Product datasheet

Characterstics

NORVI

EC-M12-CG-CX

C1

1 Digital Input
2 Analog inputs 0 - 10V
12v DC Output

C2

2 Digital Inputs
12v DC Output

C3

1 Load Cell input

C4

1 Thermocouple input

C5

1 x I2C / 3.3V Output

Communication Options

LoRa

4G LTE

NB-IoT

AA x 4

STM32L01 Low Power MCU inside

STM32

Main

Range of product	Model 12
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)
Battery	AA Battery
Charging	N/A

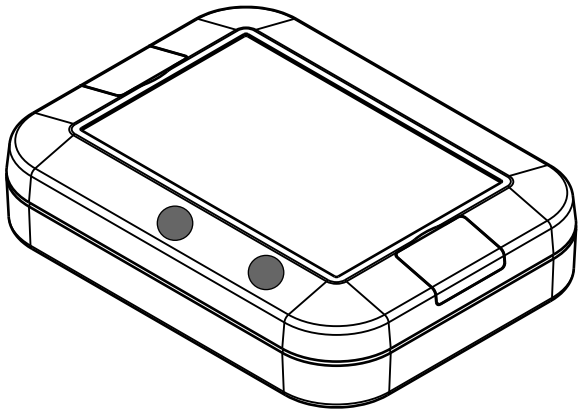
Complementary

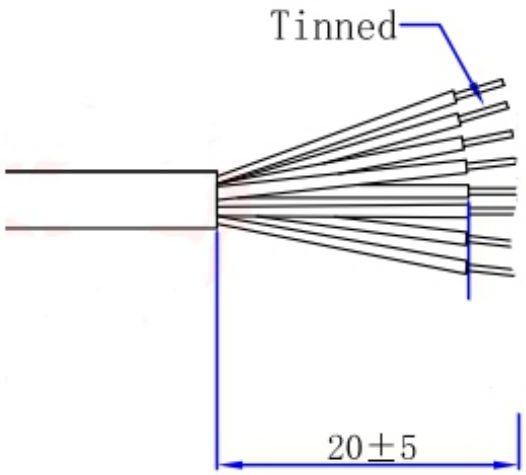
Local signalling	1 LED green for PWR 1 LED Red for Indication
Electrical connection	Removable 8 pin connector / 3 meter cable supplied in standard package
Mounting support	Wall mount Electrical Pole mount - accesory required
Height	100.00 mm
Depth	22.00 mm
Width	75.00 mm
Product weight	0.22 Kg

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

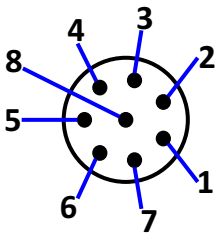
8 Pin connector and wire harness





Connector - 8 Pin

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



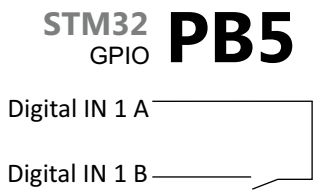
Pin Description

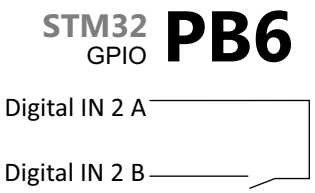
Wire Harness

I/O Configuration - 1

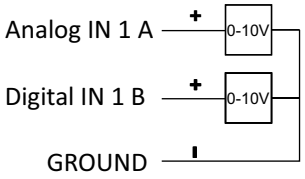
8P Male	Wire color	CF1	CF2	CF3	CF4	CF5
1	White	Digital IN A	Digital IN A	A +	Thermocouple +	SCL
2	Brown	Digital IN A -	Digital IN A	A -	Thermocouple -	SDA
3	Green	Analog IN 1	Digital IN B	B +	---	---
4	Yellow	Analog IN 2	Digital IN B	B -	---	---
5	Gray	12V +	12V +	---	---	3.3V+
6	Pink	12V GND	12V GND	---	---	---
7	Blue	---	---	---	---	---
8	Red	—	--- -	---	---	---

Digital Inputs Wiring



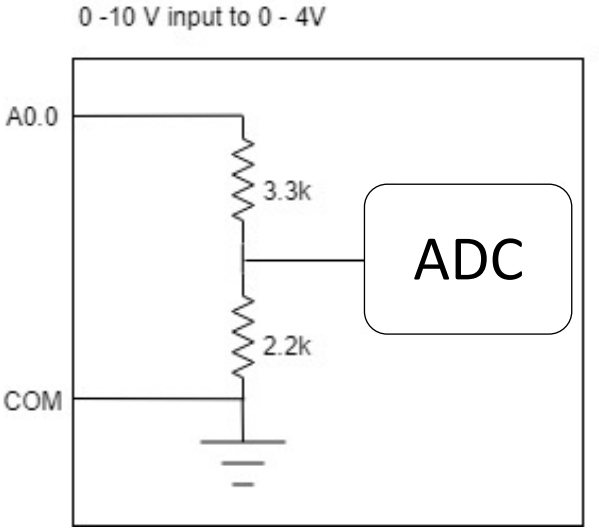


Analog Wiring



Analog Input Connections

ADC Type	Built-in STM32L
Analog Input 1	PA0
Analog Input 2	PA1
Resolution	12 bit



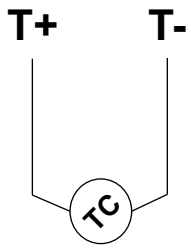
Power Output

Power Output Ratings

Voltage	12V DC
Current	500mA
Enable Pin	PB6

The power output can be used to power sensors or external devices by the internal battery of the NORVI IoT Node.
The maximum current consumption of the external sensor or device must not exceed 500mA.
HIGH/LOW levels of the GPIO12 of the IoT node, swithces the power output on and off, which can be used to save energy.

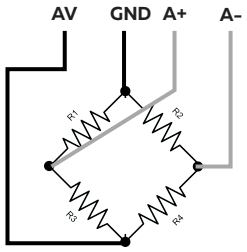
Thermocouple Wiring



MAX31855 connections

IC Type	MAX31855		
Communication	SPI	SCK	PA5
		MISO	PA6
		CS	PB13

Load cell Wiring



Interface connections

Module Type	HX711
PD_SCK	PB2
DOUT	PA4

RTC parameters

Display driver	DS3231
Communication	I2C PA9 (SDA) - PA10(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 (RX- PA2, TX - PA3, POWER - PB13)

LoRa Module communication

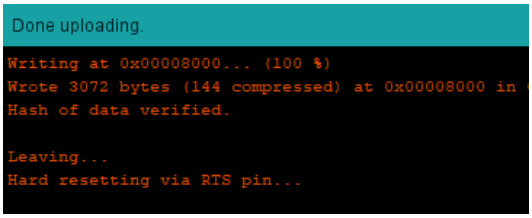
Module Type	RFM95W-915S2 (Order depending on regional regulations)
Communication	SPI
	SCK PA5 MISO PA6 MOSI PA0 CS PB13

4G LTE Module communication

Module Type	SIM7000
Communication	UART
Module Address	NA
Command set	AT
Connection	UART1 (RX- PA10, TX - PA9, POWER - PA8)

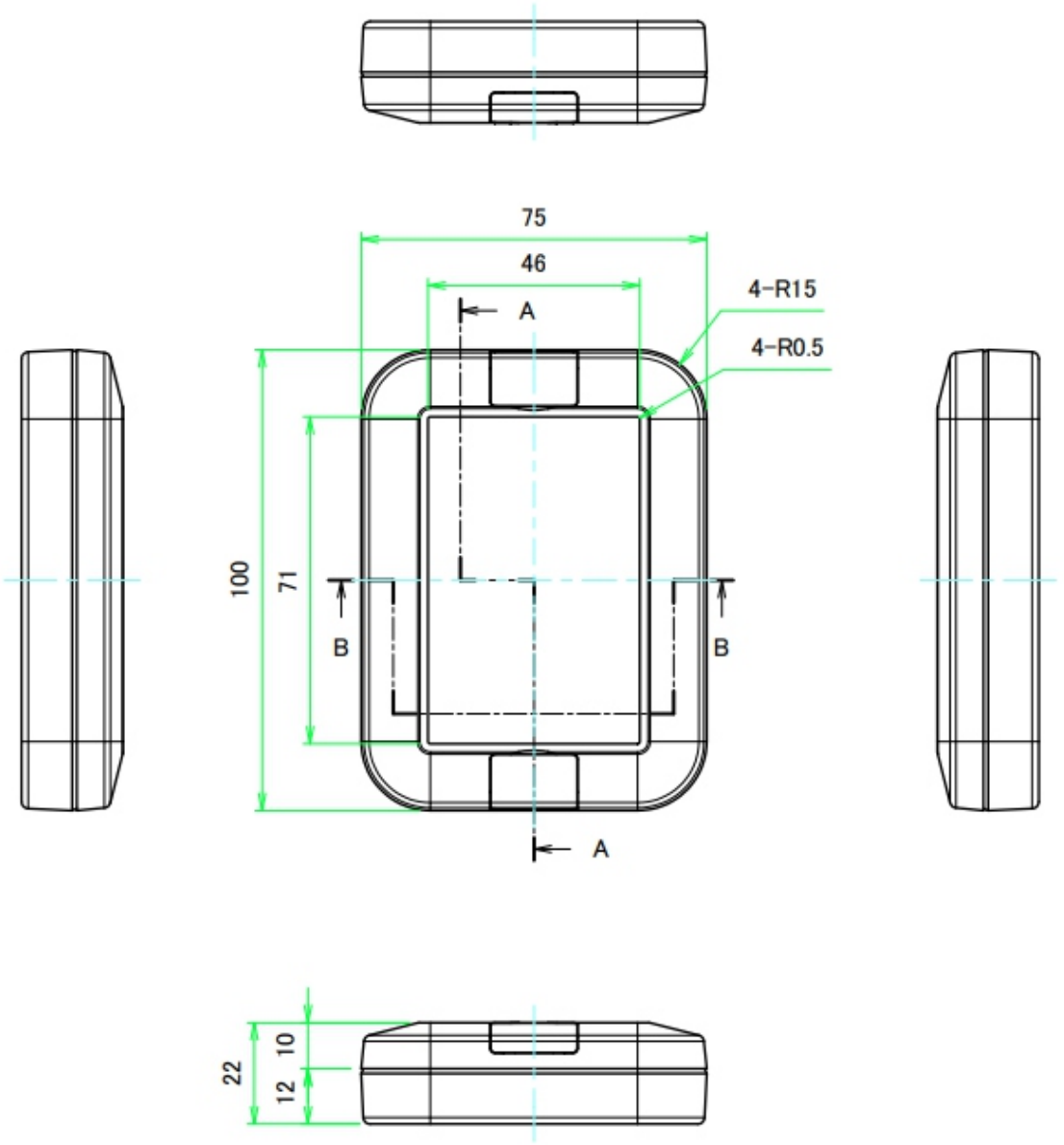
Board	ESP32 WROOM Module
Flash Mode	QIO
Flash Size	4MB
Flash Frequency	10MHz
PSRAM	Enabled
Upload Speed	115200

After successful uploading of program following message appears.



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.



Standard Accesories

1 x Main Unit
1 x 3 meter 8 core cable
1 x 3 meter 2 core cable

Pole mount Bracket (Optional)

Reach-Us

Technical Support

E-mail : info@icd.lk
Forum : https://norvi.lk/forums/

Sales Inquiries

E-mail : bhanuka@icd.lk
Web : https://norvi.lk/support/

Order Online

https://norvi.lk/