

# Power relays 30 A



Power generators



Industrial washing machines



Burners, boilers and furnaces



Industrial furnaces and ovens



Air conditioners



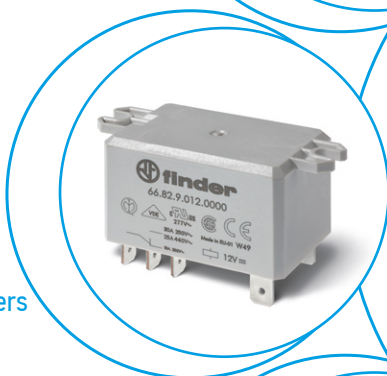
Hoists and cranes



Back-up generators



Industrial motors





**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\*
- HazLoc** Class I Div. 2 Group A, B, C, D - T4 - T5 - T6 option available\*

\* Characteristics page 8, 9

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

For outline drawing see page 10

**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 <sub>N</sub> )	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	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**

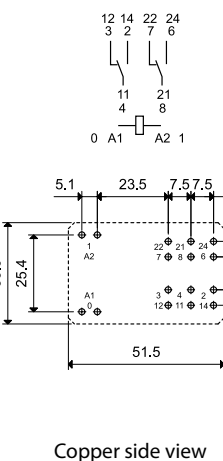
Mechanical life AC/DC	cycles	10 · 10 <sup>6</sup>	10 · 10 <sup>6</sup>
Electrical life at rated load AC1	cycles	100 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>
Operate/release time	ms	8/15	8/15
Insulation between coil and contacts (1.2/50 μs)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1500	1500
Ambient temperature range	°C	-40...+70	-40...+70
Environmental protection		RT II	RT II

**Approvals** (according to type)



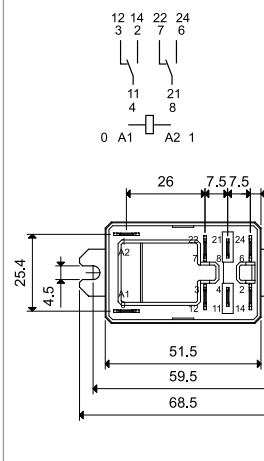
**66.22**

- 30 A rated contacts
- PCB mount - bifurcated terminals



**66.82**

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



A

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

**Type 66.22-x30x**

- PCB mount

**Type 66.82-x30x**

- 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\*
- **HazLoc** Class I Div. 2 Group A, B, C, D - T4 - T5 - T6 option available\*

\* Characteristics page 8, 9

FOR UL RATINGS SEE:

"General technical information" page V

For outline drawing see page 10

**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 <sub>N</sub> )	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	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	8/10	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

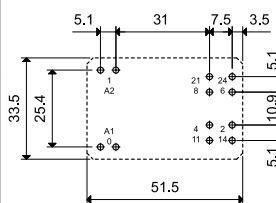
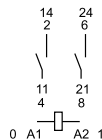
**Approvals** (according to type)



**66.22-x30x**



- 30 A rated contacts
- PCB mount - bifurcated terminals

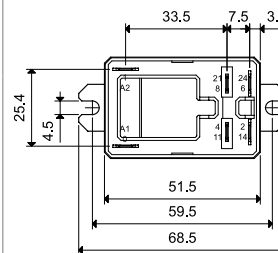
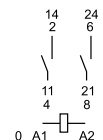


Copper side view

**66.82-x30x**



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



**2 Pole NO (DPST-NO),  $\geq 1.5$  mm contact gap  
30 A Power relay**

**Type 66.22-x60x**

- PCB mount

**Type 66.22-x60xS**

- PCB mount, 5 mm gap between PCB and relay base

**Type 66.82-x60x**

- Faston 250 connections and Flange mount

- $\geq 1.5$  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\*
- **HazLoc** Class I Div. 2 Group A, B, C, D - T4 - T5 - T6 option available\*

\* Characteristics page 8, 9

FOR UL RATINGS SEE:

"General technical information" page V

For outline drawing see page 10

**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

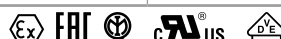
**Coil specification**

Nominal voltage ( $U_N$ )	V AC (50/60 Hz)	—		
	V DC	6 - 9 - 12 - 24 - 110 - 125		
Rated power AC/DC	VA (50 Hz)/W	—/1.7	—/1.7	—/1.7
Operating range	AC	—		
	DC	$(0.8 \dots 1.1) U_N$		
Holding voltage	AC/DC	$—/0.5 U_N$		
Must drop-out voltage	AC/DC	$—/0.1 U_N$		

**Technical data**

Mechanical life	cycles	$10 \cdot 10^6$	$10 \cdot 10^6$	$10 \cdot 10^6$
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 $\mu$ s)	kV	6 (8 mm)	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	2500	2500	2500
Ambient temperature range	$^{\circ}$ C	-40...+70	-40...+70	-40...+70
Environmental protection		RT II	RT II	RT II

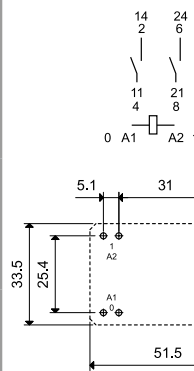
**Approvals** (according to type)



**66.22-x60x**



- PCB mount - bifurcated terminals

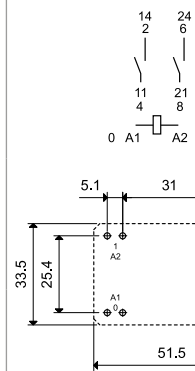


Copper side view

**66.22-x60xS**



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

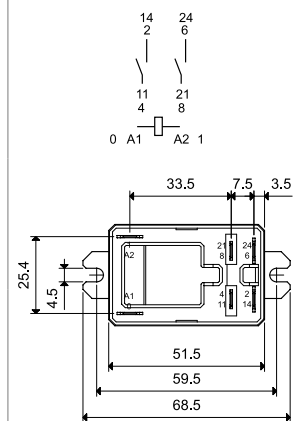


Copper side view

**66.82-x60x**



- Flange mount
- Faston 250 connections



## 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 (6.3 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

S = PCB version with 5 mm gap between PCB and relay base (only 66.22 and Atex/HazLoc versions)  
**D: Special versions**  
 0 = Standard  
 1 = Wash tight (RT III)  
 3 = Atex (Ex nC) and HazLoc Class I Div. 2 compliant  
**C: Options**  
 0 = None

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

## Technical data

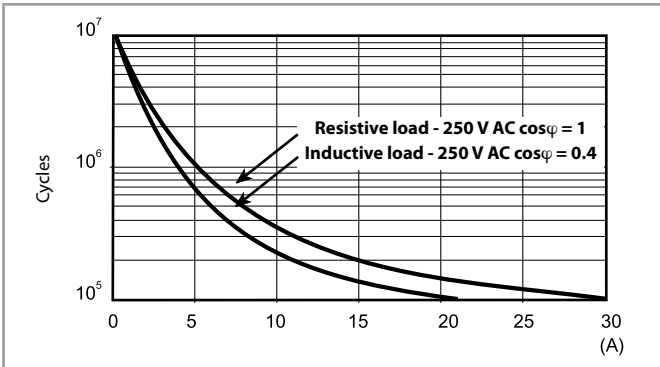
### Insulation according to EN 61810-1

Nominal voltage of supply system	V AC	230/400
Rated insulation voltage	V AC	400
Pollution degree		3
<b>Insulation between coil and contact set</b>		
Type of insulation		Reinforced (8 mm)
Overvoltage category		III
Rated impulse voltage	kV (1.2/50 μs)	6
Dielectric strength	V AC	4000
<b>Insulation between adjacent contacts</b>		
Type of insulation		Basic
Overvoltage category		III
Rated impulse voltage	kV (1.2/50 μs)	4
Dielectric strength	V AC	2500
<b>Insulation between open contacts</b>		
Type of disconnection		<b>2 CO</b> Micro-disconnection
Overvoltage category		<b>2 NO, ≥ 1.5 mm (x60x version)</b> Full-disconnection*
Rated impulse voltage	kV (1.2/50 μs)	—
Dielectric strength	V AC/kV (1.2/50 μs)	1500/2
<b>Insulation between coil terminals</b>		
Rated impulse voltage (surge) differential mode (according to EN 61000-4-5)	kV (1.2/50 μs)	4
<b>Other data</b>		
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
Recommended distance between relays mounted on PCB	mm	≥ 10

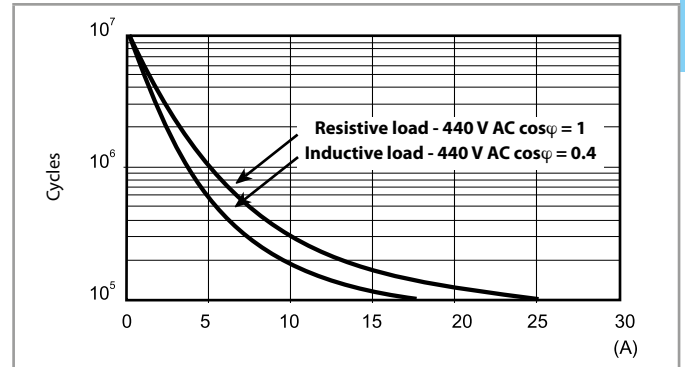
\* Only in applications where over voltage category II is permitted. In applications of over voltage category III: Micro-disconnection.

### Contact specification

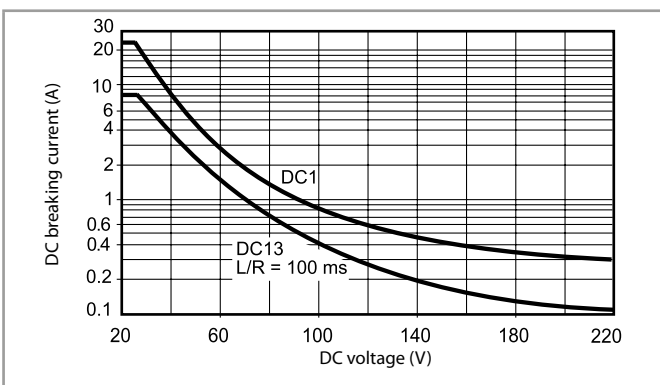
**F 66 - Electrical life (AC) v contact current**  
250 V (normally open contact)



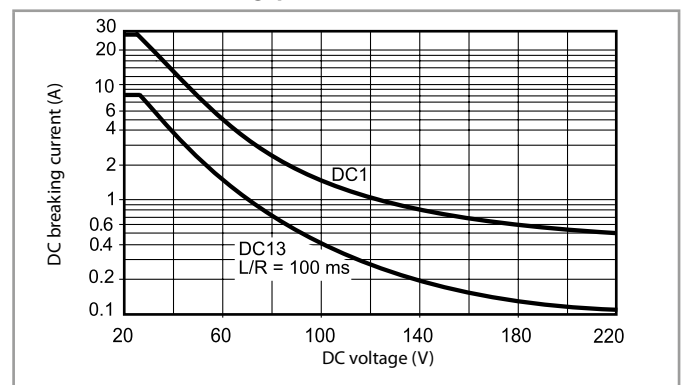
**F 66 - Electrical life (AC) v contact current**  
440 V (normally open contact)



**H 66 - Maximum DC breaking capacity**



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

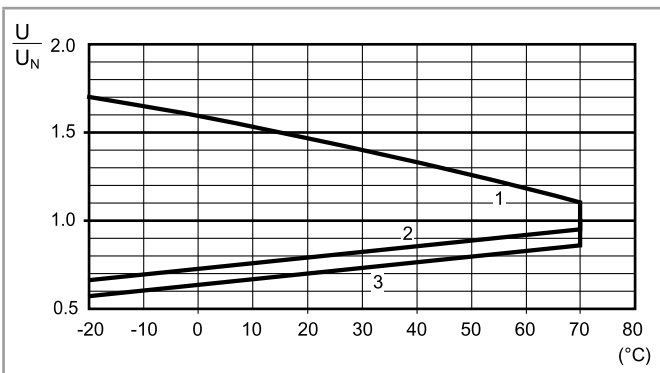
#### DC coil data

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
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

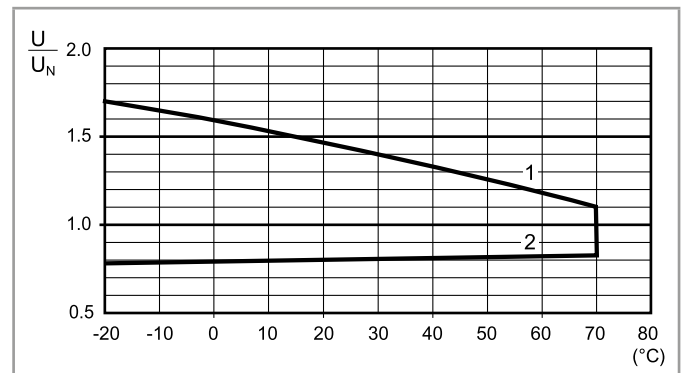
#### AC coil data

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil Consumption I at $U_N$ (50 Hz) 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	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**



**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-x60x5)

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

## ATEX - Electrical characteristics

Contact specification ATEX		Ex application
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 <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
Operating range	AC/DC	(0.8...1.1)U <sub>N</sub>
General characteristics		
Ambient temperature	°C	-40...+70

## Special condition for safe use

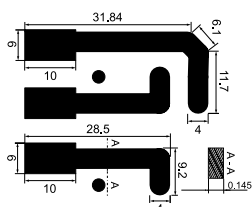
The component must be placed inside an enclosure that meets the general requirements for enclosures as per clause 6.3 of EN 60079-15. The connections must be made in compliance with the requirements of clause 7.2.4 or 7.2.5 of EN 60079-15.

## Wiring


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

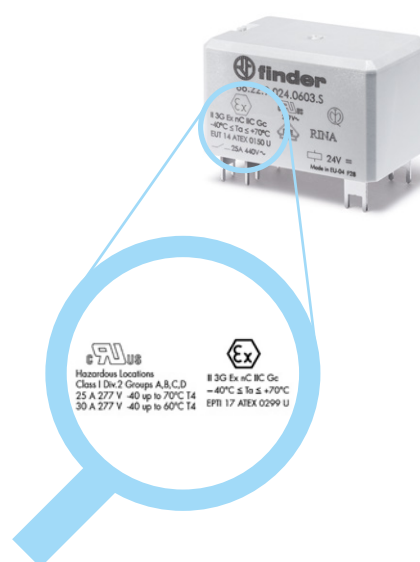
## Layout pcb

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



## Markings - ATEX versions - ATEX, II 3G Ex nC IIC Gc

MARKING	
	Specific marking of explosion protection
<b>II</b>	Component for surface plant (different from mines)
<b>3</b>	Category 3: normal level of protection
<b>GAS</b>	<b>G</b> Explosive atmosphere due to presence of combustible gas vapour or mist
	<b>Ex nC</b> Sealed device (type of protection for category 3G)
	<b>IIC</b> Gas group
	<b>Gc</b> Equipment Protection Level
<b>-40 °C ≤ Ta ≤ +70 °C</b> Ambient temperature	
<b>EPTI 17 ATEX 0299 U</b> EPTI: laboratory which issues the CE type certificate 17: year of issue of certificate 0299: number of CE type certificate U: ATEX component	





## Markings - Hazardous Location Class I Div. 2 Groups 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

A

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.xxx3 x	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.xxx3 x	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	—

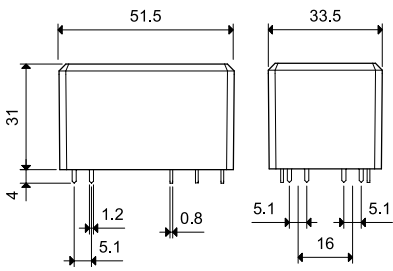
## HazLoc - Electrical characteristics

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 <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	
Operating range	AC/DC	(0.8...1.1)U <sub>N</sub>	
General characteristics			
Ambient temperature	°C	-40...+70	

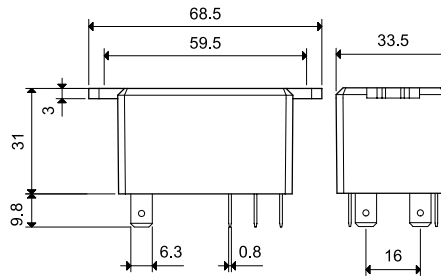
## Outline drawings

A

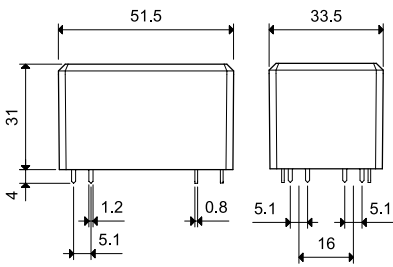
Type 66.22



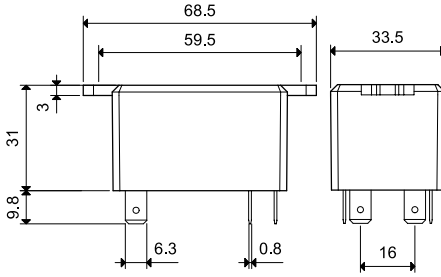
Type 66.82



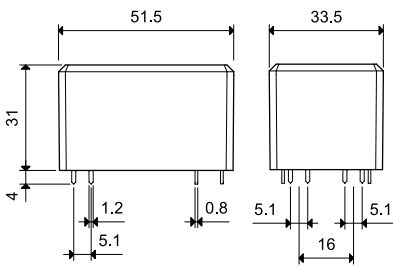
Type 66.22-0300



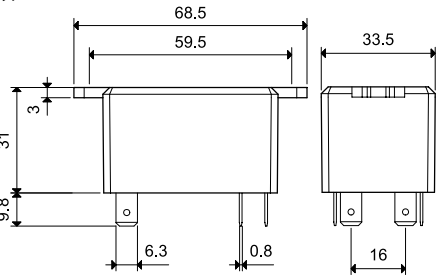
Type 66.82-0300



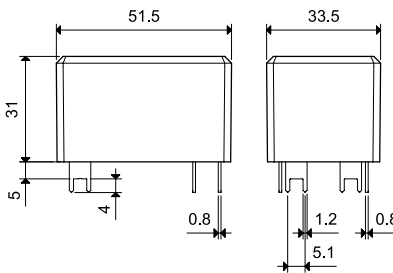
Type 66.22-0600



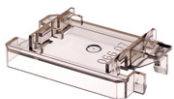
Type 66.82-0600



Type 66.22-0600S



## Accessories



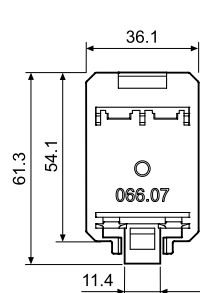
066.07



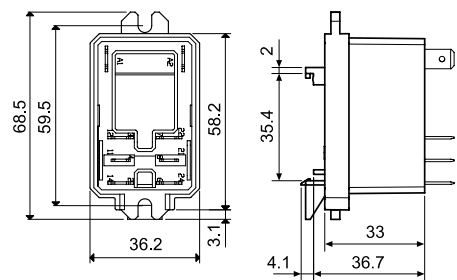
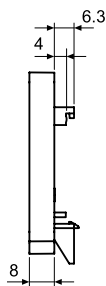
066.07 with relay

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

066.07



066.07



066.07 with relay

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [General Purpose Relays](#) category:*

*Click to view products by [Finder](#) manufacturer:*

Other Similar products are found below :

[PCN-105D3MH,000](#) [59641F200](#) [5JO-1000CD-SIL](#) [5X827E](#) [5X837F](#) [5X840F](#) [5X842F](#) [5X848E](#) [LY2N-AC120](#) [LY2-US-AC120](#) [M115C60](#)  
[M115N010](#) [M115N0150](#) [603-12D](#) [60HE1-5DC](#) [60HE2S-12DC](#) [61211T0B4](#) [61212T400](#) [61222Q400](#) [61243B600](#) [61243C500](#) [61243Q400](#)  
[61311BOA2](#) [61311BOA6](#) [61311BOA8](#) [61311C0A2](#) [61311COA1](#) [61311COA6](#) [61311F0A2](#) [61311QOA1](#) [61311QOA4](#) [61311T0D6](#)  
[61311TOA6](#) [61311TOA7](#) [61311TOB3](#) [61311TOB4](#) [61311U0A6](#) [61312Q600](#) [61312T400](#) [61312T600](#) [61313U200](#) [61313U400](#) [61322T400](#)  
[61332C400](#) [61343C200](#) [61343C600](#) [61343Q200](#) [61343T100](#) [61343T200](#) [61343T400](#)