

# CS30/CF30



## Power Relays



### Benefits

- **Wide product range.** CF/CS are available for PCB or Fast-on terminal, with 2 normally open contact (DPST) or 2 change over contact (DPDT) versions.
- **Wide coil voltage range.** Coil voltage range from 6 VDC up to 277 VAC.
- **High performance.** CF/CS30 series offers capacity 30 A, with reinforced insulation 4 kV / 8 mm (0.31").
- **Wide applications range.** General purpose, power loads, compressor control, hazard of explosive atmospheres and flammable refrigerants applications. Can be also used in applications using A2L and A3 refrigerants.
- **Complete approvals.** CF30/CS30 series meets CE, UL508, ATEX TUV and NWFR UL.

### Description

High output power relay. It is sealed and designed for power loads, compressor control, vending machines and hazardous applications.

### Applications

The CS30/CF30 relays can be used for a wide range of industrial applications. The markets of interest are all Building and industrial automation, including applications with risks due to explosive atmospheres and flammable refrigerants.

### Main functions

- Switching with 30A capacity of power loads, for compressor control, and management of applications with risks of explosive atmospheres and flammable refrigerants
- Wide voltage coil range, DC coils 6 to 48 VDC and AC coils 24 to 277 VAC
- Wide applications range with PCB or Fast-on terminal, and with 2 normally open contacts or 2 change over contacts
- Robustness and reliability due to standard sealing, reinforced insulation 4 kV / 8 mm (0.31"), CE, UL, ATEX approvals, class F construction

## References

 Order code

 C  30     AX

Enter the code entering the corresponding option instead of

Code	Option	Description	Notes
C	-	Relay family	
<input type="checkbox"/>	S	Soldering	Terminal version
	F	Fast-on	
30	-	30A	Contact rating
<input type="checkbox"/>	A	AC	Coil version
	D	DC	
<input type="checkbox"/>	002	2 change over contact (DPDT)	Contact form
	200	2 normally open contact (DPST)	
<input type="checkbox"/>	6	6 VDC	Rated coil voltage (DC coil)
	12	12 VDC	
	24	24 VDC	
	48	48 VDC	
<input type="checkbox"/>	24	24 VAC	Rated coil voltage (AC coil)
	120	120 VAC	
	220	220 VAC (only for 50Hz)	
	240	240 VAC	
	277	277 VAC	
AX	-	ATEX and NWFR	Hazard of explosive atmospheres and flammable refrigerants approvals.

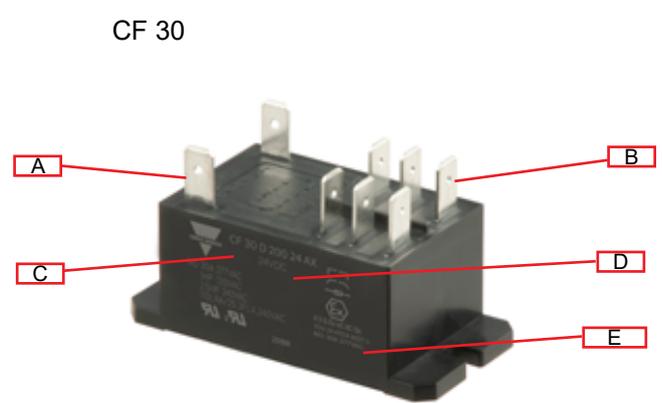
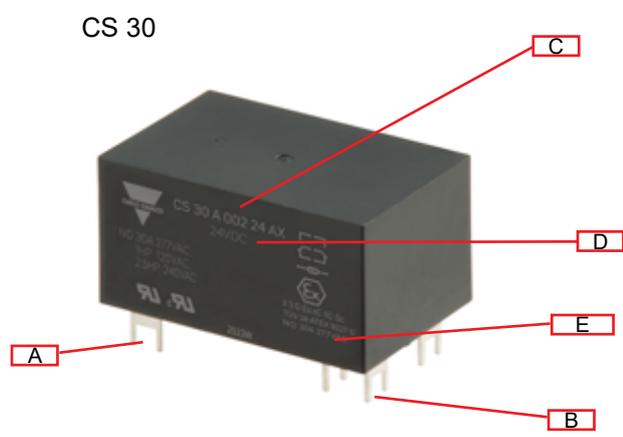
## Selection guide

Relay Coil Voltage	AC		DC	
	002	200	002	200
6	-	-	CF30D0026AX	CF30D2006AX
12	-	-	CF30D00212AX CS30D00212AX	CF30D20012AX CS30D20012AX
24	CF30A00224AX CS30A00224AX	CF30A20024AX CS30A20024AX	CF30D00224AX CS30D00224AX	CF30D20024AX CS30D20024AX
48	-	-	CF30D00248AX CS30D00248AX	CF30D20048AX CS30D20048AX
120	CF30A002120AX CS30A002120AX	CF30A200120AX CS30A200120AX	-	-
220	CF30A002220AX	-	-	-
240	CF30A002240AX CS30A002240AX	CF30A200240AX CS30A200240AX	-	-
277	CF30A002277AX	CF30A200277AX	-	-

## Further reading

Information	Where to find it	QR
Datasheet	<a href="https://www.gavazziautomation.com/fileadmin/images/PIM/DATASHEET/ENG/CS30/CS30_DS_EN.pdf">https://www.gavazziautomation.com/fileadmin/images/PIM/DATASHEET/ENG/CS30/CS30_DS_EN.pdf</a>	

# Structure



Element	
A	Terminals for coil
B	Terminals for contacts
C	Part number
D	Coil version
E	Approval logos

## Features

### ▶ Coil data, DC @ +20°C (+68°F)

	CF/CS 30..6AX	CF/CS 30..12AX	CF/CS 30..24AX	CF/CS 30..48AX
Coil voltage	6 VDC	12 VDC	24 VDC	48 VDC
Pick-up voltage	4.5 VDC	9.0 VDC	18.0 VDC	36 VDC
Drop-out voltage	0.6 VDC	1.2 VDC	2.4 VDC	4.8 VDC
Maximum Voltage	9.6 VDC	19.2 VDC	38.4 VDC	76.8 VDC
Coil resistance $\Omega \pm 10\%$	22	86	350	1390

### ▶ Coil data, AC @ +20°C (+68°F) 50 / 60Hz

	CF/CS 30..24AX	CF/CS 30..120AX	CF/CS 30..220AX	CF/CS 30..240AX	CF/CS 30..277AX
Coil voltage	24 VAC	120 VAC	220 <sup>1</sup> VAC	240 VAC	277 VAC
Pick-up voltage	19.2 VAC	96 VAC	175 VAC	192 VAC	211.6 VAC
Drop-out voltage	4.8 VAC	24 VAC	44 VAC	48 VAC	55.4 VAC
Maximum Voltage	26.4 VAC	132 VAC	242 VAC	264 VAC	304.7 VAC
Coil resistance $\Omega \pm 10\%$	37.5	950	3800	3800	5485

1. Only 50 Hz

### ▶ Environmental specifications

	AC	DC
Ambient temperature	-40 °C to 65 °C (-40° to 149 °F)	-40 °C to 85 °C (-40° to 185 °F)
Maximum coil temperature rise value	AC type: 90K max.	DC type: 70K max.
Humidity	5 to 85%RH	
Shock resistance: Functional Destructive	98 m/s <sup>2</sup> - 10 G 980 m/s <sup>2</sup> - 100 G	98 m/s <sup>2</sup> - 10 G 980 m/s <sup>2</sup> - 100 G
Vibration resistance	10HZ~55HZ 1.65mm DA	
Weight	~ 86 g (~3.03 oz)	~ 86 g (~3.03 oz)
Nominal coil power	Approx. 4.0 W	Approx. 1.7 W

## Contacts data

	CF/CS30x200xx / CF/CS30x002xx	
	(NO)	(NC)
Maximum switching current	30 A	3 A
Maximum switching power	8310 VA	831 VA
Maximum switching voltage	277 VAC	277 VAC
Initial contact resistance	50 mΩ at 1A - 24 VDC)	50 mΩ at 1A - 24 VDC
Material	AgSnO <sub>2</sub>	AgSnO <sub>2</sub>
Electrical durability	1 x 10 <sup>5</sup> Ops (NO: 30A 277VAC, Resistive load, Room temp, 1s on 9s off) 1 x 10 <sup>5</sup> Ops (NC: 3A 277VAC, Resistive load, Room temp, 1s on 9s off)	
Mechanical durability	5 x 10 <sup>6</sup> Ops	
Operate time	25ms (DC type)	
Release time	25ms (DC type)	
Contact Rating	30 A - 277 VAC	3 A - 277V AC
UL rating	30 A - 277 VAC 2.5 HP - 240 VAC 1 HP - 120 VAC 110 LRA / 25.3 FLA DC type	3 A - 277 VAC
Vibration resistance	1.65 mm (0.06") p.p 10 to 55 Hz	
Enclosure	IP 67 Sealed	IP 67 Sealed
Test voltage (1 min) Open contacts Contacts / coil Contact / poles	1500VAC 4000VAC 2000VAC	
Surge voltage Contact / coil	10000 VAC	10000 VAC
Initial insulation resistance @ 500 VDC	1000 MΩ	1000 MΩ

## Compatibility and conformity

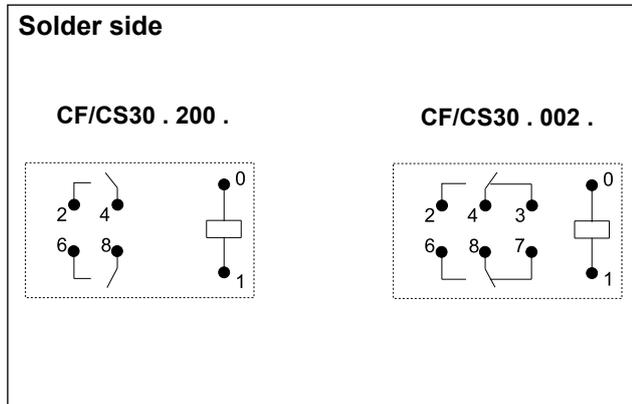
CE (RoHS, LVD)	IEC 61810
UL certification	UL508, ATEX TUV and NWFR UL

## Installation

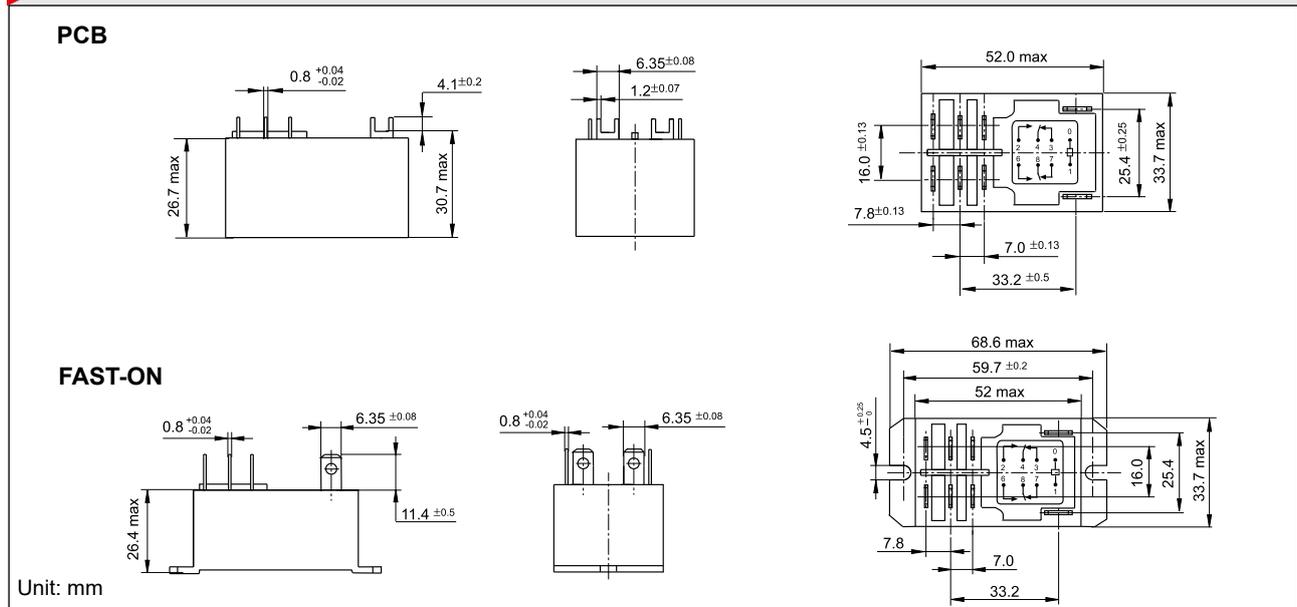
Mounting	PCB or Fast-on terminal
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# Connection diagram

## Contacts layout



## Dimensions and Pin view



▶ Diagram

