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	
☐	S	Soldering	Terminal version
	F	Fast-on	
30	-	30A	Contact rating
☐	A	AC	Coil version
	D	DC	
☐	002	2 change over contact (DPDT)	Contact form
	200	2 normally open contact (DPST)	
☐	6	6 VDC	Rated coil voltage (DC coil)
	12	12 VDC	
	24	24 VDC	
	48	48 VDC	
☐	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

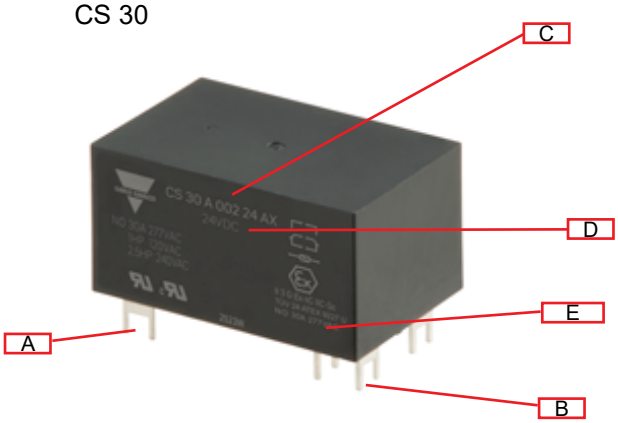
	AC		DC	
Relay Coil Voltage	**002**	**200**	**002**	**200**
6	-	-	CF30D0026AX	CF30D2006AX
12	-	-	CF30D00212AX CS30D00212AX	CF30D20012AX CS30D20012AX
24	CF30A00224AX CS30A00224AX	CF30A20024AX CS30A20024AX	CF30D00224AX CS30D00224AX	CF30D20024AX CS30D20024AX
48	-	-	CF30D00248AX CS30D00248AX	CF30D20048AX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

Further reading

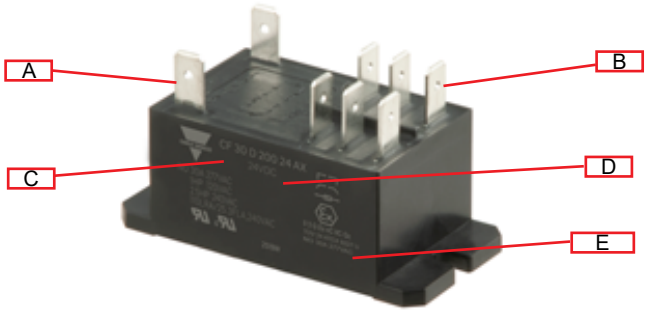
Information	Where to find it	QR
Datasheet	https://www.gavazziautomation.com/fileadmin/images/PIM/DATASHEET/ENG/CS30/CS30_DS_EN.pdf	

Structure

CS 30



CF 30



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 Ω ±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 [1] 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 Ω ±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/s² - 10 G 980 m/s² - 100 G	 98 m/s² - 10 G 980 m/s² - 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	$AgSnO_2$	$AgSnO_2$
Electrical durability	1 x 10^5 Ops (NO: 30A 277VAC, Resistive load, Room temp, 1s on 9s off) 1 x 10^5 Ops (NC: 3A 277VAC, Resistive load, Room temp, 1s on 9s off)	
Mechanical durability	5 x 10^6 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 (LVD) **CE (RoHS)** **ATEX (TUV)** **GWT 750**	IEC 61810 IEC/EN 63000 Hazard of explosive atmospheres applications, IEC/EN 60079-15 Compliance with IEC/EN 60335-1 HVAC with flammable refrigerant permitted
UL certification	NWFR and NLDX NWFR (UL - Magnetic Motor Controllers for Use in Zone Classified Hazardous Locations, flammable refrigerants applications, listed under the NCKL2 UL category / NCKL8 Canada, A2L and A3 standards): UL 60079-15 NLDX (Industrial Control Equipment / Motor Controllers / Motor Controllers / Magnetic: UL 60947

Installation

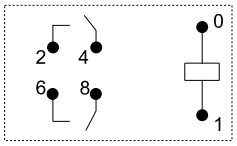
Mounting	PCB or Fast-on terminal

Connection diagram

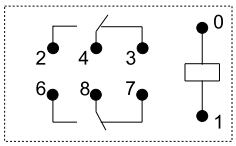
Contacts layout

Solder side

CF/CS30 . 200 .

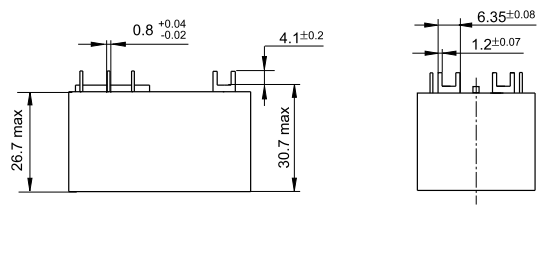


CF/CS30 . 002 .

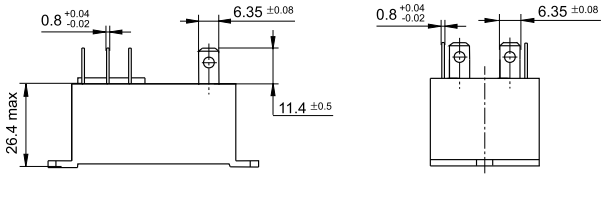


Dimensions and Pin view

PCB

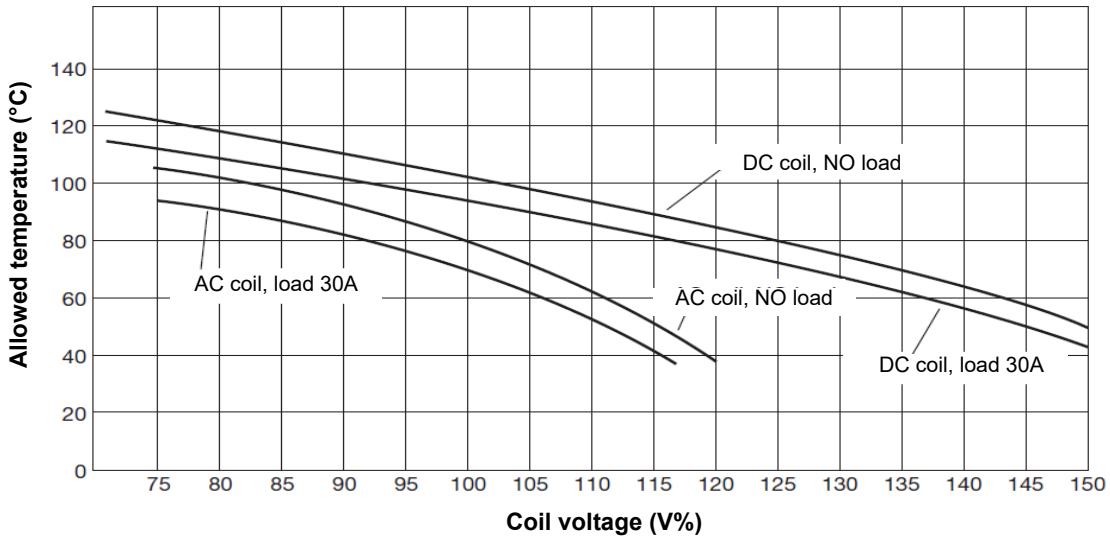


FAST-ON



Unit: mm

Diagram


Allowed temperature (°C)
140
120
100
80
60
40
20
0
75
80
85
90
95
100
105
110
115
120
125
130
135
140
145
150
Coil voltage (V%)
DC coil, NO load
AC coil, load 30A
AC coil, NO load
DC coil, load 30A