WEBTEX Control Solutions

WCS-SCR88_5 (Quick Setup Guide)

Single Phase Thyristor Controller

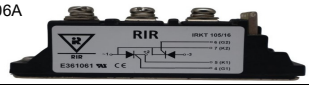
WARNING

- Please read this instruction guide carefully prior to installing any variant of the WCS-SCR88_5 series of Single Phase Thyristor Controller.
- All power sources must be switched OFF before any maintenance is carried out.
- Do not connect the AC power to any of the input/output terminals, or it may damage the WCS-SCR88_5 Single Phase Thyristor Controller.
- Make sure that all connections are correct prior to applying power to the module.
- Where the installation is in a electrical harsh environment, please connect the Earth connection

INTRODUCTION

Thank you for choosing Webtex Control Solutions WCS-SCR88_5 Single Phase Thyristor Controller.
The WCS-SCR88_5 module is manufactured to the highest quality standard, offering you consistent, reliable operation. Packaged in an ergonomic 38mm wide enclosure for the most compact solution.
Please refer to Webtex Control Solution SCR88_xx Detailed Principles of Operation sheet for an in depth understanding of the SCR_88_xx methods and principals.
Use of Webtex Control Solutions Products subject to Webtex Control Solutions Terms and Conditions.

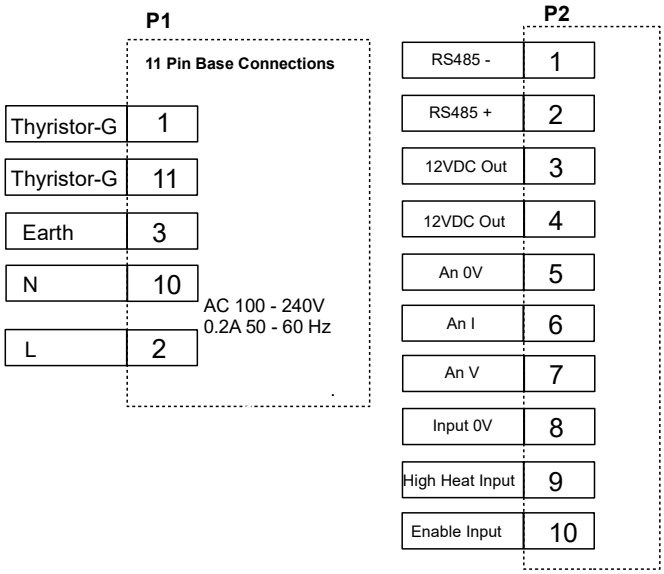
SPECIFICATIONS

Items	Description
Supply	100VAC – 240VAC with ground connection
Environment	Operation: -20°C ~ 80°C (temperature), 50 ~ 95% (humidity) Storage: -25°C ~ 95°C (temperature), 5 ~ 95% (humidity)
Inputs	+12VDC - +24VDC (opto isolated diode /transistor)
Output	Opto Isolated diode / triac (2500V isolation)
Internal Potentiometer	10K PCB right angle mount. 270 deg rotation (primary use of Pot is for base current)
Enclosure	Black Industrial grade ABS with nylon base
Thyristor Type	Thyristor / Thyristor 1200V 106A Note: Gate terminals vary from brand to brand 

WIRING CONNECTION EXPLAIN

The WCS-SCR88_5 connections are made via 11 Pin base (P1) fitted to the rear of the module and a 10 way 3.5 mm(P2) connector fitted and accessible on the front of the module the front of the module.

The listing of the connections is shown in the below diagram



The WCS-SCR88_5 functional configuration is achieved via a 10 way dip switch located on the front of the module.
Below is the listing of all respective functions

DIP Switch Settings

OFF	ON	DIP
Pot Used	Pot Not Used	10
RS485 No Answer	RS485 Answer	9
An V (Voltage) 0-10Vdc	An I (Current) Sel Dip 6	8
Analog Used	RS485 Used	7
0- 20mA (I input)	4 – 20mA (I input)	6
Module Address LSB		5
Module Address		4
Module Address LSB		3
Baud Rate Sel LSB		2
Baud Rate Sel MSB		1

Module Address Settings

DIP 3	DIP 4	DIP 5	ADD
OFF	OFF	OFF	0
OFF	OFF	ON	1
OFF	ON	OFF	2
OFF	ON	ON	3
ON	OFF	OFF	4
ON	OFF	ON	5
ON	ON	OFF	6
ON	ON	ON	7

Module Baud Rate Settings

Dip 1	Dip 2	Baud Rate
OFF	OFF	9600
OFF	ON	38400
ON	OFF	57600
ON	ON	115200

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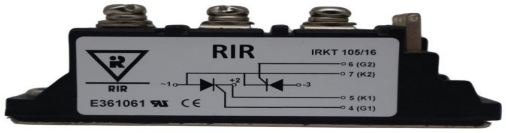
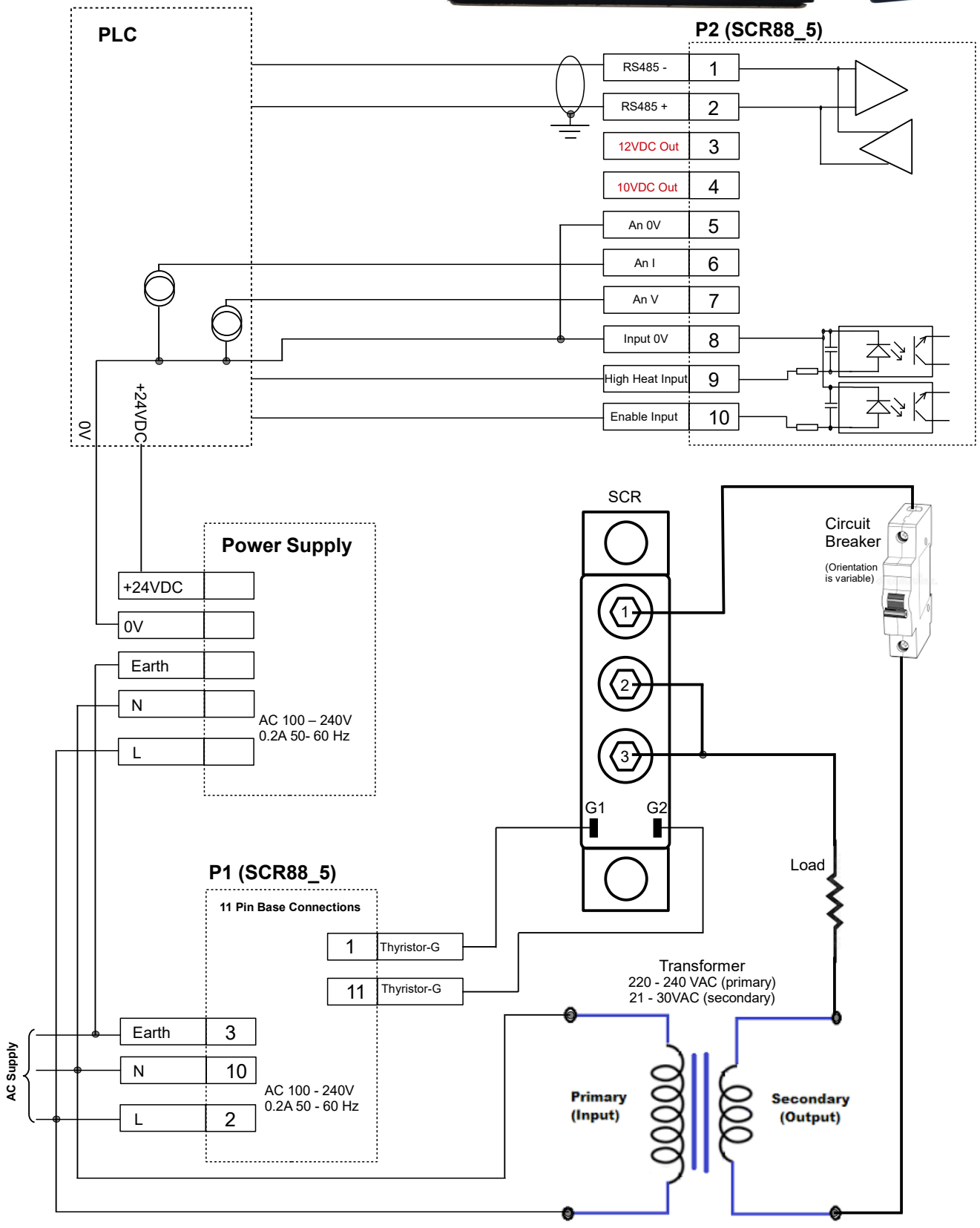
Wiring (PLC / SCR / PSU / Transformer)





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Single Phase Thyristor Controller
MODBUS Communication Explain

Send Value 500 to Device Address 01, Register01

:0106000101F403 CRLF (ASCII)

3A 30 31 30 36 30 30 30 31 30 31 46 34 30 33 0D 0A (Hex Rep of ASCII)

Field Name	Hex Representation of Ascii
Heading	3A
Slave Address	30 31
Command Code	30 36
Register Address High	30 30
Register Address Low	30 31
Preset Data High	30 31
Preset Data Low	C6 34
Error Check (LRC)	30 33
Terminator	0D 0A

There are 2 methods when using the MODBUS method of communication:

Method 1:
This method allows for the SCR88_5 output value to be updated on the fly.
Sending to register 1 the SCR88_5 will not answer and will overwrite the current output setting.
This method uses the same principal as an standard analog signal input.

Method 2:
This method is used when the value for the Base Heat and the High Heat are loaded via the Modbus protocol and the output of the SCR88_5 is controlled by the two hardware inputs selectors (Enable and High Heat Inputs).

Sending to register 2, the SCR88_5 will answer and will save the received value to memory as the Base Heat Value.
Sending to register 3, the SCR88_5 will answer and will save the received value to memory as the High Heat Value.

When the SCR88_5 is powered up the Base Heat and High Heat settings are retrieved from the memory and loader into the working area of the controller.