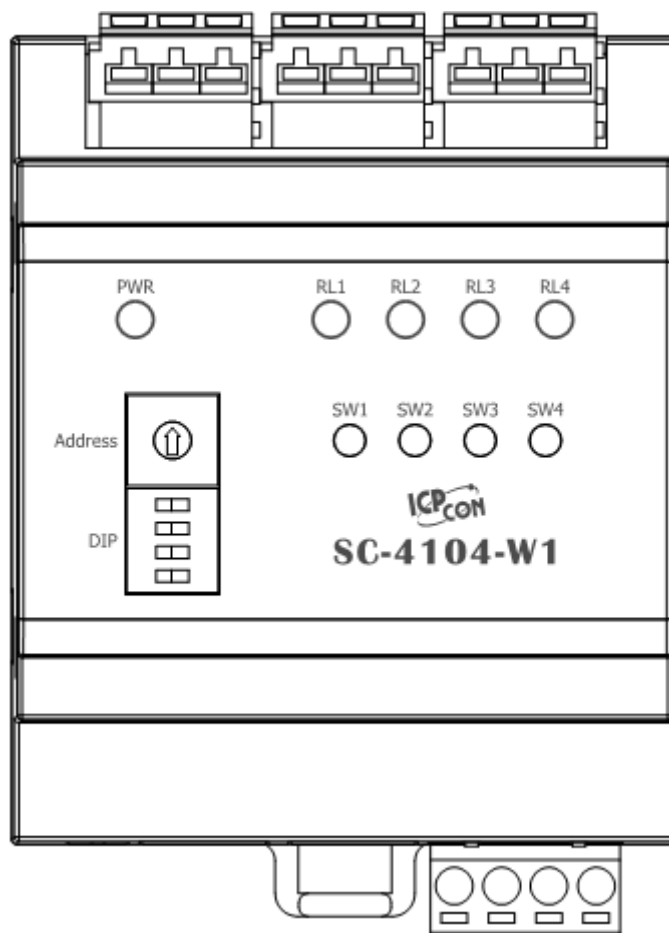
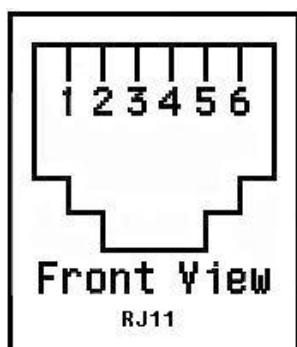


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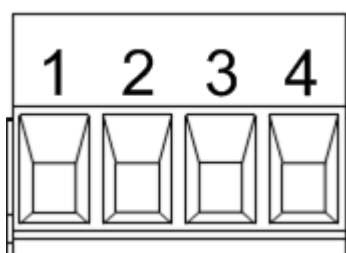


RJ11 Pin Assignment



Pin	Description	
1	+VS	Power Input (+10 ~ +30 V _{DC})
2	+VS	Power Input (+10 ~ +30 V _{DC})
3	DATA+	RS-485 Interface (D+)
4	DATA-	RS-485 Interface (D-)
5	GND	Ground
6	GND	Ground

Terminal Block Assignment



Pin	Description	
1	DATA+	RS-485 Interface (D+)
2	DATA-	RS-485 Interface (D-)
3	+VS	Power Input (+10 ~ +30 V _{DC})
4	GND	Ground

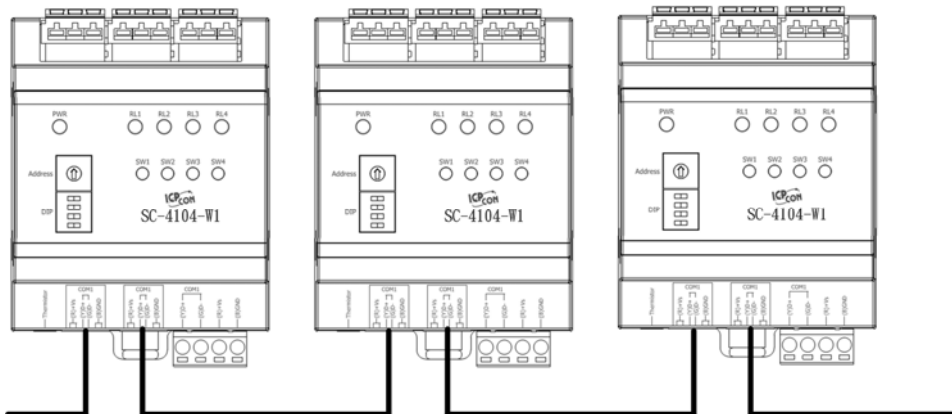
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IO Specifications

Digital Input	
Input Channel	1
Type	90 ~ 240 V _{AC}
On Voltage Level	85 V _{AC}
Off Voltage Level	60 V _{AC}
Input Impedance	68 k Ω , 1 W
Isolation	5000 V _{rms}
Function	Local and remote direct control relay ON/OFF and remote status monitoring.
Digital Output	
Output Channel	4
Type	Power Relay, 1 Form C, 3 Form A
Operating Voltage	250 V _{AC} or 30 V _{DC}
Max. Load Current	7 A (NO) / 5 A (NC) @ 250 V _{AC} (Recommend Working Current 1 A)
Operating Time	Form C: 10 ms Max. Form A: 10 ms Max.
Release Time	Form C: 5 ms Max. Form A: 10 ms Max.
Electrical Life (900 ops/hr)	Form C: 100,000 ops Form A: 100,000 ops
Mechanical Life (1800 ops/hr)	Form C: 10,000,000 ops Form A: 5,000,000 ops
Power-on & Safe Value	Yes, Programmable
Temperature Sensor	
Temperature Channel	1
Type	Thermistor
Operating Temperature Range	-40°C ~ +80°C
Temperature Tolerance	$\pm 1^\circ\text{C}$

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Power and Communication Connections



* RS-485 and power input daisy chain using RJ-11 connectors

Configure DIP Switch Description

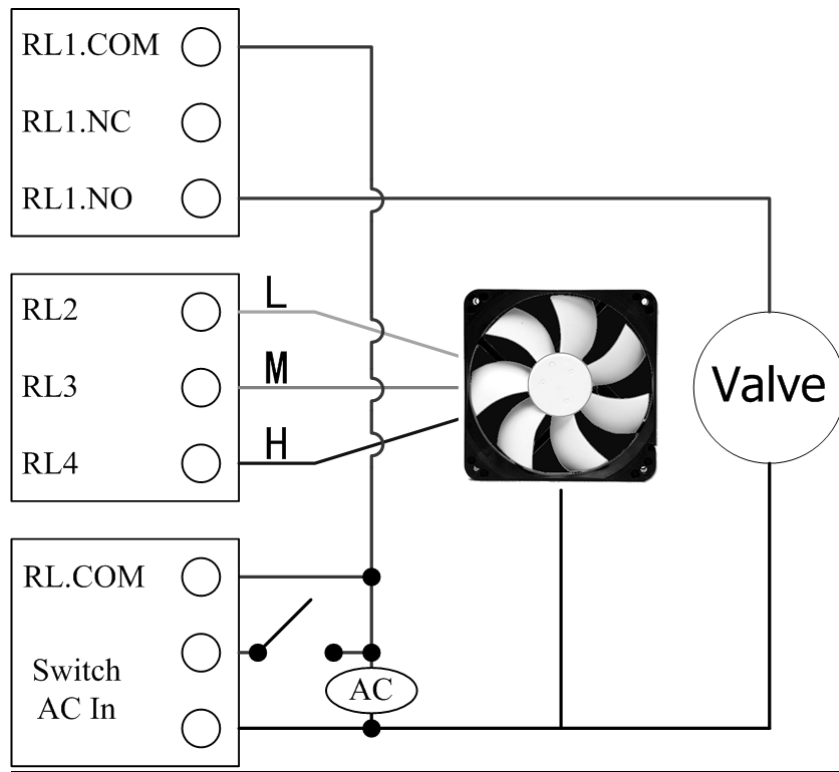
	DIP 1	ON	DCON Protocol
		OFF	Modbus RTU Protocol
	DIP 2	ON	Software Configuration
		OFF	Hardware Configuration
	DIP 3	ON	High Node Address
		OFF	Low Node Address
	DIP 4	ON	INIT Mode
		OFF	Normal Mode

Address Setting via Hardware Configuration

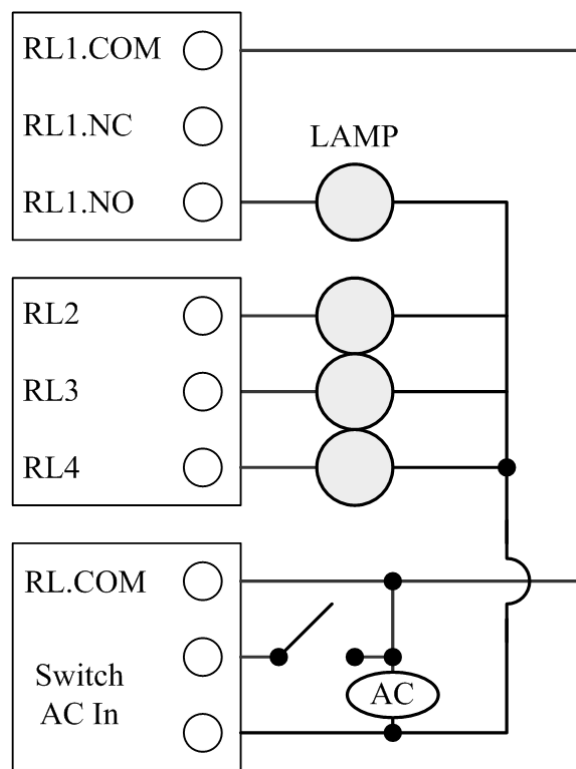
<p>Module Address</p>		0 to F for Address 128 - 143 (Node Address - Low)
		0 to F for Address 144 - 159 (Node Address High)

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Wiring for FCU System



Wiring for Lighting System



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An Overview of the DCON Command Set

General Command Set			
Command	Response	Description	Section
%aannttccff	!aa	Set configuration of the module	3.1
\$aa2	!aattccff	Read configuration of the module	3.2
\$aa5	!aa	Read reset status of the module	3.3
\$aa6	!(data)	Read all digital input/output data	3.4
\$aaF	!aa(data)	Read firmware version of the module	3.5
\$aaLC0n	!aa	Coordinate the operation status between the digital input and the digital output	3.6
\$aaLC1	!aan	Read whether or not the operation status between the digital input and the digital output is coordinated	3.7
\$aaLC2nnnn	!aa	Set the active delay time for the digital output	3.8
\$aaLC3	!aannnn	Read the active delay time for the digital output	3.9
\$aaM	!aa(data)	Read module name	3.10
\$aaP	!aasc	Read communication protocol information	3.11
\$aaPc	!aa	Set communication protocol	3.12
#aa	>(data)	Read all analog input data	3.13
@aa	>(data)	Read all digital input/output data	3.14
@aaH	>	Set all digital output channels	3.15
@aaDI	!aasooii	Read digital I/O and alarm status	3.16
@aaDOhh	!aa	Set digital output states	3.17
@AAA2CjT00	!aa	Set Temperature Offset	3.18
@AAA3Cj	!aao0	Get Temperature Offset	3.19
~**	None	Host OK notification	3.20
~aa0	!aass	Read host watchdog status	3.21
~aa1	!aa	Clear host watchdog timeout state	3.22
~aa2	!aaehh	Read host watchdog settings	3.23
~aa3ehh	!aa	Set host watchdog settings	3.24
~aa4	!aappss	Read power-on and safe digital output values	3.25
~aa4P	!aa(data)	Read the power-on digital output value	3.26
~aa4S	!aa(data)	Read the safe digital output value	3.27
~aa5ppss	!aa	Set power-on and safe digital output values	3.28
~aa5P	!aa	Set the current digital output value as the	3.29

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		power-on value	
~aa5S	!aa	Set the current digital output value as the safe value	3.30
~aaD	!aat	Read temperature scale	3.31
~aaDt	!aa	Set temperature scale	3.32
~aaRS	!aard	Read rotary and dip switch	3.33
~aaRD	!aahh	Read response delay time	3.34
~aaRDhh	!aa	Set response delay time	3.35

Modbus Address of Coils

Address		Description	Attribute
00001	10001	Digital Output RL1	R / W
00002	10002	Digital Output RL2	R / W
00003	10003	Digital Output RL3	R / W
00004	10004	Digital Output RL4	R / W
	10033	Digital Input Channel	R
00129	10129	Digital Output RL1 Safe Value	R / W
00130	10130	Digital Output RL2 Safe Value	R / W
00131	10131	Digital Output RL3 Safe Value	R / W
00132	10132	Digital Output RL4 Safe Value	R / W
00161	10161	Digital Output RL1 Power-on Value	R / W
00162	10162	Digital Output RL2 Power-on Value	R / W
00163	10163	Digital Output RL3 Power-on Value	R / W
00164	10164	Digital Output RL4 Power-on Value	R / W
00257	10257	Communication Protocol 0: DCON 1: Modbus RTU	R / W
00260	10260	Modbus host watchdog mode 0: do not allow DO command when watchdog timeout occur 1: can use DO command to clear host watchdog timeout status	R / W
00261	10261	1: enable, 0: disable host watchdog	R / W
00267	10267	Temperature Scale 0: Celsius (°C) 1: Fahrenheit (°F)	R / W
00268	10268	DCON Protocol Checksum 0: Enable 1: Disable	R / W
00270	10270	Host watch dog timeout status, write 1 to clear host	R / W

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		watch dog timeout status	
00273	10273	Read the Reset Status 0: This is NOT the first time the module has been read since being powered on 1: This is the first time the module has been read since being powered on	R
00274	10274	Coordinate the status between DI and DO 0: Enable 1: Disable	R / W
	10321	Configure DIP Switch Bit 0	R
	10322	Configure DIP Switch Bit 1	R
	10323	Configure DIP Switch Bit 2	R
	10324	Configure DIP Switch Bit 3	R
	10325	Address DIP Switch Bit 0	R
	10326	Address DIP Switch Bit 1	R
	10327	Address DIP Switch Bit 2	R
	10328	Address DIP Switch Bit 3	R

Modbus Address of Coils

Address	Description	Attribute
30001	Temperature Analog Input Channel	R
30274	40274 Coordinate Function 0 ~ 7 (refer to section 3.6)	R / W
30289	40289 Temperature Offset (offset unit: 0.1)	R / W
30481	Firmware Version (Low Word)	R
30482	Firmware Version (High Word) Read 40482 and 40483 Response: 0x00 0x01 0x00 0x01 (version 1.01)	R
30483	Module Name (Low Word)	R
30484	Module Name (High Word) Read 40483 and 40484 Response: 0x41 0x04 0x53 0x43 (SC4104)	R
30485	40485 Module Address Valid Range: 1 ~ 247	R / W
30486	40486 Module Baud Rate See Section 2.6 Software Configuration Table	R / W
30488	40488 Modbus Response Delay Time (≤ 30ms) Valid Range: 0x0000 ~ 0x001E ms	R / W
30489	40489 Host watchdog timeout value, 0 ~ 255, in 0.1s	R / W
30492	40492 Host watchdog timeout count, write 0 to clear	R / W
30498	40498 Module Boot Up Delay Time (≤ 3000ms)	R / W

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	Valid Range: 0x0000 ~ 0x0BB8 ms	
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