

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

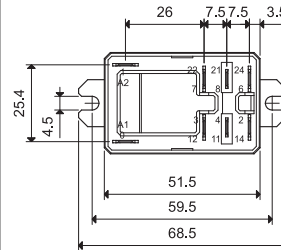
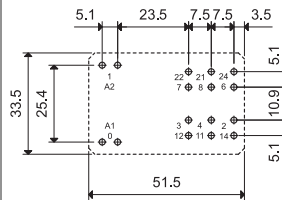
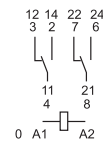
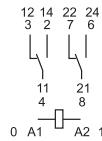


- 30 A rated contacts
- PCB mount - bifurcated terminals

66.82



- 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
Operating range	AC	(0.8...1.1)U _N
	DC	(0.8...1.1)U _N
Holding voltage	AC/DC	0.8 U _N /0.5 U _N
Must drop-out voltage	AC/DC	0.2 U _N /0.1 U _N

Technical data

Mechanical life AC/DC	cycles	10 · 10 ⁶
Electrical life at rated load AC1	cycles	100 · 10 ³
Operate/release time	ms	8/15
Insulation between coil and contacts (1.2/50 μs)	kV	6 (8 mm)
Dielectric strength between open contacts	V AC	1,500
Ambient temperature range	°C	-40...+70
Environmental protection		RT II

Approvals (according to type)



Features

**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

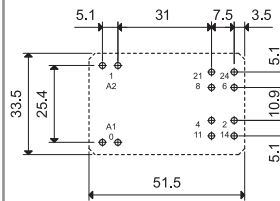
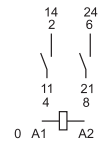
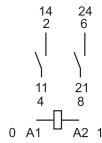


- 30 A rated contacts
- PCB mount - bifurcated terminals

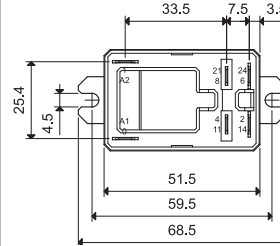
66.82-x30x



- 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 · 10 ⁶	10 · 10 ⁶
Electrical life at rated load AC1	cycles	100 · 10 ³	100 · 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)			

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

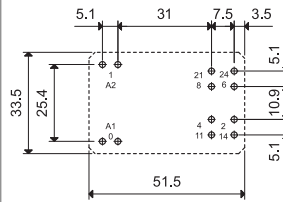
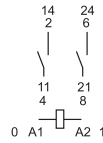
For outline drawing see page 7

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

NEW 66.22-x60x



- PCB mount - bifurcated terminals

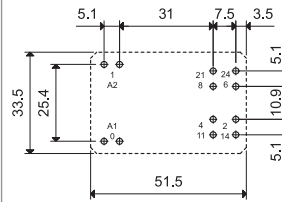
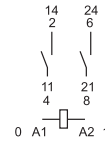


Copper side view

NEW 66.22-x60xS



- PCB mount - bifurcated terminals
- 5 mm gap between PCB and relay base

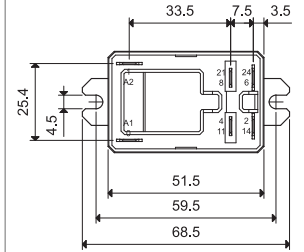
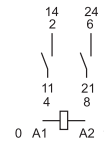


Copper side view

NEW 66.82-x60x



- Flange mount
- Faston 250 connections

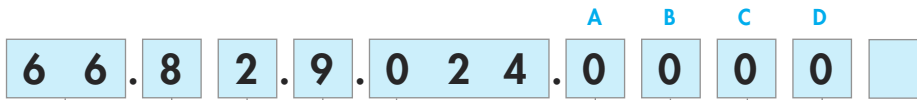


Contact specification				
Contact configuration		2 NO (DPST-NO)	2 NO (DPST-NO)	2 NO (DPST-NO)
Rated current/Maximum peak current	A	30/50	30/50	30/50
Rated voltage/Maximum switching voltage	V AC	250/440	250/440	250/440
Rated load AC1	VA	7,500	7,500	7,500
Rated load AC15 (230 V AC)	VA	1,200	1,200	1,200
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		
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 · 10 ⁶	10 · 10 ⁶	10 · 10 ⁶
Electrical life at rated load AC1	cycles	100 · 10 ³	100 · 10 ³	100 · 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)		Ex EAC PG	UL US DVE	CE Ex EAC PG UL US

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.

A



- 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

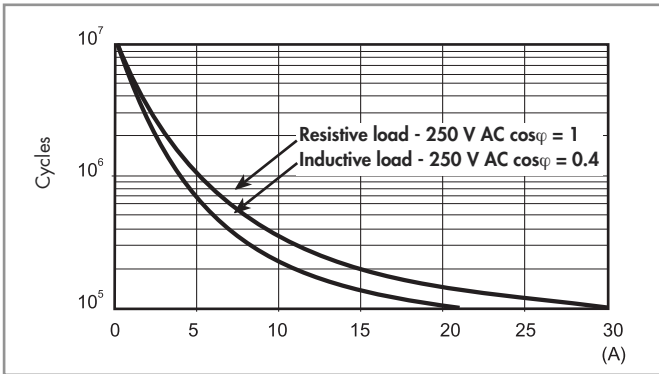
Technical data

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 μ s)	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 μ s)	4
Dielectric strength	V AC	2,500
Insulation between open contacts		
Type of disconnection		2 CO 2 NO, ≥ 1.5mm (x60x version)
Overvoltage category		Micro-disconnection Full-disconnection *
Rated impulse voltage	kV (1.2/50 μ s)	— II
Dielectric strength	V AC/kV (1.2/50 μ s)	— 2.5
		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 μ s) 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
	with rated current	W
		2.3 5
Recommended distance between relays mounted on PCB	mm	≥ 10

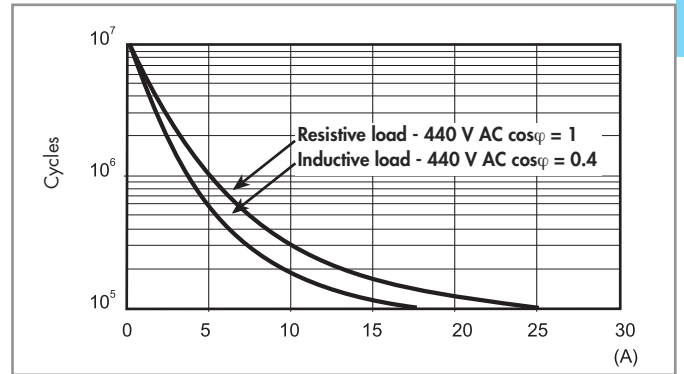
* Only in applications where over voltage category II is permitted. In applications of over voltage category III: Micro-disconnection.

Contact specification

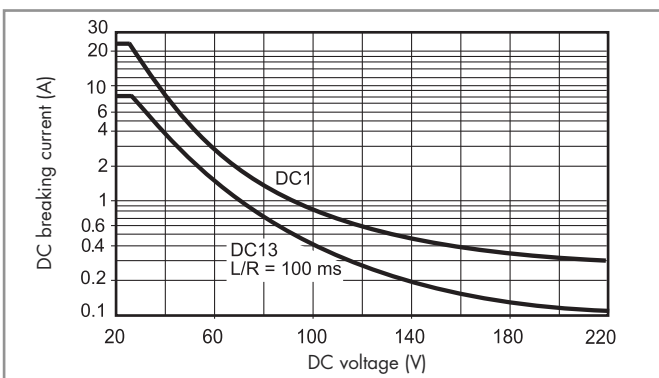
F 66 - Electrical life (AC) v contact current
250 V (normally open contact)



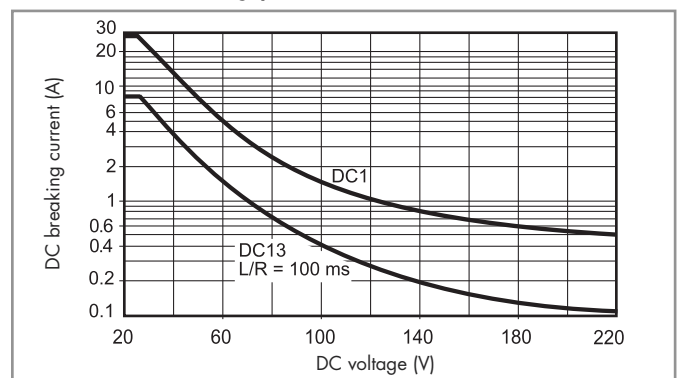
F 66 - Electrical life (AC) v contact current
440 V (normally open contact)



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 $\geq 100 \cdot 10^3$ 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 for the load will be increased.

Coil specifications

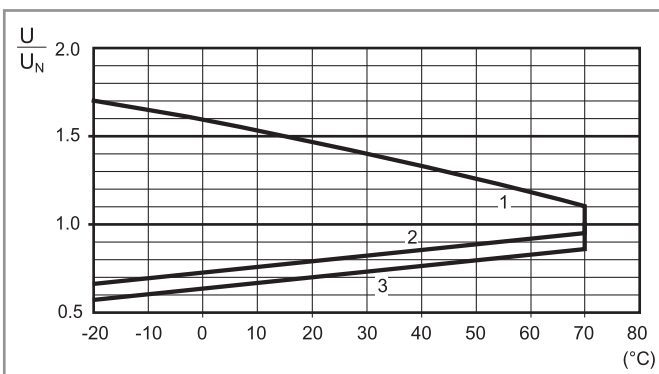
DC coil data

Nominal voltage U_N V	Coil code	Operating range		Resistance R Ω	Rated coil consumption I at U_N mA
		U_{min} V	U_{max} V		
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

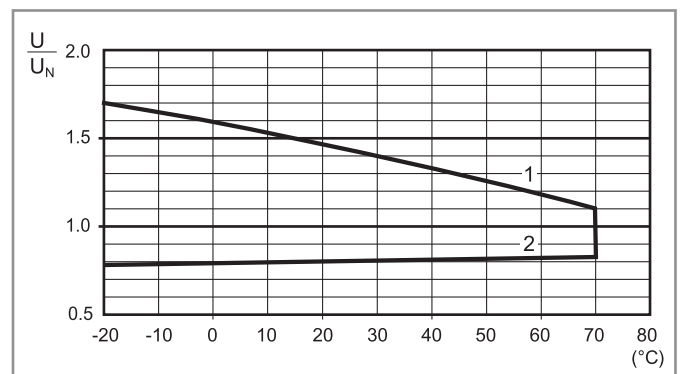
AC coil data

Nominal voltage U_N V	Coil code	Operating range		Resistance R Ω	Rated coil consumption I at U_N (50Hz) mA
		U_{min} V	U_{max} V		
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



R 66 - AC 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).

- 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	
	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	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

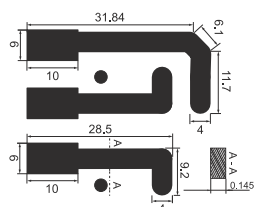
The component must be placed inside an enclosure that meets the general requirements for enclosures as per clause 6.3 of EN 60079-15. The connections must be made in compliance with the requirements of clause 7.2.4 or 7.2.5 of EN 60079-15.

Wiring

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

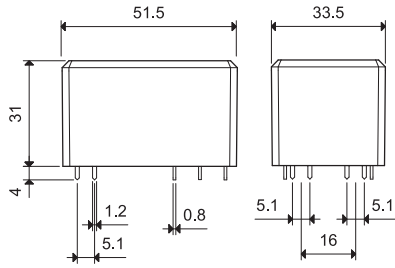
Layout pcb

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".

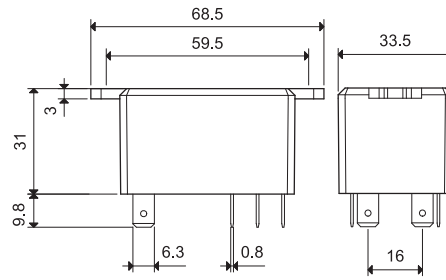


Outline drawings

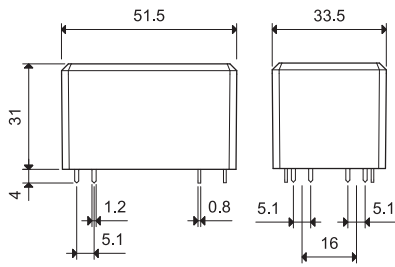
Type 66.22



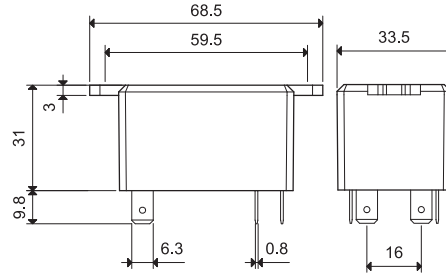
Type 66.82



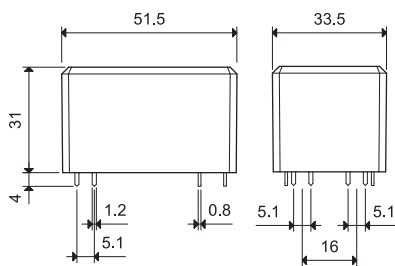
Type 66.22-0300



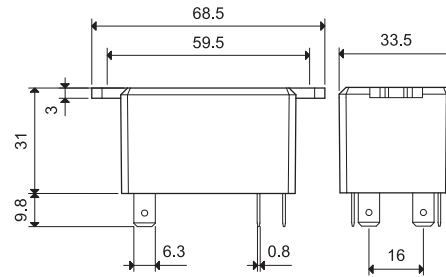
Type 66.82-0300



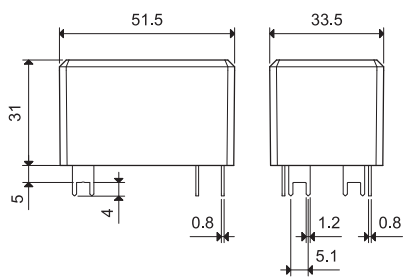
Type 66.22-0600



Type 66.82-0600



Type 66.22-0600S



Accessories



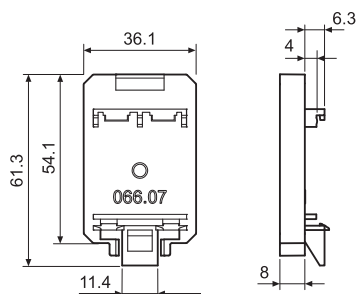
066.07

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

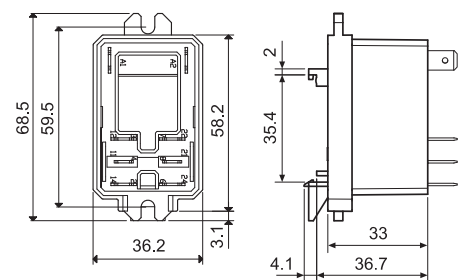
066.07



066.07 with relay



066.07



066.07 with relay

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