

SE-I3-AV3-TC1	SE-I3-AM3-TC1	SE-I3-TC2
3 Digital Inputs	3 Digital Inputs	3 Digital Inputs
3 Analog inputs 0 - 10V	3 Analog inputs 4 - 20mA	2 Thermocouple inputs
1 RS-485 Communication	1 RS-485 Communication	2 Transistor outputs
SE-I3-AV3-T02	SE-I3-AM3-T02	
3 Digital Inputs	3 Digital Inputs	
3 Analog inputs 0 - 10V	3 Analog inputs 4 - 20mA	
2 Transistor outputs	2 Transistor outputs	
SE-I3-AI2-RO1	SE-I3-AM3-RO1	
3 Digital Inputs	3 Digital Inputs	
2 Analog inputs 0 - 10 V	2 Analog inputs 4 - 20mA	
1 Relay output	1 Relay output	



Communication Options



Main

Range of product	SENS - SLA
Product type	Programmable node
Rated supply voltage	Standard 6 - 36V DC / Low Power : 3.3 - 6V DC
Field of Application	Monitoring and controlling
Discrete Input number	3
Discrete Input Voltage	18 - 24 V DC
Analog input number	3
Analog input range	0 - 10V DC / 0 - 20 mA (depending on model)
Communication	RS-485 (applicable or BE-Series only)
Analog input range	0 - 10V DC / 0 - 20 mA (depending on model)
Analog input controller	16 bit with PGA ADS-1115
Discrete output type	Transistor (applicable or BE-Series only)
Discrete output number	2 Transistor outputs
Discrete output voltage	24V DC for transistor output

Complementary

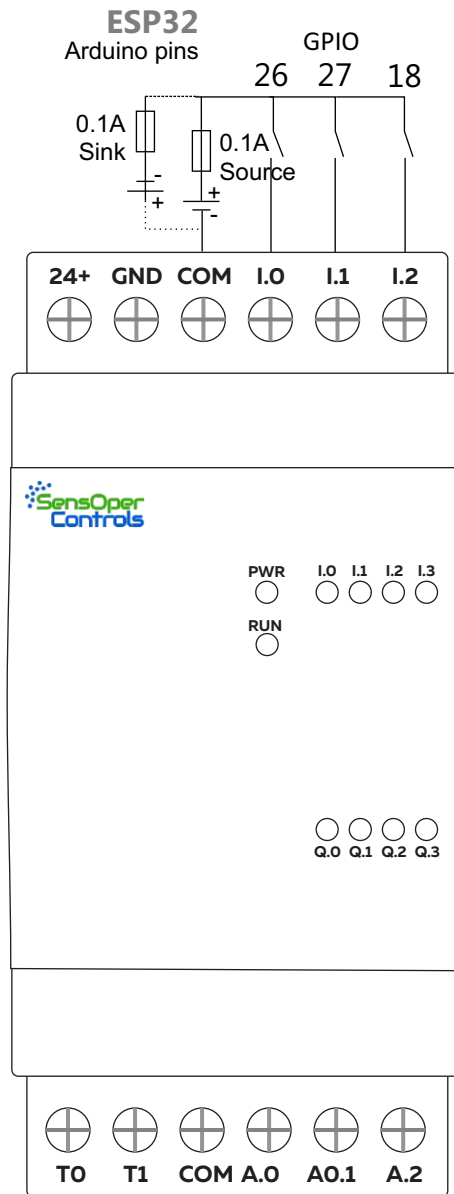
Local signalling	1 LED green for PWR 4 LED red for Digital Inputs 1 WS2812 pixel RGB Led
Electrical connection	Removable screw terminal block for inputs and outputs (pitch 5.08 mm)
Mounting support	Top hat type TH35-15 rail conforming to IEC 60715 Top hat type TH35-7.5 rail conforming to IEC 60715
Height	86.00 mm
Depth	59.00 mm
Width	35.00 mm
Product weight	0.91 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

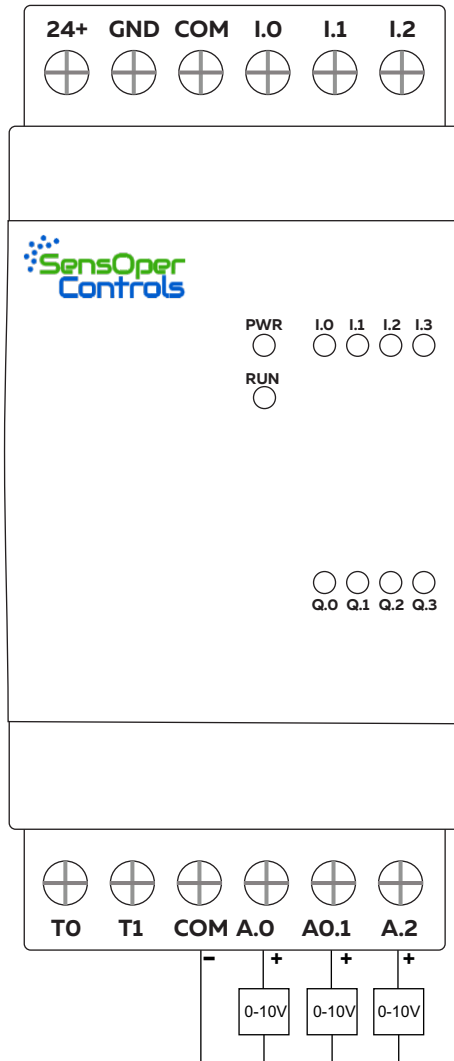
Digital inputs wiring diagram

24V DC Sink/Source



Analog Inputs wiring diagram

0 - 10 V DC



ADS1115 connections

IC Type	ADS 1115
Communication	I2C IO21 - IO22
Module Address	0x48
Resolution	16 bit

Programming

Library Adafruit ADS1115

[Edit to the library](#)

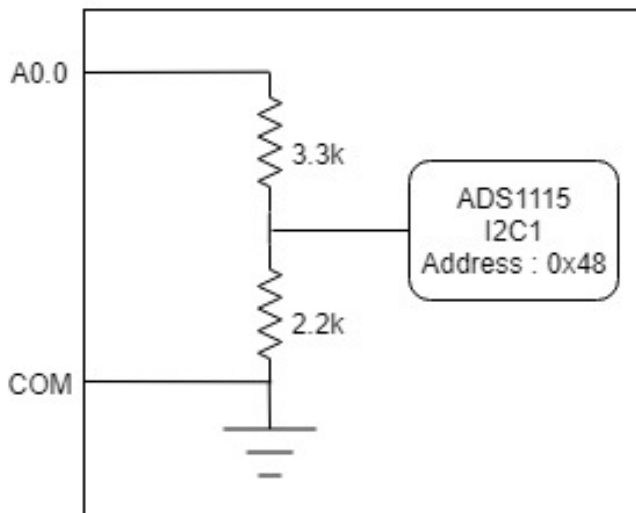
File: Adafruit_ADS1015.cpp

Function Adafruit_ADS1015::begin()

Change :

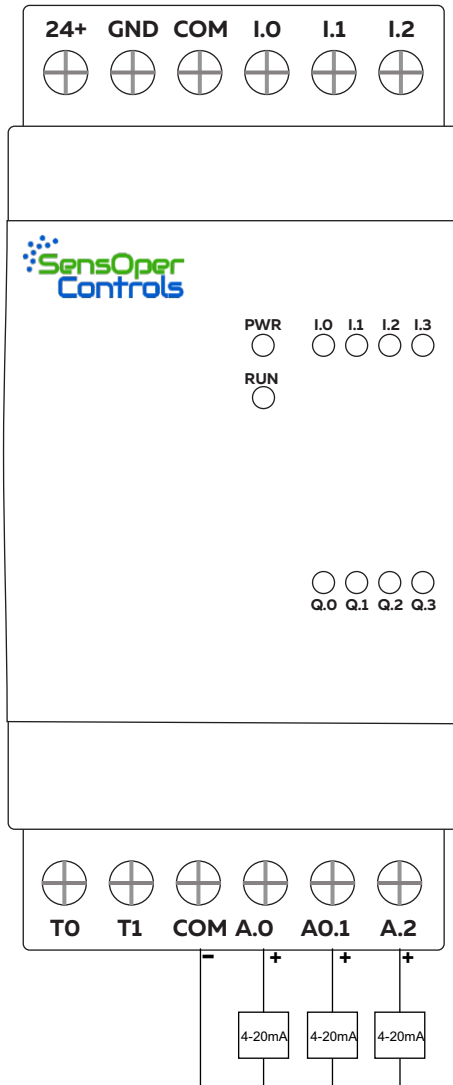
Wire.begin() to Wire.begin(21,22);

0 - 10 V input to 0 - 4V



Analog Inputs wiring diagram

0 - 20mA DC



ADS1115 connections

IC Type	ADS 1115
Communication	I2C IO21 - IO22
Module Address	0x48
Resolution	16 bit

Programming

Library Adafruit ADS1115

[Edit to the library](#)

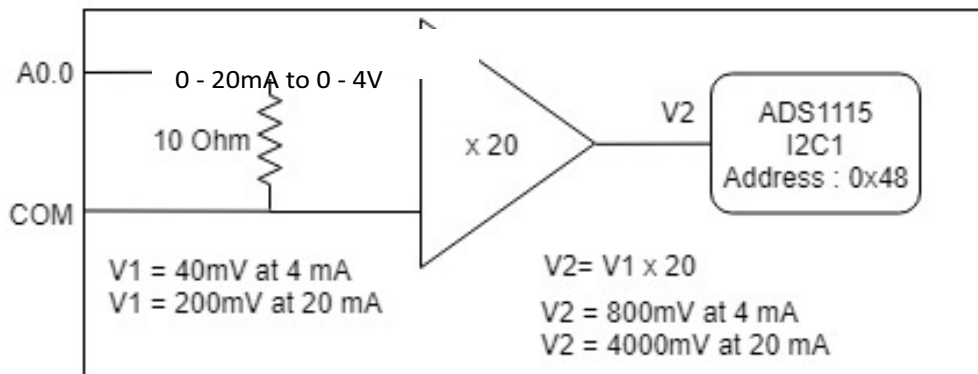
File: Adafruit_ADS1015.cpp

Function Adafruit_ADS1015::begin()

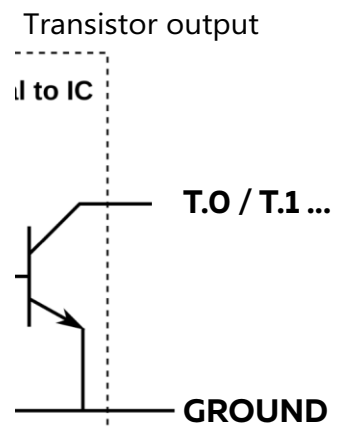
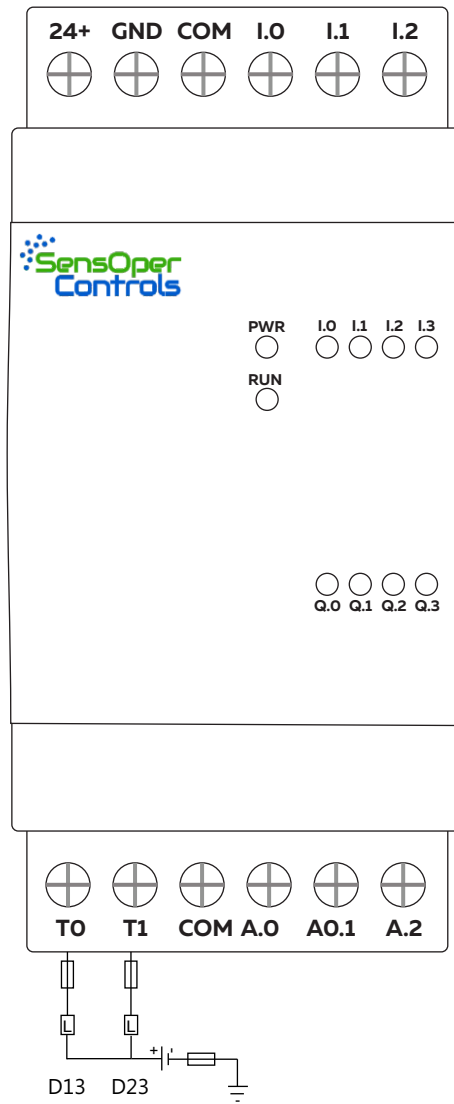
Change :

Wire.begin() to Wire.begin(21,22);

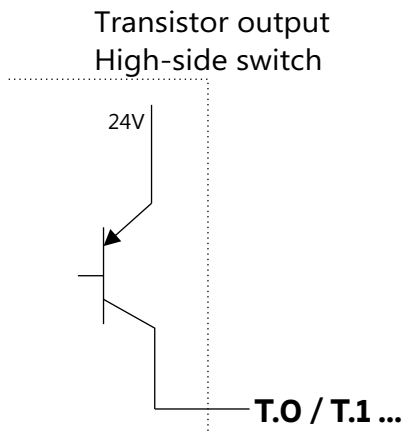
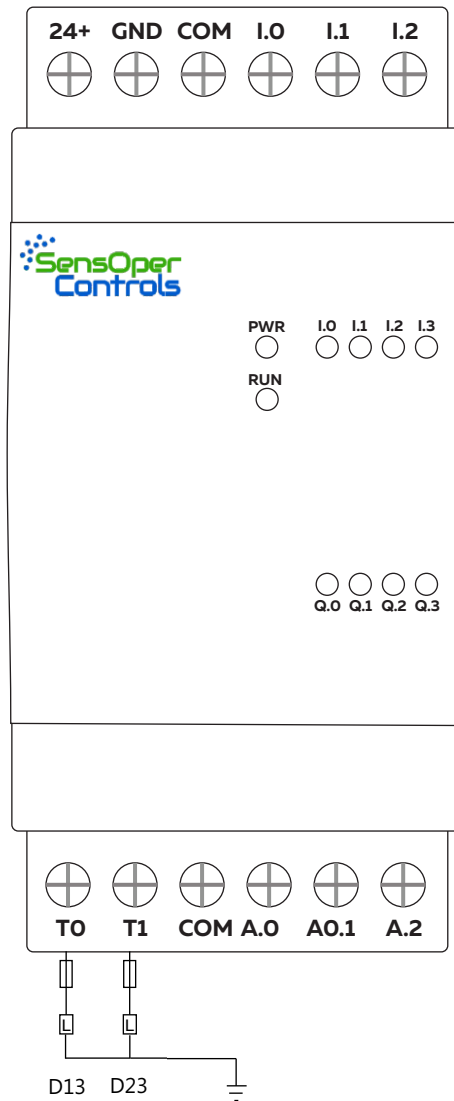
0 - 10 V input to 0 - 4V



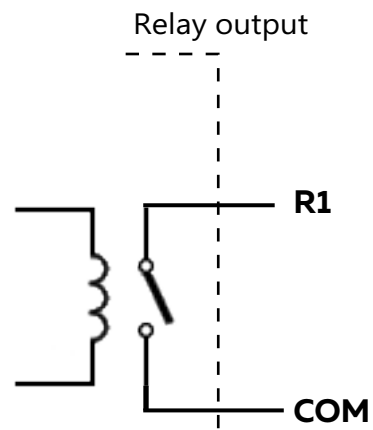
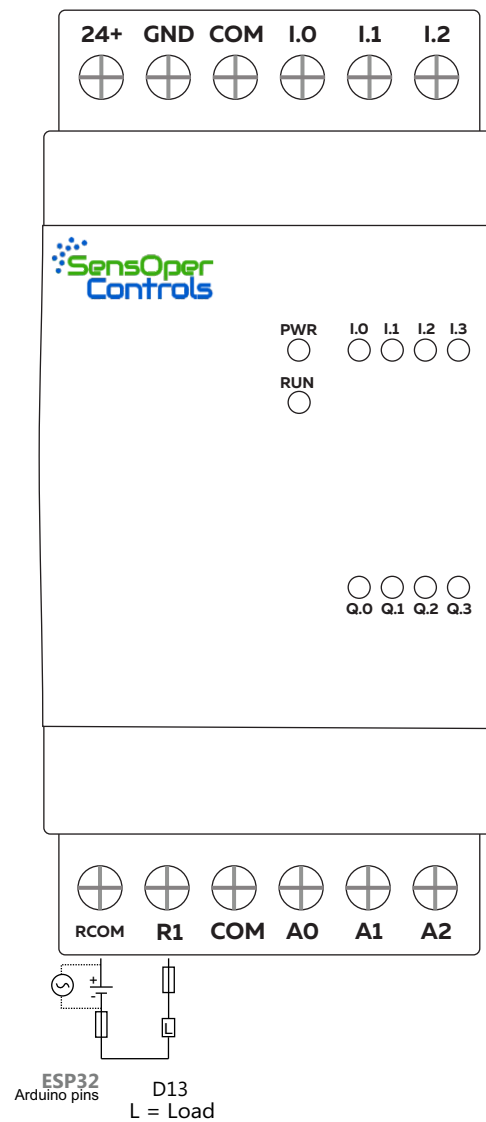
Transistor outputs Open Collector wiring diagram



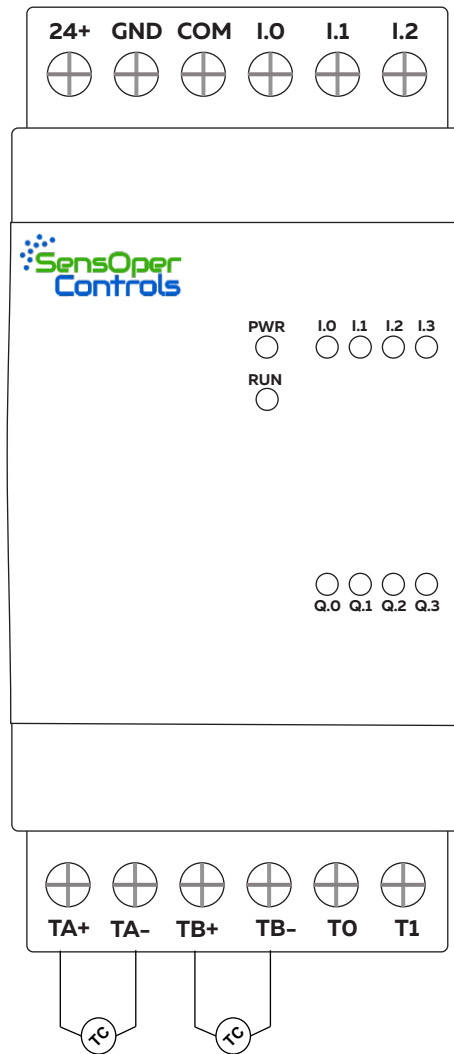
Transistor outputs High Side Switch



Relay output



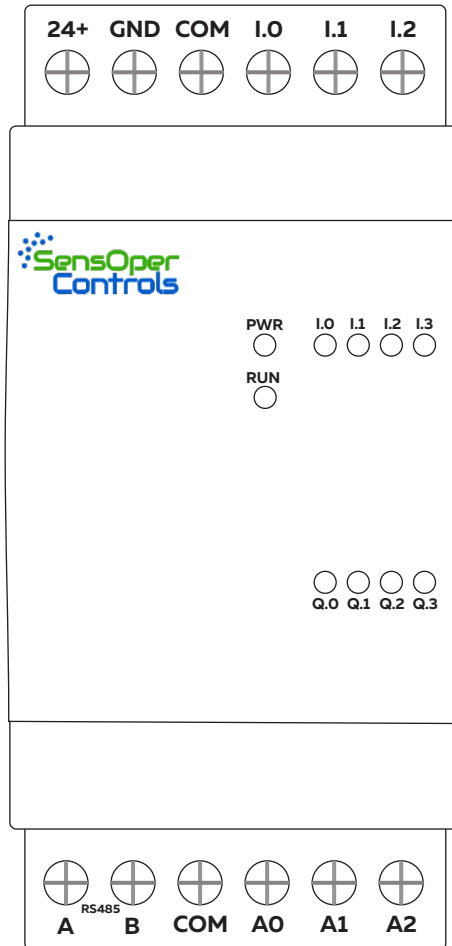
Thermocouple wiring diagram



MAX31855 connections

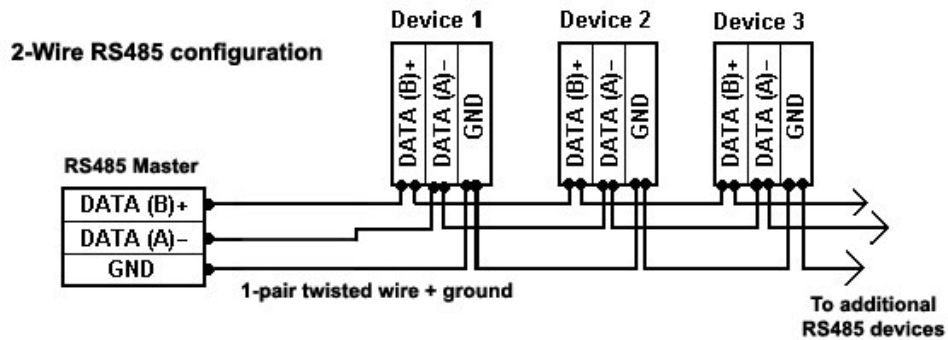
IC Type	MAX31855		
Communication	SPI	SCK	IO18
		MISO	IO19
		CS	IO6

RS-485 wiring diagram



HALF-DUPLEX

Flow control
IO17



RTC parameters

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

Built in buttons

Read mode	Digital Input IO 35
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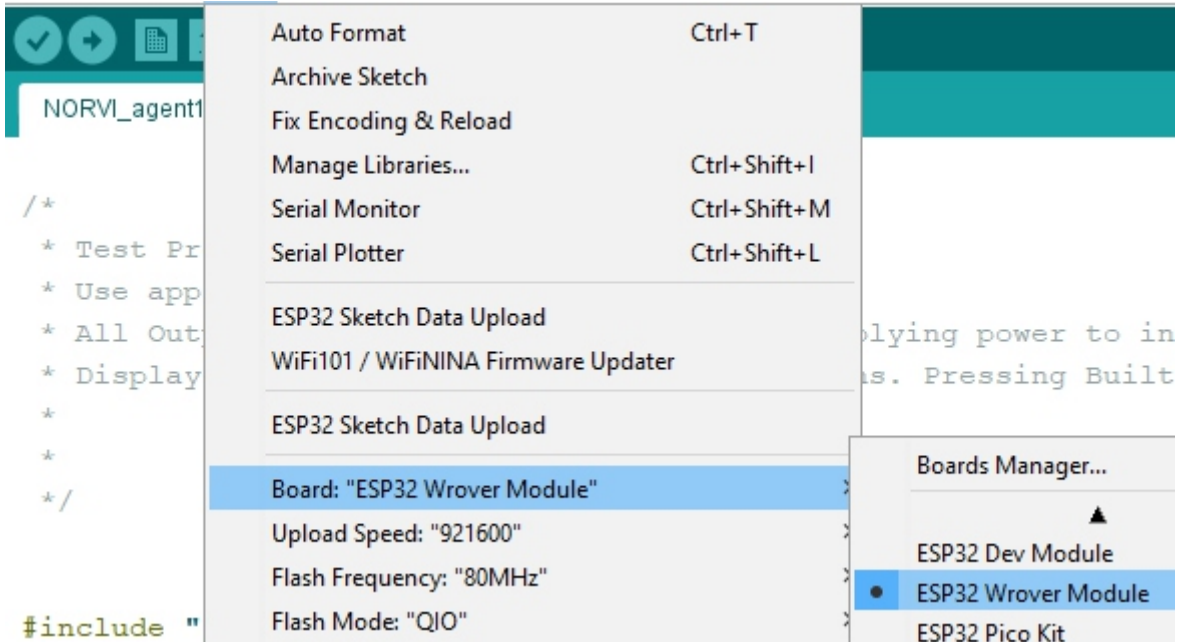
NB-IoT Module communication

Module Type	QUECTEL BC95-G
Communication	UART
Module Address	NA
Command set	AT
Connection	UART0 (RXD0, TXD0)

LoRa Module communication

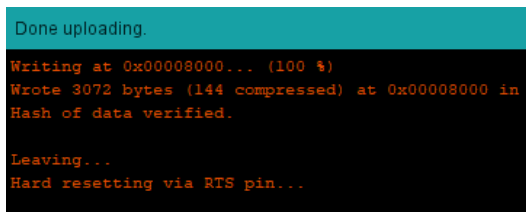
Module Type	RLYR894 RLYR406 (Order depending on regional regulations)
Communication	UART
Module Address	NA
Command set	AT
Connection	UART0 (RXD0, TXD0)

Programming procedure



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

After successful uploading of program following message appears.



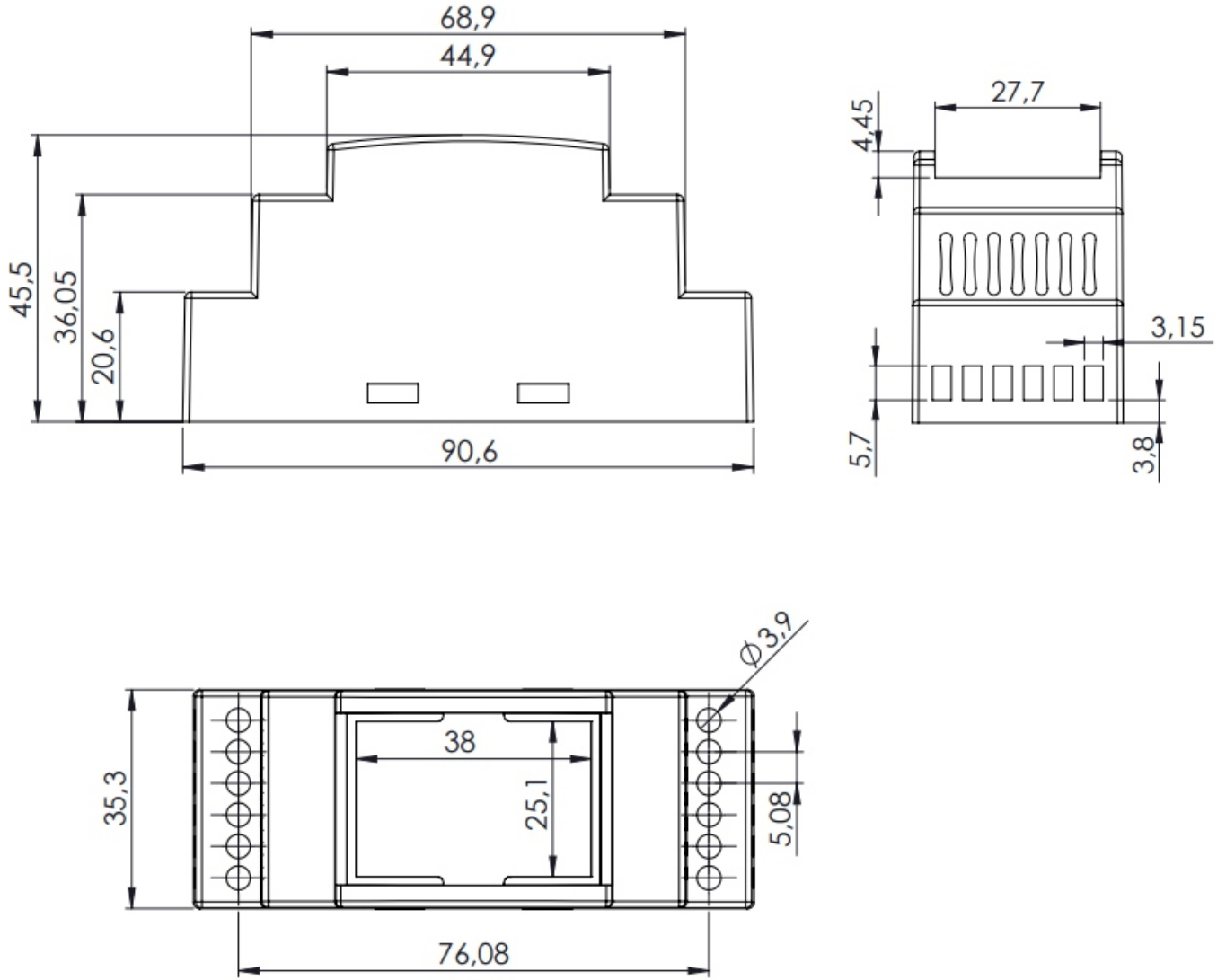
esp32 Boards must be installed under board manager, it is recommended to use the latest version of esp32 board driver for Arduino.

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.

Dimensions





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