



C2ZF/C3ZF from 10 to 75A
Three-Phase SSR Quick Start (PK606)

This manual is intended to provide only the basic installation and operation instructions for the C2ZF / C3ZF Three Phase Solid State Relay. Please refer to manual PK605, for complete installation & operation details. The most current revision of PK605 may be found on the Chromalox website: www.chromalox.com



PK606
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IMPORTANT SAFEGUARDS

Read the following warnings before installing, connecting or using the device:

- Follow instructions precisely when connecting the device.
- Always use cables that are suitable for the voltage and current levels indicated in the technical specifications.
- In applications with risk of damage to persons, machines or materials, you MUST install auxiliary alarm devices.
- It is advisable to verify frequently that the alarm device is functional even during the normal operation of the equipment.
- DO NOT operate the device in rooms with dangerous (inflammable or explosive) atmosphere.
- During continuous operation, the heat sink can reach up to 100°C, and stays at a high temperature even after the device is turned off due to thermal inertia; therefore, DO NOT touch it and avoid contact with electrical wires.
- DO NOT work on the power part without first disconnecting electrical power to the panel.
- DO NOT remove the cover when the device is powered.

Installation:

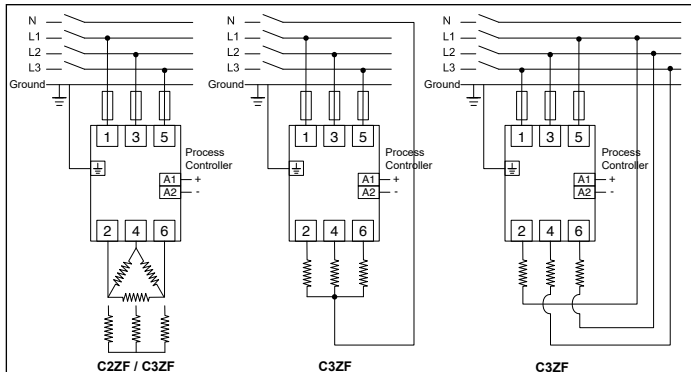
- Correctly ground the device using the specific terminal.
- Power supply lines must be separated from device input and output lines; always check that the supply voltage matches the voltage indicated on the device label.
- Avoid dust, humidity, corrosive gases and heat sources.
- Respect the installation distances between one device and another (to allow for dissipation of generated heat).
- To keep air in movement, we advise you to install a fan near the C2ZF/C3ZF group in the electrical panel.
- Respect the indicated dissipation curves

Maintenance:

- At regular intervals, check operation of the cooling fans and clean all air ventilation filters
- Repairs must be done out only by trained and specialized personnel. Cut power to the device before accessing internal parts.
- Do not clean the box with solvents derived from hydrocarbons (trichloroethylene, gasoline, etc.). Using such solvents will compromise the device's mechanical reliability. Use a clean cloth moistened with ethyl alcohol or water to clean external parts in plastic.

	This device conforms to European Union Directive 2014/30/EU and 2014/35/EU as amended with reference to generic standards: EN 61000-6-2 (immunity in industrial environment) EN 61000-6-4 (emission in industrial environment) - EN 61010-1 (safety regulations).
	cULus listed, Conformity UL508

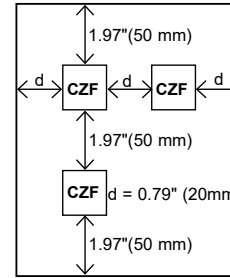
WIRING DIAGRAM



INSTALLATION

Use the extra-rapid fuse shown in the catalogue according to the connection example supplied. Applications with uninterruptible power supply units must also include a safety circuit breaker for disconnecting the power line from the load. To obtain high device reliability, it is essential to install it correctly inside the panel in order to obtain adequate heat exchange between the heat sink and the surrounding air under conditions of natural convection. Mount the device vertically (maximum 10° inclination from the vertical axis). Make sure that the cable ducts do not reduce these distances; in this case, mount the units overhanging the panel, so that the air can flow vertically on the heat sink without hindrance.

Minimum mounting distance



Limitations of use

- Ambient temperature limits, depending on derating curves.
- Need for air exchange with the outside or an air conditioner to transfer the dissipated power to the outside of the panel.
- Installation limits (distances between devices to ensure dissipation under natural convection conditions)
- Maximum voltage limits and derivative of the transients present on the line, for which the static unit provides internal protection devices (depending on the models).
- Presence of leakage current < 3mA (max. value with nominal voltage and junction temperature of 125°C / 257°F).

DIN RAIL FIXING

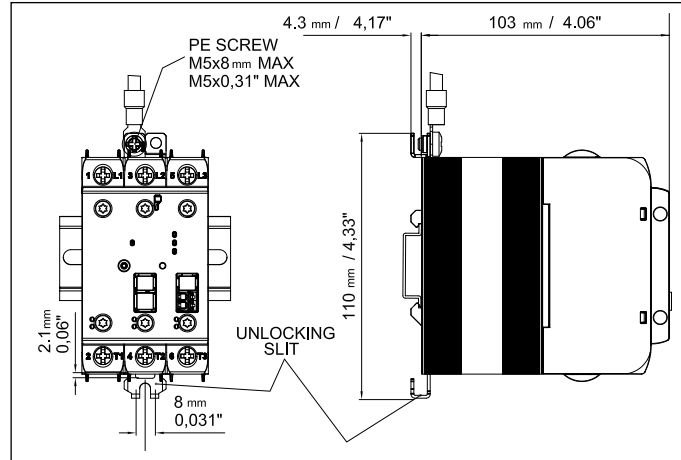


TABLE OF TERMINALS AND CONDUCTORS

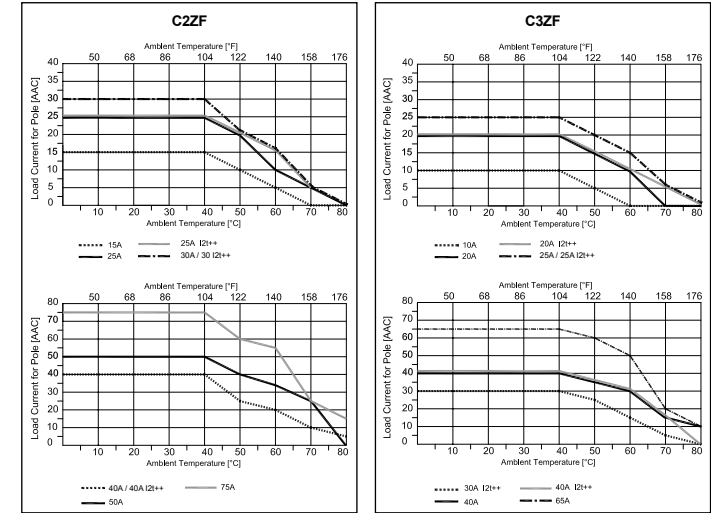
POWER TERMINALS							
Rated load current	10/15A	20/25A	30A	40A	50A	60/65A	75A
Contact area (WxD) screw type	9,2 x 8 mm M5						
Stripping length	11 mm						
1 Conductor section	1 x 2.5 mm ² / 2 x 1.5 mm ²	1 x 6 mm ² / 2 x 4 mm ²	1 x 10 mm ² / 2 x 6 mm ²	1 x 16 mm ² / 2 x 10 mm ²	1 x 25 mm ² / 2 x 16 mm ²		
2 Conductors section (minimum section)	1 x 14 AWG / 2 x 17 AWG	1 x 10 AWG / 2 x 12 AWG	1 x 8 AWG / 2 x 10 AWG	1 x 6 AWG / 2 x 8 AWG	1 x 4 AWG / 2 x 6 AWG	1 x 3 AWG / 2 x 6 AWG	
Maximum allowed section	1 x 25 mm ² / 2 x 16 mm ² - 1 x 3 AWG / 2 x 6 AWG						
Tightening torque	2,5-3 Nm (22-26,6lb-in)						
Note: Use 75°C (167°F) copper (CU), multi-stranded conductors							
CONTROL/SIGNAL TERMINALS				GROUND TERMINAL (*)			
Rigid/flexible / cable lug conductor cross section							
1 Conductor section	1 x 0.2-0.75 mm ²			Contact area (WxD) 9 x 9 mm			
2 Conductors section	2 x 0.1-0.5 mm ²			screw type M5			
	1 x 24-18 AWG			Tightening torque 1,5-2,5 Nm (13.3 lb-in - 22 lb-in)			
	2 x 27-20 AWG						
Stripping length	8 mm						
Note: Use 60/75°C (140/167°F) copper (CU) conductors, rigid or multi-row							

(*) The screw terminals are only suitable for on-site wiring connection when the wire is equipped with a tube terminal with eyelet. It is possible to make ground connection using a copper bar suitably ground connected and fixed to the heatsink.

EXTRARAPID FUSES

Model	Nominal current	Model and fuse size (manufacturer Bussmann Div Cooper (UK) Ltd)
10	10	FWC-10A10F 10x38
15	16	FWC-16A10F 10x38
20,20I	20	FWC-20A10F 10x38
25,25I	25	FWC-25A10F 10x38
30,30I	32	FWC-32A10F 10x38
40,40I	40	FWP-40A14F 14x51
50	50	FWP-50A14F 14x51
65	63	FWP-63A22F 22x58
75	80	FWP-80A22F 22x58

DERATING CURVES



PINOUT DESCRIPTION

1/L1, 2/L2, 3/L3	Mains power line connections	LED status description	
2/T1, 4/T2, 6/T3	Load connections	Control (Green led)	Status of the command signal (*)
7/L	Vac Fan Supply	AI Fault (Red led)	Power Fault alarms (No Voltage, No current)
8/N	Vac Fan Supply	AI Temp. (Yellow led)	Over-temperature status
11/A1-	Ground On/Off Control signal	Fan On (Yellow led)	Cooling fan activated
12/A1+	Positive On/Off signal command Vdc	Supply (Green led)	Presence of Vac power supply for fan
11/A2	On/Off signal command Vac	(*) In alarm conditions, the green Control LED goes off, even in the presence of an active command.	
12/A1~	On/Off signal command Vac		
13/A2-	Ground (common with 11/A2-)		
14/AL+	Alarm output		
13	Alarm output		
14	Alarm output		
15/A2-	Ground (common with 11/A2-)		
16/Us	Power supply, positivity signal		
17/F-	Ground of output power supply fan (pre-wired) FAN63		
18/F+	Positive of output power supply fan (pre-wired) FAN63		
21/F-	Ground of output power supply fan (pre-wired) FAN64		
22/F+	Positive of output power supply fan (pre-wired) FAN64		
	Remove the power supply in case of replacement or maintenance of pre-wired fans		