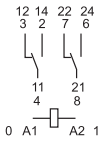
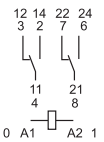
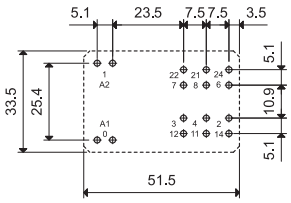
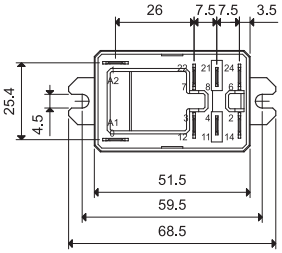
Features

2 Pole Changeover (DPDT)
30 A Power relay

66.22	**PCB connections & mount**
66.82	**Faston 250 connections - Flange mount**

- Reinforced insulation between coil and contacts according to EN 60335-1; 8 mm creepage and clearance distances
- AC coils & DC coils
- Cadmium Free option available
- ATEX compliant (EX nC) option available

66.22	**66.82**
	
• 30 A rated contacts • PCB mount - bifurcated terminals	• 30 A rated contacts • Flange mount • Faston 250 connections
	
	
Copper side view	

For outline drawing see page 7

FOR UL RATINGS SEE:
"General technical information" page V

Contact specification			
Contact configuration		2 CO (DPDT)	2 CO (DPDT)
Rated current/Maximum peak current	A	30/50 (NO) - 10/20 (NC)	30/50 (NO) - 10/20 (NC)
Rated voltage/Maximum switching voltage	V AC	250/440	250/440
Rated load AC1	VA	7,500 (NO) - 2,500 (NC)	7,500 (NO) - 2,500 (NC)
Rated load AC15 (230 V AC)	VA	1,200 (NO)	1,200 (NO)
Single phase motor rating (230 V AC)	kW	1.5 (NO)	1.5 (NO)
Breaking capacity DC1: 30/110/220 V	A	25/0.7/0.3 (NO)	25/0.7/0.3 (NO)
Minimum switching load	mW (V/mA)	1,000 (10/10)	1,000 (10/10)
Standard contact material		AgCdO	AgCdO
Coil specification			
Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 110/115 - 120/125 - 230 - 240	
	V DC	6 - 12 - 24 - 110 - 125	
Rated power AC/DC	VA (50 Hz)/W	3.6/1.7	3.6/1.7
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	$10 \cdot 10^6$	$10 \cdot 10^6$
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$	$100 \cdot 10^3$
Operate/release time	ms	8/15	8/15
Insulation between coil and contacts (1.2/50 µs)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1,500	1,500
Ambient temperature range	°C	–40...+70	–40...+70
Environmental protection		RT II	RT II
Approvals (according to type)			

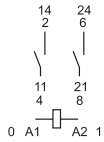
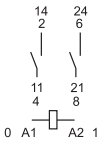
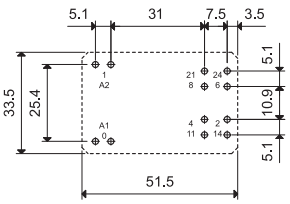
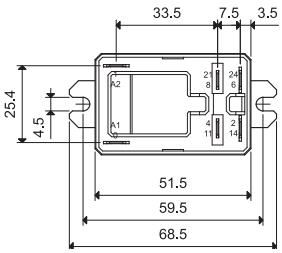
Features

A

2 Pole NO (DPST-NO)
30 A Power relay

66.22-x300 PCB mount
66.82-x300 Faston 250 connections
- Flange mount

- Reinforced insulation between coil and contacts according to EN 60335-1; 8 mm creepage and clearance distances
- AC coils & DC coils
- Cadmium Free option available
- ATEX compliant (EX nC) option available

	66.22-x30x	66.82-x30x
		
	• 30 A rated contacts • PCB mount - bifurcated terminals	• 30 A rated contacts • Flange mount • Faston 250 connections
		
		
	Copper side view	

For outline drawing see page 7

FOR UL RATINGS SEE:
"General technical information" page V

Contact specification			
Contact configuration		2 NO (DPST-NO)	2 NO (DPST-NO)
Rated current/Maximum peak current	A	30/50	30/50
Rated voltage/Maximum switching voltage	V AC	250/440	250/440
Rated load AC1	VA	7,500	7,500
Rated load AC15 (230 V AC)	VA	1,200	1,200
Single phase motor rating (230 V AC)	kW	1.5	1.5
Breaking capacity DC1: 30/110/220 V	A	25/0.7/0.3	25/0.7/0.3
Minimum switching load	mW (V/mA)	1,000 (10/10)	1,000 (10/10)
Standard contact material		AgCdO	AgCdO
Coil specification			
Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 110/115 - 120/125 - 230 - 240	
	V DC	6 - 12 - 24 - 110 -125	
Rated power AC/DC	VA (50 Hz)/W	3.6/1.7	3.6/1.7
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	$10 \cdot 10^6$	$10 \cdot 10^6$
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$	$100 \cdot 10^3$
Operate/release time	ms	8/10	8/10
Insulation between coil and contacts (1.2/50 µs)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1,500	1,500
Ambient temperature range	°C	–40...+70	–40...+70
Environmental protection		RT II	RT II
Approvals (according to type)			

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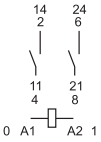
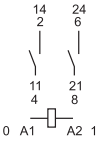
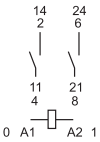
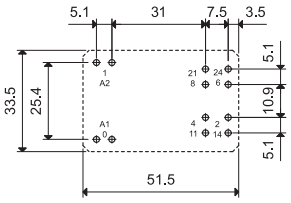
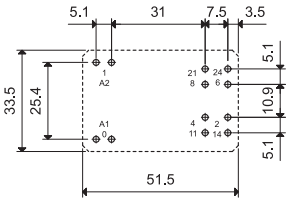
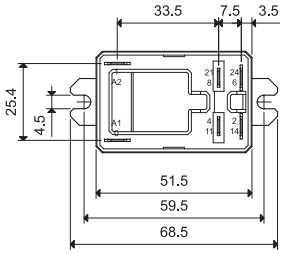
Features

2 Pole NO (DPST-NO), ≥1.5mm contact gap
30 A Power relay

66.22-x600 **PCB mount**
66.22-x600S **PCB mount - 5 mm gap between PCB and relay base**
66.82-x600 **Faston 250 connections - Flange mount**

- ≥1.5 mm contact gap (according to VDE 0126-1-1 for solar inverter applications)
- Reinforced insulation between coil and contacts according to EN 60335-1; 8 mm creepage and clearance distances
- Wash tight version (RT III) available
- DC coils
- Cadmium Free option available
- ATEX compliant (EX nC) option available

	NEW 66.22-x60x	NEW 66.22-x60xS	NEW 66.82-x60x
			
	• PCB mount - bifurcated terminals	• PCB mount - bifurcated terminals • 5 mm gap between PCB and relay base	• Flange mount • Faston 250 connections
			
			
	Copper side view	Copper side view	

For outline drawing see page 7

FOR UL RATINGS SEE:
"General technical information" page V

Contact specification				
Contact configuration			2 NO (DPST-NO)	2 NO (DPST-NO)	2 NO (DPST-NO)
Rated current/Maximum peak current		A	30/50	30/50	30/50
Rated voltage/Maximum switching voltage		V AC	250/440	250/440	250/440
Rated load AC1		VA	7,500	7,500	7,500
Rated load AC15 (230 V AC)		VA	1,200	1,200	1,200
Single phase motor rating (230 V AC)		kW	1.5	1.5	1.5
Breaking capacity DC1: 30/110/220 V		A	25/1.2/0.5	25/1.2/0.5	25/1.2/0.5
Minimum switching load		mW (V/mA)	1,000 (10/10)	1,000 (10/10)	1,000 (10/10)
Standard contact material			AgCdO	AgCdO	AgCdO
Coil specification				
Nominal voltage (U_N)	V AC (50/60 Hz)		—	
	V DC		6 - 12 - 24 - 110 -125	
Rated power AC/DC	VA (50 Hz)/W		—/1.7	—/1.7	—/1.7
Operating range	AC		—	—	—
	DC		(0.8...1.1)U_N	(0.7...1.1)U_N	(0.8...1.1)U_N
Holding voltage		AC/DC	—/0.5 U_N	—/0.5 U_N	—/0.5 U_N
Must drop-out voltage		AC/DC	—/0.1 U_N	—/0.1 U_N	—/0.1 U_N
Technical data				
Mechanical life		cycles	$10 \cdot 10^6$	$10 \cdot 10^6$	$10 \cdot 10^6$
Electrical life at rated load AC1		cycles	$100 \cdot 10^3$	$100 \cdot 10^3$	$100 \cdot 10^3$
Operate/release time		ms	15/4	15/4	15/4
Insulation between coil and contacts (1.2/50 µs)		kV	6 (8 mm)	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts		V AC	2,500	2,500	2,500
Ambient temperature range		°C	–40...+70	–40...+70	–40...+70
Environmental protection			RT II	RT II	RT II
Approvals (according to type)					

A

Ordering information

Example: 66 series relay, Faston 250 (6.3x0.8 mm) with top flange mount, 2 CO (DPDT) 30 A contacts, 24 V DC coil.

6	6	.	8	2	.	9	.	0	2	4	.	0	0	0	0	
												A	B	C	D	

Series

Type
2 = PCB
8 = Faston 250 (6.3x0.8 mm) with top flange mount

No. of poles
2 = 2 pole 30 A (versions 0, 1)
2 = 2 pole 25 A (version 3)

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

Coil voltage
See coil specifications

A: Contact material
0 = Standard AgCdO
1 = AgNi

B: Contact circuit
0 = CO (nPDT)
3 = NO (nPST)
6 = NO (nPST), ≥1.5 mm contact gap

C: Options
0 = None

D: Special versions
0 = Standard
1 = Wash tight (RT III)
3 = ATEX compliant (Ex nC)

S = PCB version with 5 mm gap between PCB and relay base (only 66.22)

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
66.22	AC-DC	**0** - 1	**0** - 3	**0**	0 - **1**
	DC	**0** - 1	**6**	**0**	0 - **1**
66.22....S	DC	**0** - 1	**6**	**0**	0 - **1** - 3
66.82	AC-DC	**0** - 1	**0** - 3	**0**	**0** - 1 - 3
	DC	**0** - 1	**6**	**0**	**0** - 1 - 3

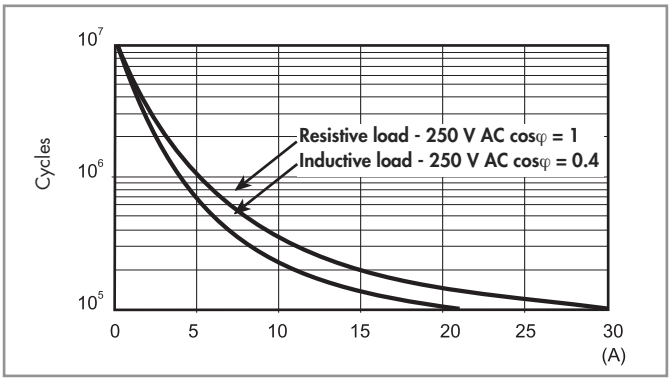
Technical data

Insulation according to EN 61810-1				
Nominal voltage of supply system		V AC	230/400	
Rated insulation voltage		V AC	400	
Pollution degree			3	
Insulation between coil and contact set				
Type of insulation			Reinforced (8 mm)	
Overvoltage category			III	
Rated impulse voltage		kV (1.2/50 µs)	6	
Dielectric strength		V AC	4,000	
Insulation between adjacent contacts				
Type of insulation			Basic	
Overvoltage category			III	
Rated impulse voltage		kV (1.2/50 µs)	4	
Dielectric strength		V AC	2,500	
Insulation between open contacts			**2 CO**	**2 NO, ≥1.5mm (x60x version)**
Type of disconnection			Micro-disconnection	Full-disconnection *
Overvoltage category			—	II
Rated impulse voltage		kV (1.2/50 µs)	—	2.5
Dielectric strength		V AC/kV (1.2/50 µs)	1,500/2	2,500/3
Conducted disturbance immunity				
Burst (5...50)ns, 5 kHz, on A1 - A2			EN 61000-4-4	level 4 (4 kV)
Surge (1.2/50 µs) on A1 - A2 (differential mode)			EN 61000-4-5	level 4 (4 kV)
Other data				
Bounce time: NO/NC		ms	7/10	
Vibration resistance (10...150)Hz: NO/NC		g	20/19	
Shock resistance		g	20	
Power lost to the environment	without contact current	W	2.3	
	with rated current	W	5	
Recommended distance between relays mounted on PCB		mm	≥ 10	

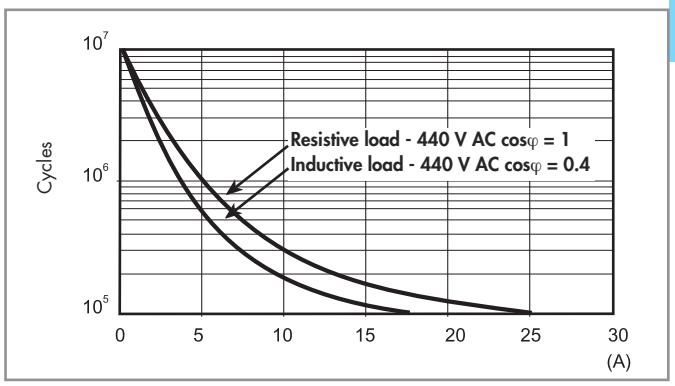
* Only in applications where over voltage category II is permitted. In applications of over voltage category III: Micro-disconnection.

Contact specification

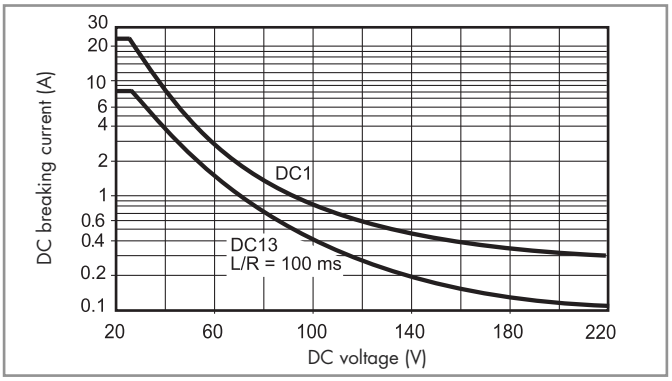
F 66 - Electrical life (AC) v contact current
250 V (normally open contact)



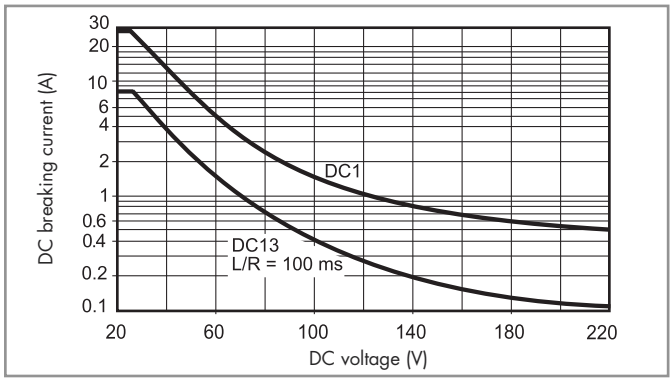
F 66 - Electrical life (AC) v contact current
440 V (normally open contact)



H 66 - Maximum DC breaking capacity



H 66 - Maximum DC breaking capacity, x60x versions (>1.5mm contact gap)



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

Coil specifications

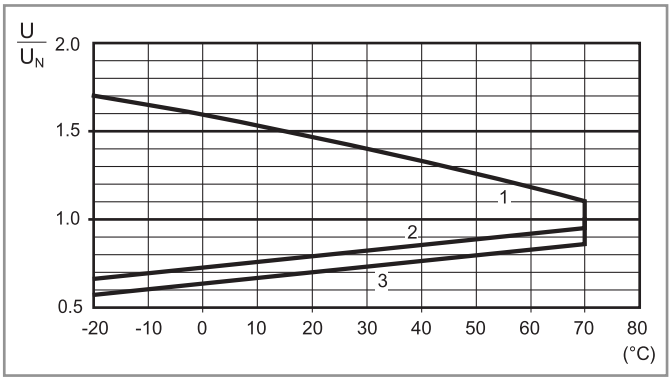
DC coil data

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil consumption I at U_N
V		V	V	Ω	mA
6	**9**.006	4.8	6.6	21	283
12	**9**.012	9.6	13.2	85	141
24	**9**.024	19.2	26.4	340	70.5
110	**9**.110	88	121	7,000	15.7
125	**9**.125	100	138	9,200	13.6

AC coil data

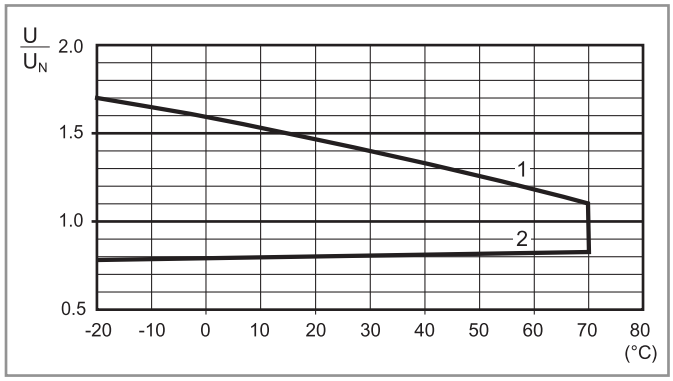
Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil consumption I at U_N (50Hz)
V		V	V	Ω	mA
6	**8**.006	4.8	6.6	3	600
12	**8**.012	9.6	13.2	11	300
24	**8**.024	19.2	26.4	50	150
110/115	**8**.110	88	126	930	32.6
120/125	**8**.120	96	137	1,050	30
230	**8**.230	184	253	4,000	15.7
240	**8**.240	192	264	5,500	15

R 66 - DC coil operating range v ambient temperature



1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.
3 - Min. pick-up voltage with coil at ambient temperature (66.22-x60xS).

R 66 - AC coil operating range v ambient temperature

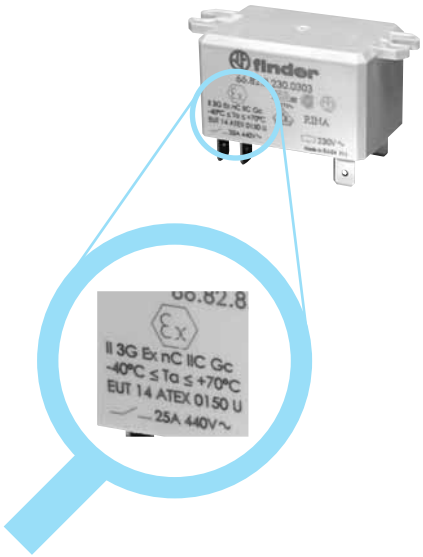


1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

A

Features compliant variant ATEX, II 3G Ex nC IIC Gc

MARKING	
Ex	Specific marking of explosion protection
II	Component for surface plant (different from mines)
3	Category 3: normal level of protection
GAS	**G** Explosive atmosphere due to presence of combustible gas vapour or mist
GAS	**Ex nC** Sealed device (type of protection for category 3G)
GAS	**IIC** Gas group
GAS	**Gc** Equipment Protection Level
-40°C ≤ Ta ≤ +70°C	Ambient temperature
EUT 14 ATEX 0150 U	EUT: laboratory which issues the CE type certificate 14: year of issue of certificate 0150: number of CE type certificate U: ATEX component



Electrical characteristics

Characteristics of terminals		
Rated current/Maximum peak current	A	25/50 (NO) – 10/20 (NC)
Rated voltage/Maximum switching voltage	V AC	250/400
Rated load AC1	VA	6,250 (NO) – 2,500 (NC)
Rated load AC15	VA	1,200 (NO)
Capacity for single phase motor (230 V AC)	kW	1.5 (NO)
Breaking capacity DC1: 30/110/220 V	A	25/0.7/0.3 (NO)
Characteristics of coil		
Rated voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 110/115 - 120/125 - 230 - 240
	V DC	6 - 12 - 24 - 110 - 125
Rated Power AC/DC	VA (50 Hz)/W	3.6 / 1.7
Operating range	AC/DC	$(0.8...1.1)U_N$
General characteristics		
Ambient temperature	°C	–40...+70

Special condition for safe use

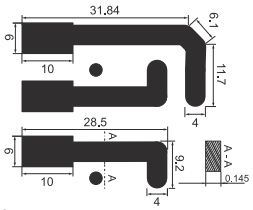
The component must be placed inside an enclosure that meets the general requirements for enclosures as per clause 6.3 of EN 60079-15.
The connections must be made in compliance with the requirements of clause 7.2.4 or 7.2.5 of EN 60079-15.

Wiring

The cross-section of conductors connected to the terminals, must be at least 4 mm² for the Type 66.82.

Layout pcb

The minimum cross-section of the tracks of the printed circuit board must be 0.58 mm², while the width must be at least 4 mm for Types "66.22" and "66.22....S".



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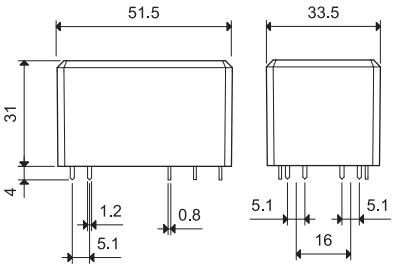
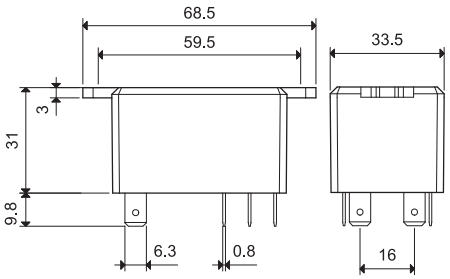
Outline drawings

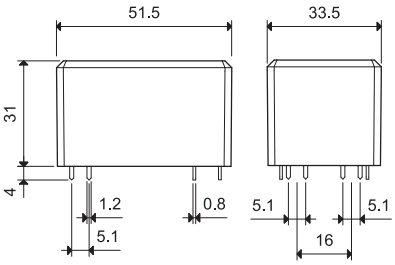
Type 66.22



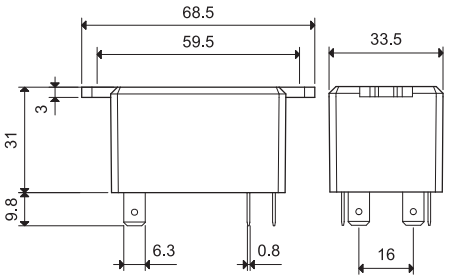
Type 66.82



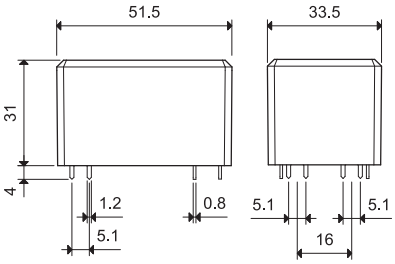
Type 66.22-0300



Type 66.82-0300



Type 66.22-0600



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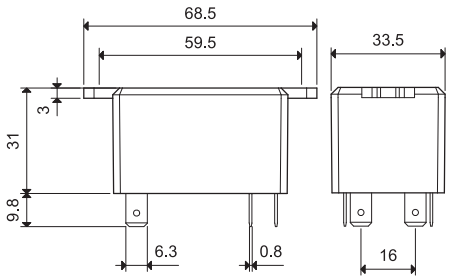
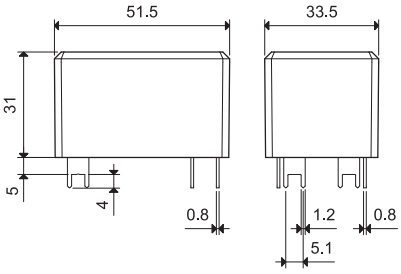


Type 66.22-0600S

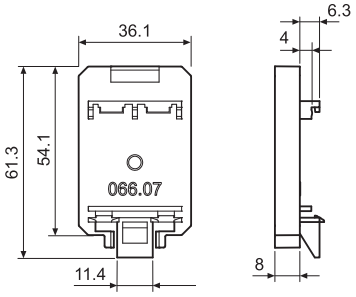


Accessories

066.07

066.07 with relay

Top 35 mm rail (EN 60715) mount for types 66.82.xxxx.0x00	066.07



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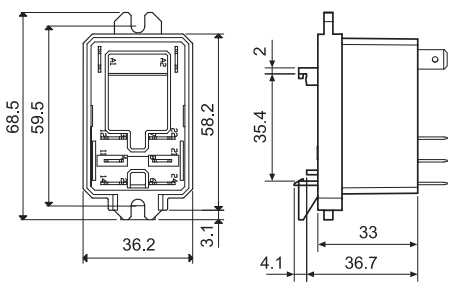

066.07 with relay