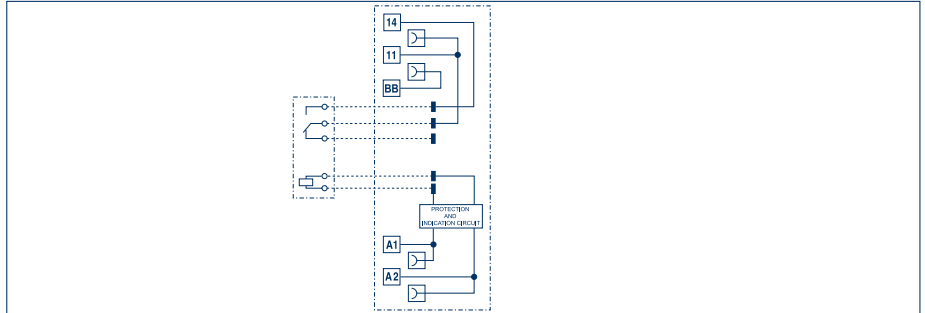
Interface Relay Compact IRC

IRC output series

Consisting of:

- Base terminal and pluggable relay
- Mounts on TS 35
- Advantageous for connecting actuators to the PLC output
- Control and power supply for the actuator can be connected to the same coupling relay
- Internal EMC coil circuitry and LED display
- Pluggable cross-connection (blue, black, red) makes installations easier
- Screw or pressure-spring wire connection

(F)IRCOU



General specifications:

Mech. service life AC/DC switching cycles	10 x 10 ⁶
Electrical service life AC 1 switching cycles	60 x 10 ³
Response time/Release time	5/6 ms
Ambient temperature	- 40 °C – + 70 °C
Relay protection type	IP 20
Bounce time at the NO of the NO/NC contact	1 ms/6 ms
Vibration resistance (10-55) Hz NO/NC contact	10 g / 5 g
Ambient heat dissipation without contact current	0.2 W (24 V) – 0.4 W (230 V)
Ambient heat dissipation under continuous current	0.6 W (24 V) – 0.9 W (230 V)

Insulation properties acc. to EN 61810-1

Rated voltage of power supply system	230 / 400 V AC
Rated insulation voltage / contamination degree	250 V AC / 3

Insulation between coil and contact set

Overvoltage category	III
Rated impulse voltage	6 kV (1.2/50 µs)
Dielectric strength	4,000 V AC

Insulation at open contact

Dielectric strength	1,000 V AC / 1.5 kV (1.2/50 µs)
---------------------	---------------------------------

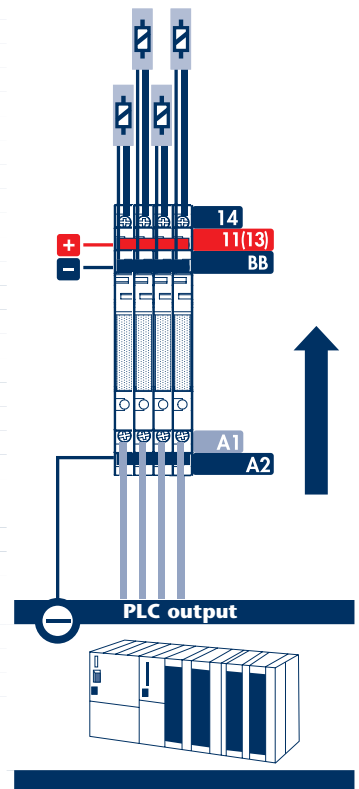
EMC - interference immunity of the input circuit

	UN ≤ 60 V	UN = 125 V	UN = 230 V
Burst (5/50 ns, 5 kHz) on A1 - A2 according to EN 61000-4-4	4 kV	4 kV	4 kV
Surge (1.2/50 µs) on A1 - A2 according to EN 61000-4-5 (differential mode)	0.8 kV	2 kV	4 kV

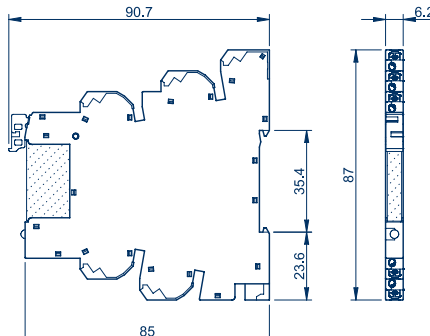
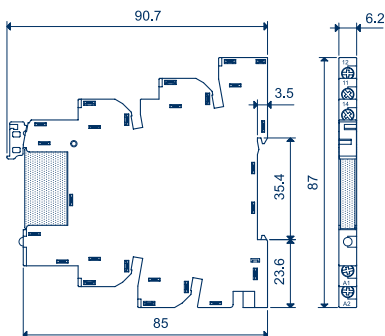
Rated data for the base

	Screw connection IRC	Pressure-spring connection
Stripping length	10 mm	8 mm
Torque	0.5 Nm	-
Max. wire cross-section, solid finely stranded	1 x 2.5 1 x 2.5 mm ²	1 x 2.5 1 x 2.5 mm ²
Min. wire cross-section, solid finely stranded	1 x 0.2 1 x 2.5 mm ²	1 x 0.2 1 x 2.5 mm ²
Max. wire cross-section, solid finely stranded	1 x 14 AWG 1 x 14 AWG	1 x 14 AWG 1 x 14 AWG
Min. wire cross-section, solid finely stranded	1 x 24 AWG 1 x 24 AWG	1 x 24 AWG 1 x 24 AWG

Actuator level



Apply the operating voltage for actuators to BB - 11 (polarity insensitive)
 BB = bridgeable for multiple actuators
 11 = bridgeable for multiple actuators
 14 = individual control of the actuators



Interface Relay Compact IRC

IRCOU



FIRCOU



Screw wire connection	IRCOU 1/6 V AC/DC	IRCOU 1/12 V AC/DC	IRCOU 1/24 V AC/DC	IRCOU 1/125 V AC/DC	IRCOU 1/240 V AC
Cat. no./Qty.	16250.2 / 10	16251.2 / 10	16252.2 / 10	16253.2 / 10	16254.2 / 10
Size (L x W x H) with TS 35 x 7.5	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm	87 x 6.2 x 95.4 mm
Weight	33 g	33 g	33 g	33 g	33 g
Operating voltage	6 V AC / DC	12 V AC / DC	24 AC / DC	125 V AC / DC	240 V AC
Input data					
Rated voltage (Un)	6 V AC / DC	12 V AC / DC	24 AC / DC	110-125 V AC / DC	220-240 V AC (50/60 Hz)
Power rating AC / DC	0.2 VA / 0.2 W	0.2 VA / 0.2 W	0.25 VA / 0.25 W	0.7 VA / 0.7 W	1 VA / -
Operating range	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un
Holding current	0.6 Un	0.6 Un	0.6 Un	0.6 Un	0.6 Un
Drop-out voltage	0.1 Un	0.1 Un	0.1 Un	0.1 Un	0.1 Un
Output specifications					
Number of contacts	1 CO contact	1 CO contact	1 CO contact	1 CO contact	1 CO contact
Max. continuous current Max. inrush current	6/10 A	6/10 A	6/10 A	6/10 A	6/10 A
Rated voltage Max. switching voltage	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC
Max. switching capacity AC 1	1,500 VA	1,500 VA	1,500 VA	1,500 VA	1,500 VA
Max. switching capacity AC 15 (230 V AC)	300 VA	300 VA	300 VA	300 VA	300 VA
1-phase motor load, AC 3-mode (230 V AC)	0.185 kW	0.185 kW	0.185 kW	0.185 kW	0.185 kW
Max. switching current DC 1:30/110/220 V	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A
Min. switching load	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)
Standard contact material	AgNi	AgNi	AgNi	AgNi	AgNi
Component, screw socket base					
Type	IRCO 6-12-24 V AC/DC	IRCO 6-12-24 V AC/DC	IRCO 6-12-24 V AC/DC	IRCO 110-125 V AC/DC	IRCO 230-240 V AC
Cat. no./Qty.	16204.2 / 10	16204.2 / 10	16204.2 / 10	16205.2 / 10	16206.2 / 10
Components, plug relays					
Type	PRC 1/5 V DC	PRC 1/12 V DC	PRC 1/24 V DC	PRC 1/60 V DC	PRC 1/60 V DC
Cat. no./Qty.	15500.2 / 10	15501.2 / 10	15502.2 / 10	15503.2 / 10	15503.2 / 10

Pressure-spring wire connection	FIRCOU 1/10 V AC/DC	FIRCOU 1/10 V AC/DC	FIRCOU 1/10 V AC/DC	FIRCOU 1/10 V AC/DC	FIRCOU 1/10 V AC
Cat. no./Qty.	16280.2 / 10	16281.2 / 10	16282.2 / 10	16283.2 / 10	16284.2 / 10
Size (L x W x H) with TS 35 x 7.5	87 x 6.2 x 90.7 mm	87 x 6.2 x 90.7 mm	87 x 6.2 x 90.7 mm	87 x 6.2 x 90.7 mm	87 x 6.2 x 90.7 mm
Weight	33 g	33 g	33 g	33 g	33 g
Operating voltage	6 V AC / DC	12 V AC / DC	24 AC / DC	125 V AC / DC	240 V AC
Input data					
Rated voltage (Un)	6 V AC / DC	12 V AC / DC	24 AC / DC	110-125 V AC / DC	220-240 V AC (50/60 Hz)
Power rating AC / DC	0.2 VA / 0.2 W	0.2 VA / 0.2 W	0.25 VA / 0.25 W	0.7 VA / 0.7 W	1 VA / -
Operating range	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un	(0.8-1.1) Un
Holding current	0.6 Un	0.6 Un	0.6 Un	0.6 Un	0.6 Un
Drop-out voltage	0.1 Un	0.1 Un	0.1 Un	0.1 Un	0.1 Un
Output specifications					
Number of contacts	1 CO contact	1 CO contact	1 CO contact	1 CO contact	1 CO contact
Max. continuous current Max. inrush current	6/10 A	6/10 A	6/10 A	6/10 A	6/10 A
Rated voltage Max. switching voltage	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC	250/400 V AC
Max. switching capacity AC 1	1,500 VA	1,500 VA	1,500 VA	1,500 VA	1,500 VA
Max. switching capacity AC 15 (230 V AC)	300 VA	300 VA	300 VA	300 VA	300 VA
1-phase motor load, AC 3-mode (230 V AC)	0.185 kW	0.185 kW	0.185 kW	0.185 kW	0.185 kW
Max. switching current DC 1:30/110/220 V	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A	6/0.2/0.12 A
Min. switching load	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)	500 mW (12 V / 10 mA)
Standard contact material	AgNi	AgNi	AgNi	AgNi	AgNi
Component, pressure-spring socket base					
Type	FIRCO 6-12-24 V AC/DC	FIRCO 6-12-24 V AC/DC	FIRCO 6-12-24 V AC/DC	FIRCO 110-125 V AC/DC	FIRCO 230-240 V AC
Cat. no./Qty.	16224.2 / 10	16224.2 / 10	16224.2 / 10	16225.2 / 10	16226.2 / 10
Components, plug relays					
Type	PRC 1/5 V DC	PRC 1/12 V DC	PRC 1/24 V DC	PRC 1/60 V DC	PRC 1/60 V DC
Cat. no./Qty.	15500.2 / 10	15501.2 / 10	15502.2 / 10	15503.2 / 10	15503.2 / 10

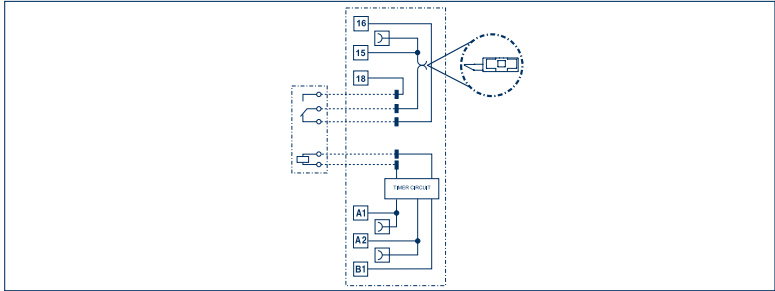
Accessories	Type	Cat. no./Qty.
Partition plate	TW/IRC	16228.2 / 10
External cross-connector, blue	AQI/IRC/16 BU	16209.5 / 10
External cross-connector, black	AQI/IRC/16 BK	16209.4 / 10
External cross-connector, red	AQI/IRC/16 RD	16209.9 / 10
Ribbon cable adapter	FCA/IRC	16229.2 / 10
Tool / screwdriver	SDB 0.6 x 3.5	1086.0 / 10
Labelling/markers, blank	MC GS 6x12 R WH	3884.7 / 600
Labelling/markers, special print	MC GS 6x12 R So WH	3885.7 / 600

Multifunction timing relay compact MFR-IRCPU

MFR IRCPU series

- Consisting of:
- Base terminal and pluggable relay
 - Mounts on TS 35
 - Multifunction timing relay with eight time functions and four time ranges – configurable with DIP switch up to six hours
 - Output fuse module for individual standard micro-fuse (5x20 mm) available as accessory
 - Internal EMC coil circuitry and LED display
 - Pluggable cross-connection (blue, black, red) makes installations easier
 - Screw or pressure-spring wire connection

MFR (F)IRCPU circuit diagram



General specifications:

Mech. service life AC/DC switching cycles	10 x 10 ⁶
Electrical service life AC 1 switching cycles	60 x 10 ³
Response time/Release time	5/6 ms
Relay protection type	IP 20
Bounce time at the NO of the NO/NC contact	1 ms/6 ms
Vibration resistance (10 – 55 Hz) NO/NC contact	10 g / 5 g
Ambient heat dissipation without contact current	0.2 W (24 V) – 0.4 W (230 V)
Ambient heat dissipation under continuous current	0.6 W (24 V) – 0.9 W (230 V)

Time delay range



Control without a control contact

(A) ON delay

The start is triggered by applying the operating voltage (U). The relay switches to the working position after the adjustable time delay.



(GI) Fixed pulse (0.5 s) delayed

When the operating voltage (U) is applied and the set delay time has expired, the relay switches for 0.5 seconds in the working position.



(DI) ON pulse

The start is triggered by applying the operating voltage (U). The relay switches immediately to the working position. The relay switches to the rest position after the adjustable wipe time interval.



(SW) Blinker ON beginning

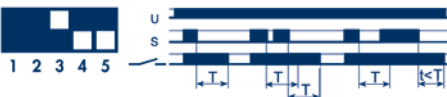
The relay switches to the working position when the operating voltage (U) is applied. The relay switches to the rest position after the pulse time interval, and then switches back to the working position (pulse time = pause time).



Control with a control contact

(BE) OFF delay with control contact

The operating voltage (U) is connected. The relay switches immediately to the working position when the start contact (S) is closed. The adjustable OFF delay begins when the start contact opens.



(DE) Impulse-ON with control contact

The operating voltage (U) is connected. The relay switches immediately to the working position when the start contact (S) is closed. The adjustable impulse-ON time begins when the start contact closes.



(CE) ON and OFF delay with control contact

The operating voltage (U) is connected. The start contact (S) closes. The relay switches to the working position after the adjustable time delay. The relay switches to the rest position after the start contact opens and the delay time has expired.



(EE) Impulse-OFF via opened start contact

The operating voltage (U) is connected. xxx The relay switches immediately to the working position when the start contact (S) opens. The adjustable impulse-OFF time begins when the start contact opens.



EMC specifications Standard	Test		Voltage
EN 61000-4-2	Electrostatic discharge	Contact discharge	4 kV
		Air discharge	8 kV
EN 61000-4-3	Radio frequency, electromagnetic field (80-1000 MHz)		10 V/m
	Radio frequency, electromagnetic field (1400-2700 MHz)		10 V/m
EN 61000-4-4	Quick transients (bursts) (5-50 nS, 5 kHz) at input terminals		4 kV
EN 61000-4-5	Surge (1.2/50 µs) on input terminals	common mode	2 kV
		differential mode	0.8 kV
EN 61000-4-6	Radio frequency common mode (0.15 ÷ 80 MHz at input terminals)		10 V
EN 55022	Emissions class		Class B