

SKPC223 SINGLE OR 3- PHASE BURST FIRING THYRISTOR TRIGGER MODULE

Features

- ** 3 phase control, drive a W3C thyristor configuration.
- ** Controls wide range of thyristors.
- ** Span and zero adjust for wide range of different process inputs.
- ** Voltage or mA input, user selectable.

Installation

The SKPC223 trigger module should be located to its thyristor as close as possible.

Please refer to the connection diagram of the SKPC223 trigger module. Use the minimum recommended wire size of 16/.2mm sq. cable, current rating of 3A, maximum working voltage of 1000Vac.

To avoid the noise pick up, it is the best to use twisted pair cable for connecting SKPC223 K2 & G2, and K1 & G1 directly to its thyristor K2 & G2, and K1 & G1 terminals. Please keep these cables as short as possible.

After taking out the lid of a SKPC223 enclosure, there are two 5.0mm dia. mounting holes, which are 168mm apart on the bottom for fixing the SKPC223.

NOTE: For a satisfactory control system when using a SKPC223 to control a thyristor stack, protection against voltage transients to the thyristor stack is essential.

Please refer to ‘Semikron Power Semiconductor Hand book’ Section 7 for selecting sufficient protection or contact our local sales office.

Setting up procedure

INPUT SWITCH A 4-way switch is used for selecting different inputs.

INPUT	SW1	SW2	SW3	SW4
0 – 10V	0	1	0	0
0 – 5V	1	0	0	0
4 – 20mA	1	0	1	1

After connecting the thyristor and loads to the SKPC223, 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 gradually.

ALL STANDARD SKPC223s ARE FACTORY SET UP AS FOLLOW

- a) Adjust SPAN pot fully anti- clockwise.
- b) With the input at minimum (0V), switch on the mains supply to the SKPC223.
- c) The CYCLE TIME ‘CT’ pot is adjusted to the middle position.
- d) 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 clockwise until the output voltage or current is at its maximum.
- e) 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.
- f) Repeat step c) and d) until the output is at maximum and zero.

For 4 – 20mA input, switch SW1, SW3, SW4 to on position and SW2 to off position,

- g) With 4.5mA input, adjust zero pot to have zero output voltage or current.
- h) With 19.5mA input, adjust span pot to have maximum output voltage or current.
- i) Repeat step g) and h) until the output is at maximum and zero.

CYCLE TIME ADJUST

Units are factory set as slow cycle unless customer has specified the cycle time, in order to reduce mains disturbance. If fast cycle is required, remove SW1 shorting link.

All SKPC223 units ' CYCLE TIME' pots (CT pot) are set to mid position, for a faster cycle time, adjust the CT pot anti- clockwise.

For Single Cycle, SF cycle time option, ' CYCLE TIME' pot was pre-adjusted.

Specification

Supply voltage	110V, 240V, 380V, 415V, 440V, 500V & 600V (+/- 10%)
Supply frequency	47Hz to 63Hz
Operating temp.	0 to 50 °C
Storage temp.	-10 to 80 °C
Input signal	0-5V, 0-10V; 47 kilo-ohms min. 4-20mA; 390 ohms max.
Gate Current	1A peak
Auxiliary output	10 Vdc +/- 5%, 3mA max.
Cycle time	SF cycle time, 80ms max. (optional) fast cycle: 300ms to 600ms; slow cycle: 0.8 sec. to 3 sec.
Isolation	2500V rms between input and output
Overall dimensions	198mm (height), 114mm (width), 65mm (depth)

Ordering information

SKPC223 - SUPPLY VOLTAGE – OPTIONS – CYCLE TIME OPTIONS – 00

SUPPLY VOLTAGE	CODE
Please specify, e.g. 415V	415V

OPTIONS	CODE
OUTPUT VOLTAGE, please specify, e. g. 440V For the output (thyristors voltage) is different from SKPC223 supply voltage.	440V

CYCLE TIME OPTIONS	CODE
Extra long cycle time, 1. 5 to 3mins	SS
Single cycle	SF

Example 1, a control system has 3 phase heater with 415V three phase supply, it has no aux. Supply (SKPC223 has the same supply voltage as thyristors and the heater), a suitable SKPC223 has an order code of

SKPC223 – 415V

Example 2, a 3 phase heater has 415V three phase supply, the user would like to use an aux. Supply of 110V in the control panel for control equipment's, a suitable SKPC223 has an order code of

SKPC223 – 415V – 110V

