

## 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

For outline drawing see page 6

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 <sub>N</sub> )	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 <sub>N</sub>	(0.8...1.1)U <sub>N</sub>
	DC	(0.8...1.1)U <sub>N</sub>	(0.8...1.1)U <sub>N</sub>
Holding voltage	AC/DC	0.8 U <sub>N</sub> /0.5 U <sub>N</sub>	0.8 U <sub>N</sub> /0.5 U <sub>N</sub>
Must drop-out voltage	AC/DC	0.2 U <sub>N</sub> /0.1 U <sub>N</sub>	0.2 U <sub>N</sub> /0.1 U <sub>N</sub>

### Technical data

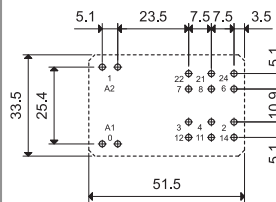
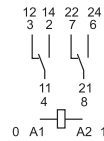
Mechanical life AC/DC	cycles	10 · 10 <sup>6</sup>	10 · 10 <sup>6</sup>
Electrical life at rated load AC1	cycles	100 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>
Operate/release time	ms	8/15	8/15
Insulation between coil and contacts (1.2/50 μs)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts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

Approvals (according to type)

## 66.22



- 30 A rated contacts
- PCB mount - bifurcated terminals

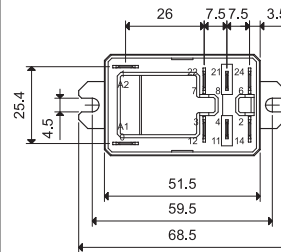
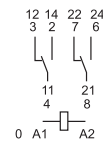


Copper side view

## 66.82



- 30 A rated contacts
- Flange mount
- Faston 250 connections



## 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

### 66.22-x300

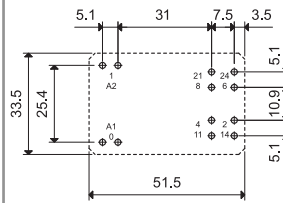
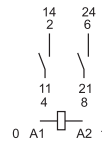
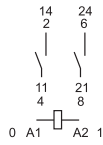


- 30 A rated contacts
- PCB mount - bifurcated terminals

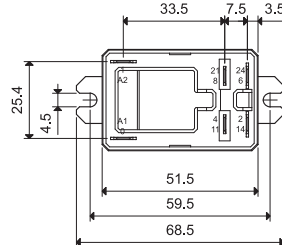
### 66.82-x300



- 30 A rated contacts
- Flange mount
- Faston 250 connections



Copper side view



For outline drawing see page 6

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

Contact specification		66.22-x300	66.82-x300
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		66.22-x300	66.82-x300
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	$(0.8 \dots 1.1) U_N$	$(0.8 \dots 1.1) U_N$
	DC	$(0.8 \dots 1.1) U_N$	$(0.8 \dots 1.1) U_N$
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		66.22-x300	66.82-x300
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 $\mu$ s)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1,500	1,500
Ambient temperature range	$^{\circ}$ C	-40...+70	-40...+70
Environmental protection		RT II	RT II
Approvals (according to type)		CE SF M RINA cRU <sup>®</sup> US VDE	

## Features

2 Pole NO (DPST-NO),  $\geq 1.5\text{mm}$  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

- $\geq 1.5\text{ mm}$  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

For outline drawing see page 6

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

### NEW 66.22-x600



- PCB mount - bifurcated terminals

### NEW 66.22-x600S

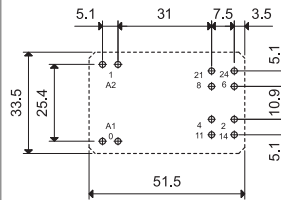
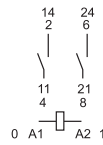


- PCB mount - bifurcated terminals
- 5 mm gap between PCB and relay base

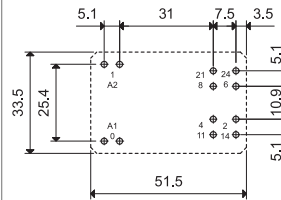
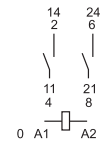
### NEW 66.82-x600



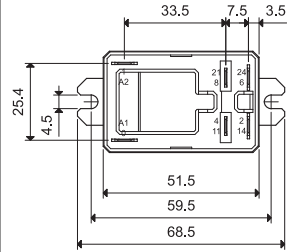
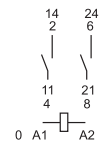
- Flange mount
- Faston 250 connections



Copper side view



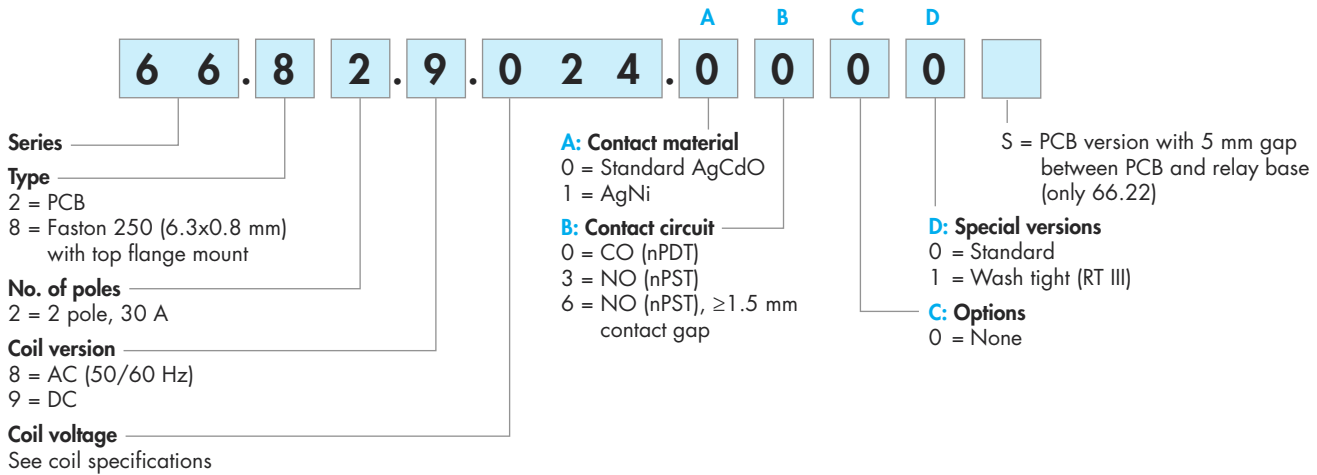
Copper side view



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	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	30/1.2/0.5	30/1.2/0.5	30/1.2/0.5
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	$(0.8 \dots 1.1)U_N$		
Holding voltage	AC/DC	$-/0.5 U_N$		
Must drop-out voltage	AC/DC	$-/0.1 U_N$		
Technical data				
Mechanical life	cycles	$10 \cdot 10^6$		
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$		
Operate/release time	ms	10/12		
Insulation between coil and contacts (1.2/50 $\mu\text{s}$ )	kV	6 (8 mm)		
Dielectric strength between open contacts	V AC	2,500		
Ambient temperature range	$^{\circ}\text{C}$	$-40 \dots +70$		
Environmental protection		RT II		
Approvals (according to type)				

## 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.



**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	<b>0</b> - 1	<b>0</b> - 3	<b>0</b>	0 - <b>1</b>
	DC	<b>0</b> - 1	<b>6</b>	<b>0</b>	0 - <b>1</b>
66.22....S	DC	<b>0</b> - 1	<b>6</b>	<b>0</b>	0 - <b>1</b>
66.82	AC-DC	<b>0</b> - 1	<b>0</b> - 3	<b>0</b>	<b>0</b> - 1
	DC	<b>0</b> - 1	<b>6</b>	<b>0</b>	<b>0</b> - 1

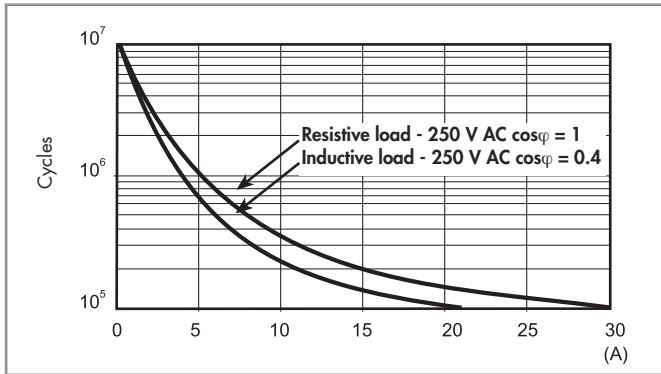
## Technical data

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 $\mu$ 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 $\mu$ s)	4	
Dielectric strength	V AC	2,500	
Insulation between open contacts			
Type of disconnection		<b>2 CO</b> <b>2 NO, <math>\geq 1.5</math>mm (x600 version)</b>	
Overvoltage category		Micro-disconnection      Full-disconnection *	
Rated impulse voltage	kV (1.2/50 $\mu$ s)	—      2.5	
Dielectric strength	V AC/kV (1.2/50 $\mu$ s)	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 $\mu$ 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	2.3
	with rated current	W	5
Recommended distance between relays mounted on PCB	mm	$\geq 10$	

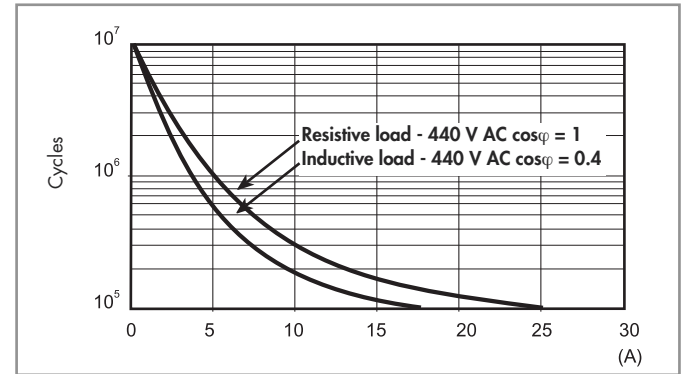
\* Only in applications where over voltage category II is permitted. In applications of over voltage category III: Micro-disconnection.

## Contact specification

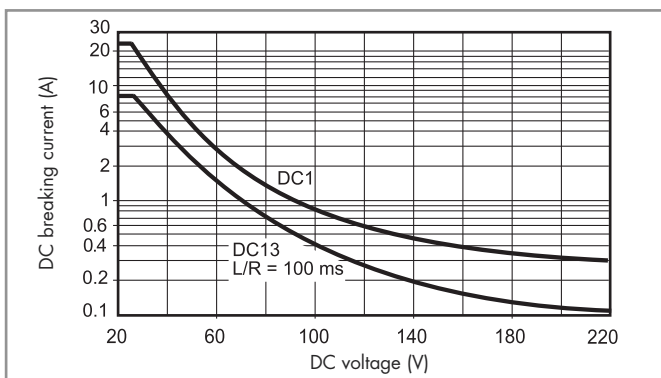
**F 66 - Electrical life (AC) v contact current**  
250 V (normally open contact)



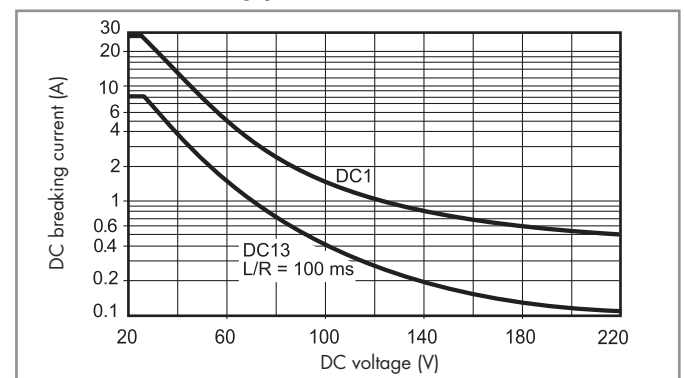
**F 66 - Electrical life (AC) v contact current**  
440 V (normally open contact)



**H 66 - Maximum DC breaking capacity**



**H 66 - Maximum DC breaking capacity, x600 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

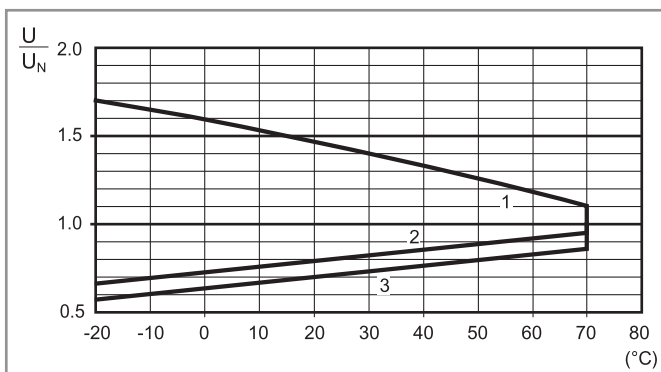
### DC coil data

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	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

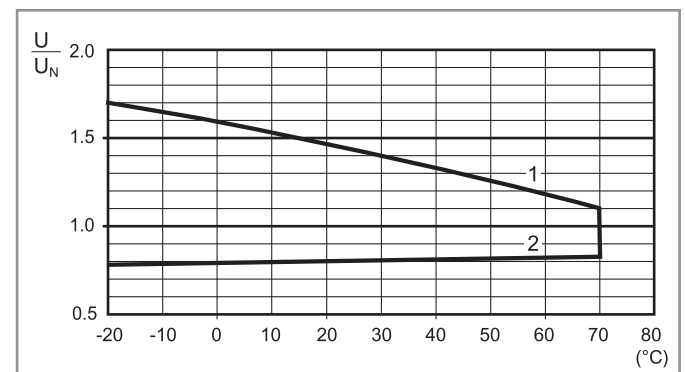
### AC coil data

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	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**

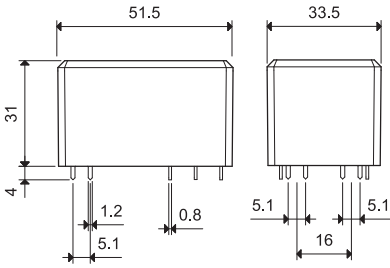


- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.
- 3 - Min. pick-up voltage with coil at ambient temperature (66.22-x600S).

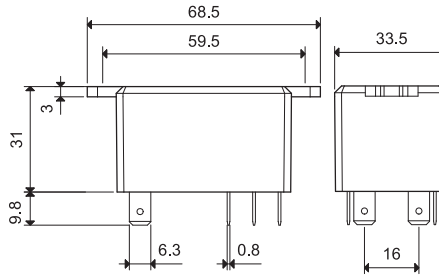
- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.

## Outline drawings

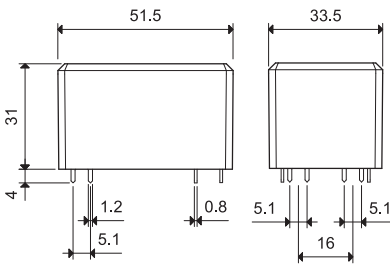
Type 66.22



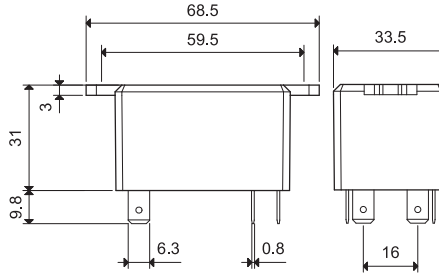
Type 66.82



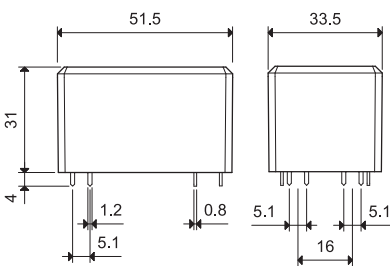
Type 66.22-0300



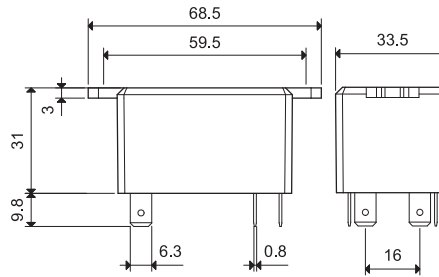
Type 66.82-0300



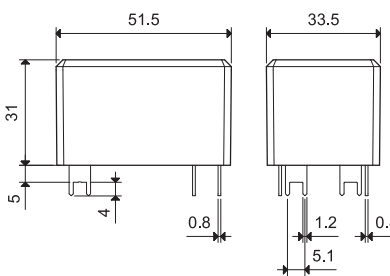
Type 66.22-0600



Type 66.82-0600



Type 66.22-0600S



## Accessories



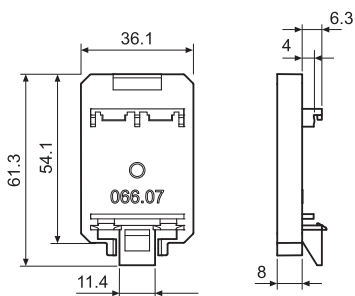
066.07



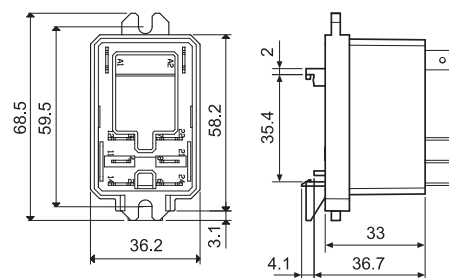
066.07 with relay

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

066.07



066.07



066.07 with relay