

C1	C2
1 Digital Input	2 Digital Inputs
2 Analog inputs 0 - 10V	1 RS-485 Communication
1 RS-485 Communication	
C3	C4
1 Load Cell input	1 Thermocouple input
C5	
1 Thermocouple input	

Communication Options



WiFi available on all devices



Main

Range of product	Model 1
Product type	Programmable node
Rated supply voltage	Standard 9 - 36V DC
Field of Application	Monitoring
Discrete Input Voltage	18 - 24 V DC
Analog input range	0 - 10V DC / 0 - 20 mA (depending on model)
Communication	RS-485 (depending on model)

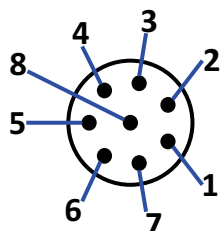
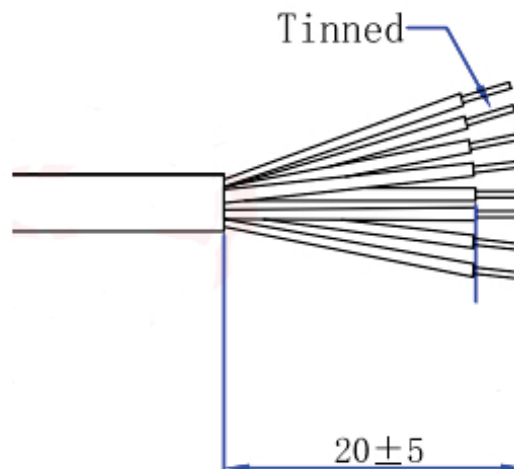
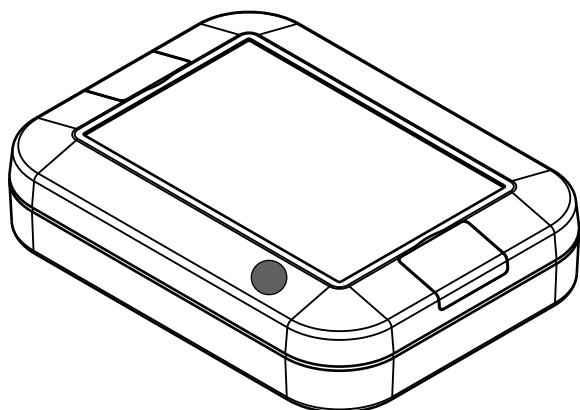
Complementary

Local signalling	1 LED green for PWR 1 LED Red for Indication
Electrical connection	Removable 8 pin connector / 3 meter cable supplied in standard package
Mounting support	Wall mount Electrical Pole mount - acsery required
Height	100.00 mm
Depth	22.00 mm
Width	75.00 mm
Product weight	0.22 Kg

Environment

Relative humidity	10...95% without condensation in operation
IP degree of protection	IP20
Operating altitude	0...2000m
Storage altitude	0...3000m
Shock resistance	15 gn for 11 ms
Operating temperature	-40 to +85 'C

8 Pin connector and wire harness



8P Male	Wire color
1	White
2	Brown
3	Green
4	Yellow
5	Gray
6	Pink
7	Blue
8	Red

Pin Description

Wire Harness

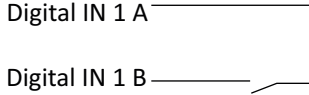
8P Male	Wire color
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I/O Configuration - 1

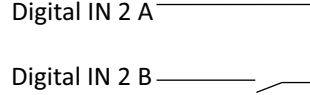
CF1	CF2	CF3	CF4	CF5
Digital IN A	Digital IN A	A +	Thermocouple +	SCL
Digital IN A -	Digital IN A	A -	Thermocouple -	SDA
Analog IN 1	Digital IN B	B +	---	---
Analog IN 2	Digital IN B	B -	---	---
RS-485A	RS-485A	RS-485A	---	3.3V+
RS-485B	RS-485B	RS-485B	---	---
POWER +	POWER +	POWER +	POWER +	POWER +
POWER -	POWER -	POWER -	POWER -	POWER -

Digital Inputs Wiring

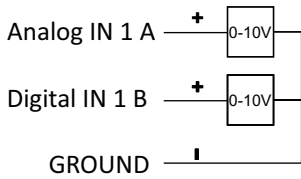
ESP32 GPIO **35**



ESP32 GPIO **34**



Analog Wiring



ADS1115 Connections

IC Type	ADS 1115
Communication	I2C IO17 - IO16
Module Address	0x48
Resolution	16 bit

Programming

Library `Adafruit ADS1115`

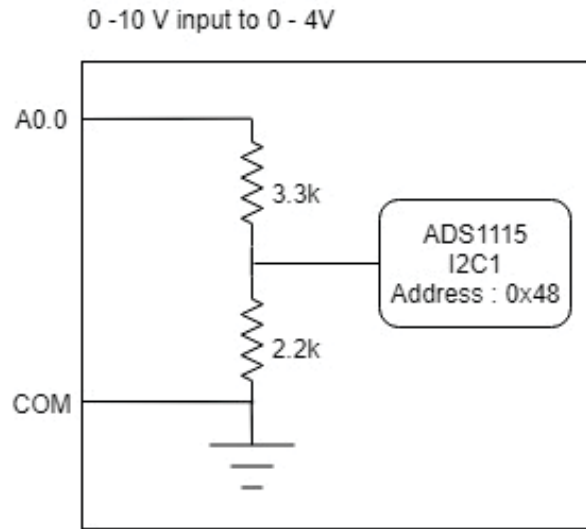
[Edit to the library](#)

File: `Adafruit_ADS1015.cpp`

Function `Adafruit_ADS1015::begin()`

Change :

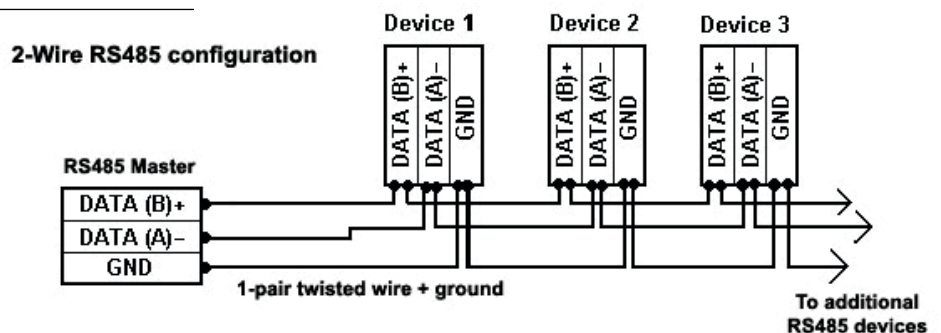
`Wire.begin()` to `Wire.begin(16,17);`



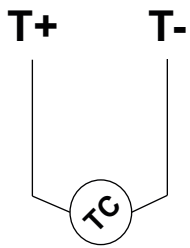
RS-485 Interface

ADS1115 Connections

UART RX	IO25
UART TX	IO26
Flow Control	IO14



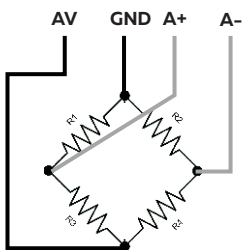
Thermocouple Wiring



MAX31855 connections

IC Type	MAX31855		
Communication	SPI	SCK	IO18
		MISO	IO19
		CS	IO5

Load cell Wiring



Interface connections

Module Type	HX711
PD_SCK	IO32
DOUT	IO33

RTC parameters

Display driver	DS3231
Communication	I2C IO16(SDA) - IO17(SCL)
Module Address	0x68
Battery Backup	YES

NB-IoT Module communication

Module Type	QUECTEL BC95-G
Communication	UART
Module Address	NA
Command set	AT
Connection	UART1 (IO25, IO26)

LoRa Module communication

Module Type	RLYR894 RLYR406 (Order depending on regional regulations)
Communication	UART
Module Address	NA
Command set	AT
Connection	UART1 (IO25, IO26)

4G LTE Module communication

Module Type	SIM7000
Communication	UART
Module Address	NA
Command set	AT
Connection	UART1 (IO25, IO26)

mini-USB



Board	ESP32 WROOM Module
Flash Mode	QIO
Flash Size	4MB
Flash Frequency	10MHz
PSRAM	Enabled
Upload Speed	115200

After successful uploading of program following message appears.

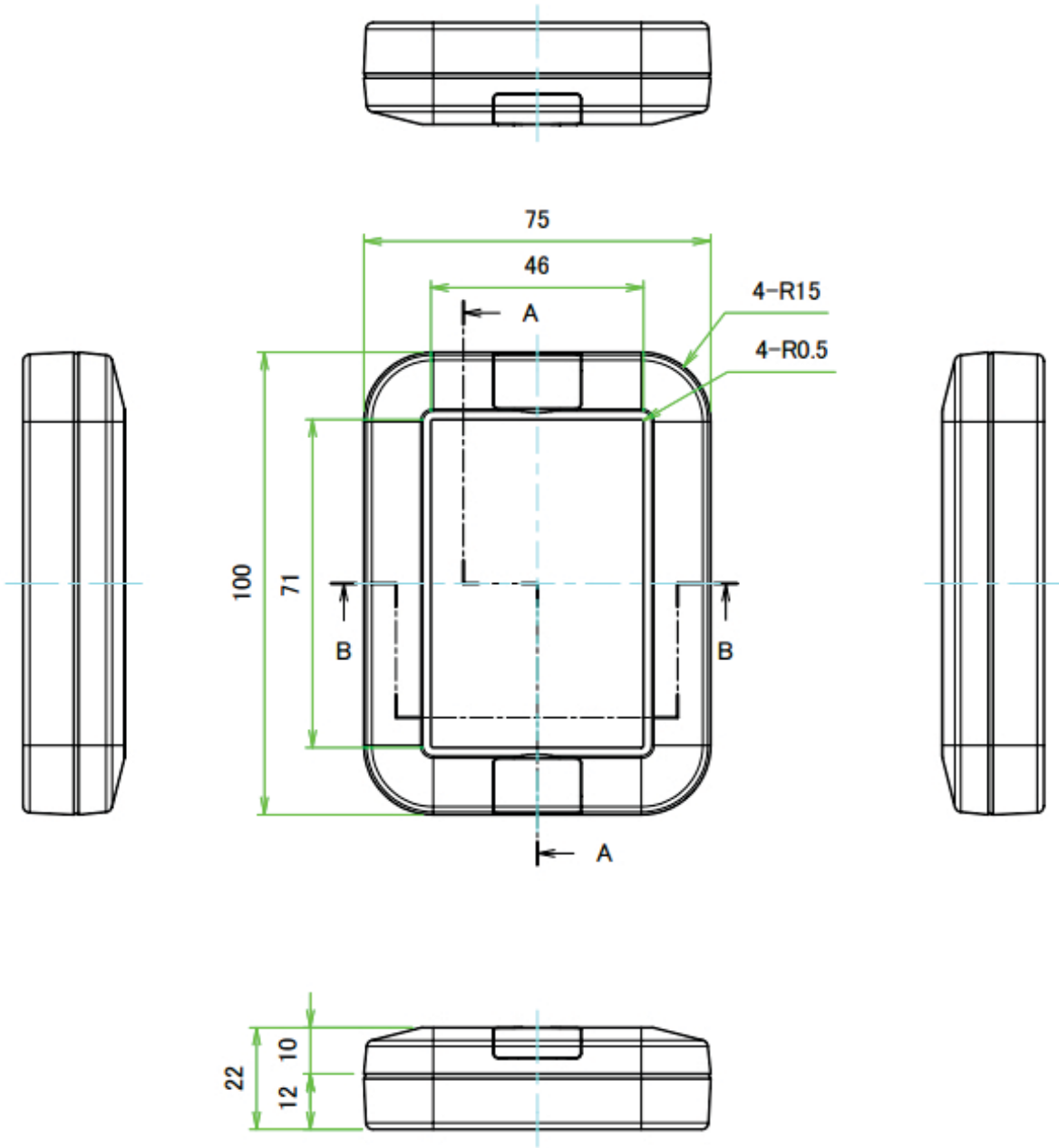
```
Done uploading.  
Writing at 0x00008000... (100 %)  
Wrote 3072 bytes (144 compressed) at 0x00008000 in  
Hash of data verified.  
Leaving...  
Hard resetting via RTS pin...
```

esp32 Boards must be installed under board manager, it is recommended to use the latest version of esp32 board driver for Arduino.

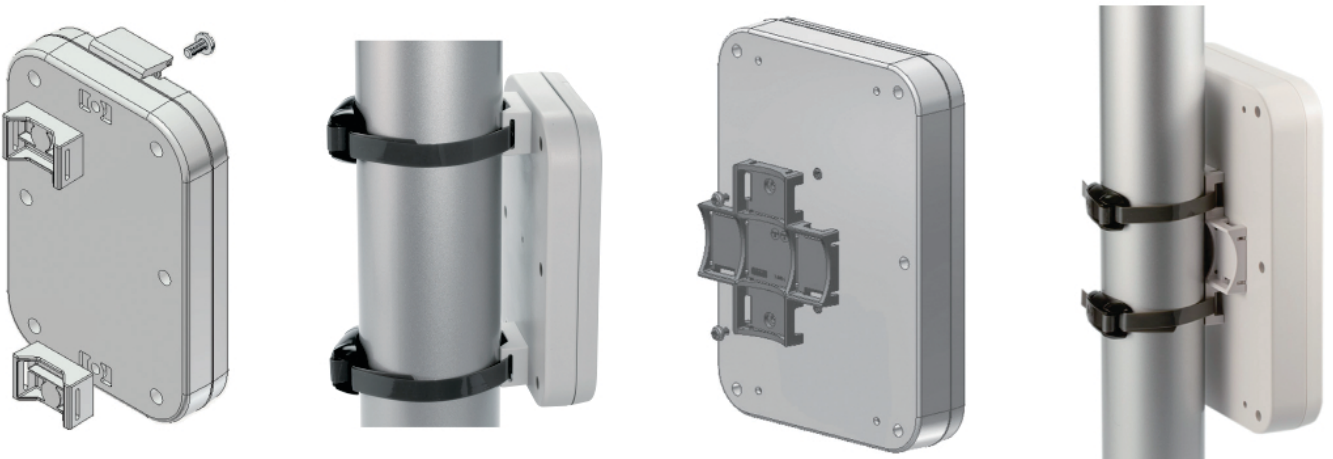
Due to installation of different drivers and older versions of libraries, Arduino fails to upload the program to the controller. In most cases it is due to failure to enter boot mode of the device.

The device can be forced to boot mode by connecting the BOOT IO0 of the expansion port to the GND pin with a jumper wire. Arduino is able to upload the program to controller while the controller is in boot mode.

After uploading the program , the connection between the BOOT IO0 and GND must be removed to run the uploaded program.



Pole mount Bracket (Optional)





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