finder
SWITCH TO THE FUTURE

66
SERIES

Power relays 25 - 30 A
ATEX - HazLoc

2 Pole changeover (DPDT) and NO (DPST) 30 A ATEX - HazLoc Power Relay

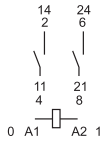
Type 66.82-xx03

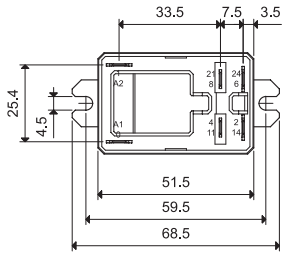
- Faston 250 connections and Flange mount

- 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 ec nC)
- **HazLoc** Class I Div. 2 Group A, B, C, D - T4 - T5 - T6

66.82-xx03

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





For outline drawing see page 10

Contact specification		
Contact configuration		2 CO (nPDT) or 2 NO (nPST)
Rated current/Maximum peak current	A	30/50 (NO) - 10/20 (NC)
Rated voltage/ Maximum switching voltage	V AC	250/440
Rated load AC1	VA	7500 (NO) - 2500 (NC)
Rated load AC15 (230 V AC)	VA	1200 (NO)
Single phase motor rating (230 V AC)	kW	1.5 (NO)
Breaking capacity DC1: 24/110/220 V	A	25/0.7/0.3
Minimum switching load	mW (V/mA)	1000 (10/10)
Standard contact material		AgCdO
Coil specification		
Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 110/115 - 120/125 - 230 - 240
	V DC	6 - 9 - 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	$10 \cdot 10^6$
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$
Operate/release time	ms	8/10
Insulation between coil and contacts (1.2/50 µs)	kV	6 (8 mm)
Dielectric strength between open contacts	V AC	1500
Ambient temperature range	°C	–40…+70
Environmental protection		RT II
Approvals (according to type)		

66 SERIES
Power relays 25 - 30 A - ATEX - HazLoc

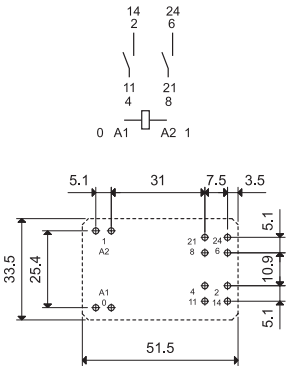
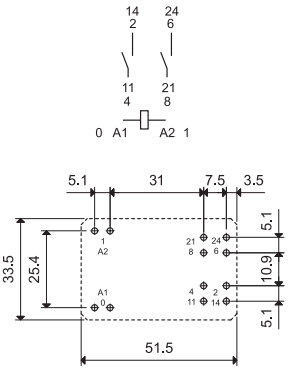
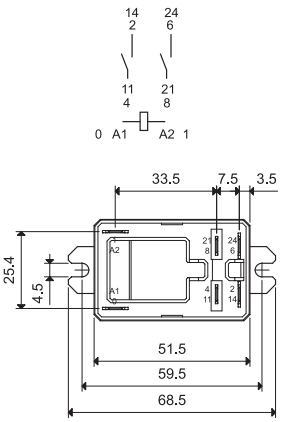
2 Pole for PCB or faston mounting ATEX - HazLoc Power Relay

Type 66.22-xx03S
- PCB mount 2 pole changeover (nPDT) 25 A or 2 pole NO (DPST) 25 A, 5 mm gap between PCB and relay base

Type 66.22-x603S
- PCB mount, 2 pole NO (nPST-NO) ≥ 1.5 mm contact gap 25 A Power relay, 5 mm gap between PCB and relay base

Type 66.82-x603
- Faston 250 connections and Flange mount, 2 pole NO (nPST-NO) ≥ 1.5 mm contact gap 30 A Power relay

- ≥ 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 ec nC)
- **HazLoc** Class I Div. 2 Group A, B, C, D - T4 - T5 - T6

	66.22-xx03S	**66.22-x603S**	**66.82-x603**
			
	• PCB mount - bifurcated terminals	• PCB mount - bifurcated terminals • 5 mm gap between PCB and relay base	• Flange mount • Faston 250 connections
			
For outline drawing see page 10	Copper side view	Copper side view	
Contact specification			
Contact configuration	2 NO (DPST-NO)	2 CO (nPDT) or 2 NO (nPST)	2 NO (nPST-NO)
Rated current/Maximum peak current A	25/50	25/50 (NO) - 10/20 (NC)	30/50 (NO) - 10/20 (NC)
Rated voltage/ Maximum switching voltage V AC	250/440	250/440	250/440
Rated load AC1 VA	7500	6250 (NO) - 2500 (NC)	7500 (NO) - 2500 (NC)
Rated load AC15 (230 V AC) VA	1200	1200 (NO)	1200 (NO)
Single phase motor rating (230 V AC) kW	1.5	1.5 (NO)	1.5 (NO)
Breaking capacity DC1: 24/110/220 V A	25/1.2/0.5	25/0.7/0.3 (NO)	25/0.7/0.3
Minimum switching load mW (V/mA)	1000 (10/10)	1000 (10/10)	1000 (10/10)
Standard contact material	$AgSnO_2$	AgCdO	AgCdO
Coil specification			
Nominal voltage (U_N) V DC	6 - 9 - 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)			

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Ordering information

Example: 66 series relay, Faston 250 (6.3 x 0.8 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	.	4	0	0	3	

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
2 = 2 pole 25 A (S version)

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

Coil voltage
See coil specifications

A: Contact material
0 = AgCdO
1 = AgNi
4 = Standard $AgSnO_2$

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

C: Options
0 = None

D: Special versions
3 = ATEX (Ex ec nC) and HazLoc Class I Div. 2 compliant

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

ATEX/HAZLOC versions: only combinations in the same row are possible.

Type	Coil version	A	B	C	D
66.22…S	DC	0 - 1	0 - 3 - 6	0	**3**
66.82	AC - DC	0 - 1	0 - 3	0	**3**
	DC	0 - 1	6	0	**3**

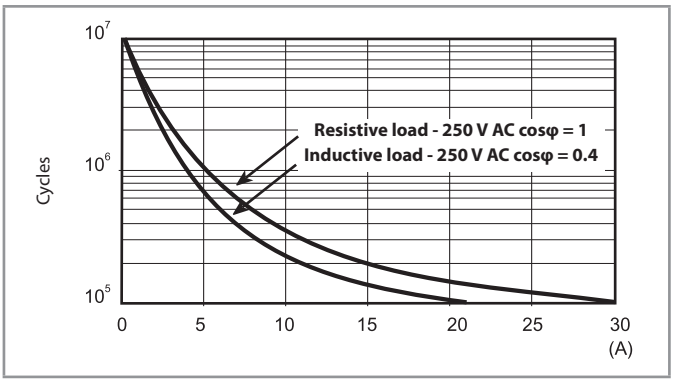
Technical data

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 (x603 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	

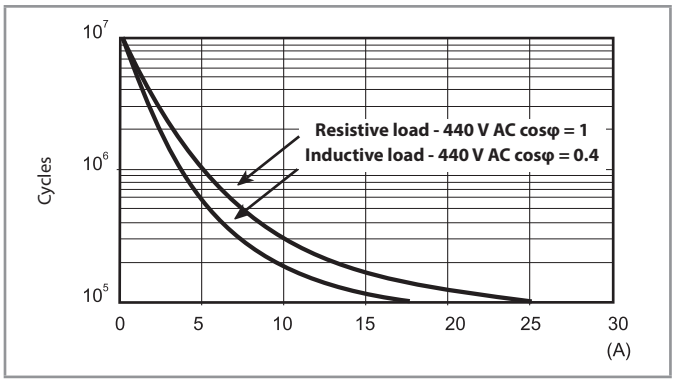
* Only in applications where over voltage category II is permitted. In applications of over voltage category III: Micro-disconnection.

Contact specification

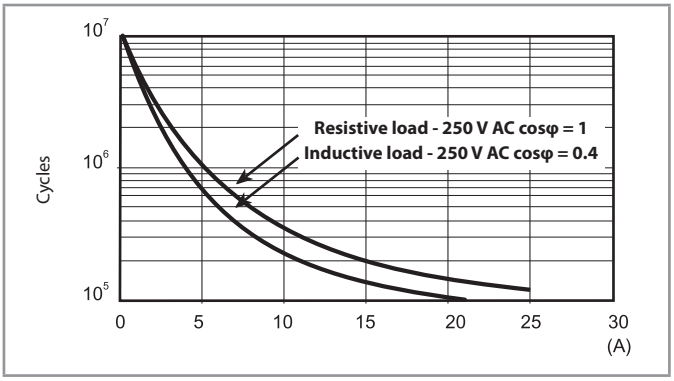
F 66-1 Electrical life (AC) v contact current - Type 66.82
250 V (normally open contact)



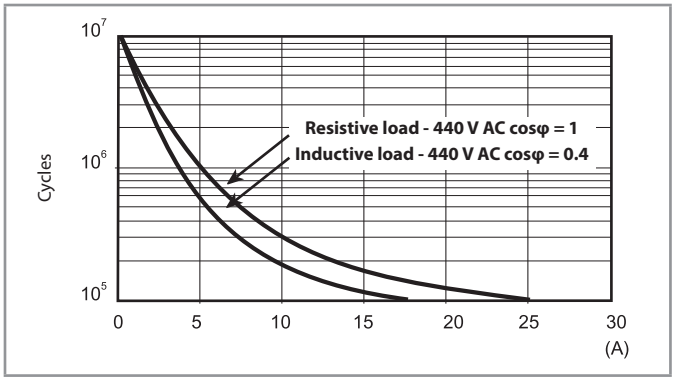
F 66-2 Electrical life (AC) v contact current - Type 66.82
440 V (normally open contact)



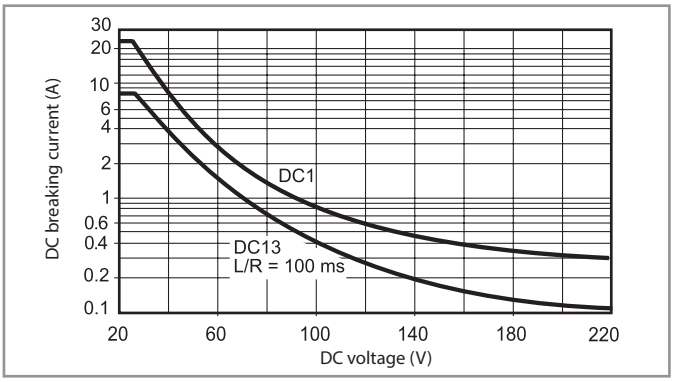
F 66-3 Electrical life (AC) v contact current - Type 66.22
250 V (normally open contact)



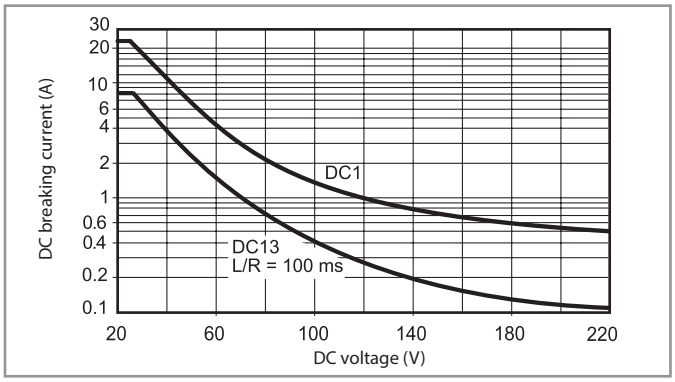
F 66-4 Electrical life (AC) v contact current - Type 66.22
440 V (normally open contact)



H 66-1 Maximum DC breaking capacity



H 66-2 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

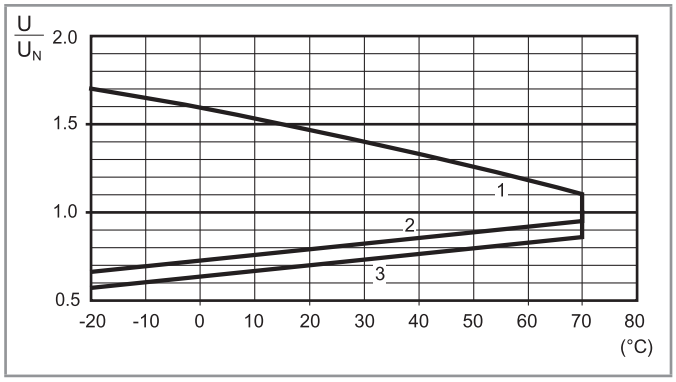
DC coil data

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
9	**9**.009	7.2	9.9	45	200
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

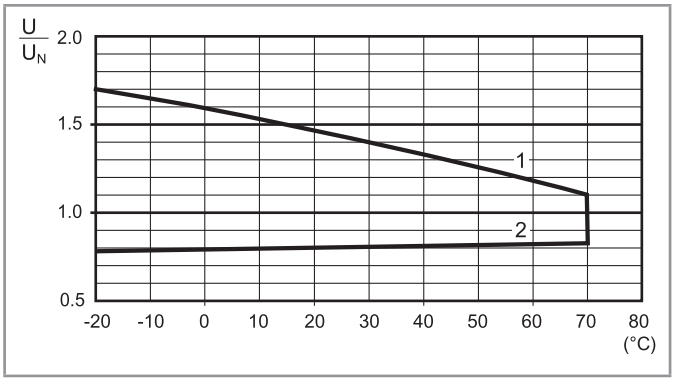
Nominal voltage	Coil code	Operating range		Resistance	Rated coil Consumption
U_N		U_{min}	U_{max}	R	I at U_N (50 Hz)
V		V	V	Ω	mA
6	**8**.006	4.8	6.6	3	600
12	**8**.012	9.6	13.2	11	300
24	**8**.024	19.2	26.4	50	150
110/115	**8**.110	88	126	930	32.6
120/125	**8**.120	96	137	1050	30
230	**8**.230	184	253	4000	15.7
240	**8**.240	192	264	5500	15

R 66-1 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-x603S)

R 66-2 AC coil operating range v ambient temperature



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

Special condition for safe use

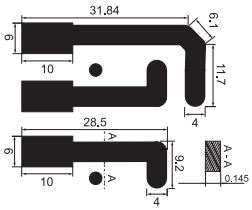
The component must be placed inside an enclosure that ensures a degree of protection IP 54 (or greater) according to standard EN 60529 and EN 60079-0 and that complies with the requirements of type of protection "Ex e" and EPL Gc (or better).

Wiring

The cross-section of conductors connected to the terminals, must be at least 4 mm^2 for the Type 66.82.
The connections must be made in compliance with the requirements of clause 4.2 of EN IEC 60079-7:2015+A1:2018.

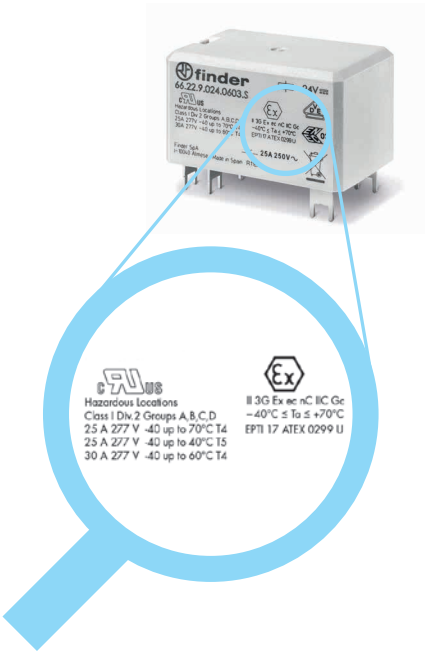
Layout pcb

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 4.01 mm for Type 66.22…S.



Markings - ATEX versions - ATEX, II 3G Ex ec 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
	Ex ec Increased safety (type of protection for category 3G)
	Ex nC Sealed device (type of protection for category 3G)
	IIC Gas group
	Gc Equipment Protection Level
–40 °C ≤ Ta ≤ +70 °C Ambient temperature	
EPTI 17 ATEX 0299 U EPTI: laboratory which issues the voluntary type certificate 17: year of issue of certificate 0299: number of CE type certificate	
U: Ex component	
Xyy: production batch identification (X year, yy week)	



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Markings - Hazardous Location Class I Div. 2 Goups A, B, C, D - T4 - T5 - T6 and other data

HazLoc Class I Div. 2 Group A, B, C, D - T4 - T5 - T6	Meaning
Class I	Areas in which flammable gases and vapours may be present
Div. 2	Low probability to find ignitable concentration of hazards because are typically present in containers or closed systems from which can escape through their accidental rupture or breakdown
Group A, B, C, D	Kind of combustible, flammable gases and vapours can be in the atmosphere.

Permissible Surface temperature		
T4	135 °C	275 °F
T5	100 °C	212 °F
T6	85 °C	185 °F

Model	T4				
	Type of load	Voltage	Current/Power	Temperature °C	Note
66.22	DC General Use Res Heating	30 V	25 A	–40…+70	only 66.xx.9.x6x3
66.22/66.82	AC Motor Starting, Discharge Lamps Break All lines	240 V	2 Hp	–40…+70	12FLA/69 LRA
		120 V	1 Hp	—	16FLA/96 LRA
		120 V	1/2 Hp	—	9.8FLA/58.8 LRA

Model	T5				
	Type of load	Voltage	Current/Power	Temperature °C	Note
66.22.x.xxx.xxx3S	DC General Use Res Heating	30 V	30 A	–40…+60	only 66.xx.9.x6x3
	AC Motor Starting, Discharge Lamps Break All lines	240 V	2 Hp	–40…+60	12FLA/69 LRA
		120 V	1 Hp		16FLA/96 LRA
		120 V	1/2 Hp		9.8FLA/58.8 LRA
	T6				
	Type of load	Voltage	Current	Temperature °C	—
	AC General Use	277 V	10 A (NC)	–40…+70	—

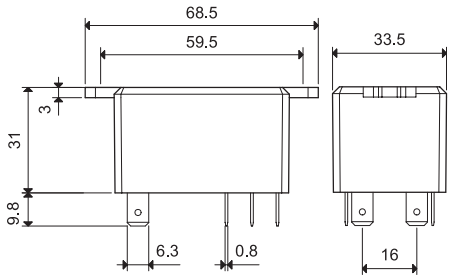
Model	T5				
	Type of load	Voltage	Current/Power	Temperature °C	Note
66.82.x.xxx.xxx3S	AC General Use	277 V	25 (NO)	–40…+40	—
	DC General Use	30 V	30 A	–40…+60	only 66.xx.9.x6x3
	AC Motor Starting, Discharge Lamps Break All lines	240 V	2 Hp	–40…+60	12FLA/69 LRA
		120 V	1 Hp		16FLA/96 LRA
		120 V	1/2 Hp		9.8FLA/58.8 LRA
	T6				
	Type of load	Voltage	Current	Temperature °C	—
	AC General Use	277 V	10 A (NC)	–40…+70	—

HazLoc - Electrical characteristics

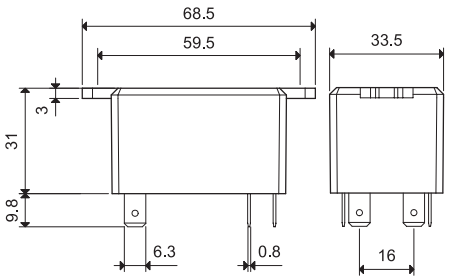
Contact specification HazLoc		HazLoc Class I Div. 2 T4 @ 60°C	HazLoc Class I Div. 2 T4 @ 70°C
Rated current/Maximum peak current	A	30/50 (NO) - 10/20 (NC)	25/50 (NO) - 10/20 (NC)
Rated voltage/Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	7500 (NO) - 2500 (NC)	6250 (NO) - 2500 (NC)
Rated load AC15	VA	1200 (NO)	1200 (NO)
Capacity for single phase motor (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)
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	

Outline drawings

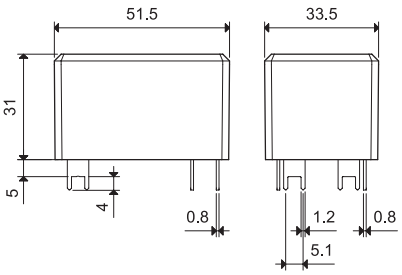
Type 66.82-x003



Type 66.82-x303/66.82-x603



Type 66.22-xx03S/66.22-x603S

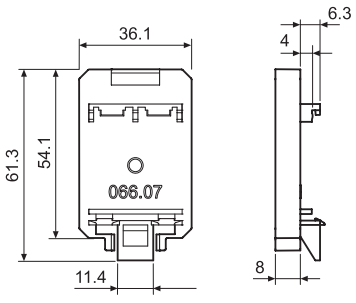


Accessories

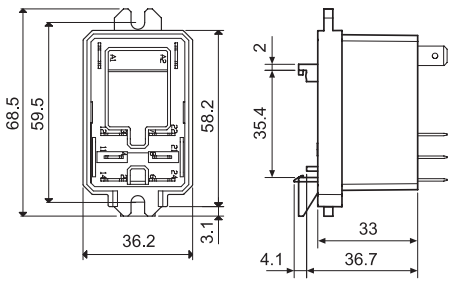
066.07

066.07 with relay

Top 35 mm rail (EN 60715) mount for types 66.82.xxxx.xxx3	066.07



066.07



066.07 with relay

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