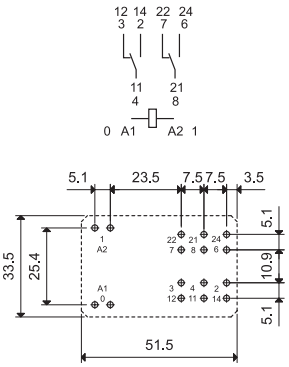
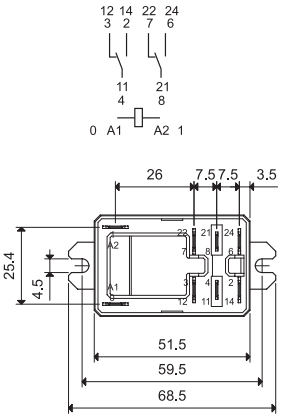
2 Pole Changeover (DPDT)
30 A Power relay

Type 66.22
- PCB connections & mount

Type 66.82
- Faston 250 connections and 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	7500 (NO) - 2500 (NC)	7500 (NO) - 2500 (NC)
Rated load AC15 (230 V AC)	VA	1200 (NO)	1200 (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)	1000 (10/10)	1000 (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	1500	1500
Ambient temperature range	°C	–40…+70	–40…+70
Environmental protection		RT II	RT II
Approvals (according to type)			

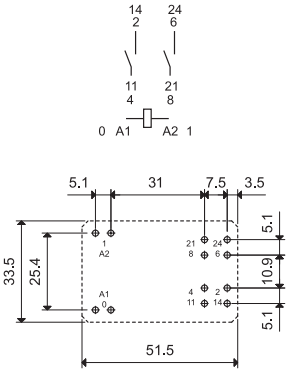
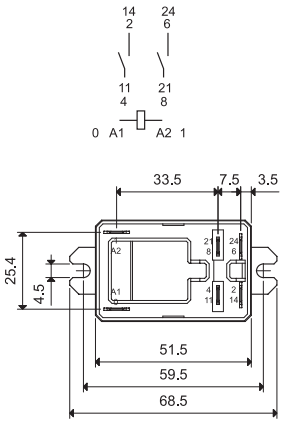
A

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

Type 66.22-x300
- PCB mount

Type 66.82-x300
- Faston 250 connections and 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	7500	7500
Rated load AC15 (230 V AC)	VA	1200	1200
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)	1000 (10/10)	1000 (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	1500	1500
Ambient temperature range	°C	–40…+70	–40…+70
Environmental protection		RT II	RT II
Approvals (according to type)			

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

Type 66.22-x600
- PCB mount

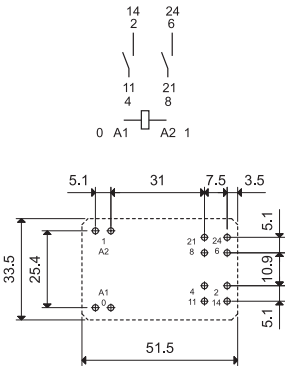
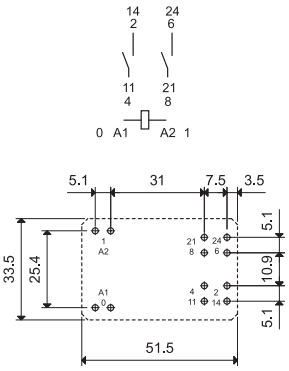
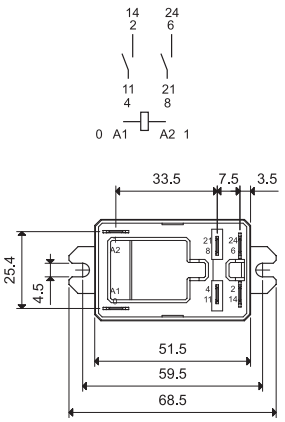
Type 66.22-x600S
- PCB mount, 5 mm gap between PCB and relay base

Type 66.82-x600
- Faston 250 connections and 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

For outline drawing see page 7

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

	66.22-x60x	66.22-x60xS	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	
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	7500	7500	7500
Rated load AC15 (230 V AC) VA	1200	1200	1200
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)	1000 (10/10)	1000 (10/10)	1000 (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	2500	2500	2500
Ambient temperature range °C	–40…+70	–40…+70	–40…+70
Environmental protection	RT II	RT II	RT II
Approvals (according to type)			

Ordering information

A

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

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

Series

Type
2 = PCB
8 = Faston 250 (6.3 x 0.8 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	4000	
Insulation between adjacent contacts				
Type of insulation			Basic	
Overvoltage category			III	
Rated impulse voltage		kV (1.2/50 µs)	4	
Dielectric strength		V AC	2500	
Insulation between open contacts			**2 CO**	**2 NO, ≥ 1.5 mm (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)	1500/2	2500/2.5
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	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.

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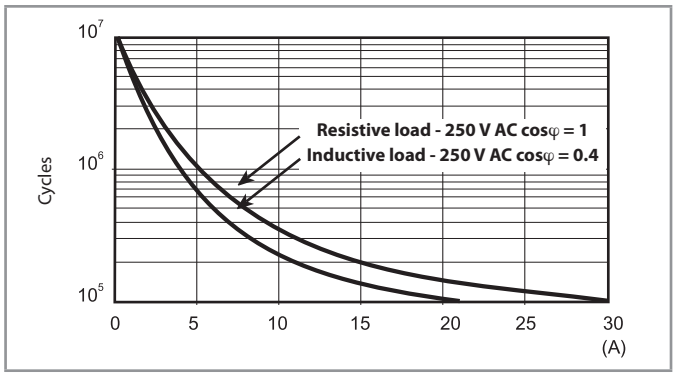
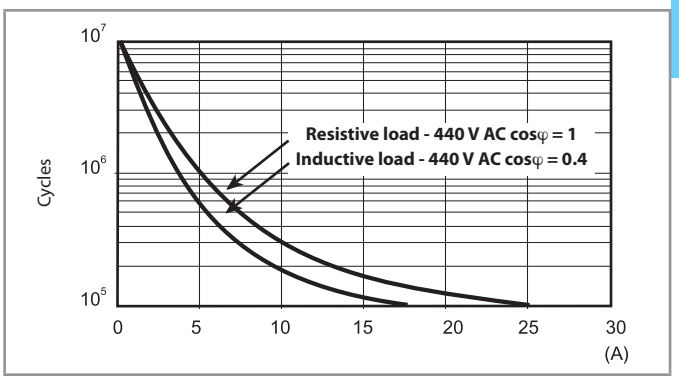
Contact specification

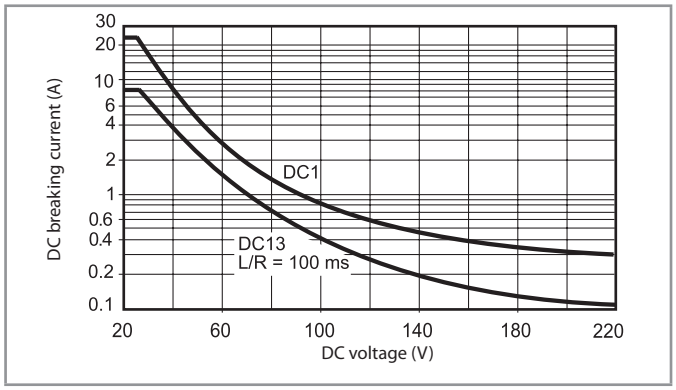
F 66 - Electrical life (AC) v contact current
250 V (normally open contact)



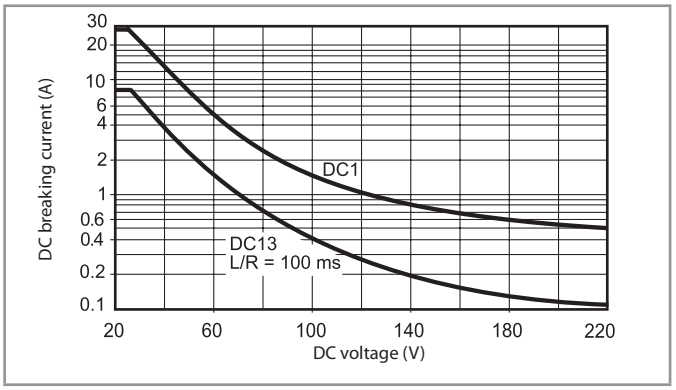
F 66 - Electrical life (AC) v contact current
440 V (normally open contact)



H 66 - Maximum DC breaking capacity



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

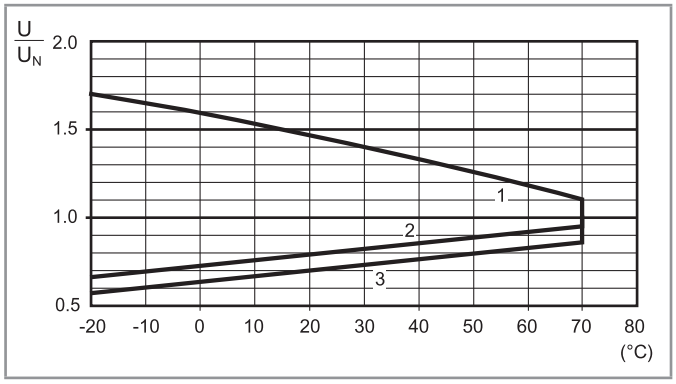
DC coil data

Nominal voltage	Coil code	Operating range		Resistance	Rated coil Consumption
U_N		U_{min}	U_{max}	R	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	7000	15.7
125	**9**.125	100	138	9200	13.6

AC coil data

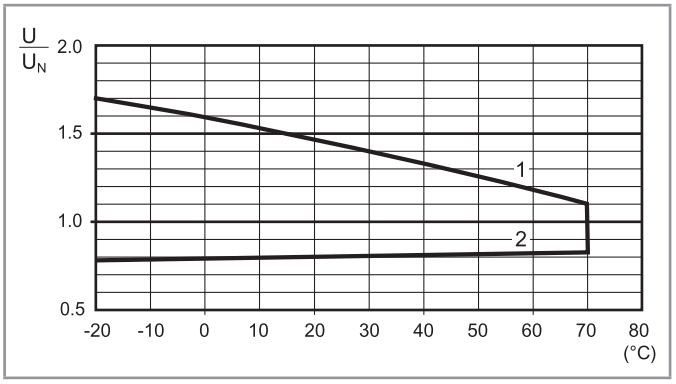
Nominal voltage	Coil code	Operating range		Resistance	Rated coil Consumption
U_N		U_{min}	U_{max}	R	I at U_N (50 Hz)
V		V	V	Ω	mA
6	**8**.006	4.8	6.6	3	600
12	**8**.012	9.6	13.2	11	300
24	**8**.024	19.2	26.4	50	150
110/115	**8**.110	88	126	930	32.6
120/125	**8**.120	96	137	1050	30
230	**8**.230	184	253	4000	15.7
240	**8**.240	192	264	5500	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.

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

A

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
	Ex nC Sealed device (type of protection for category 3G)
	IIC Gas group
	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	6250 (NO) - 2500 (NC)
Rated load AC15	VA	1200 (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

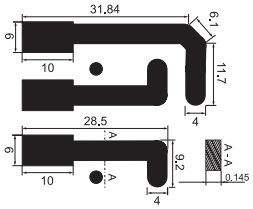
The component must be placed inside an enclosure that meets the general requirements for enclosures as per clause 6.3 of EN 60079-15.
The connections must be made in compliance with the requirements of clause 7.2.4 or 7.2.5 of EN 60079-15.

Wiring

The cross-section of conductors connected to the terminals, must be at least 4 mm^2 for the Type 66.82.

Layout pcb

The minimum cross-section of the tracks of the printed circuit board must be 0.58 mm^2, while the width must be at least 4 mm for Types "66.22" and "66.22….S".



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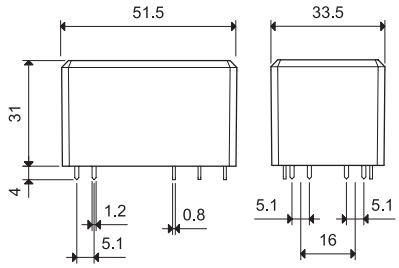
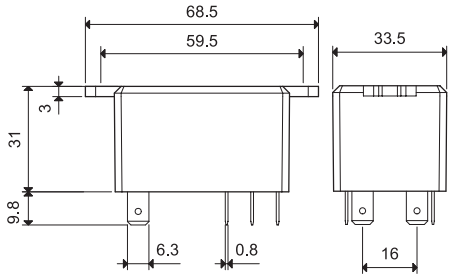
Outline drawings

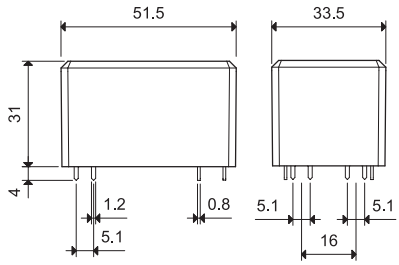
Type 66.22



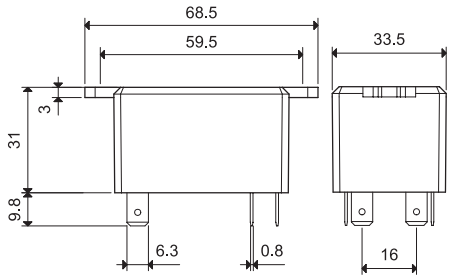
Type 66.82



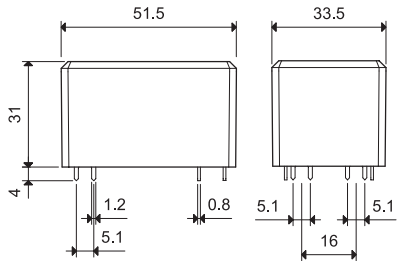
Type 66.22-0300



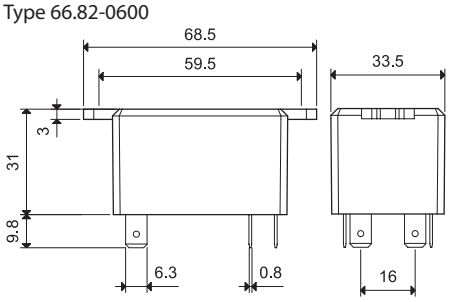
Type 66.82-0300



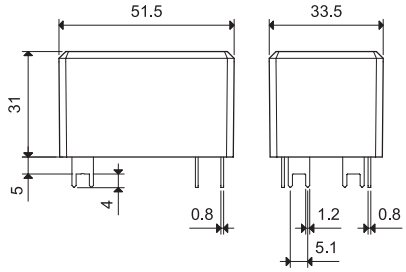
Type 66.22-0600



Type 66.82-0600



Type 66.22-0600S

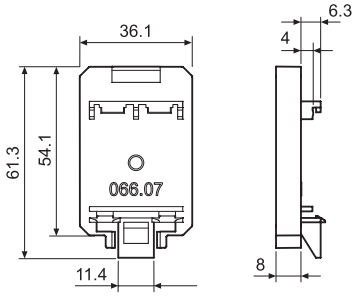


Accessories

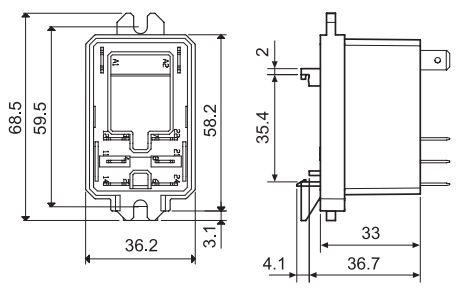
066.07

066.07 with relay

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



066.07



066.07 with relay