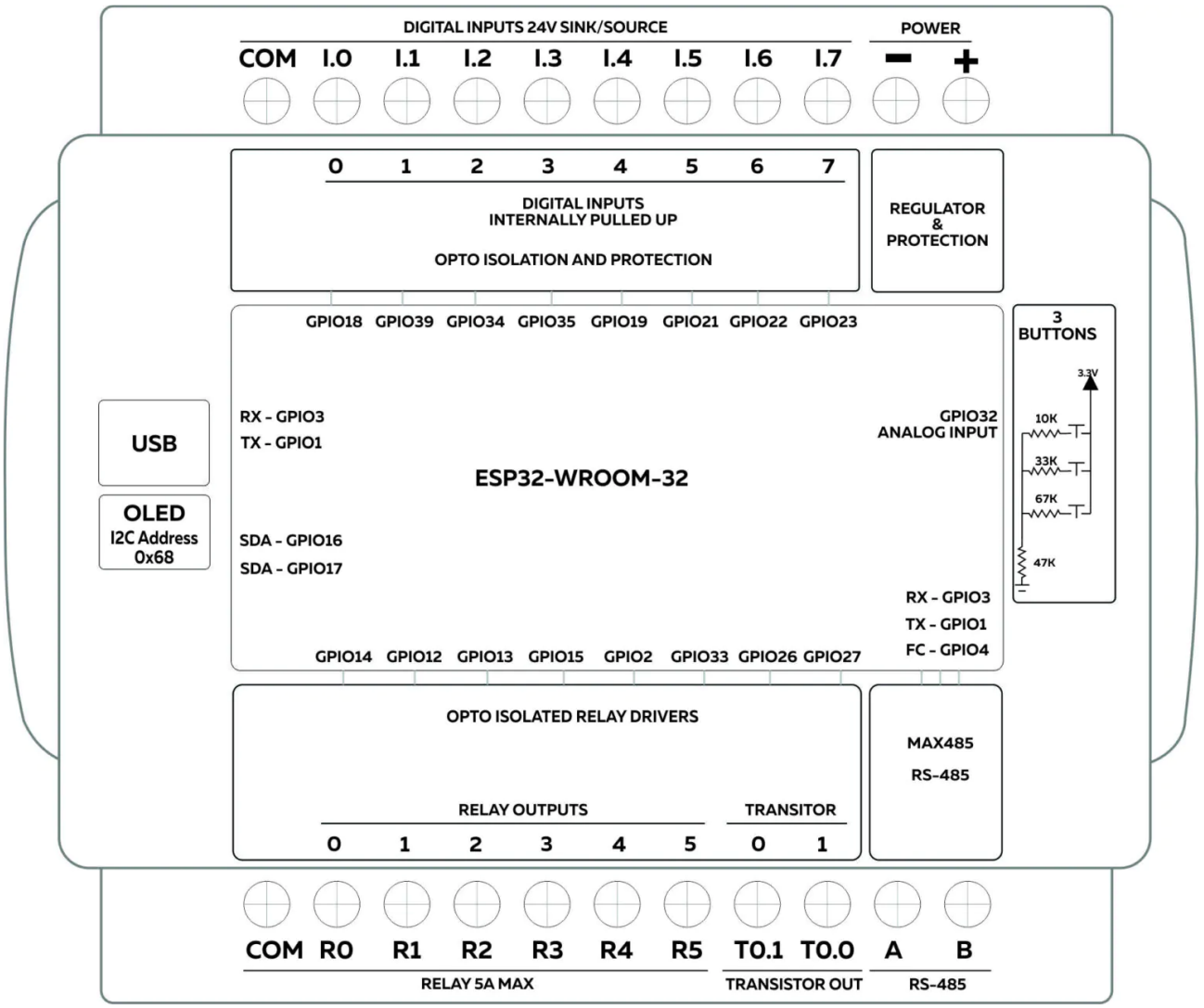
NORVI IIOT-AE01-R – Datasheet

Product Features



- ESP32-WROOM32 Module
- Built-in 0.96 OLED Display
- Built-in Button on the front panel
- Digital Inputs
- Relay Outputs
- Transistor Outputs
- DIN-Rail mount

Expansions Supported

- Digital Input
- Transistor Output
- Relay Output

Main

#

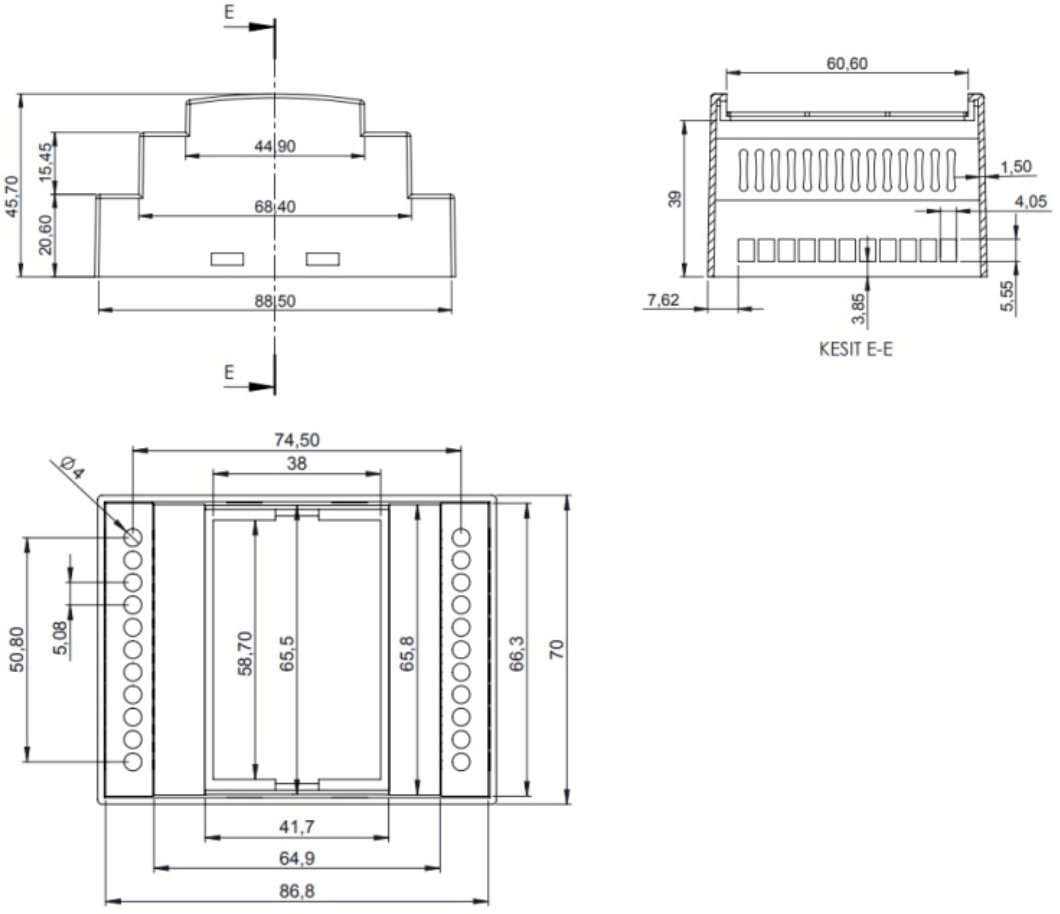
Range of Product	NORVI IIOT
Product type	Programmable Controller
Certifications	EN 61131-2:2007 EN 61010-1:2010+A1:2019 EN IEC 61010-2-201:2018 2014/30/EU- Electromagnetic Compatibility (EMC) Annex III, Part B, Module C
Rated supply voltage	24V DC
Communication	WiFi 2.5GHz / Bluetooth RS-485
Inputs and Outputs	8 x Digital Inputs 6 x Relay Outputs 2 x Transistor Outputs
Displays and Visual Indicators	0.96 OLED Display and Indicators

Complementary

Product Unified Code	NORVI IIOT-AE01-R
Product Part Numbers	NORVI IIOT-AE01-R

Mechanical Properties

Enclosure	NORVI 204
Mounting / Installation Method	DIN RAIL / MOUNTING TABS
Terminal Type	SCREW TERMINAL
Terminal Arrangement	Top and Bottom
Length	90.50 mm
Height	56.60 mm
Width	60.60 mm



Environment

IP degree of protection	IP20
Operating altitude	0–2000 meters
Operating Temperature	– -10… +85° C (14…185 °F)
Storage altitude	0–3000 meters
Shock resistance	15 gn for 11ms
Resistance to electrostatic discharge	4 kV on contact 8 kV on air
Resistance to electromagnetic fields	10 V/m (80 MHz …… 1GHz) 3 V/m (1.4 MHz …… 2 GHz) 1 V/m (2 MHz …… 3 GHz)

Electrical Characteristics

Grid Powered Devices

Rated Supply Voltage (V)	24V DC
Current Consumption (mA)	400mA
Recommended Power Source	1A 24V DC

Processing

SOC / MCU	ESP32-WROOM32
Flash Memory	4MB
ROM	448 KB
SRAM	520 KB
PSRAM	NOT AVAILABLE

Peripherals

Built-in Buttons

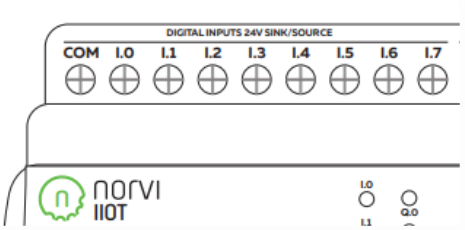
Button 1 Pin	GPIO32 Analog Input Level 1
Button 2 Pin	GPIO32 Analog Input Level 2
Button 3 Pin	GPIO32 Analog Input Level 3

OLED Display

Display Driver	SSD1306
Display Size	0.96 inch
SCL PiN	GPIO17
SDA Pin	GPIO16
RESET Pin	NOT CONNECTED

INPUTS and OUTPUTS

Digital Inputs

Number of Digital Inputs	8
Digital Input Polarity	Sink and Source
Digital Input Maximum Voltage	32V DC
Digital Input Minimum Voltage	18V DC
Maximum Switching Frequency	1 kHZ
Terminal Arrangement	Digital Input 0 – GPIO18 Digital Input 1 – GPIO39 Digital Input 2 – GPIO34 Digital Input 3 – GPIO35 Digital Input 4 – GPIO19 Digital Input 5 – GPIO21 Digital Input 6 – GPIO22 Digital Input 7 – GPIO23 

Transistor Outputs

Number of Transistor Outputs	2
Transistor Output Type	OPEN COLLECTOR
Maximum Sink/Source Current (mA)	100mA
Maximum Applicable Voltage	40V DC
Maximum Switching Frequency	1 kHz
Terminal Arrangement	T0.0 – GPIO26 T0.1 – GPIO27

Relay Outputs

Number of Relay Outputs	6
Relay Output Type	Normally Open / SPST / Electro-mechanical
Contact Current Rating (Resistive)	5 A 30V DC/250V AC
Maximum Contact Voltage	270V AC, 125V DC
Maximum Switching Frequency	60 Hz
Terminal Arrangement	Relay Output 0 – GPIO14 Relay Output 1 – GPIO12 Relay Output 2 – GPIO13 Relay Output 3 – GPIO15 Relay Output 4 – GPIO2 Relay Output 5 – GPIO33

Communication Channels

RS-485 Communication

Communication Mode	HALF-DUPLEX
Transceiver	MAX485
Unit Load	1/4
Flow Control / Direction Control Pin	GPIO4
TX Pin	GPIO1

RX Pin	GPIO3
Terminal Arrangement	

GPIO Map

GPIO	Description	Usage
0	outputs PWM signal at boot	NRST
1	RS-485	TX
2		Relay output 4
3	RS-485	RX
4	RS-485	Flow Control
5		
12		Relay output 1
13		Relay output 2
14		Relay output 0
15		Relay output 3
16	SDA	I2C
17	SCL	I2C
18	input only	Digital Input 0
19	input only	Digital Input 4
20		
21	input only	Digital Input 5
22	input only	Digital Input 6
23	input only	Digital Input 7

24		
25	Expansion Port	Pin 1
26		Transistor output 0.0
27		Transistor output 0.1
28		
32	Analog Input	Buttons
33		Relay output 5
34	input only	Digital Input 2
35	input only	Digital Input 3
38		
39	input only	Digital Input 1

Expansion Port

PIN	ESP32 Connection
1	IO25
2	TXD0
3	NOT CONNECTED
4	RXD0
5	BOOT IO0
6	IO32
7	3.3V

8	SCL – GPIO17
9	GROUND
10	SDA – GPIO16