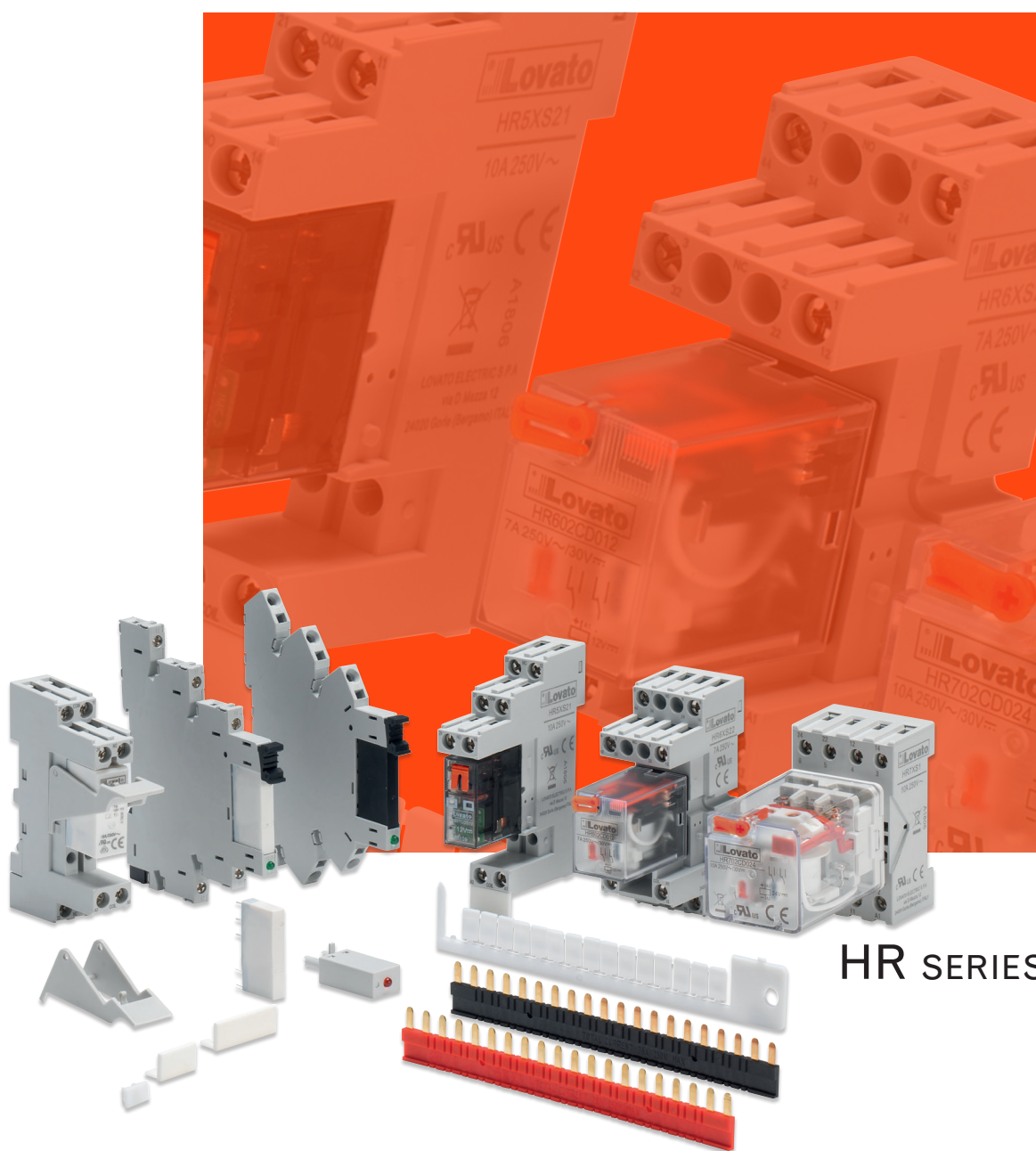


GENERAL PURPOSE RELAYS

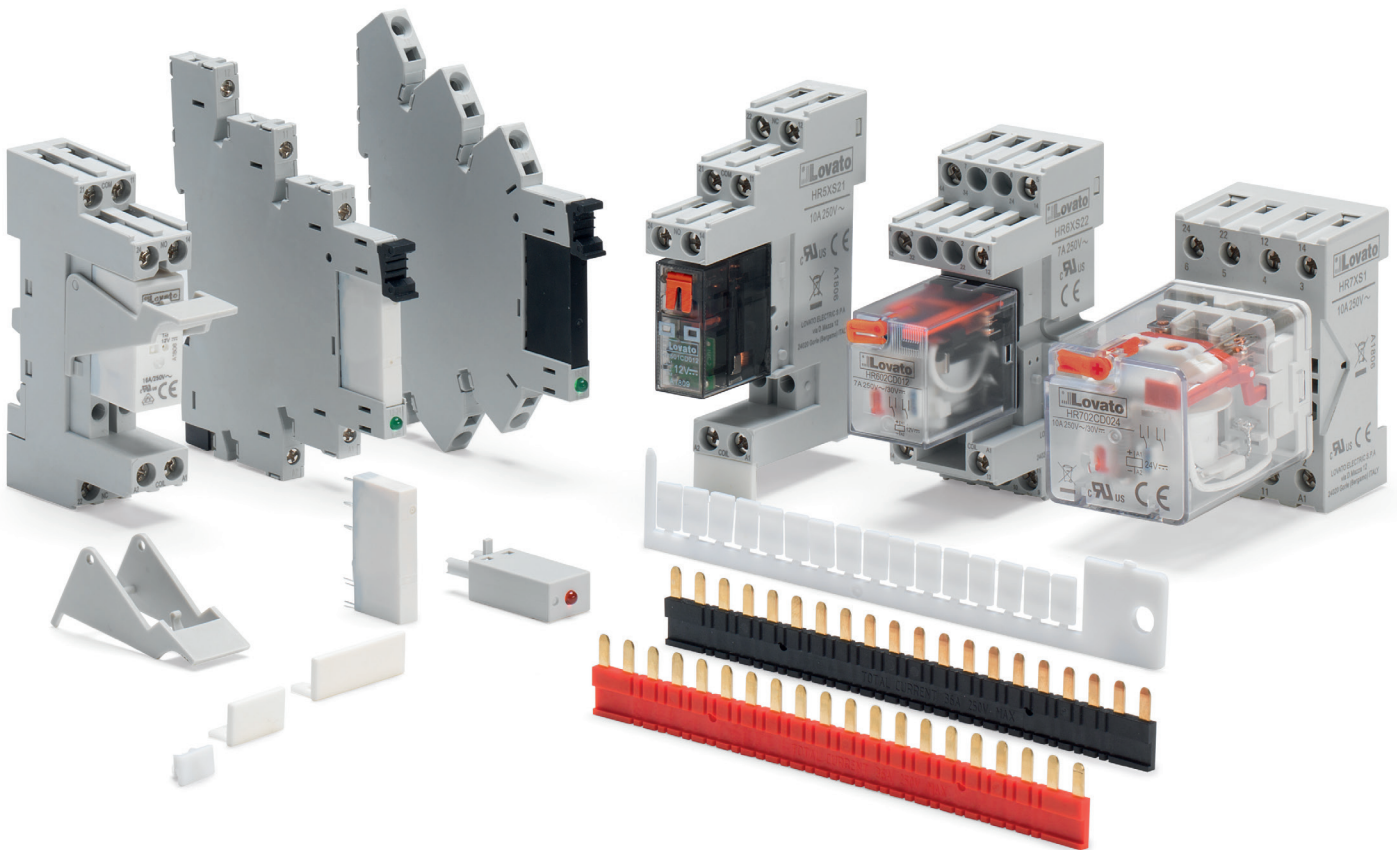


HR SERIES

 **Lovato**
electric

ENERGY AND AUTOMATION

HR series



General purpose relays

General purpose relays are designed to control various types of loads inside machines, simple or very complex systems and plants.

They can command contactors, electrovalves, electric actuators, resistors, indicator lights, etc.

General purpose relays are controlled by PLC or by the electronic control devices of machines and plants. These have contacts with reduced power; the relays have the purpose to increase power and multiply the command.

Another advantage of general purpose relays is PLCs and electronic control devices protection from damage due to possible short circuits on controlled loads. In fact, an industrial relay damaged by short circuit can be replaced in a few seconds at a minimum cost compared to a long machine shutdown at high cost in the case of damage to the internal contacts of a PLC.

HR10

Electromechanical slim relays

- Socket width 6.2mm
- 1 changeover contact
- Ith rated current 6A
- Sockets with built-in LED
- Sockets with screw or spring terminals
- Control voltage from 12 to 230VAC/DC
- 20 poles parallel busbars
- Available version with relay factory assembled on the socket.



HR30

Miniature relays

- Socket width 15.8mm
- 1 or 2 changeover contacts
- Ith rated current:
 - 1 contact: 10A (16A on PCB)
 - 2 contacts: 8A
- AC or DC control voltage
- Sockets with screw, spring or pins for PCB terminals
- 8 poles parallel busbars
- Small dimensions
- Can be used for direct mounting on PCB
- Snap-on surge suppressor filters.



HR50

Miniature relays

with LED state indicator and mechanical actuator

- Socket width 15.8mm
- 1 or 2 changeover contacts
- Ith rated current:
 - 1 contact: 10A (16A on PCB)
 - 2 contacts: 8A
- LED and mechanical state indicator
- Mechanical test actuator with latch option
- AC or DC control voltage
- Sockets with screw, spring or pins for PCB terminals
- 8 poles parallel busbars
- Can be used for direct mounting on PCB.
- Snap-on surge suppressor filters.

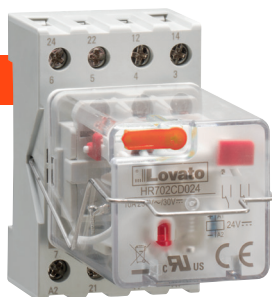


HR70

Industrial relays

with LED state indicator and mechanical actuator

- Socket width 38mm
- 8-pin or 11-pin industrial relay
- 2 or 3 changeover contacts
- Ith rated current: 10A
- LED and mechanical state indicator
- Mechanical test actuator with latch option.



HR20

SSR (solid state relay) slim relays

- Socket width 6.2mm
- 1 solid-state (SSR) output
- Output current 2A in AC and 4A in DC
- Sockets with built-in LED
- Sockets with screw or spring terminals
- Control voltage 24VDC
- 20 poles parallel busbars
- High switching speed
- Theoretically infinite electrical life
- Zero crossing.



HR40

Miniature relays

in clear enclosure

- Socket width 15.8mm
- 1 or 2 changeover contacts
- Ith rated current:
 - 1 contact: 10A (16A on PCB)
 - 2 contacts: 10A
- DC control voltage
- Sockets with screw, spring or pins for PCB terminals
- 8 poles parallel busbars
- Clear enclosure for contacts visibility
- Can be used for direct mounting on PCB
- Snap-on surge suppressor filters.



HR60

Industrial relays

with LED state indicator and mechanical actuator

- Socket width 27mm
- 2 or 4 changeover contacts
- Ith rated current:
 - 2 contacts: 7A
 - 4 contacts: 5A
- LED and mechanical state indicator
- Mechanical test actuator with latch option
- AC or DC control voltage
- Sockets with screw or spring terminals
- Snap-on surge suppressor filters.



SLIM RELAYS

Relays

[illegible][illegible]

Retaining clips

	Included in the socket	Included in the socket	Included in the socket	Included in the socket	Included in the socket	Included in the socket
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89						

Marker tags



Parallel busbars



20 poles black

20 poles red



MINIATURE RELAYS

Relays

Contacts	1 changeover	2 changeover
Rated current	16A ^④	8A
Control voltage		
12VDC	<u>HR301CD012</u>	<u>HR302CD012</u>
24VDC	<u>HR301CD024</u>	<u>HR302CD024</u>
48VDC	<u>HR301CD048</u>	<u>HR302CD048</u>
24VAC	<u>HR301CA024</u>	<u>HR302CA024</u>
110...120VAC	<u>HR301CA110</u>	<u>HR302CA110</u>
230VAC	<u>HR301CA230</u>	<u>HR302CA230</u>



MINIATURE RELAYS IN CLEAR ENCLOSURE

Relays

Contacts	1 changeover	2 changeover
Rated current	16A ^④	10A
Control voltage		
12VDC	<u>HR401CD012</u>	<u>HR402CD012</u>
24VDC	<u>HR401CD024</u>	<u>HR402CD024</u>



Sockets

	Screw terminals with contact terminals on upper side	<u>HR5XS21</u>	<u>HR5XS21</u>
	Screw terminals	<u>HR5XS22</u>	<u>HR5XS22</u>
	Spring terminals	<u>HR5XS21S</u>	<u>HR5XS21S</u>
	PIN terminals for Printed Circuit Board	<u>HR5XS21P</u>	<u>HR5XS21P</u>

Retaining clips

	<u>HR3X88</u> ^⑥	<u>HR3X88</u> ^⑥
	<u>HR3X86</u> ^⑥	<u>HR3X86</u> ^⑥

Marker tags^⑥

	Singola	<u>HR5X30</u>	<u>HR5X30</u>
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Parallel busbars^⑥

	8 poles black	<u>HR5X9008</u>	<u>HR5X9008</u>
	2 poles	<u>HR5X9002</u> ^⑦	<u>HR5X9002</u> ^⑦

Surge suppressor filters^⑥

	RC - 6...24VAC/DC	<u>HR6X77024</u>	<u>HR6X77024</u>
	RC - 110...230VAC/DC	<u>HR6X77230</u>	<u>HR6X77230</u>
	Diode + LED - 6...24VDC	<u>HR6X78024</u>	<u>HR6X78024</u>

Sockets

	Screw terminals with contact terminals on upper side	<u>HR5XS21</u>	<u>HR5XS21</u>
	Screw terminals	<u>HR5XS22</u>	<u>HR5XS22</u>
	Spring terminals	<u>HR5XS21S</u>	<u>HR5XS21S</u>
	PIN terminals for Printed Circuit Board	<u>HR5XS21P</u>	<u>HR5XS21P</u>

Retaining clips

	<u>HR5X88</u> ^⑥	<u>HR5X88</u> ^⑥
	<u>HR5X86</u> ^⑥	<u>HR5X86</u> ^⑥
	<u>HR5X87</u> ^⑥	<u>HR5X87</u> ^⑥

Marker tags^⑥

	Singola	<u>HR5X30</u>	<u>HR5X30</u>
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Parallel busbars^⑥

	8 poles black	<u>HR5X9008</u>	<u>HR5X9008</u>
	2 poles	<u>HR5X9002</u> ^⑦	<u>HR5X9002</u> ^⑦

Surge suppressor filters^⑥

	RC - 6...24VAC/DC	<u>HR6X77024</u>	<u>HR6X77024</u>
	RC - 110...230VAC/DC	<u>HR6X77230</u>	<u>HR6X77230</u>
	Diode + LED - 6...24VDC	<u>HR6X78024</u>	<u>HR6X78024</u>



MINIATURE RELAYS WITH
LED STATE INDICATOR AND MECHANICAL ACTUATOR

Relays			
Contacts		1 changeover	2 changeover
Rated current		16A ^④	8A
Control voltage			
	12VDC	<u>HR501CD012</u>	<u>HR502CD012</u>
	24VDC	<u>HR501CD024</u>	<u>HR502CD024</u>
	48VDC	<u>HR501CD048</u>	<u>HR502CD048</u>
	110VDC	<u>HR501CD110</u>	<u>HR502CD110</u>
	24VAC	<u>HR501CA024</u>	<u>HR502CA024</u>
	110...120VAC	<u>HR501CA110</u>	<u>HR502CA110</u>
	230VAC	<u>HR501CA230</u>	<u>HR502CA230</u>

Sockets			
	Screw terminals with contact terminals on upper side	<u>HR5XS21</u>	<u>HR5XS21</u>
	Screw terminals	<u>HR5XS22</u>	<u>HR5XS22</u>
	Spring terminals	<u>HR5XS21S</u>	<u>HR5XS21S</u>
	PIN terminals for Printed Circuit Board	<u>HR5XS21P</u>	<u>HR5XS21P</u>

Retaining clips			
		<u>HR5X88</u> ^⑥	<u>HR5X88</u> ^⑥
		<u>HR5X86</u> ^⑥	<u>HR5X86</u> ^⑥
		<u>HR5X87</u> ^⑥	<u>HR5X87</u> ^⑥

Marker tags ^⑥			
	Single	<u>HR5X30</u>	<u>HR5X30</u>

Parallel busbars ^⑥			
	8 poles black	<u>HR5X9008</u>	<u>HR5X9008</u>
	2 poles	<u>HR5X9002</u> ^⑦	<u>HR5X9002</u> ^⑦

Surge suppressor filters ^⑥			
	RC - 6...24VAC/DC	<u>HR6X77024</u>	<u>HR6X77024</u>
	RC - 110...230VAC/DC	<u>HR6X77230</u>	<u>HR6X77230</u>
	Diode + LED - 6...24VDC	<u>HR6X78024</u>	<u>HR6X78024</u>



INDUSTRIAL RELAYS WITH
LED STATE INDICATOR AND MECHANICAL ACTUATOR

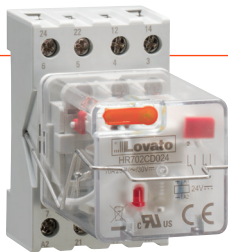
Relays			
Contacts		2 changeover	4 changeover
Rated current		7A	5A
Control voltage			
	12VDC	<u>HR602CD012</u>	<u>HR604CD012</u>
	24VDC	<u>HR602CD024</u>	<u>HR604CD024</u>
	48VDC	<u>HR602CD048</u>	<u>HR604CD048</u>
	12VAC	<u>HR602CA012</u>	<u>HR604CA012</u>
	24VAC	<u>HR602CA024</u>	<u>HR604CA024</u>
	110...120VAC	<u>HR602CA110</u>	<u>HR604CA110</u>
	230VAC	<u>HR602CA230</u>	<u>HR604CA230</u>

Sockets			
	Screw terminals with contact terminals on upper side	<u>HR6XS21</u>	<u>HR6XS41</u>
	Screw terminals	<u>HR6XS22</u>	<u>HR6XS42</u>
	Spring terminals	<u>HR6XS21S</u>	<u>HR6XS41S</u>

Retaining clips			
		<u>HR6X88</u>	<u>HR6X88</u>
	Not suitable for sockets with spring terminals		Not suitable for sockets with spring terminals
		<u>HR6X87</u>	<u>HR6X87</u>

Marker tags			
	Single	<u>HR6X30</u>	<u>HR6X30</u>
	Single	<u>HR5X30</u>	<u>HR5X30</u>
	Only for sockets with spring terminals		Only for sockets with spring terminals

Surge suppressor filters			
	RC - 6...24VAC/DC	<u>HR6X77024</u>	<u>HR6X77024</u>
	RC - 110...230VAC/DC	<u>HR6X77230</u>	<u>HR6X77230</u>
	Diode + LED - 6...24VDC	<u>HR6X78024</u>	<u>HR6X78024</u>



8-PIN AND 11-PIN INDUSTRIAL RELAYS WITH LED STATE INDICATOR AND MECHANICAL ACTUATOR

Relays

Contacts	2 changeover	3 changeover
Rated current	10A	10A
Pin	8-pin	11-pin
Control voltage		
24VDC	<u>HR702CD024</u>	<u>HR703CD024</u>
48VDC	<u>HR702CD048</u>	<u>HR703CD048</u>
110VDC	<u>HR702CD110</u>	<u>HR703CD110</u>
24VAC	<u>HR702CA024</u>	<u>HR703CA024</u>
110...120VAC	<u>HR702CA110</u>	<u>HR703CA110</u>
230VAC	<u>HR702CA230</u>	<u>HR703CA230</u>



Sockets

	8-pin Screw terminals	<u>HR7XS1</u>	
	11-pin Screw terminals		<u>HR7XS2</u>

Retaining clips

	<u>HR7X87</u>	<u>HR7X87</u>
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- Final S in code indicates spring terminals.
- Voltage dependent on selected relay socket. Rated voltage for relay only: 60VDC.
- AC voltage only if linked to socket.
- Rated current if the relay is soldered directly onto PCB; with socket the maximum current is 10A.
- Only mounting on socket **HR5XS21P**.
- Not suitable for **HR5XS21P** socket.
- Only for spring terminals.



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