

The OZTHERM Thyristor (SCR) Single Phase Power Controller is as robust design housed in a series of standard assemblies and enclosures. They are reliable replacement for Electromechanical contactors being virtually maintenance free. This controller is ideal for controlling complex loads, such as heating element that changes resistance over time or temperature, transformer coupled loads and plating rectifiers. Australian designed and manufactured in our Melbourne factory enabling us to provide complete local support to customer applications, engineering and services.



Electrical Data

Control Mode	Phase angle (soft start as standard)	
Control Input		0 - 10V 4 - 20mA 10K Potentiometer
Adjustment		Ramp (soft start time) 1-20 seconds Zero (- 20% to +20%) Span (0-full scale)
V_{in}	Supply	110/240/415 volts A.C. 50 HZ. +/- 10%

Environment

T_A	Operating temperature Range	-10 to +50°C
H_A	Ambient Humidity	0 – 85%

Features

- Wide 24 to 550V input voltage available
- Wide range of options
- Standard ratings 220-1100 Amps
- Robust design
- Australian designed and manufactured

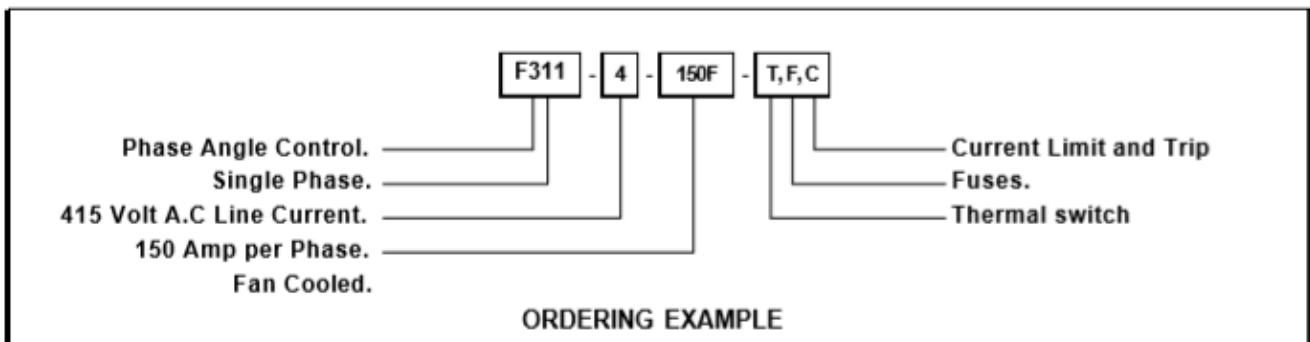
Applications

- Process Control
- Heating application
- Industrial

Ordering

F311	-	-	-	DESCRIPTION	Fuse Rating	Case Size	Weight KG	Cable Termination mm ²	Dissipation Watts	I ² t Thyristor Rating
Line Voltage	1			110 volt A.C line input						
	2			240 volt A.C line input						
	4			415 volt A.C line input						
Rated Current at 50 deg. Celcius.		25		25 amperes A.C line current	25	fig.4	5	2.5 - 6.	48	610
			40	40 amperes A.C line current	45	fig.4	5	10 - 16.	68	1,060
			50	50 amperes A.C line current	55	fig.4	5	10 - 16.	72	2,300
			65	65 amperes A.C line current	75	fig.4	5	10 - 25.	88	5,000
			75	75 amperes A.C line current	90	fig.4	5	10 - 25.	94	9,100
			100	100 amperes A.C line current	125	fig.4	5	10 - 25.	111	16,200
			110	110 amperes A.C line current	125	fig.4	5	M10 bolt	122	27,600
			125	125 amperes A.C line current	150	fig.4	5	M10 bolt	124	97,000
			150F	150 amperes A.C line current - fan	150	fig.5	6	M10 bolt	176	16,200
			180F	180 amperes A.C line current - fan	225	fig.5	6	M10 bolt	194	84,000
			200F	200 amperes A.C line current - fan	225	fig.5	6	M10 bolt	204	97,000
			250	250 amperes A.C line current	300	fig.6	26	M10 bolt	345	90,600
			300	300 amperes A.C line current	400	fig.6	26	M10 bolt	423	106,000
			350	350 amperes A.C line current	400	fig.6	26	M10 bolt	458	238,000
			400F	400 amperes A.C line current - fan	400	fig.6	26	M10 bolt	533	106,000
			500F	500 amperes A.C line current - fan	500	fig.6	26	M10 bolt	593	238,000
		650F	650 amperes A.C line current - fan	350x2	fig.6	26	M10 bolt	795	781,000	
		750F	750 amperes A.C line current - fan	400x2	fig.6	26	M10 bolt	826	2x10 ⁶	
		900F	900 amperes A.C line current - fan	500x2	fig.7	40	M10 bolt	1174	781,000	
		1100F	1100 amperes A.C line current - fan	600x2	fig.7	40	M10 bolt	1270	2x10 ⁶	

Options.	A.C. Voltage regulation.	A.C. current measurement.
C	Current limit and trip.	A.C. current measurement.
CC	Voltage limit and current trip. Current source	A.C. current measurement.
F	High speed fuses.	
MD	Meter output of input control signal.	
MI	Meter output of average current.	Requires C or CC option.
MP	Meter output of average power.	Requires PW option.
MV	Meter output of average voltage.	Requires A or D option.
PW	Power limit.	Requires A and C options.
T	Thermal cutout.	Standard on fan models.

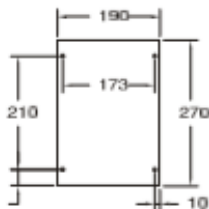


OPTION	DESCRIPTION	APPLICATION
A	Regulates output voltage when input voltage fluctuates.	Used where significant supply fluctuations can cause;- nuisance current limit / trip operation; excessive power to the load and erratic control.
C	Maintains current output to a predetermined level for A.C systems. Current limit can be set by internal or external potentiometer. LED indicates current limit operation. Current trip is adjustable " on board " and volt free output contact is provided for external indication. The trip function inhibits operation until manually reset. (A.C. Current transformer supplied loose.)	Typically used with constant resistance and transformer loads. Reduces output to match and protect lower rated loads. (Control input controls output voltage)
CC	Current source operation Voltage limit and current trip independently adjustable by internal potentiometer. Maintains constant current under variable resistance loads for A.C. systems (A.C. Current transformer supplied loose.)	Particularly suitable for plating rectifiers via primary A.C transformers. (Control input controls output current)
F	Supplied loose with isolated stand-offs for external mounting.	
MD	0 -1 milliamp retransmission of input control signal.	Suitable for 1 milliamp moving coil meter.
MI	Single 0 -1 milliamp D.C output signal proportional to the average output current.	Suitable for 1 milliamp moving coil meter.
MP	Similar to MI. option but indicating average output power.	Suitable for 1 milliamp moving coil meter.
MV	Similar to MI. option but indicating average output voltage.	Suitable for 1 milliamp moving coil meter.
PW	Output is monitored to maintain a preset average VA limit. (This function can be used on current source systems and a unity power factor is assumed.)	Designed for critical loads such as silicon carbide elements which require a watts density limit for maximizing element life.
T	Thermal switch is mounted on the heatsink to ensure the unit is shut off when an over temperature condition is reached within the unit. Reset is automatic when temperature falls below the trip level. This option is standard on fan cooled units.	

Application Load / Option Selection

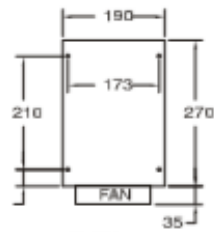
Series Name	Primary Control of Transformer	Number	Applicable Load	Option Selection
F311	YES	1	Load where resistance does not change (Class A)	Standard type
		2	Load where resistance changes with temp (Class B)	CC option
		3	Load where resistance changes over the elements lifetime. (Class C - Silicon Carbide, etc)	PW option
		4	Load which has peak in rush current	C option

Dimensions / Mounting Details



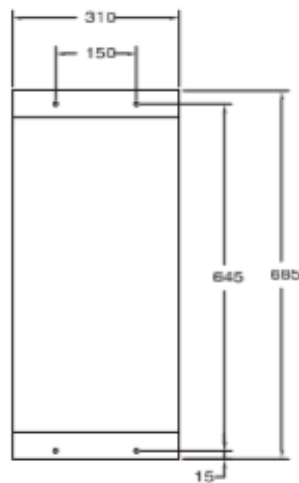
DEPTH 226mm
M6 MOUNT

Fig.4



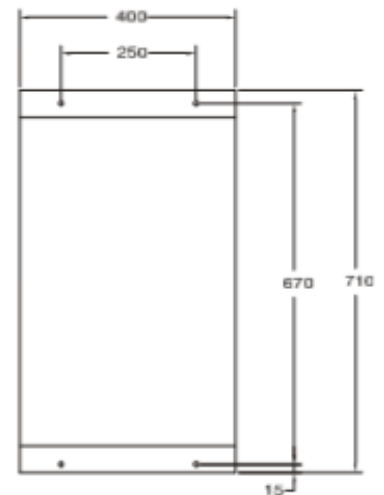
DEPTH 226mm
M6 MOUNT

Fig.5



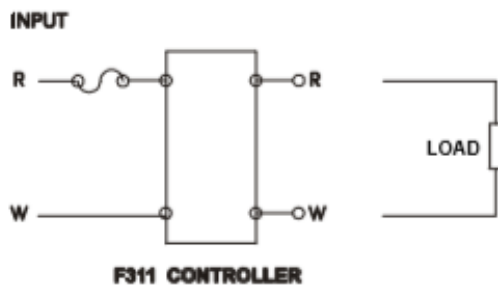
DEPTH 400mm
M8 MOUNT

Fig.6



DEPTH 465mm
M8 MOUNT

Fig.7



F311 CONTROLLER

If the function you require is not contained within this specification please contact Temtec Controls, other options are continually being developed and we specialise in supplying non-standard or custom solutions. We reserve the right to change the specification without notice.