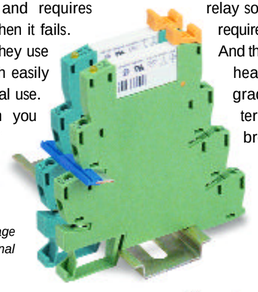
By listening to you, we've overcome your biggest objections to interface relays.

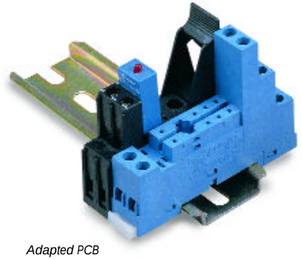
Interface downtime. It kills production efficiency.

Take a good look at the conventional interface solutions pictured on this page. You can choose to inventory dozens of fragile, dedicated, single-voltage I/O terminals that use "hot" jumpers and typically require complete replacement when they fail. Or you can purchase adapted circuit board relay sockets with multiple, non-interchangeable components including various confusing surge suppressors. Or you can buy a single-voltage block of 8, 16, or 32 relays that offers no flexibility and requires complete replacement and rewiring when it fails.

They all have one thing in common—they use fragile printed circuit board relays with easily breakable pins not suitable for industrial use. And they offer little flexibility when you need to change a relay, plus hours of rewiring downtime when voltage requirements change.



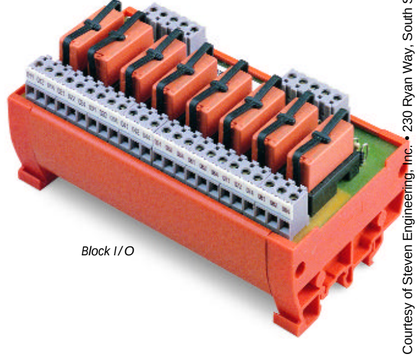
Single-voltage I/O terminal



Adapted PCB relay sockets

Announcing *Interfacer*™: Overcoming fragile, inflexible I/O solutions for relay interfacing.

All-new *Interfacer*™ relays were designed by the relay interface experts at Releco for superior reliability and greater flexibility in industrial applications. This unique modular design not only slashes interfacing labor and inventory requirements, but also adds significantly increased reliability to your applications. These universal relays are both AC and DC in the same unit (or dedicated AC or DC) with a built-in surge suppressor. They use a single, universal-polarity relay socket that satisfies every voltage requirement, from 24 VDC to 230 VAC. And they utilize easily-interchangeable, heavy-duty, plug-in industrial-grade relays with rugged, bladed terminals that won't easily bend, break or fail.



Block I/O

General information

Electrical and Mechanical Life
The IR-C series is specifically designed for industrial heavy-duty applications as well as low level signals such as those usually required for input interface applications.
Standard contact materials are AgNi for 10A heavy duty and AgNi + 3µ Au for low level bifurcated (twin) contacts. Upon request, 10µ gold plated contacts are available for both types (C10-A1**8**X...V and C10-T12**7**...V).
These relays are able to withstand a minimum of 100,000 operations at full rated load and more than 20 million mechanical operations measured at 6,000 ops/hour (see tables). Laboratory life tests give values higher than 100 million operations.
The maximum switching frequency is 1,200 operations/hour at max. rated load and 6,000 ops/hour at 50% of max. load.

Materials and Temperatures
All parts are made of high performance, self-extinguishing materials for electrical equipment and are able to withstand temperatures up to 130°C without deformation.
Operating and storage temperatures are respectively –20°C...+60°C and –20°C...+100°C.

Coil
The temperature rise in the coil when permanently energized, at nominal voltage, is 45°C max. at AC and 35°C max. at DC (measured by variation of resistance).
All coils are calculated to withstand a permanent connection at maximum ambient temperature of 60°C and 10% above the nominal voltage.
The coil inrush power of AC coils is approx. 1.3 x nominal power.
The max. back EMF of DC coils (without FWD) can be higher than 10 x the nominal voltage.
For AC voltages of 24 and 48V, Releco recommends the use of AC/DC coils as they offer more advantages than AC coils, like chatter free operation and pulse suppression.
Nevertheless, AC coils in this range of voltage are available upon request.

VAC/DC	Ω ±10%	mA
24	740	27
48	3K5	13

VDC	Ω ±10%	mA
5	45	111
12	224	53
24	740	27
110	19K9	5.5

VAC	Ω ±10%	mA
24	Use 24VAC/DC*	
120	6K9	9.2
240	27K3	4.6

All values (LED included) measured at V_N with an ambient temperature of 20°C.
* 24Vac and any other coil voltages are available upon request.

Pull-in voltages
DC and AC/DC relays: 0.75 x V_N
AC relays: 0.75 x V_N (at 50 and 60Hz)

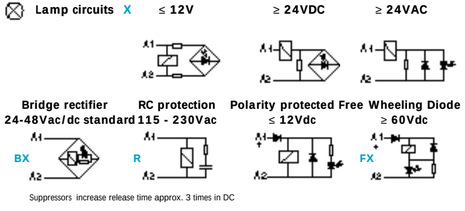
Drop-out voltages
DC and AC/DC relays: 0.15 x V_N
AC relays: 0.35 x V_N (at 50 and 60Hz)

Additions to the coil
As standard, all IR-C relays are supplied with a polarity-free, **operation indicating LED** (code **X**), except AC relays with RC protection (code **R**).
Other available additions to the coil are:

- **Bridge rectifier** (code **B**X) (standard for AC relays 24 and 48V)
  Allows the relay to operate both AC and DC. Also acts as a free wheeling diode without any polarity inconvenience.
- **Free wheeling diode with polarity protection** (code **F**X).
  Dampens transients caused by the relay coil upon de-energization and provides polarity protection.
  Note: reverse polarity (minus on A1) available upon request for FX (code FRX).

Surge immunity ($V_{1.2}$ / 50µsec.)
500V for voltages ≤ 12V
2000V for voltages > 12V
1000V for AC/DC relays up to 48V

Diagrams of additions to the coil



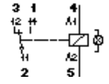
Suppressors increase release time approx. 3 times in DC

C10-A10X...
Single pole relay, 10A

10A / 400 VAC (res.) 10 A @ 30 VDC (res.)
6A / 400 VAC (ind.) 0.5A @ 110 VDC (res.)

Contacts

Standard material	AgNi
Optional material	code 8 - AgNi + 10µ Au
Max. switching current	10 A
Peak inrush current (10 ms)	30 A
Max. switching voltage, (industrial)	250 V
Max. switching voltage, (office)	400 V
Max. AC resistive load (table 1)	2.5 KVA
Max. DC load	(table 2)



⊗ For lamp, see appropriate diagram

Standard types (50/60 Hz and DC)

AC/DC	**24, 48**
AC	**115, 230**
DC	**5, 12, 24, 48, 110**
X = LED (standard)	**C10-A10X/ ...V**
AC/DC rectifier (48V max.)	**C10-A10BX/ ...V**
FWD - polarity protected	**C10-A10FX/ ...V**
RC protection (no LED)	**C10-A10R/ ...V**

Specifications

Coil power including LED	1.1 VA, 0.65 W
Operate time + bounce time	10 + 1 ms
Release time + bounce time	5 + 3 ms
Isolation: EN60947 pollution 3, Gr C	250 V
Dielectric strength, contact / coil	8 mm / 5 KV
Weight avg.	21 grs.

UL Approval requested for UL 508 and Canadian C22.2

LED & protection circuits available
• standard ○ optional

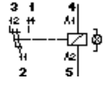
Voltage	X	BX	FX	R
AC 6 ... 12	•			
AC 24 ... 48	○	•		
AC 115 ... 230	•			○
DC 5 ... 12	•		○	
DC 24 ... 48	•	○		
DC 60 ... 110	•		○	

C10-T13X...
low level
Single pole relay, bifurcated contact

6A / 400 VAC (res.) 6A @ 30 VDC (res.)
Min. 1mA @ 5 VDC

Contacts

Standard material	code 3 - AgNi + 3µ Au
Optional material	code 2 - AgNi + 10µ Au
Switching current	min. 1 mA; max. 6 A
Peak inrush current (5 ms)	15 A
Max. switching voltage, (industrial)	250 V
Max. switching voltage, (office)	400 V
Max. AC resistive load	1.5 KVA
Max. DC load @ 24 V	6 A



⊗ For lamp, see appropriate diagram

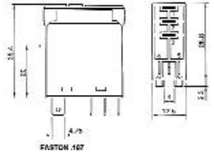
Standard types (50/60 Hz and DC)

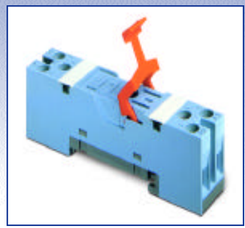
AC/DC	**24, 48**
AC	**15, 230**
DC	**5, 12, 24, 48, 110**
X = LED (standard)	**C10-T13X/ ...V**
AC/DC rectifier (48V max.)	**C10-T13BX/ ...V**
FWD - polarity protected	**C10-T13FX/ ...V**
RC protection (no LED)	**C10-T13R/ ...V**

Specifications

Coil power including LED	1.1 VA, 0.65 W
Operate time + bounce time	10 + 1 ms
Release time + bounce time	5 + 3 ms
Isolation: EN60947 pollution 3, Gr C	250 V
Dielectric strength, contact / coil	8 mm / 5 KV
Weight avg.	21 grs.

UL Approval requested for UL 508 and Canadian C22.2



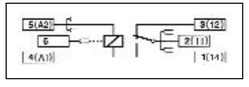


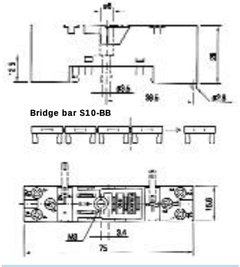
S-10
Input-Output socket for C10 relay

Bridge bar for coil and movable contact, Integrated clip, DIN rail or panel mounting

Specifications

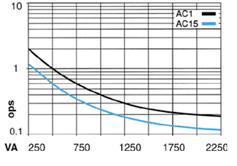
Nominal load	10 A / 250 V
Dielectric strength (input-output)	8 mm - 5 KV
Dielectric strength (screws / rail)	5 KV
M3, Pozi screw max. torque	1.2 Nm
Wire inlet capacity multi-core	22 - 14 AWG
Wire inlet solid wire	4 mm² or 2 x 2.25 mm²
Weight avg.	28 grs.

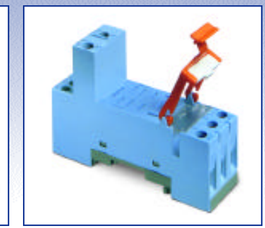




UL Approval requested for UL 508 and Canadian C22.2

Table 1: C10-A10X Electrical life (ops. x 10⁶)



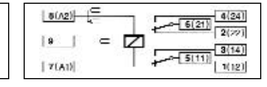


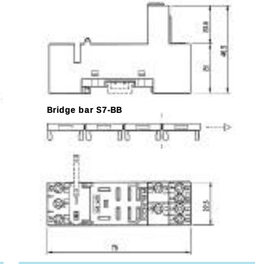
S7-IO
Input-Output socket for 2 pole C7 relay

Bridge bar for coil (A2), Integrated clip, DIN rail or panel mounting

Specifications

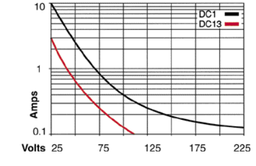
Nominal load	10 A / 250 V
Dielectric strength (input-output)	2.5 KV
Dielectric strength (screws / rail)	2.5 KV
M3, Pozi screw max. torque	1.2 Nm
Wire inlet capacity multi-core	22 - 14 AWG
Wire inlet solid wire	4 mm² or 2 x 2.25 mm²
Weight avg.	48 grs.





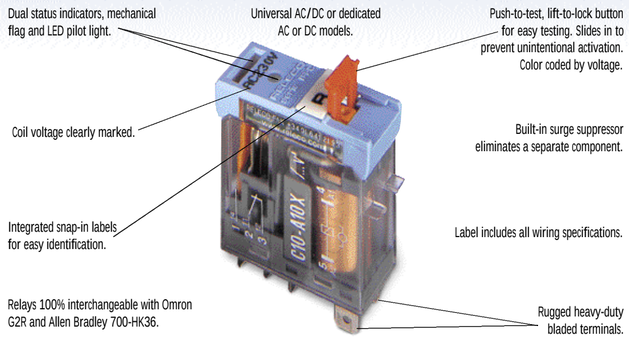
UL Approval requested for UL 508 and Canadian C22.2

Table 2: C10-A10X Max. DC load



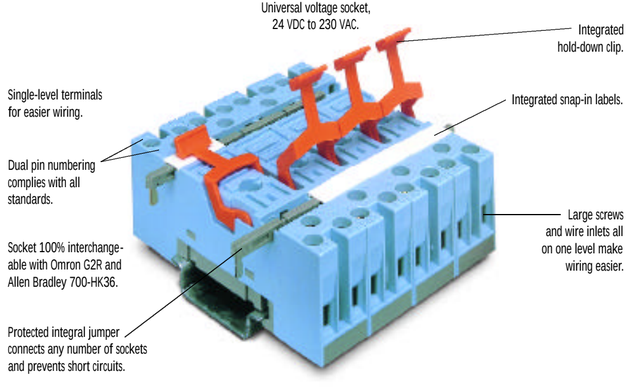
The *Interfacer*™ Relay

Despite their small size, all-new Releco *Interfacer*™ relays come with more advanced convenience and labor-saving features than any other relay. They were designed to achieve superior reliability and greater flexibility in industrial applications.

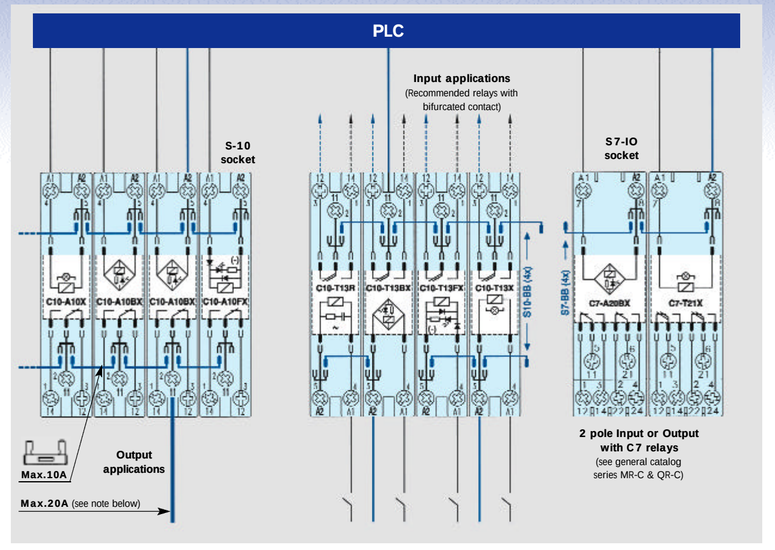


The *Interfacer*™ Socket

This advanced universal design eliminates the need to replace and rewire the socket when voltage requirements or desired relay features change.



Typical Interface Wiring and Applications



Bridge bars

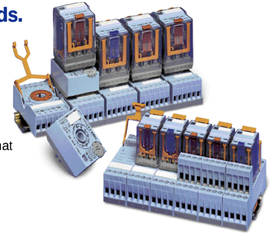
Releco sockets S-10 and S7-IO can be easily connected together by means of bridge bars in order to minimize wiring.
The standard bridge bar, made of 4 bridges, can be divided into single elements. To bridge more than 4 sockets, use as many standard 4 element bars or single elements as necessary.
On socket S-10, coil terminal A2 and movable contact 11 can be bridged with bar **S10-BB** as shown above.
On socket S7-IO, coil terminal A2 can be bridged with bar **S7-BB**

Note for Output application

When linking movable contacts (11), maximum current per bridge is 10A and maximum current on the common cable is 20A as shown above.
If a ferrule with insulation is required for cables of 2.2 mm² (14AWG) in terminal 11, the minimum length needs to be 14 mm.

A superior solution for all your relay interface needs.

By specializing only in industrial relays, Releco has become the superior solution worldwide. In addition to the *Interfacer*™, Releco manufactures a complete line of superior, full-featured relay solutions that minimize downtime and save significant time in installation, testing and maintenance. Choose full-size Releco MR-C *plus* relays or compact ICE CUBE *plus* QR-C series relays featuring the industry's narrowest space saving socket design. Or choose the TIME CUBE® that connects between any 8- or 11-pin tube socket and relay to create a time-delay relay. All Releco relay products feature a unique advanced design that provides easier operation and maintenance plus higher reliability and longer relay life. Call or fax for additional catalogs.



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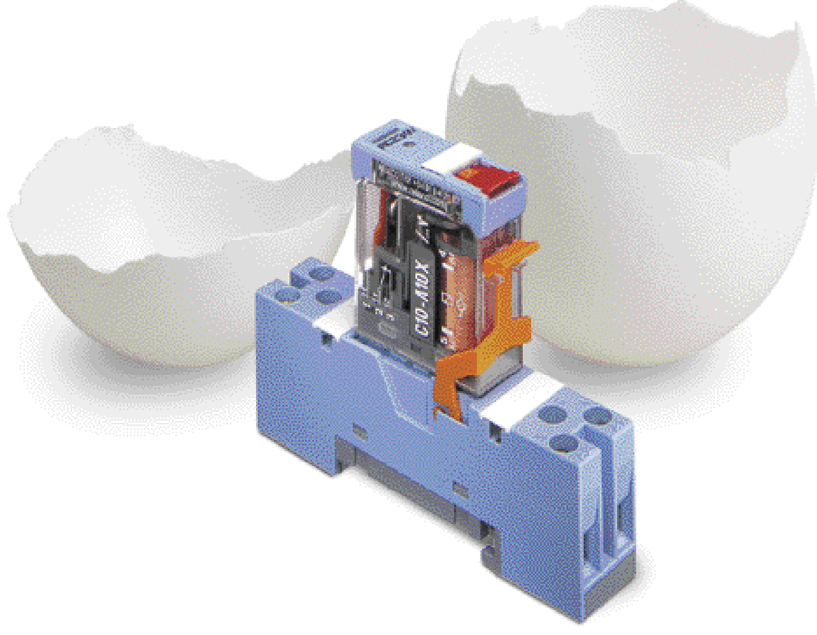
Interfacer™

Introducing a new, more-flexible and full-featured relay interface system.



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