

General purpose relays 7 - 10 A



Automation for
blinds, grilles
and shutters



Control and
management of
electric power



Shipyards



Road / tunnel
lighting



Hoists and
cranes



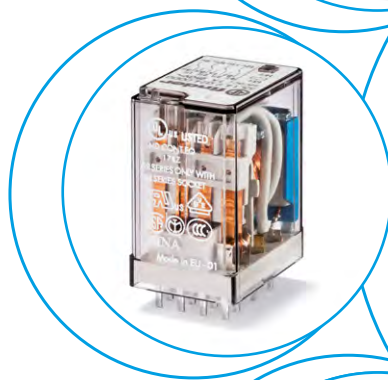
Circuit breakers
and switches



Control panels



Panels for electrical
distribution



General purpose relays For printed circuit mounting

Type 55.12

- 2 CO 10 A

Type 55.13

- 3 CO 10 A

Type 55.14

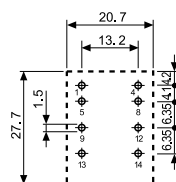
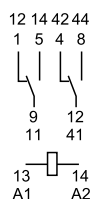
- 4 CO 7 A

- AC & DC coils
- Cadmium Free contacts
- Contact material options
- RT III (wash tight) option available

55.12



- 2 CO 10 A
- PCB mount

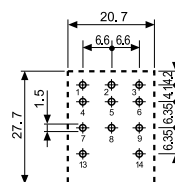
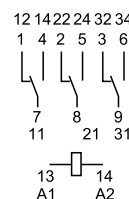


Copper side view

55.13



- 3 CO 10 A
- PCB mount

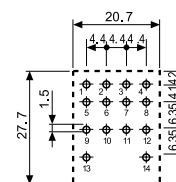
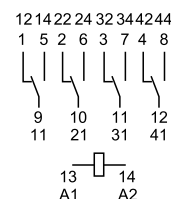


Copper side view

55.14



- 4 CO 7 A
- PCB mount



Copper side view

FOR UL RATINGS SEE:

"General technical information" page V

For outline drawing see page 6

Contact specification

Contact configuration		2 CO (DPDT)	3 CO (3PDT)	4 CO (4PDT)
Rated current/Maximum peak current	A	10/20	10/20	7/15
Rated voltage/ Maximum switching voltage	V AC	250/400	250/400	250/250
Rated load AC1	VA	2500	2500	1750
Rated load AC15 (230 V AC)	VA	500	500	350
Single phase motor rating (230 V AC)	kW	0.37	0.37	0.125
Breaking capacity DC1: 30/110/220 V	A	10/0.5/0.25	10/0.5/0.25	7/0.5/0.25
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi	AgNi

Coil specification

Nominal voltage (U _N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240		
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220		
Rated power AC/DC	VA (50 Hz)/W	1.5/1	1.5/1	1.5/1
Operating range	AC	(0.8...1.1)U _N	(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	(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	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	0.2 U _N / 0.1 U _N

Technical data

Mechanical life AC/DC	cycles	20 · 10 ⁶ / 50 · 10 ⁶	20 · 10 ⁶ / 50 · 10 ⁶	20 · 10 ⁶ / 50 · 10 ⁶
Electrical life at rated load AC1	cycles	200 · 10 ³	200 · 10 ³	150 · 10 ³
Operate/release time	ms	10/5	9/5	9/5
Insulation between coil and contacts (1.2/50 μs)	kV	4	4	4
Dielectric strength between open contacts	V AC	1000	1000	1000
Ambient temperature range	°C	-40...+85	-40...+85	-40...+85
Environmental protection		RT I	RT I	RT I

Approvals (according to type)



**General purpose relays
For socket mounting****Type 55.32**

- 2 CO 10 A

Type 55.33

- 3 CO 10 A

Type 55.34

- 4 CO 7 A

- AC & DC coils
- Lockable test button and mechanical flag indicator as standard on 2 & 4 pole types
- Integral LED and coil suppression options
- 94 series sockets for PCB or 35 mm rail mounting (EN 60715) with Screw, Screwless or Push-in terminals
- Coil Indication and EMC suppression modules 99 series and Timer module 86.30 options
- Optional alternative mounting adaptors
- UL Listing (certain relay/socket combinations)
- Cadmium Free contacts
- Contact material options
- European Patent

FOR UL RATINGS SEE:

"General technical information" page V

For outline drawing see page 6

Contact specification

Contact configuration		2 CO (DPDT)	3 CO (3PDT)	4 CO (4PDT)
Rated current/Maximum peak current	A	10/20	10/20	7/15
Rated voltage/ Maximum switching voltage	V AC	250/400	250/400	250/250
Rated load AC1	VA	2500	2500	1750
Rated load AC15 (230 V AC)	VA	500	500	350
Single phase motor rating (230 V AC)	kW	0.37	0.37	0.125
Breaking capacity DC1: 30/110/220 V	A	10/0.5/0.25	10/0.5/0.25	7/0.5/0.25
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi	AgNi

Coil specification

Nominal voltage (U _N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240		
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220		
Rated power AC/DC	VA (50 Hz)/W	1.5/1	1.5/1	1.5/1
Operating range	AC	(0.8...1.1)U _N	(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	(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	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	0.2 U _N / 0.1 U _N

Technical data

Mechanical life AC/DC	cycles	20 · 10 ⁶ / 50 · 10 ⁶	20 · 10 ⁶ / 50 · 10 ⁶	20 · 10 ⁶ / 50 · 10 ⁶
Electrical life at rated load AC1	cycles	200 · 10 ³	200 · 10 ³	150 · 10 ³
Operate/release time	ms	10/5	9/5	9/5
Insulation between coil and contacts (1.2/50 μs)	kV	4	4	4
Dielectric strength between open contacts	V AC	1000	1000	1000
Ambient temperature range	°C	-40...+85	-40...+85	-40...+85
Environmental protection		RT I	RT I	RT I

Approvals (according to type)

55.32	55.33	55.34
• 2 CO 10 A • Plug-in 94 series sockets	• 3 CO 10 A • Plug-in 94 series sockets	• 4 CO 7 A • Plug-in 94 series sockets

Ordering information

Example: 55 series plug-in relay, 4 CO, 12 V DC coil, lockable test button and mechanical indicator.

55.32.9.012.0040

Series
55 = 55 series

Type
3 = Plug-in

No. of poles
2 = 2 pole, 10 A
3 = 3 pole, 10 A
4 = 4 pole, 7 A

Coil version
8 = AC (50/60 Hz)
9 = DC

Coil voltage
See coil specifications

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

B: Contact circuit
0 = CO (nPDT)

C: Options
0 = None
1 = Lockable test button
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* = Double LED (DC non-polarized)
7* = Lockable test button + double LED (DC non-polarized)
74* = Lockable test button + double LED (DC non-polarized) + mechanical indicator
8* = LED + diode (DC, polarity positive to pin A1/13)
9* = Lockable test button + LED + diode (DC, polarity positive to pin A1/13)
94* = Lockable test button + LED + diode (DC, polarity positive to pin A1/13) + mechanical indicator
* Options not available for 220 V DC versions.

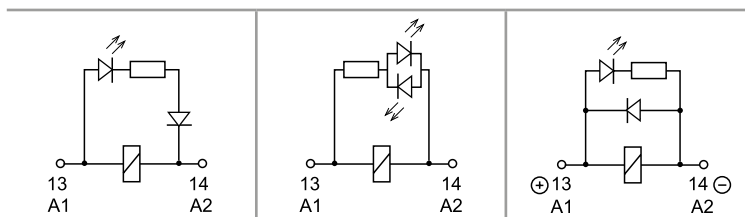
D: Special versions
0 = Standard
1 = Wash tight (RT III) for 55.12, 55.13 and 55.14 only

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
55.32/34	AC - DC	0 - 5	0	0	0
	AC	0 - 5	0	2 - 3 - 4 - 5	0
	AC	0 - 5	0	54	/
	DC	0 - 5	0	2 - 4 - 6 - 7 - 8 - 9	0
	DC	0 - 5	0	74 - 94	/
55.33	AC - DC	0 - 5	0	0	0
	AC	0 - 5	0	1 - 3 - 5	0
	DC	0 - 5	0	1 - 6 - 7 - 8 - 9	0
55.12/13/14	AC - DC	0 - 5	0	0	0 - 1

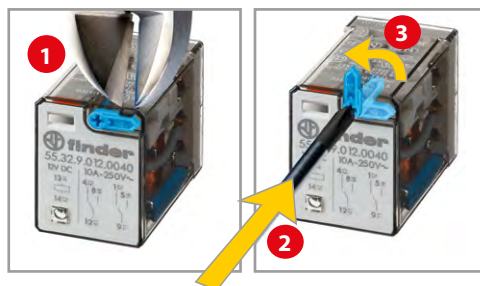
Descriptions: options and special versions



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

C: Option 6, 7, 74
Double LED
(DC non-polarized)

C: Option 8, 9, 94
LED + diode (DC, polarity positive to pin A1/13)



Lockable test button and mechanical flag indicator
(0010, 0040, 0050, 0054, 0070, 0074, 0090, 0094)



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.

Technical data

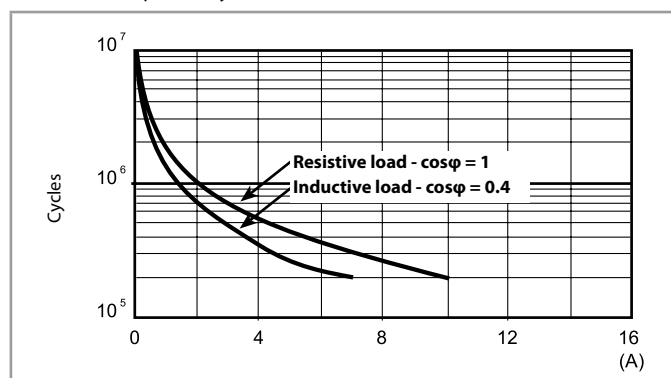
A

Insulation according to EN 61810-1		2 pole - 3 pole		4 pole
Nominal voltage of supply system	V AC	230/400		230
Rated insulation voltage	V AC	400		250
Pollution degree		2		2
Insulation between coil and contact set				
Type of Insulation		Basic		Basic
Overvoltage category		III		III
Rated impulse voltage	kV (1.2/50 μ s)	4		4
Dielectric strength	V AC	2000		2000
Insulation between adjacent contacts				
Type of insulation		Basic		Basic
Overvoltage category		III		II
Rated impulse voltage	kV (1.2/50 μ s)	4		2.5
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 μ s)	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 μ s)	4		
Other data				
Bounce time: NO/NC	ms	1/4 (2 pole), 1/6 (3 pole), 2/4 (4 pole)		
Vibration resistance (5...55)Hz: NO/NC	g	15/15		
Shock resistance	g	16		
Power lost to the environment	without contact current	W	1	
	with rated current	W	3 (2 pole)	4 (3 pole) 3 (4 pole)
Recommended distance between relays mounted on PCB	mm	≥ 5		

Contact specification

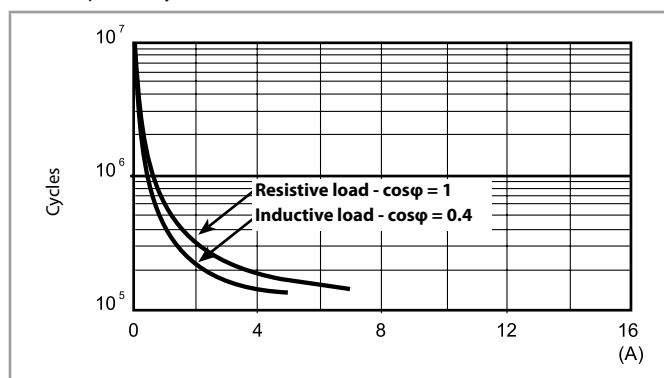
F 55 - Electrical life (AC) v contact current

2 and 3 pole relays

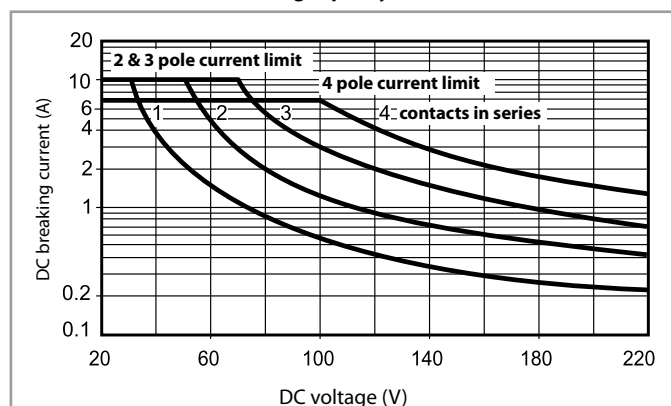


F 55 - Electrical life (AC) v contact current

4 pole relays



H 55 - Maximum DC1 breaking capacity



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of $\geq 100 \cdot 10^3$ 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 of the load will be increased.

Coil specifications

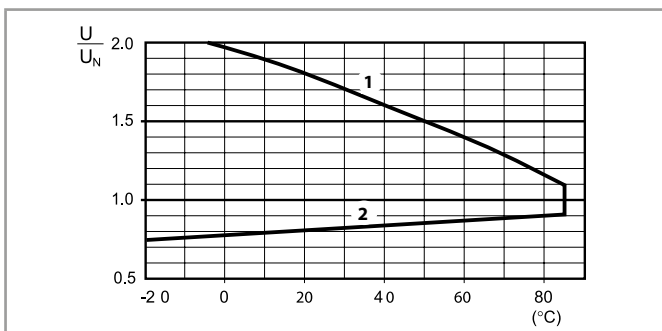
DC coil data

Nominal voltage U_N	Coil code	Operating range		Resistance R	Rated coil consumption I at U_N
V		U_{min} V	U_{max} V	Ω	mA
6	9.006	4.8	6.6	40	150
12	9.012	9.6	13.2	140	86
24	9.024	19.2	26.4	600	40
48	9.048	38.4	52.8	2400	20
60	9.060	48	66	4000	15
110	9.110	88	121	12500	8.8
125	9.125	100	138	17300	7.2
220	9.220	176	242	54000	4

AC coil data

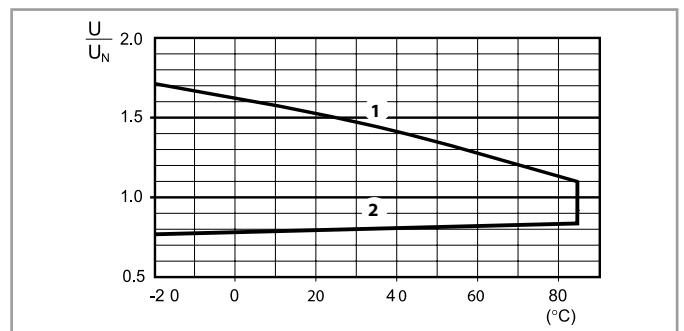
Nominal voltage U_N	Coil code	Operating range		Resistance R	Rated coil consumption I at U_N
V		U_{min} V	U_{max} V	Ω	mA
6	8.006	4.8	6.6	12	200
12	8.012	9.6	13.2	50	97
24	8.024	19.2	26.4	190	53
48	8.048	38.4	52.8	770	25
60	8.060	48	66	1200	21
110	8.110	88	121	3940	12.5
120	8.120	96	132	4700	12
230	8.230	184	253	17000	6
240	8.240	192	264	19100	5.3

R 55 - DC coil operating range v ambient temperature



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

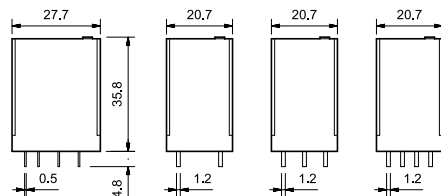
R 55 - AC coil operating range v ambient temperature



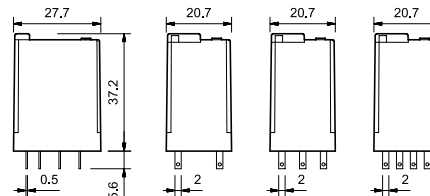
- 1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

Outline drawings

Types 55.12/13/14



Types 55.32/33/34



Accessories

A

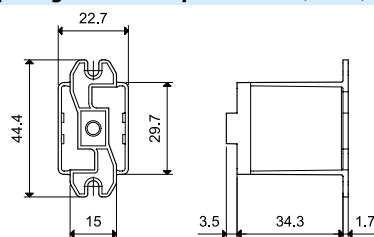


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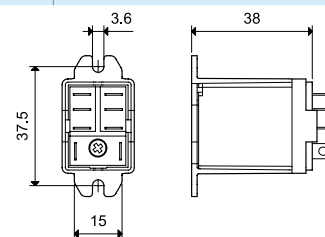
056.25 with relay

Top flange mount adaptor for 55.32, 55.33, 55.34



056.25

056.25



056.25 with relay

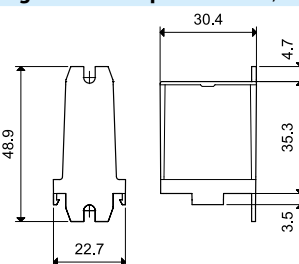


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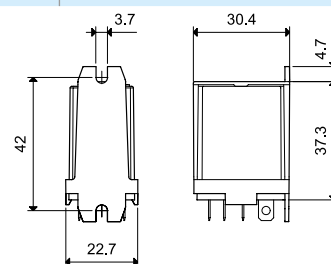
056.26 with relay

Rear flange mount adaptor for 55.32, 55.33, 55.34



056.26

056.26



056.26 with relay

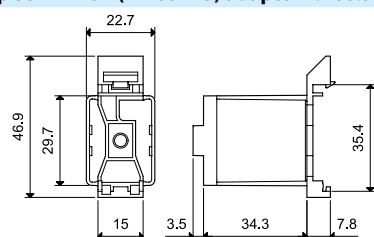


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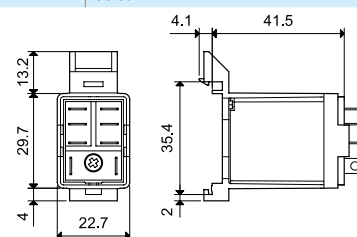
056.27 with relay

Top 35 mm rail (EN 60715) adaptor for 55.32, 55.33, 55.34



056.27

056.27



056.27 with relay