

POWERLINK

PC523 SINGLE PHASE POWER CONTROLLER WITH HF & EMF OPTIONAL FILTER OPERATING INSTRUCTIONS

The PC523 single phase thyristor controller has a built in EMC filter to comply BS EN 55014 CE requirement.

1) Installation

The PC523 Single Phase Phase Angle Thyristor Units should be mounted to allow air flow through the heatsink naturally as shown on the dimensional drawing. The maximum ambient temperature should not exceed 50 Deg. C.

2) Protection Fuse

Protection fuses are fitted for protecting the semi-conductors, external fuses with appropriate ratings are necessary for protecting cables from the power source to the thyristor unit and to the load.

Current Rating	Fuse Type
15A	25ET or equivalent
25A	56ET or equivalent
40A	80ET or equivalent
50A	2 x 63ET or equivalent

3) Wiring

The PC523 should be connected according to the wiring diagram as shown in fig. 1. The size of cables for controlling signals should be larger than 0.5 mm sq. and the cable to L1, L2 (N) and cables to the load must be sufficient to withstand the maximum current rating of the LOAD and meet the IEE WIRING REGULATIONS.

4) Set-up procedure

After connecting the load to the PC523, set the input signal to minimum (0V). Switch on the mains supply, the output voltage or current to the load should be zero (except the leakage current or snubber circuit current which is less than 10mA). Gradually increase the input signal and check that the voltage or current increases smoothly.

An adjustable input ramp up or down for gradually ramp up or down the input signal is incorporated in the PC523. If the input signal increases suddenly, the output voltage or current will gradually increase to avoid a sudden surge of output power.

4a) Input Switch

INPUT	SW1	SW2	SW3	SW4	'0' -- upward position, closer to the edge of the print circuit board '1' -- downward position.
0-10V	1	0	0	0	
0-5V	0	1	0	0	
4-20mA	0	0	1	1	

4b) Ramp Up & Ramp Down Adjust

The ramp up period is factory set to maximum (Ramp Up Pot fully clockwise) such that when the input signal changes from zero to maximum, the time required for the output voltage and current to increase gradually from zero to maximum will also be the longest. If shorter ramp period is required, adjust "Ramp Up Pot" anti-clockwise to shorten the ramp up period.

The ramp down period is factory set to minimum (Ramp Down Pot fully anti-clockwise). If longer ramp down period is required, adjust "Ramp Down Pot" clockwise to shorten the ramp down period.

4c) ALL STANDARD PC523s ARE FACTORY SET UP AS FOLLOW

- a) Adjust SPAN pots fully clockwise.
- b) With the input at minimum (0V), switch on the mains supply to the PC523.
- c) With an input of 9.5V for 0-10V input range (for other input range, set the input to 95% of the max. input), adjust the SPAN pot until the output voltage or current is maximum.
- d) With the input at 0.5V for 0-10V input range (for other input range, set the input to 5% of the max. input), adjust ZERO POT until the output is zero.
- e) Repeat steps c) and d) until the output is at maximum and zero.

4d) 4-20mA (or other mA inputs) input adjustment

- a) Make sure the input select switch was selected for 4-20mA input as shown in (4a).
- b) with a 4.5mA input, adjust zero pot to have zero output voltage or current.
- c) with 19.5mA input, adjust span pot to have maximum output voltage or current.
- d) repeat steps (b) and (c), until the output is at zero and maximum.

5) Optional current or voltage limit (factory set to 20% of max. output current or voltage)

- a) First set LIM pot to fully counter clockwise.
- b) Set input signal to give full power.
- c) Use a current meter or voltage meter to monitor the desired output current or output voltage.
- d) Gradually adjust LIM pot clockwise, to increase the current or voltage limit level to the desired value. If long ramp up period is set, allow sufficient time for the input to ramp up to its maximum value before adjusting LIM pot.
- e) This completes the current or voltage limit setting.

Specification

Supply voltage	110V, 240V, 380V, 415V
Supply frequency	47Hz to 63Hz
operating temp.	0 to 50 Deg. C
Storage temp.	-10 to 80 Deg. C
Input signal	0-5V, 0-10V, 4-20mA
Current ratings	15A, 25A, 40A, 50A
Adjustable ramp up time	4 sec. to 25 sec. (min.)
Adjustable ramp down time	0.5 sec. to 25 sec. (min.)

Ordering Information You are welcome to order by description or product code.

PC523 - INPUT - SUPPLY VOLTAGE - OUTPUT CURRENT - LOAD VOLTAGE - OPTIONS - 00

		<u>CODE</u>
INPUT	0-5V	11
	0-10V	12
	4-20mA	20
SUPPLY VOLTAGE	110V	10
	240V	20
	380V	38
	415V	41
	440V	40
	480V	48
OUTPUT CURRENT	15A	15
	25A	25
	40A	40
	50A	50
LOAD VOLTAGE	110V	10
	240V	20
	380V	38
	415V	41
	440V	40
	480V	48
OPTIONS		
EMC FILTER TO MEET CE REQUIREMENT		EMF
O/P VOLTAGE LIMIT 20-100%		49
CURRENT LIMIT 20-100%		50

Dimensions

