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finder
SWITCH TO THE FUTURE

60
SERIES

General purpose relays
6 - 10 A

- Shipyards
- Hoists and cranes
- Road / tunnel lighting
- Burners, boilers and furnaces
- Wood-processing machines
- Panels for electrical distribution
- Control panels
- Control systems



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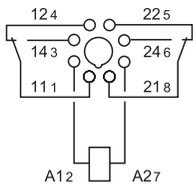
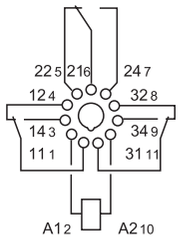
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Plug-in mount
10 A General purpose relay

Type 60.12
- 2 pole, 10 A

Type 60.13
- 3 pole, 10 A

- 2 & 3 pole changeover contacts
- Cadmium Free contacts (preferred version)
- AC coils & DC coils
- UL Listing (certain relay/socket combinations)
- Contact material options
- Lockable test button with mechanical flag indicator (preferred version)
- 90 series sockets
- Coil EMC suppression
- Timer accessories 86 series
- European Patent

	60.12	60.13
		
	• 2 pole, 10 A • 8 pin plug-in	• 3 pole, 10 A • 11 pin plug-in
		

For UL ratings see:
"General technical information" page V

For outline drawing see page 8

Contact specification			
Contact configuration		2 CO (DPDT)	3 CO (3PDT)
Rated current/Maximum peak current	A	10/20	10/20
Rated voltage/ Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	2500	2500
Rated load AC15 (230 V AC)	VA	500	500
Single phase motor rating (230 V AC)	kW	0.37	0.37
Breaking capacity DC1: 30/110/220 V	A	10/0.4/0.15	10/0.4/0.15
Minimum switching load	mW (V/mA)	500 (10/5)	500 (10/5)
Standard contact material		AgNi	AgNi
Coil specification			
Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400	
	V DC	6 - 12 - 24 - 48 - 60 - 110 -125 - 220	
Rated power AC/DC	VA (50 Hz)/W	2.2/1.3	2.2/1.3
Operating range	AC	(0.8…1.1)U_N	(0.8…1.1)U_N
	DC	(0.8…1.1)U_N	(0.8…1.1)U_N
Holding voltage	AC/DC	0.8 U_N / 0.5 U_N	0.8 U_N / 0.5 U_N
Must drop-out voltage	AC/DC	0.2 U_N / 0.1 U_N	0.2 U_N / 0.1 U_N
Technical data			
Mechanical life AC/DC	cycles	$20 \cdot 10^6$ / $50 \cdot 10^6$	$20 \cdot 10^6$ / $50 \cdot 10^6$
Electrical life at rated load AC1	cycles	$200 \cdot 10^3$	$200 \cdot 10^3$
Operate/release time	ms	11/4	11/4
Insulation between coil and contacts (1.2/50 µs)	kV	4	3.6
Dielectric strength between open contacts	V AC	1000	1000
Ambient temperature range	°C	–40…+70	–40…+70
Environmental protection		RT I	RT I
Approvals (according to type)			

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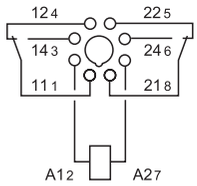
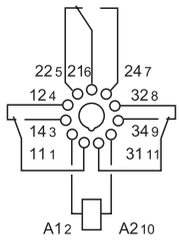
60 SERIES
General purpose relays 6 - 10 A

Plug-in mount - 6 A
Bifurcated contacts for low level switching

Type 60.12 - 52xx
- 2 pole, 6 A

Type 60.13 - 52xx
- 3 pole, 6 A

- 2 & 3 pole changeover contacts
- Cadmium Free contacts (Gold plated Silver Nickel)
- AC coils & DC coils
- Lockable test button with mechanical flag indicator (preferred version)
- 90 series sockets
- Coil EMC suppression
- Timer accessories 86 series
- European Patent

	60.12 - 52xx	**60.13 - 52xx**
		
	• 2 pole, 6 A • Bifurcated contacts with AgNi + Au • 8 pin plug-in	• 3 pole, 6 A • Bifurcated contacts with AgNi + Au • 11 pin plug-in
		

For UL ratings see:
"General technical information" page V

For outline drawing see page 8

Contact specification			
Contact configuration		2 CO (DPDT)	3 CO (3PDT)
Rated current/Maximum peak current	A	6/10	6/10
Rated voltage/ Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	1500	1500
Rated load AC15 (230 V AC)	VA	250	250
Single phase motor rating (230 V AC)	kW	0.185	0.185
Breaking capacity DC1: 30/110/220 V	A	6/0.3/0.12	6/0.3/0.12
Minimum switching load	mW (V/mA)	50 (5/5)	50 (5/5)
Standard contact material		AgNi + Au	AgNi + Au
Coil specification			
Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400	
	V DC	6 - 12 - 24 - 48 - 60 - 110 -125 - 220	
Rated power AC/DC	VA (50 Hz)/W	2.2/1.3	2.2/1.3
Operating range	AC	$(0.8…1.1)U_N$	$(0.8…1.1)U_N$
	DC	$(0.8…1.1)U_N$	$(0.8…1.1)U_N$
Holding voltage	AC/DC	0.8 U_N / 0.5 U_N	0.8 U_N / 0.5 U_N
Must drop-out voltage	AC/DC	0.2 U_N / 0.1 U_N	0.2 U_N / 0.1 U_N
Technical data			
Mechanical life AC/DC	cycles	$20 \cdot 10^6$ / $50 \cdot 10^6$	$20 \cdot 10^6$ / $50 \cdot 10^6$
Electrical life at rated load AC1	cycles	$250 \cdot 10^3$	$250 \cdot 10^3$
Operate/release time	ms	11/4	11/4
Insulation between coil and contacts (1.2/50 µs)	kV	4	3.6
Dielectric strength between open contacts	V AC	1000	1000
Ambient temperature range	°C	–40…+70	–40…+70
Environmental protection		RT I	RT I
Approvals (according to type)			

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Flange mount - General purpose relay 10 A

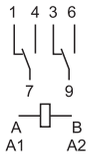
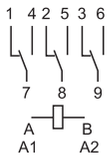
Type 60.62

- 2 pole, 10 A

Type 60.63

- 3 pole, 10 A

- Faston 187, (4.8 x 0.8 mm)
- 2 & 3 pole changeover contacts
- AC coils & DC coils
- Cadmium Free contacts
- Contacts material options

	60.62	60.63
		
	• 2 pole, 10 A power contacts • Flange mount • Faston 187	• 3 pole, 10 A power contacts • Flange mount • Faston 187
		

For UL ratings see:
"General technical information" page V

For outline drawing see page 8

Contact specification			
Contact configuration		2 CO (DPDT)	3 CO (3PDT)
Rated current/Maximum peak current	A	10/20	10/20
Rated voltage/ Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	2500	2500
Rated load AC15 (230 V AC)	VA	500	500
Single phase motor rating (230 V AC)	kW	0.37	0.37
Breaking capacity DC1: 30/110/220 V	A	10/0.4/0.15	10/0.4/0.15
Minimum switching load	mW (V/mA)	500 (10/5)	500 (10/5)
Standard contact material		AgNi	AgNi
Coil specification			
Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400	
	V DC	6 - 12 - 24 - 48 - 60 - 110 -125 - 220	
Rated power AC/DC	VA (50 Hz)/W	2.2/1.3	2.2/1.3
Operating range	AC	(0.8…1.1)U_N	(0.8…1.1)U_N
	DC	(0.8…1.1)U_N	(0.8…1.1)U_N
Holding voltage	AC/DC	0.8 U_N / 0.5 U_N	0.8 U_N / 0.5 U_N
Must drop-out voltage	AC/DC	0.2 U_N / 0.1 U_N	0.2 U_N / 0.1 U_N
Technical data			
Mechanical life AC/DC	cycles	$20 \cdot 10^6$ / $50 \cdot 10^6$	$20 \cdot 10^6$ / $50 \cdot 10^6$
Electrical life at rated load AC1	cycles	$200 \cdot 10^3$	$200 \cdot 10^3$
Operate/release time	ms	11/4	11/4
Insulation between coil and contacts (1.2/50 µs)	kV	4	3.6
Dielectric strength between open contacts	V AC	1000	1000
Ambient temperature range	°C	–40…+70	–40…+70
Environmental protection		RT I	RT I
Approvals (according to type)			

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Ordering information

A

Example: 60 series plug-in relay, 3 CO (3PDT), 12 V DC coil, test button and mechanical indicator.

60	.	1	3	.	9	.	012	.	A: 0	B: 0	C: 4	D: 0

Series

Type
1 = 8/11 pin plug-in
6 = Faston 187 (4.8 x 0.8 mm) with flange mount

No. of poles
2 = 2 pole
3 = 3 pole

Coil version
4 = Current sensing (60.12/13 only)
8 = AC (50/60 Hz)
9 = DC

Coil voltage
See coil specifications

A: Contact material
0 = Standard
5 = AgNi + Au

B: Contact circuit
0 = CO (nPDT)
2 = Bifurcated contacts 60.12/13 - 6 A only

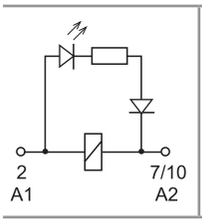
C: Options
0 = None
2 = Mechanical indicator
3 = LED (AC)
4 = Lockable test button + mechanical indicator
5* = Lockable test button + LED (AC)
54* = Lockable test button + LED (AC) + mechanical indicator
6* = LED + diode (DC, polarity positive to pin 2)
7* = Lockable test button + LED + diode (DC, polarity positive to pin 2)
74* = Lockable test button + LED + diode (DC, polarity positive to pin 2) + mechanical indicator
* Options not available for 220 V DC and 400 V AC versions.

D: Special versions
0 = Standard

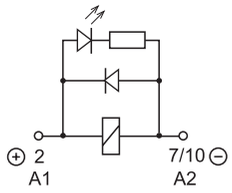
Selecting features and options: only combinations in the same row are possible.
Preferred selections for best availability are shown in **bold**.

Type	Coil version	A	B	C	D
60.12/13	AC	**0**	**0**	0 - 2 - 3 - **4** - 5	**0**
	AC	0	0	54	/
	AC	5	0 - 2	0 - 2 - 3 - 4 - 5	0
	AC	5	0 - 2	54	/
	DC	**0**	**0**	0 - 2 - **4** - 6 - 7	**0**
	DC	0	0	74	/
	DC	5	0 - 2	0 - 2 - 4 - 6 - 7	0
	DC	5	0 - 2	74	/
	current sensing	0	0	4	0
60.62/63	AC-DC	**0** - 5	**0**	**0**	**0**

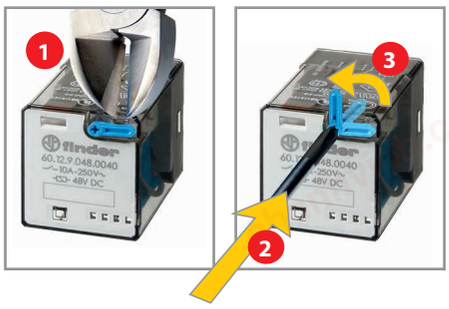
Descriptions: Options and Special versions



C: Option 3, 5, 54
LED (AC)



C: Option 6, 7, 74
LED + diode (DC, polarity positive to pin 2)



Lockable test button and mechanical flag indicator (0040, 0050, 0054, 0070, 0074)
The dual-purpose Finder test button can be used in two ways:
Case 1) The plastic pip (located directly above the test button) remains intact. In this case, when the test button is pushed, the contacts operate. When the test button is released the contacts return to their former state.
Case 2) The plastic pip is broken-off (using an appropriate cutting tool). In this case, (in addition to the above function), when the test button is pushed and rotated, the contacts are latched in the operating state, and remain so until the test button is rotated back to its former position.
In both cases ensure that the test button actuation is swift and decisive.

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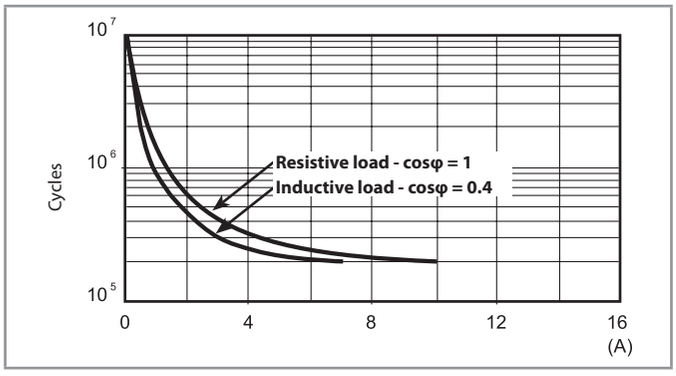
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Technical data

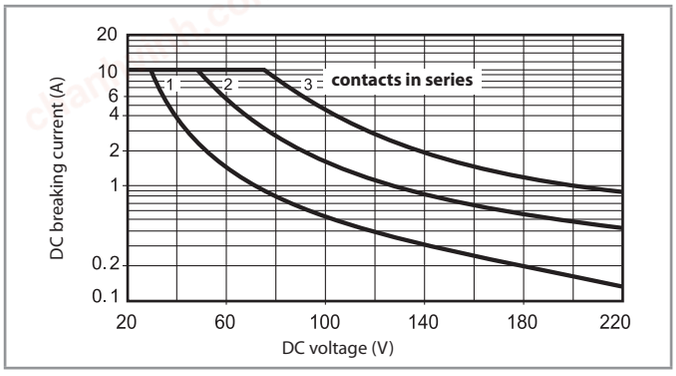
Insulation according to EN 61810-1			2 pole		3 pole	
Nominal voltage of supply system		V AC	230/400		230/400	
Rated insulation voltage		V AC	250	400	250	400
Pollution degree			3	2	3	2
Insulation between coil and contact set						
Type of insulation			Basic		Basic	
Overvoltage category			III		III	
Rated impulse voltage		kV (1.2/50 µs)	4		3.6	
Dielectric strength		V AC	2000		2000	
Insulation between adjacent contacts						
Type of insulation			Basic		Basic	
Overvoltage category			III		III	
Rated impulse voltage		kV (1.2/50 µs)	4		3.6	
Dielectric strength		V AC	2000		2000	
Insulation between open contacts						
Type of disconnection			Micro-disconnection		Micro-disconnection	
Dielectric strength		V AC/kV (1.2/50 µs)	1000/1.5		1000/1.5	
Insulation between coil terminals						
Rated impulse voltage (surge) differential mode (according to EN 61000-4-5)		kV (1.2/50 µs)	4			
Other data						
Bounce time: NO/NC		ms	1/4			
Vibration resistance (5…55)Hz: NO/NC		g	22/22			
Shock resistance		g	20			
Power lost to the environment	without contact current	W	1.3		1.3	
	with rated current	W	2.7 (60.12, 60.62)		3.4 (60.13, 60.63)	

Contact specification

F 60 -Electrical life (AC) v contact current



H 60 -Maximum DC1 breaking capacity



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of ≥ 100 · 10³ can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load.
  Note: the release time for the load will be increased.

Coil specifications

DC coil data

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil absorption I at U_N
V		V	V	Ω	mA
6	**9**.006	4.8	6.6	28	214
12	**9**.012	9.6	13.2	110	109
24	**9**.024	19.2	26.4	445	53.9
48	**9**.048	38.4	52.8	1770	27.1
60	**9**.060	48	66	2760	21.7
110	**9**.110	88	121	9420	11.7
125	**9**.125	100	138	12000	10.4
220	**9**.220	176	242	37300	5.8

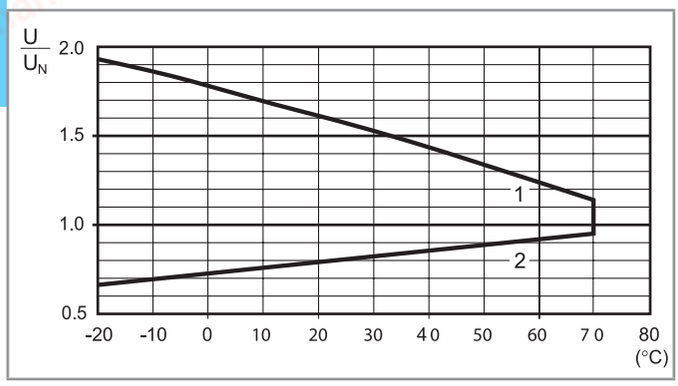
AC coil data

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil absorption I at U_N (50 Hz)
V		V	V	Ω	mA
6	**8**.006	4.8	6.6	4.6	367
12	**8**.012	9.6	13.2	19	183
24	**8**.024	19.2	26.4	74	90
48	**8**.048	38.4	52.8	290	47
60	**8**.060	48	66	450	37
110	**8**.110	88	121	1600	20
120	**8**.120	96	132	1940	18.6
230	**8**.230	184	253	7250	10.5
240	**8**.240	192	264	8500	9.2
400	**8**.400	320	440	19800	6

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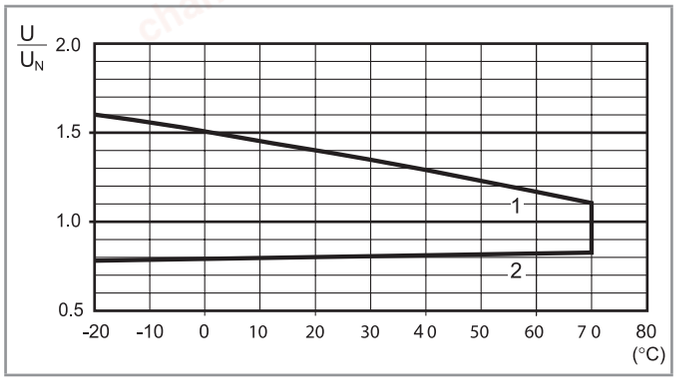
Coil specifications

R 60 - DC coil operating range v ambient temperature



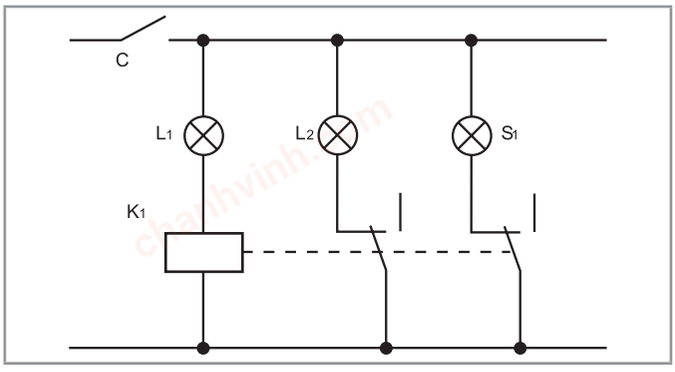
1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

R 60 - AC coil operating range v ambient temperature



1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

Current sensing version



Typical application with current sensing relays.
An open circuit filiment of lamp L_1 is detected by the current sensing relay coil (K_1) which causes the back-up safety lamp L_2 to be energised, and indication of failure at the control panel via lamp S_1.
Example: navigation light.
L_1 = Light
L_2 = Safety light
S_1= Control light
K_1 = Relay

Current sensing DC coil data

Coil code	I_{min} (A)	I_N (A)	I_{max} (A)	R (Ω)
4202	1.7	2.0	2.4	0.15
4182	1.5	1.8	2.2	0.19
4162	1.4	1.6	1.9	0.24
4142	1.2	1.4	1.7	0.31
4122	1.0	1.2	1.4	0.42
4102	0.85	1.0	1.2	0.61
4092	0.8	0.9	1.1	0.75
4062	0.5	0.6	0.7	1.70
4032	0.25	0.3	0.4	6.70
4012	0.085	0.1	0.15	61

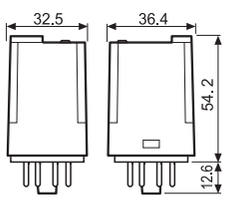
Current sensing AC coil data

Coil code	I_{min} (A)	I_N (A)	I_{max} (A)	R (Ω)
4251	2.1	2.5	3.0	0.05
4181	1.5	1.8	2.2	0.10
4161	1.4	1.6	1.9	0.12
4121	1.0	1.2	1.4	0.22
4101	0.85	1.0	1.2	0.32
4051	0.42	0.5	0.6	1.28
4041	0.34	0.4	0.5	2.00
4031	0.25	0.3	0.4	3.57
4021	0.17	0.2	0.25	8.0
4011	0.085	0.1	0.15	32.1

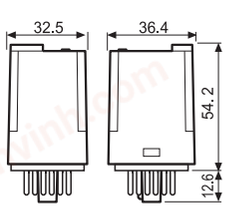
Other types of current sensing relays are available on request.

Outline drawings

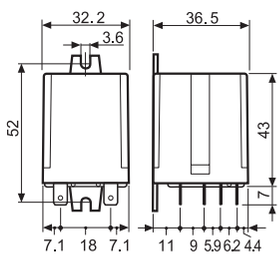
Type 60.12/60.12 - 52xx



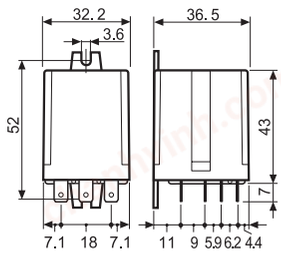
Type 60.13/60.13 - 52xx



Type 60.62



Type 60.63



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Accessories



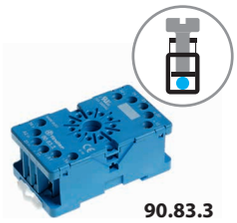
See page 10

Module	Socket	Relay	Description	Mounting	Accessories
99.02	90.02	60.12	**Screw terminal (Box clamp) socket**	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Jumper link - Timer modules - Metal retaining clip
	90.03	60.13	Double A1 terminal		



See page 11

Module	Socket	Relay	Description	Mounting	Accessories
99.01	90.20	60.12	**Screw terminal (Box clamp) socket**	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Metal retaining clip
	90.21	60.13			



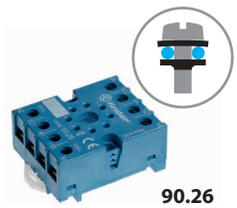
See page 12

Module	Socket	Relay	Description	Mounting	Accessories
—	90.82.3	60.12	**Screw terminal (Box clamp) socket**	Panel or 35 mm rail (EN 60715) mount	- Metal retaining clip
—	90.83.3	60.13			



See page 12

Module	Socket	Relay	Description	Mounting	Accessories
—	90.22	60.12	**Screw terminal (Box clamp) socket**	Panel or 35 mm rail (EN 60715) mount	- Metal retaining clip
—	90.23	60.13			



See page 13

Module	Socket	Relay	Description	Mounting	Accessories
—	90.26	60.12	**Screw terminal (Plate clamp) socket**	Panel or 35 mm rail (EN 60715) mount	- Metal retaining clip
—	90.27	60.13			



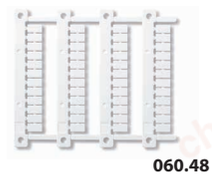
See page 13

Module	Socket	Relay	Description	Mounting	Accessories
—	90.12	60.12	**Flange mount solder socket**	M3 screw fixing	—
—	90.13	60.13			



See page 14

Module	Socket	Relay	Description	Mounting	Accessories
—	90.14	60.12	**PCB socket**	PCB	—
—	90.14.1	60.12			
—	90.15	60.13			
—	90.15.1	60.13			



Sheet of marker tags (CEMBRE Thermal transfer printers) for relay types 60.12 and 60.13, plastic, 48 tags, 6 x 12 mm	060.48

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90 SERIES
Sockets and accessories for 60 series relays

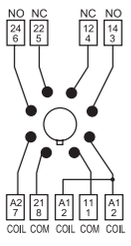


90.03

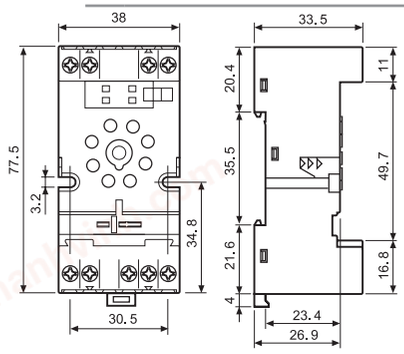
Approvals (according to type):

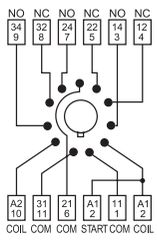
Certain relay/socket combinations

Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount		**90.02 Blue**	**90.02.0 Black**	**90.03 Blue**	**90.03.0 Black**
For relay type		60.12		60.13	
Accessories					
Metal retaining clip		090.33			
6-way jumper link		090.06			
Identification tag		090.00.2			
Modules (see table below)		99.02			
Timer modules (see table below)		86.00, 86.30			
Technical data					
Rated values		10 A - 250 V			
Dielectric strength		2 kV AC			
Protection category		IP 20			
Ambient temperature	°C	–40…+70			
Screw torque	Nm	0.6			
Wire strip length	mm	10			
Max. wire size for 90.02 and 90.03 sockets		solid wire		stranded wire	
	mm²	1 x 6 / 2 x 2.5		1 x 4 / 2 x 2.5	
	AWG	1 x 10 / 2 x 14		1 x 12 / 2 x 14	

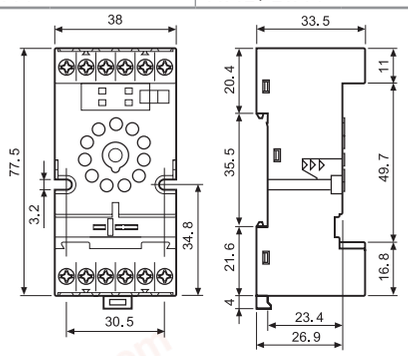


90.02

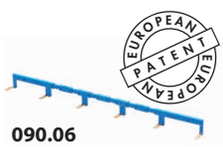




90.03

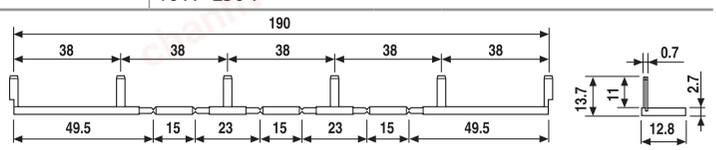


6-way jumper link for 90.02 and 90.03 sockets	090.06 (blue)	090.06.0 (black)
Rated values	10 A - 250 V	



090.06

Approvals (according to type):





86.00



86.30



99.02

Approvals (according to type):

DC Modules with non-standard polarity (+A2) on request.

86 series timer modules	
Multi-voltage: (12…240)V AC/DC; Multi-functions: AI, DI, SW, BE, CE, DE, EE, FE; (0.05 s…100 h)	86.00.0.240.0000
(12…24)V AC/DC; Bi-function: AI, DI; (0.05 s…100 h)	86.30.0.024.0000
(110…125)V AC; Bi-function: AI, DI; (0.05 s…100 h)	86.30.8.120.0000
(230…240)V AC; Bi-function: AI, DI; (0.05 s…100 h)	86.30.8.240.0000

Approvals (according to type):

99.02 coil indication and EMC suppression modules for 90.02 and 90.03 sockets		
Diode (+A1, standard polarity)	(6…220)V DC	99.02.3.000.00
LED	(6…24)V DC/AC	99.02.0.024.59
LED	(28…60)V DC/AC	99.02.0.060.59
LED	(110…240)V DC/AC	99.02.0.230.59
LED + Diode (+A1, standard polarity)	(6…24)V DC	99.02.9.024.99
LED + Diode (+A1, standard polarity)	(28…60)V DC	99.02.9.060.99
LED + Diode (+A1, standard polarity)	(110…220)V DC	99.02.9.220.99
LED + Varistor	(6…24)V DC/AC	99.02.0.024.98
LED + Varistor	(28…60)V DC/AC	99.02.0.060.98
LED + Varistor	(110…240)V DC/AC	99.02.0.230.98
RC circuit	(6…24)V DC/AC	99.02.0.024.09
RC circuit	(28…60)V DC/AC	99.02.0.060.09
RC circuit	(110…240)V DC/AC	99.02.0.230.09
Residual current by-pass*	(110…240)V AC	99.02.8.230.07

* Additional 0.9 W power dissipation

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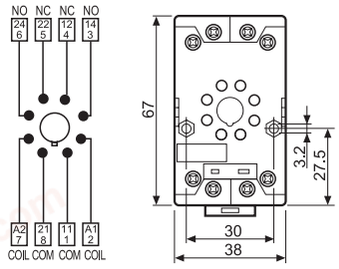
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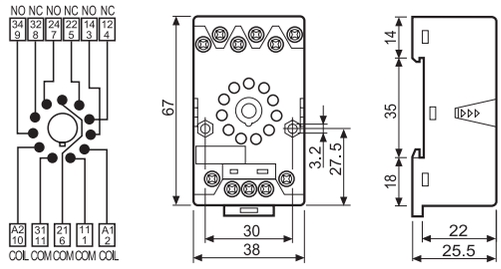
90.21

Approvals (according to type):

Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount		**90.20 Blue**	**90.20.0 Black**	**90.21 Blue**	**90.21.0 Black**
For relay type		60.12		60.13	
Accessories					
Metal retaining clip (supplied with socket - packaging code SMA)		090.33			
Modules (see table below)		99.01			
Technical data					
Rated values		10 A - 250 V			
Dielectric strength		2 kV AC			
Protection category		IP 20			
Ambient temperature	°C	–40…+70			
Screw torque	Nm	0.5			
Wire strip length	mm	10			
Max. wire size for 90.20 and 90.21 sockets		solid wire		stranded wire	
	mm²	1 x 6 / 2 x 2.5		1 x 6 / 2 x 2.5	
	AWG	1 x 10 / 2 x 14		1 x 10 / 2 x 14	



90.20



90.21



99.01

Approvals (according to type):

* Modules in Black housing are available on request.

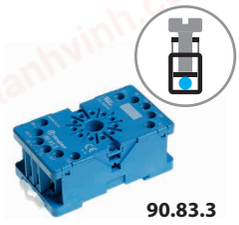
Green LED is standard. Red LED available on request.

99.01 coil indication and EMC suppression modules for 90.20 and 90.21 sockets		
		Blue*
Diode (+A1, standard polarity)	(6…220)V DC	99.01.3.000.00
Diode (+A2, non-standard polarity)	(6…220)V DC	99.01.2.000.00
LED	(6…24)V DC/AC	99.01.0.024.59
LED	(28…60)V DC/AC	99.01.0.060.59
LED	(110…240)V DC/AC	99.01.0.230.59
LED + Diode (+A1, standard polarity)	(6…24)V DC	99.01.9.024.99
LED + Diode (+A1, standard polarity)	(28…60)V DC	99.01.9.060.99
LED + Diode (+A1, standard polarity)	(110…220)V DC	99.01.9.220.99
LED + Diode (+A2, non-standard polarity)	(6…24)V DC	99.01.9.024.79
LED + Diode (+A2, non-standard polarity)	(28…60)V DC	99.01.9.060.79
LED + Diode (+A2, non-standard polarity)	(110…220)V DC	99.01.9.220.79
LED + Varistor	(6…24)V DC/AC	99.01.0.024.98
LED + Varistor	(28…60)V DC/AC	99.01.0.060.98
LED + Varistor	(110…240)V DC/AC	99.01.0.230.98
RC circuit	(6…24)V DC/AC	99.01.0.024.09
RC circuit	(28…60)V DC/AC	99.01.0.060.09
RC circuit	(110…240)V DC/AC	99.01.0.230.09
Residual current by-pass *	(110…240)V AC	99.01.8.230.07

* Additional 0.9 W power dissipation

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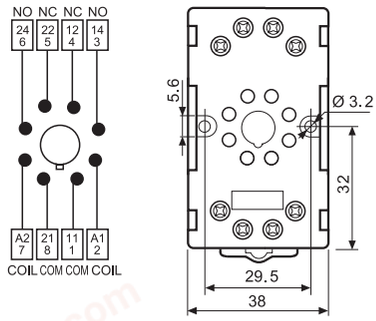
90 SERIES
Sockets and accessories for 60 series relays



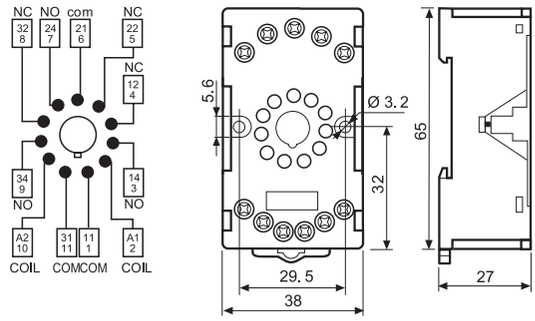
90.83.3

Approvals (according to type):

Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount		**90.82.3 Blue**	**90.82.30 Black**	**90.83.3 Blue**	**90.83.30 Black**
For relay type		60.12		60.13	
Accessories					
Metal retaining clip		090.33			
Technical data					
Rated values		10 A - 250 V			
Dielectric strength		2 kV AC			
Protection category		IP 20			
Ambient temperature	°C	–40…+70			
Screw torque	Nm	0.8			
Max. wire size for 90.82.3 and 90.83.3 sockets		solid wire		stranded wire	
	mm²	1 x 6 / 2 x 4		1 x 6 / 2 x 4	
	AWG	1 x 10 / 2 x 14		1 x 10 / 2 x 14	



90.82.3



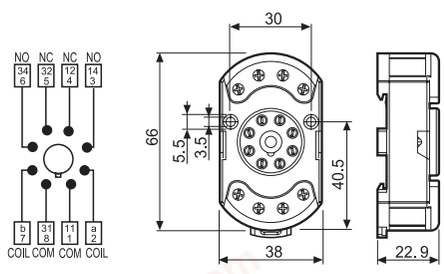
90.83.3



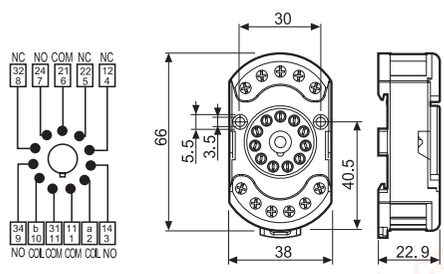
90.23

Approvals (according to type):

Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount		**90.22 Blue**	**90.23 Blue**
For relay type		60.12	60.13
Accessories			
Metal retaining clip (supplied with socket - packaging code SMA)		090.33	
Technical data			
Rated values		10 A - 250 V	
Dielectric strength		2 kV AC	
Protection category		IP 20	
Ambient temperature	°C	–40…+70	
Screw torque	Nm	0.5	
Wire strip length	mm	7	
Max. wire size for 90.22 and 90.23 sockets		solid wire	stranded wire
	mm²	1 x 6 / 2 x 2.5	1 x 6 / 2 x 2.5
	AWG	1 x 10 / 2 x 14	1 x 10 / 2 x 14



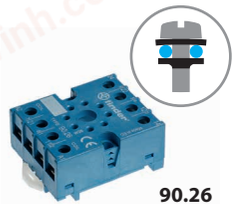
90.22



90.23

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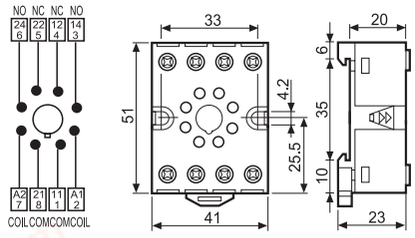
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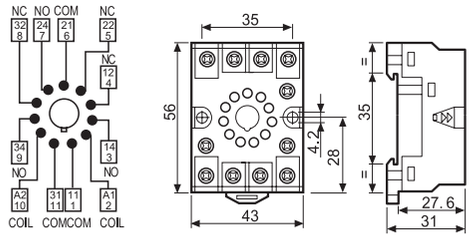
90.26

Approvals
(according to type):

Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount		**90.26** **Blue**	**90.26.0** **Black**	**90.27** **Blue**	**90.27.0** **Black**
For relay type		60.12		60.13	
Accessories					
Metal retaining clip (supplied with socket - packaging code SMA)		090.33			
Technical data					
Rated values		10 A - 250 V			
Dielectric strength		2 kV AC			
Protection category		IP 20			
Ambient temperature	°C	–40…+70			
Screw torque	Nm	0.8			
Wire strip length	mm	10			
Max. wire size for 90.26 and 90.27 sockets		solid wire		stranded wire	
	mm²	1 x 4 / 2 x 2.5		1 x 4 / 2 x 2.5	
	AWG	1 x 12 / 2 x 14		1 x 12 / 2 x 14	



90.26



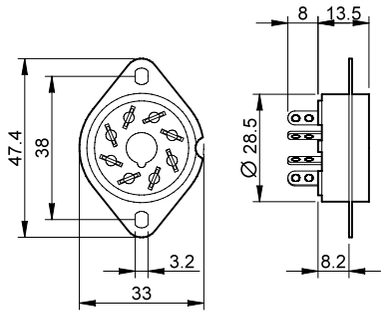
90.27



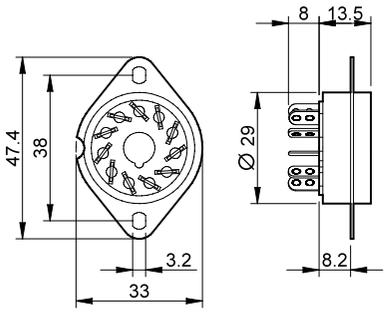
90.12

Approvals
(according to type):

Flange mount solder socket mount with M3 screw		**90.12 (black)**	**90.13 (black)**
For relay type		60.12	60.13
Technical data			
Rated values		10 A - 250 V	
Dielectric strength		2 kV AC	
Ambient temperature	°C	–40…+70	



90.12



90.13

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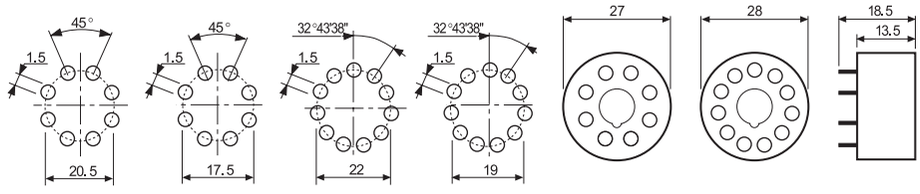
90 SERIES
Sockets and accessories for 60 series relays



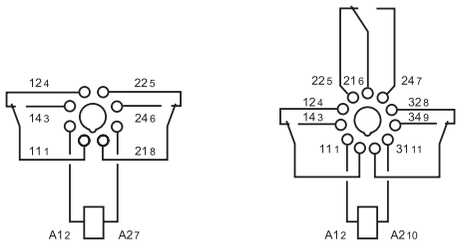
90.15

Approvals (according to type):

PCB socket	**Blue** **Blue**	**90.14 (Ø 20.5 mm)** **90.14.1 (Ø 17.5 mm)**	**90.15 (Ø 22 mm)** **90.15.1 (Ø 19 mm)**
For relay type		60.12	60.13
Technical data			
Rated values		10 A - 250 V	
Dielectric strength		2 kV AC	
Ambient temperature	°C	–40…+70	



90.14 90.14.1 90.15 90.15.1 90.14 90.15



90.14 90.15

Packaging codes

How to code and identify retaining clip and packaging options for sockets.

Example:

9	0	.	2	1	S	M	A

A Standard packaging

SM Metal retaining clip

9	0	.	2	1			

Without retaining clip

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Please see general technical information