

Features

- 4 Digital inputs
- 4 Analog inputs 0-10V DC
- 4 Relay outputs
- 2 Transistor outputs
- RS-485 communication
- 24V Sensor supply
- 4 Programmable Function keys
- 2.4 inch OLED
- Built-in notification Buzzer
- Built-in Status Indicator
- ESP32-WROOM SoC
- WiFi Antenna: Internal Optional : External
- 100-240V AC power



Ordering Information

Range of master controllers

DEVICE P/N	GSM/LTE	WiFi	Antenna
SC-PL-I4-V4-Q8	No	Yes	Internal
SC-PL-I4-V4-Q8-E	No	Yes	External WiFi
SC-PL-I4-V4-Q8-L	Yes	Yes	External GSM

Range of expansion modules

DEVICE P/N	I/O
SC-EX-M-D16	16 x Digital Input
SC-EX-M-Q16	16 x Transistor Output
SC-EX-M-V8	8 x Analog Input 0 - 10V
SC-EX-M-I8	8 x Analog Input 4 - 20mA
SC-EX-M-QV4	4 x Analog Output 0 - 10V
SC-EX-M-QM4	4 x Analog Output 4 - 20mA
SC-EX-M-TC4	4 x K type thermocouple

Main

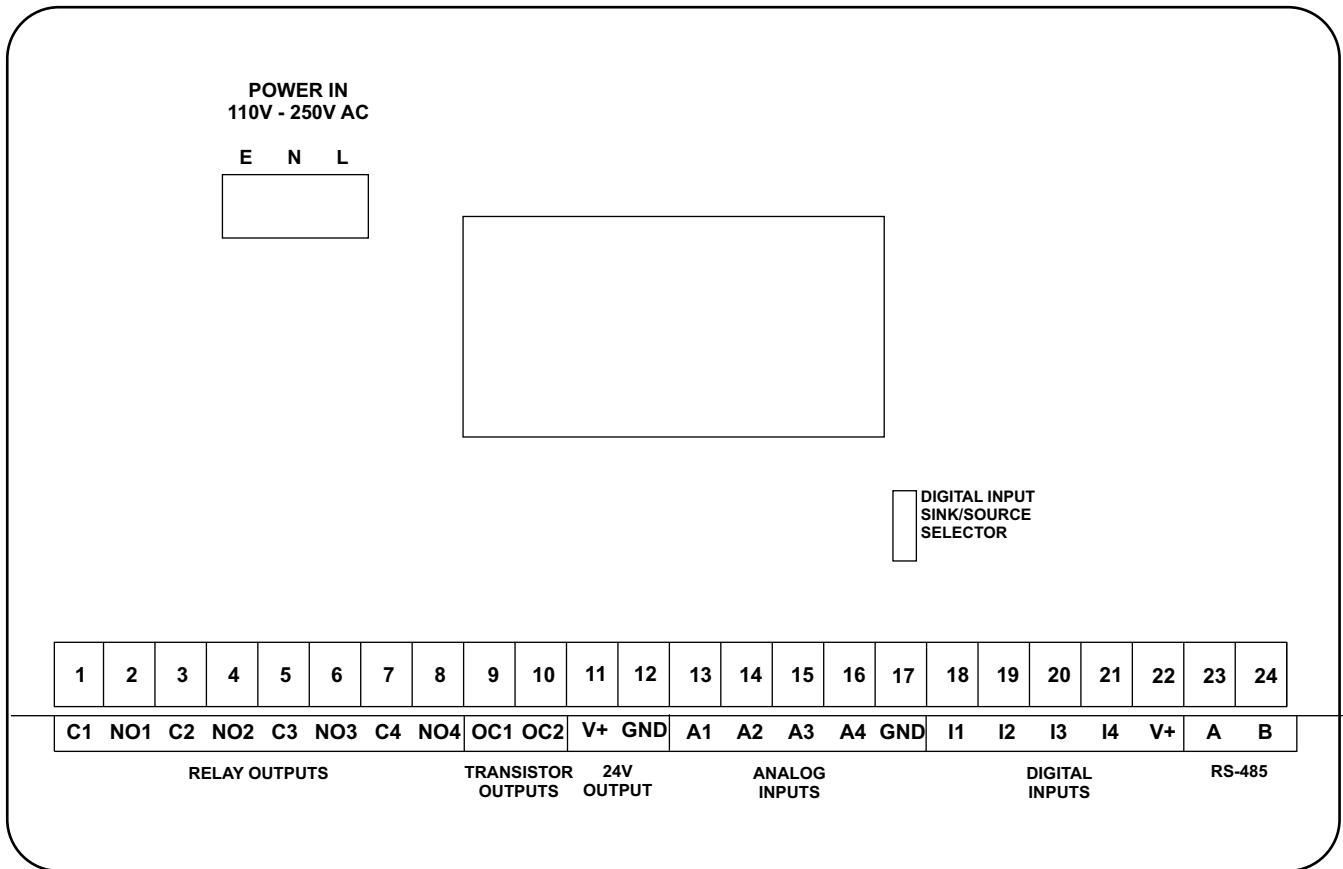
Range of product	Smart Controllers		
Product type	Programmable Controller		
Rated supply voltage	100-240VAC 277VAC	0.25A 0.125A	50/60 Hz 50/60 Hz
Discrete input number	4 Digital Inputs & 4 Analog Inputs		
Discrete output type	Relay and Transistor		
Discrete output number	4 Relay outputs, 2 Transistor outputs		
Discrete output voltage	24V DC for transistor output		
Discrete output current	25.8 mA with OC1... OC2 / Transistor Outputs 3A with NO1... NO4 / Relay Outputs		
Communication	1 x RS-485		

Complementary

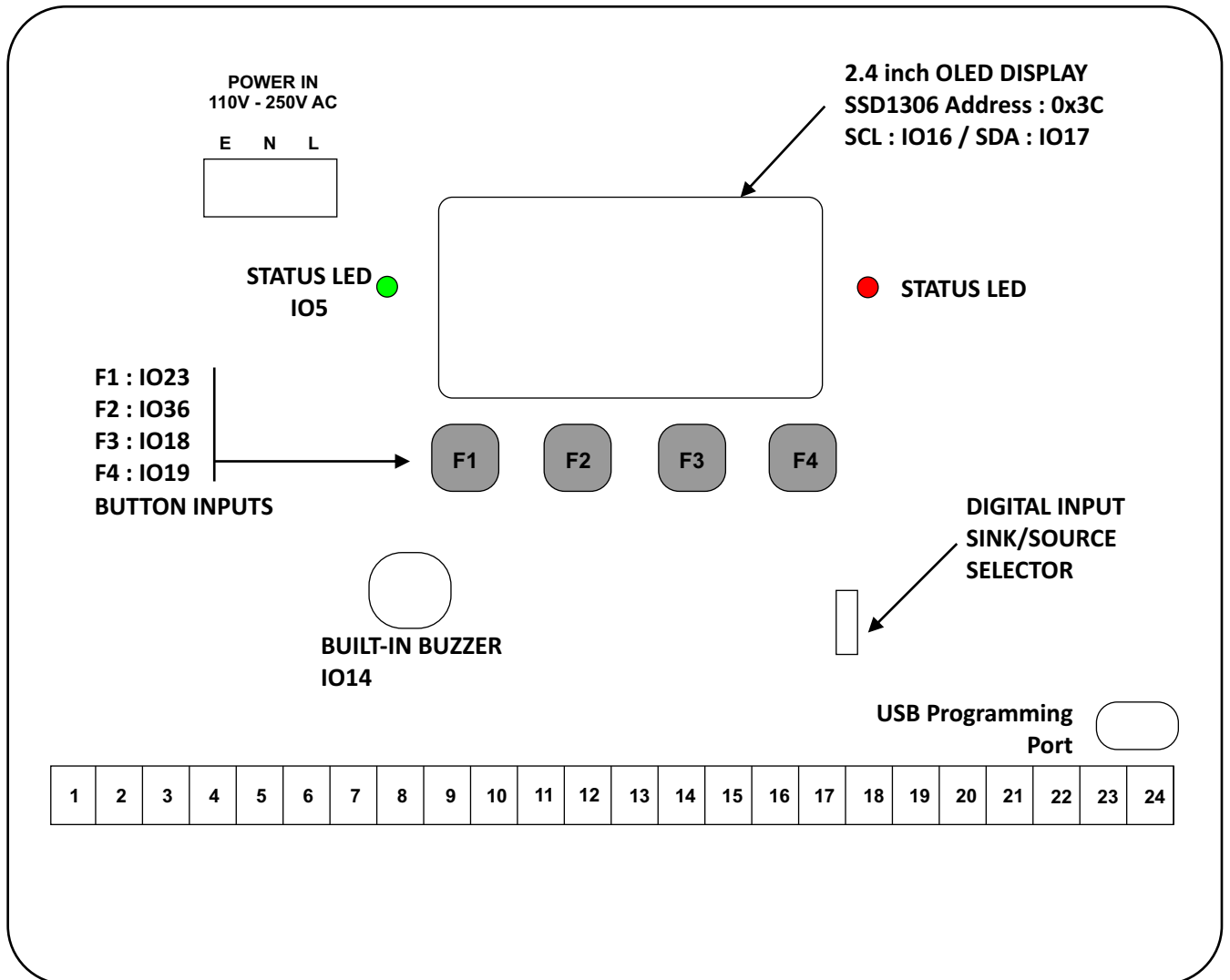
Power consumption in W	10.2W		
Discrete logic input	Sink or source		
Discrete input voltage	24 V		
Discrete input voltage type	DC		
Voltage state 1 guaranteed	≥18V for input		
Voltage state 0 guaranteed	≤6 V for input		
Discrete input current	5 mA for input		
Input impedance	4.7k Ohm for input		
Memory capacity	Refer datasheet of base micro-controller		
Local signalling	1 LED green for PWR 1 LED green for STATUS (Programmable)		
Electrical connection	Screw terminal block for connections (pitch 5.08 mm)		
Mounting support	Wall mounting Panel Mounting		
Height	130 mm		
Depth	27 mm		
Width	150 mm		
Enclosure Material	ABS UL-94-HB		
Product weight	0.43 Kg		

Environment

Resistance to electrostatic discharge	4kV on contact	8kV on air
Resistance to electro magnetic fields	10 V/m (80 MHz 1GHz)	3 V/m (1.4 MHz 2 GHz) 1 V/m (2 MHz 3 GHz)
Immunity to microbreaks	10 ms	
Relative humidity	10...95% without condensation in operation	
IP degree of protection	IP54	
Operating altitude	0...2000m	
Storage altitude	0...3000m	
Shock resistance	15 gn for 11 ms	

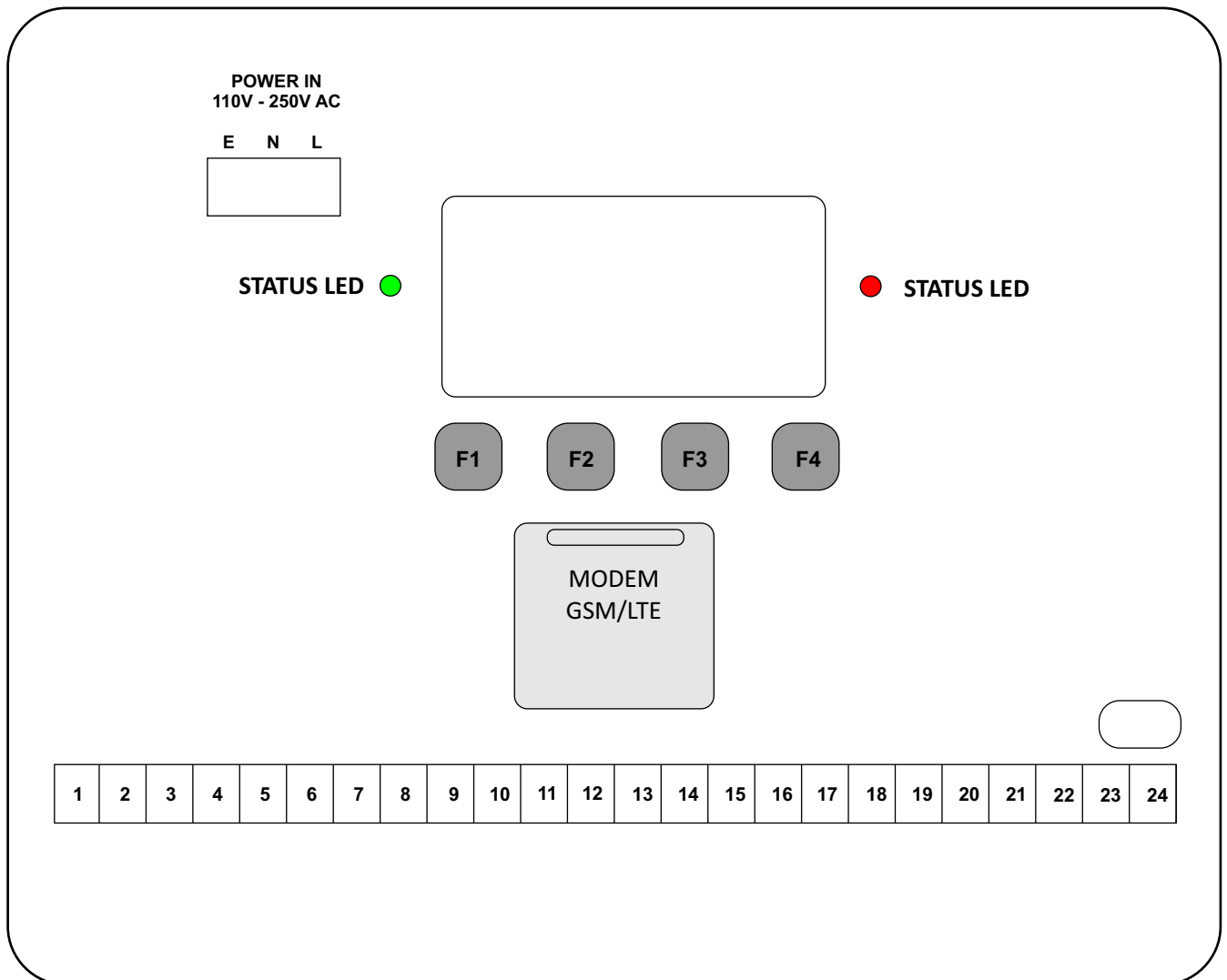


PIN	NAME	DESCRIPTION
1	C1	Common of Relay 1
2	NO1	Relay 1 NC Output
3	C2	Common of Relay 2
4	NO2	Relay 2 NC Output
5	C3	Common of Relay 3
6	NO3	Relay 3 NC Output
7	C4	Common of Relay 4
8	NO4	Relay 4 NC Output
9	OC1	Transistor Output 1
10	OC2	Transistor Output 2
11	V+	24V 100mA Output
12	GND	Ground
13	A1	Analog Input 1
14	A2	Analog Input 2
15	A3	Analog Input 3
16	A4	Analog Input 4
17	GND	GND for Digital Input
18	I1	Digital Input 1
19	I2	Digital Input 2
20	I3	Digital Input 3
21	I4	Digital Input 4
22	V+	24V+ for Digital Input
23	A	A
24	B	B



GSM/LTE Modem (Optional)

MODEM	SIMCOM SIM7500E
Supported Bands	FDD-LTE B1/B3/B7/B8//B20 GSM/GPRS/EDGE 900/1800 MHz
Control	UART via AT Commands
UART Connection	TX : IO21 / RX : IO22 RESET : IO15
Data Transfer Specifications	<ul style="list-style-type: none">• LTE CAT1• EDGE Class• GPRS• CSD

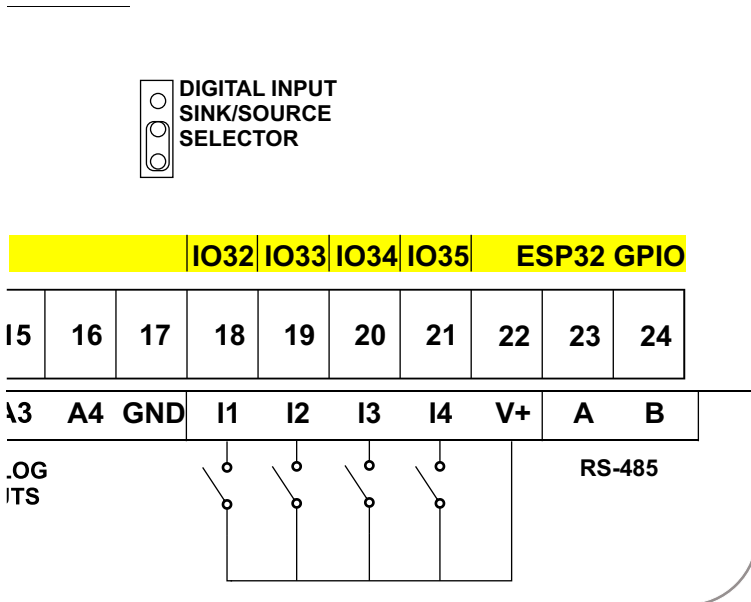


Specifications

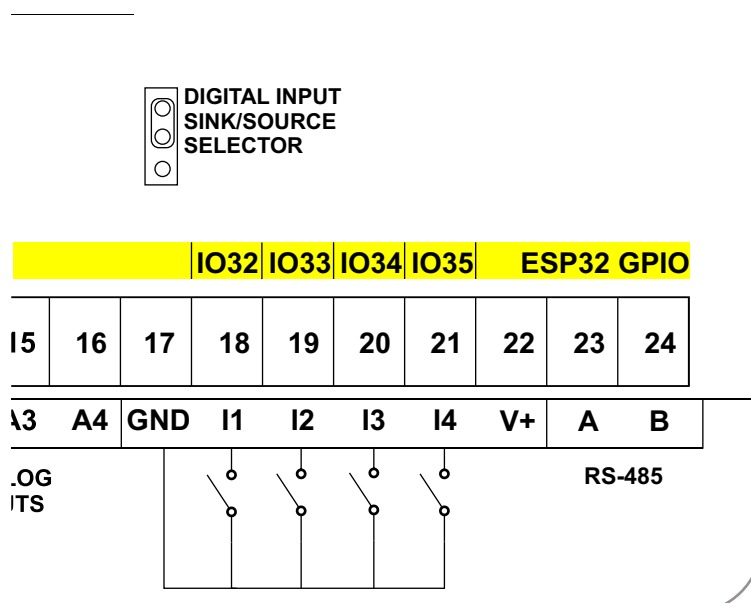
Type: Optically Isolated

Rated Voltage: 24V DC

Digital Input Wiring Diagram | Source Inputs

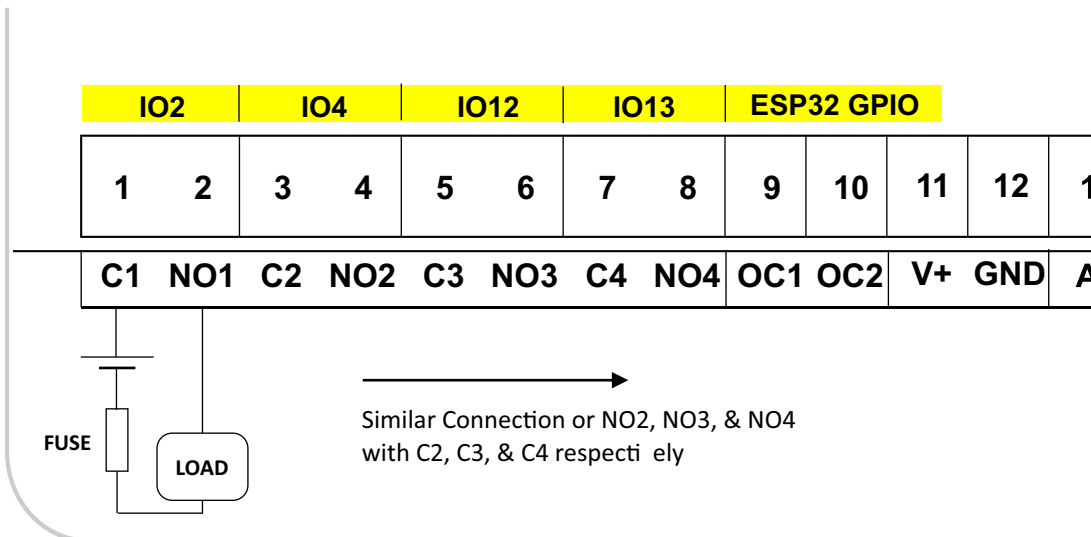


Digital Input Wiring Diagram | Sink Inputs

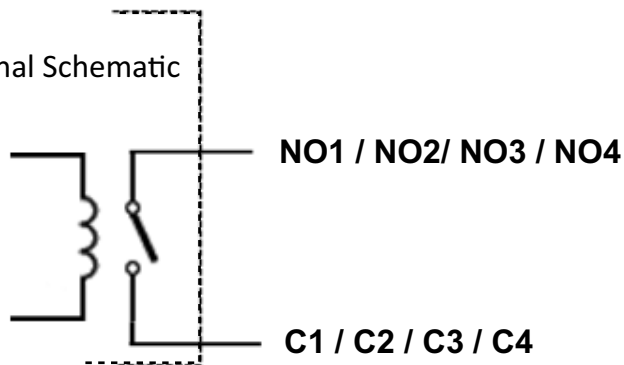


Specifications

Type	SPST NO Relay
Maximum Voltage	270VAC / 125 VDC
Max. Contact current rating	3A
Min. Contact switching load	100mA @5V



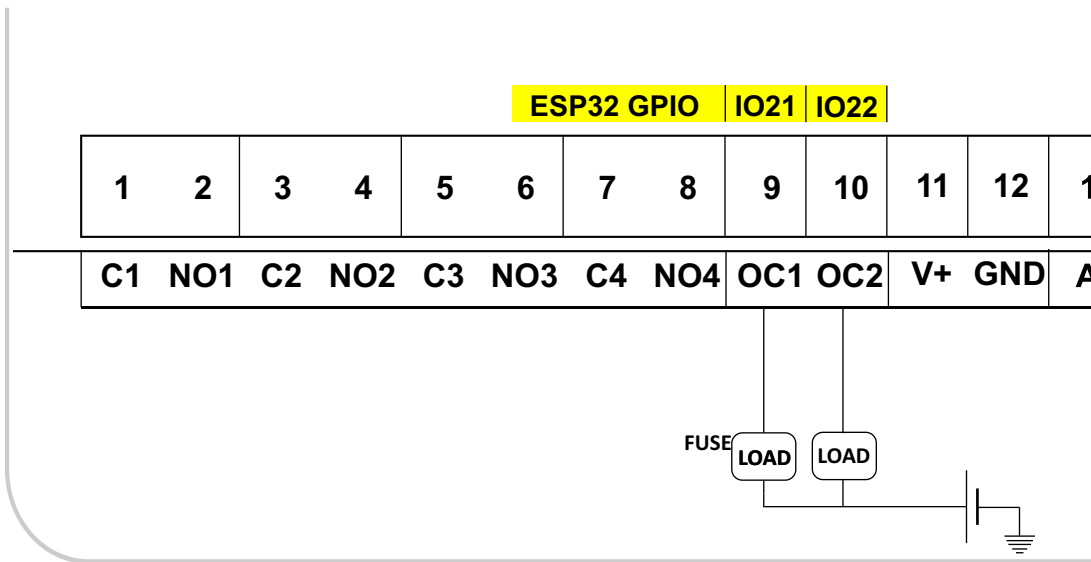
Internal Schematic



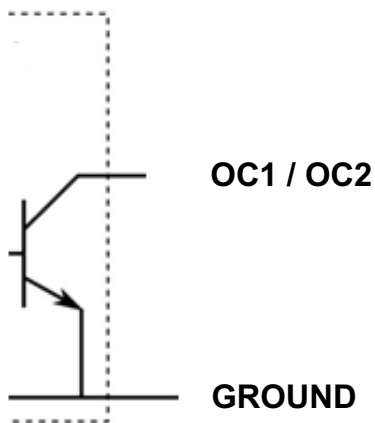
Specifications

Type	Open Collector NPN
Maximum Voltage	24V DC
Max. Current Drive	25 mA @ 12V DC
Max. Power dissipation	310mW

* Not available if GSM/LTE modem option is used.



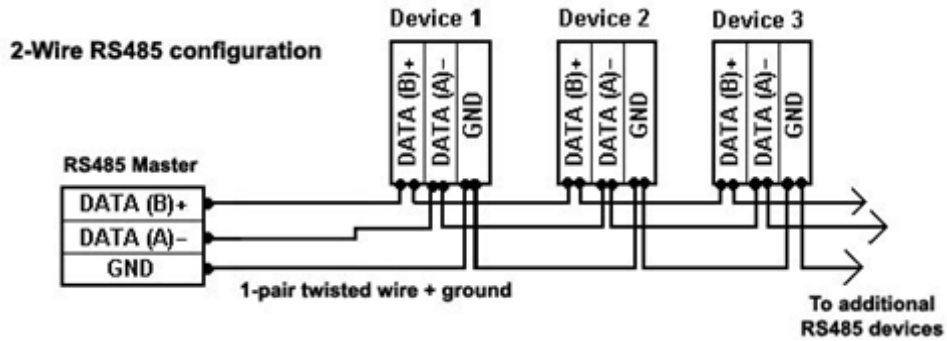
Internal Schematic



Specifications

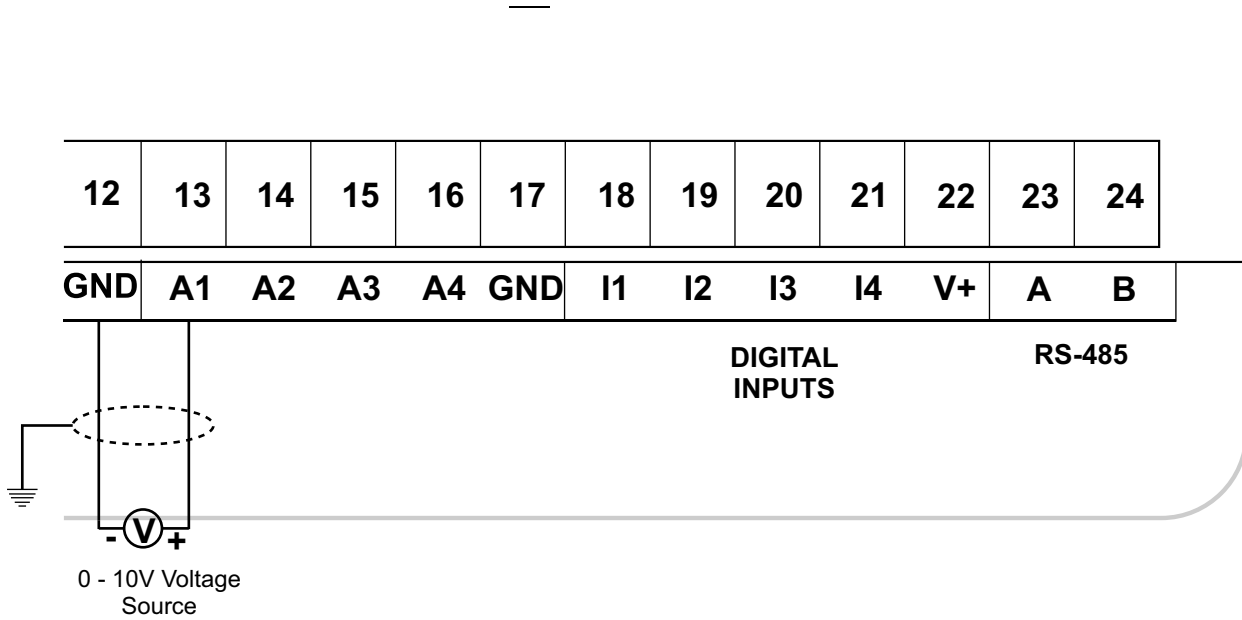
Driver	MAX485	
UART Connection	IO26-RXD	IO27-TXD
Flow control	IO25	

15	16	17	18	19	20	21	22	23	24
A3	A4	GND	I1	I2	I3	I4	V+	A	B
LOG			DIGITAL				RS-485		
JTS			INPUTS						

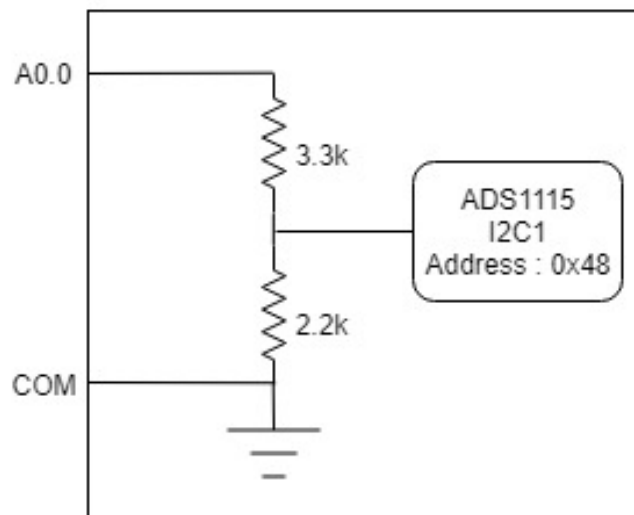


Specifications

ADC	ADS1115
Communication	i2c SCL : IO16 / SDA : IO17
Address	0x48
Resolution	16 bit



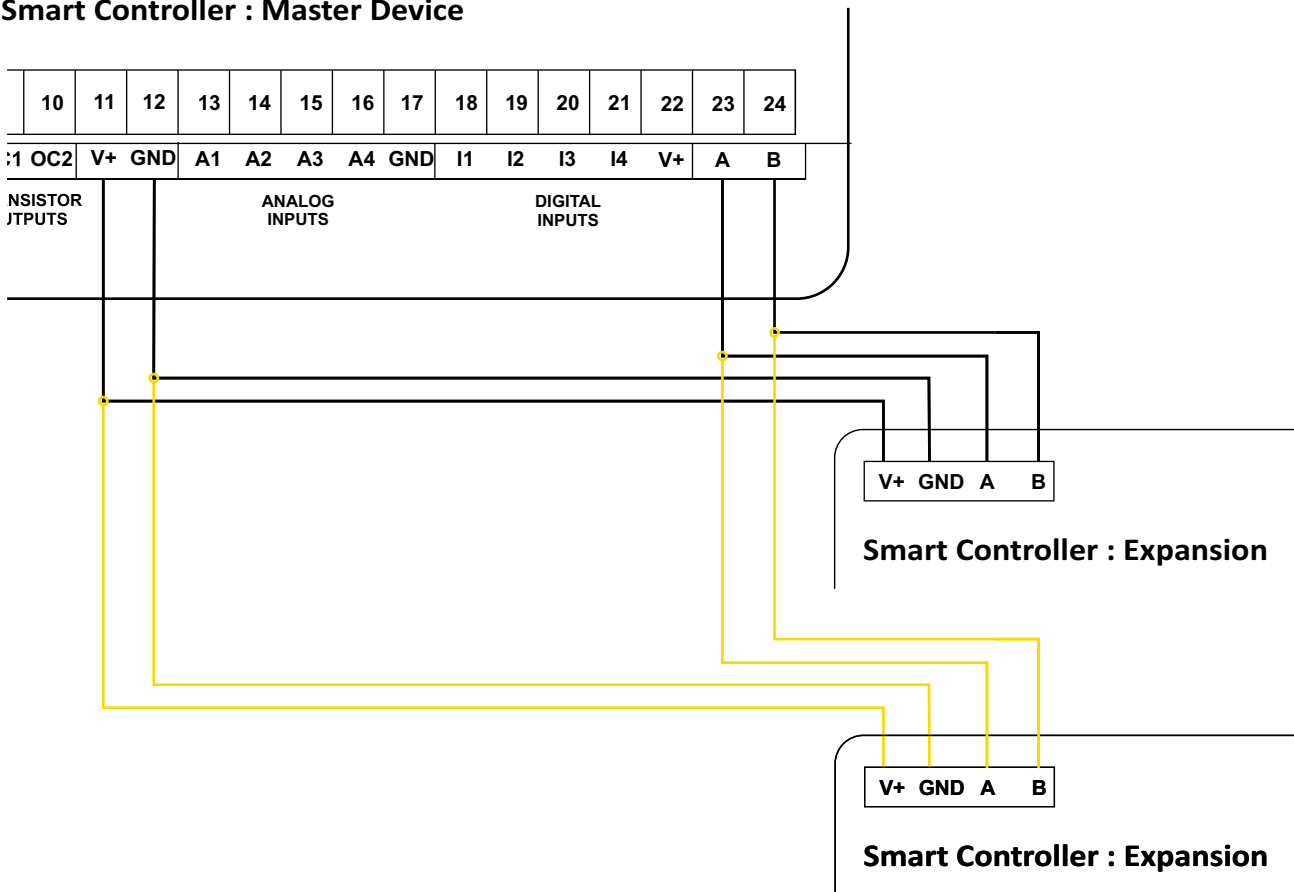
0 - 10 V input to 0 - 4V



Specifications

Expansion Types	Remote I/O RS-485
Communication	RS-485
Address	Set by switches on Expansion Modules
Protocol	Modbus RTU
Max. Count	8

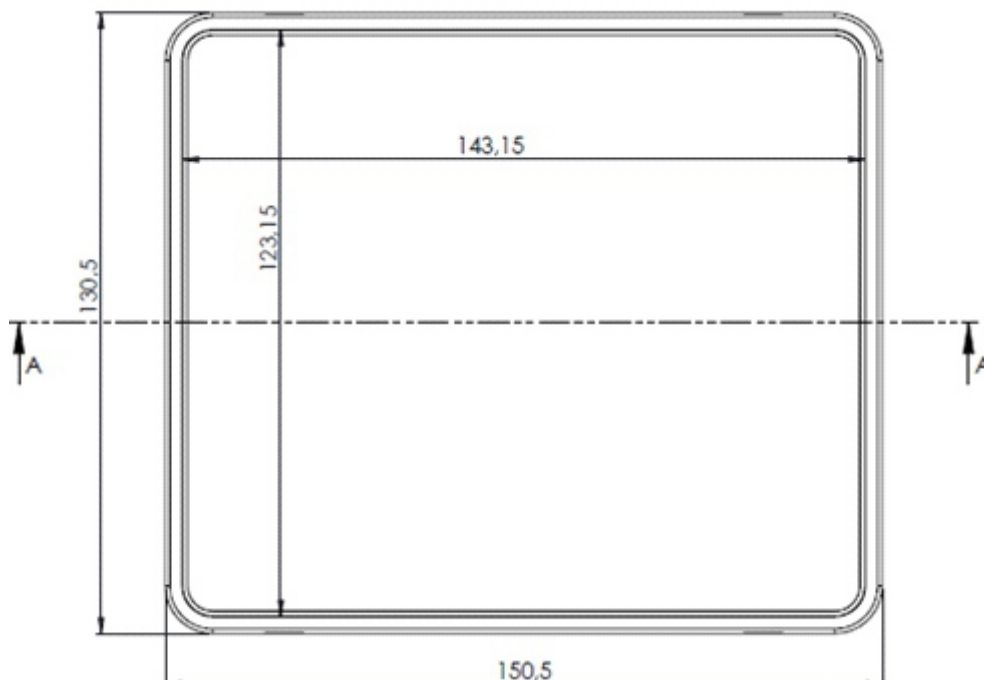
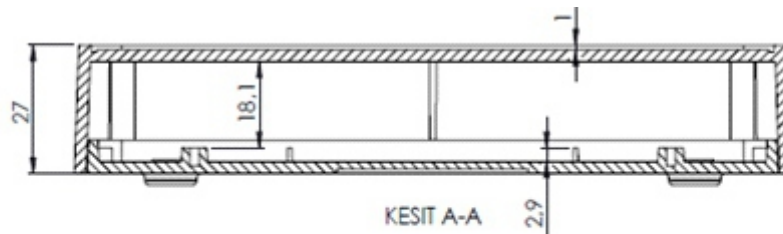
Smart Controller : Master Device



Programming procedure

SOC	ESP32-WROOM32
Flash Mode	QIO
Flash Size	4MB
Flash Frequency	10MHz
PSRAM	Disabled
Upload Speed	115200
Compatible IDE	ESP-IDF , Platform I/O

Dimensions





Reach-Us

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Document Revisions

Version	Changes	Date
1.2	Initial release	13/08/2021