Datasheet

OpenTherm Gateway

Part No. 0000003

About the product

The Opentherm Gateway enables full bidirectional OpenTherm communication for intelligent climate control. It supports monitoring and control of key heating parameters such as burner status, flame modulation, setpoint temperatures, and system diagnostics.

A built-in high-voltage relay allows local control of zone valves or backup heaters, while two independent 1-Wire interfaces support digital temperature sensors (e.g., DS18B20) for detailed room or system temperature monitoring.

Designed for seamless integration with ESPHome and Home Assistant, the gateway allows OTA updates, local LED indicators, and configuration via USB Type-C.

Electrical Data

Power supply	24VDC, 220VAC, USB-C female (5V DC via USB-C) for programming
Power consumption	typ. 1.85W, max. 3W
ESP32	ESP32-WROOM-32U
Outputs	1 digital output (relay with optocoupler and varistor surge protection), dry contact 250VAC 16A at cos$^{\varphi}$ =1, 250VAC 9A at cos$^{\varphi}$ =0.4 30VDC 10A
OpenTherm	1 OpenTherm Interface
1-WIRE	2-separate 1-WIRE bus, 5VDC bus power supply, ESD Protected
Wi-Fi	Reliablity HTOL/HTSL/uHAST/TCT/ESD, Protocols 802.11 b/g/n (802.11n up to 150 Mbps), A-MPDU and A-MSDU aggregation and 0.4 µs guard interval support, Frequency range 2.4 GHz ~ 2.5 GHz

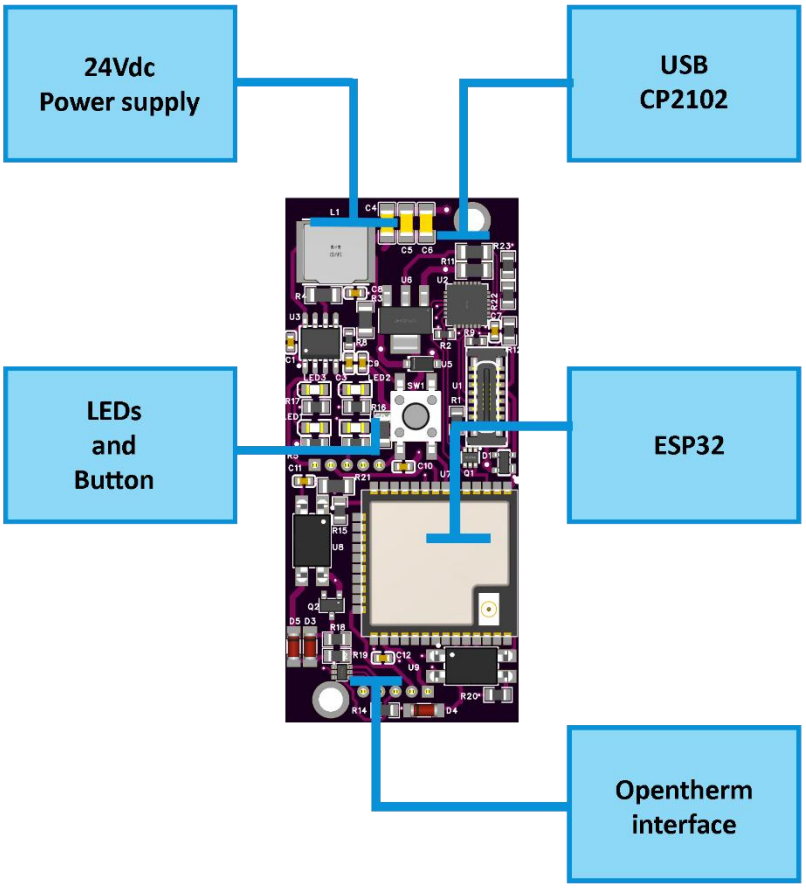
Bluetooth	Protocols Bluetooth v4.2 BR/EDR and BLE specification, Radio NZIF receiver with –97 dBm sensitivity, Class-1, class-2 and class-3 transmitter, AFH
RS-485	Half-duplex, data rate 115,2 kbps, short-circuit current limited and protected against excessive power dissipation, fail-safe for open circuit, surge protected
USB	USB type-C USB Specification 2.0 compliant, ESD protected, Silicon Labs CP2102N USB-to-UART bridge controller, Virtual COM Port Device Drivers, Works with existing COM port Applications, Supported on Windows, Mac, and Linux
Real-time clock	PCF8563
Ambient temperature	0 ... 40°C / 32 ... 104°F
Humidity	max. 95% r.H. (non condensing)

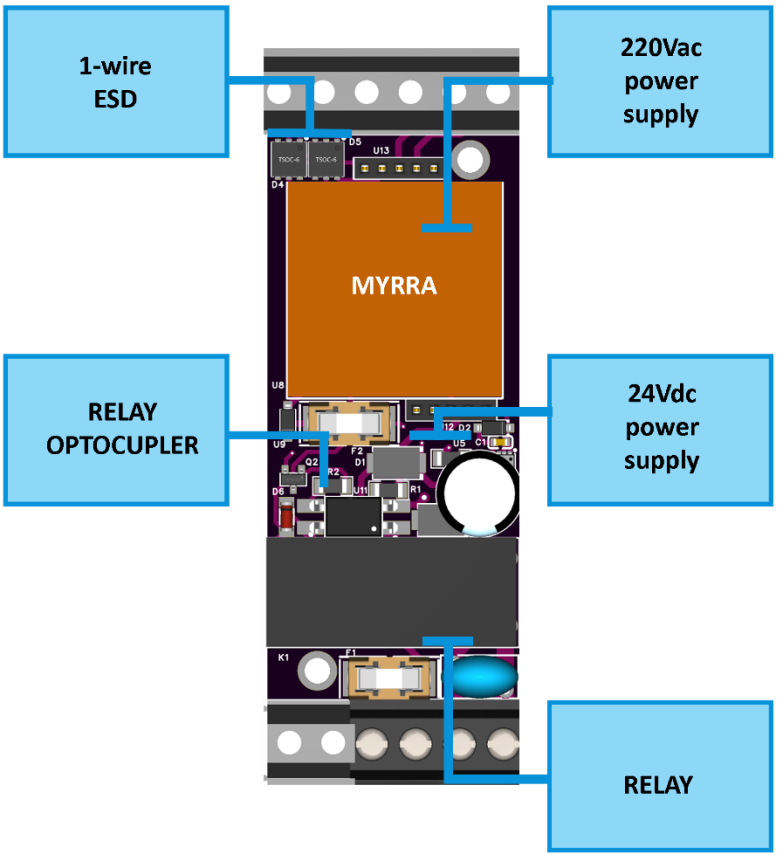
Information: *

High loads at the digital outputs result in heat development, which can influence the lifetime in the long run. We recommend using coupling relays with loads greater than 5A.

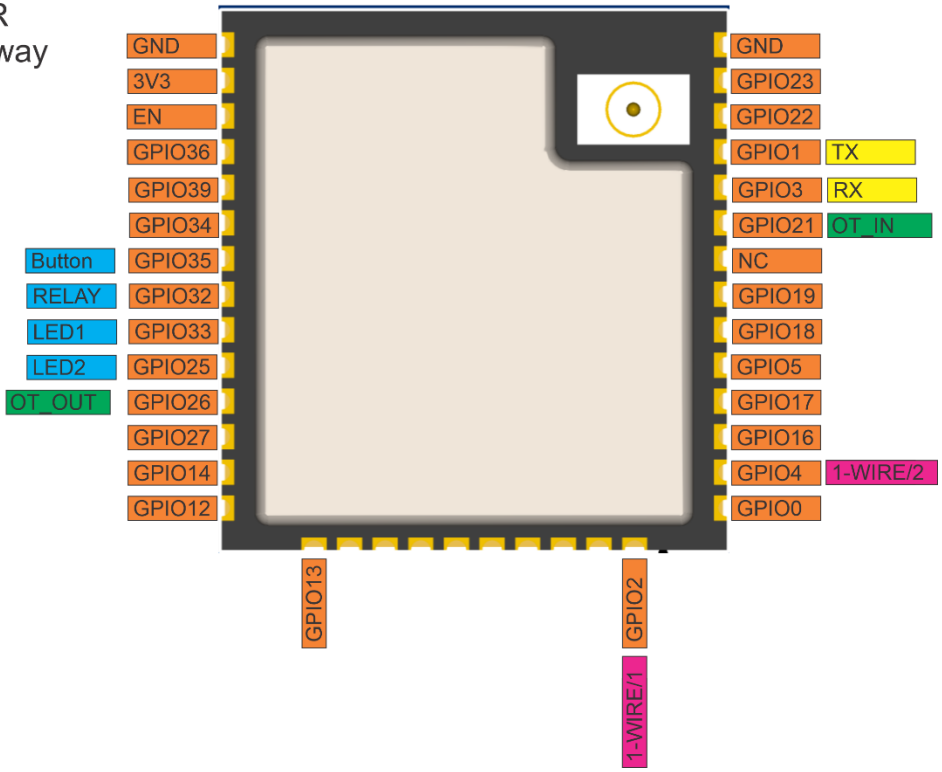
Connections

Terminals	300V 20A 26-12 AWG 2.5mm2, Torque of terminal blocks 0.5 ... 0.6Nm /0.37 ... 0.44 lbf ft, Pitch: 5.08mm(.200")
WiFi antena	SMA male
USB	USB type-C

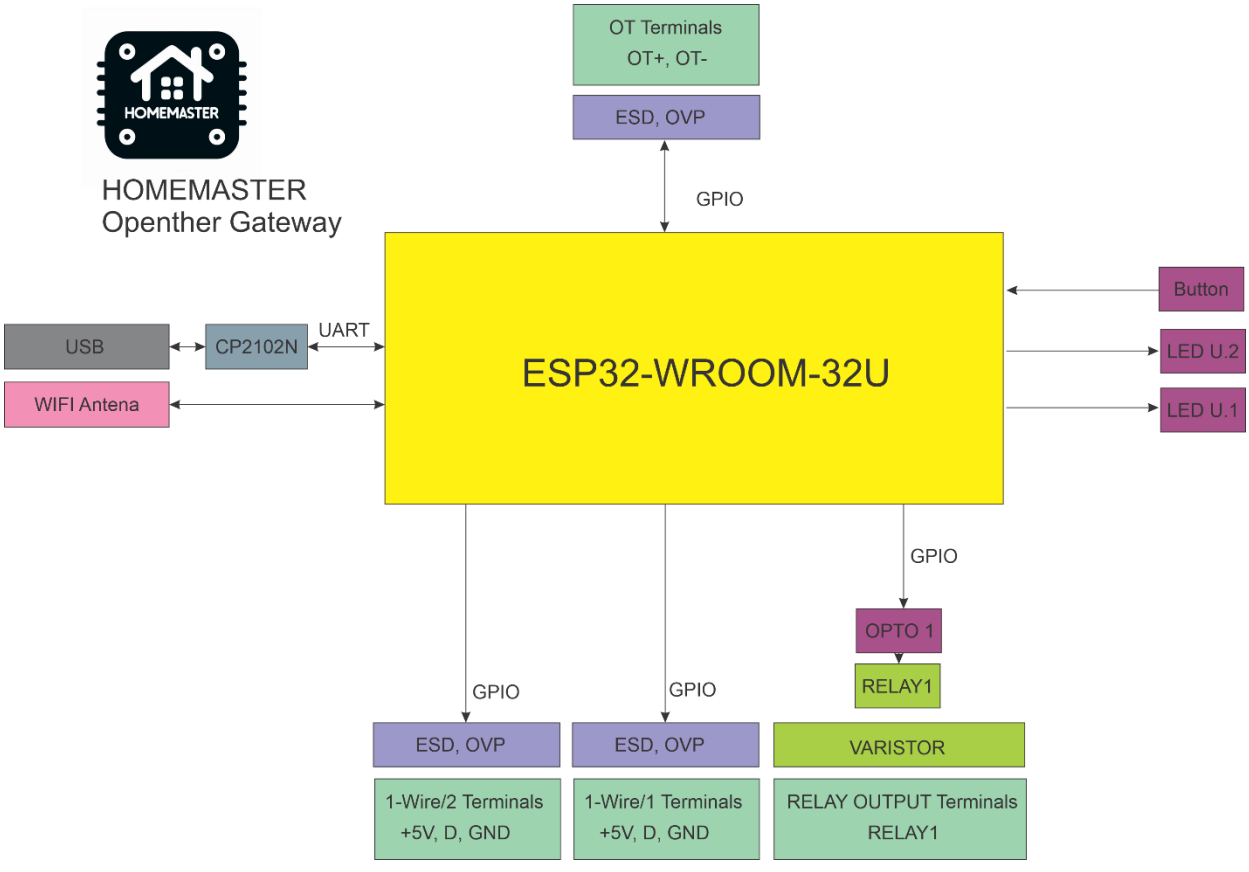

24Vdc
Power supply
USB
CP2102
LEDs
and
Button
ESP32
Opentherm
interface


1-wire
ESD
220Vac
power
supply
MYRRA
RELAY
OPTOCUPLER
24Vdc
power
supply
RELAY

HOMEMASTER
Openther Gateway



HOMEMASTER
Openther Gateway

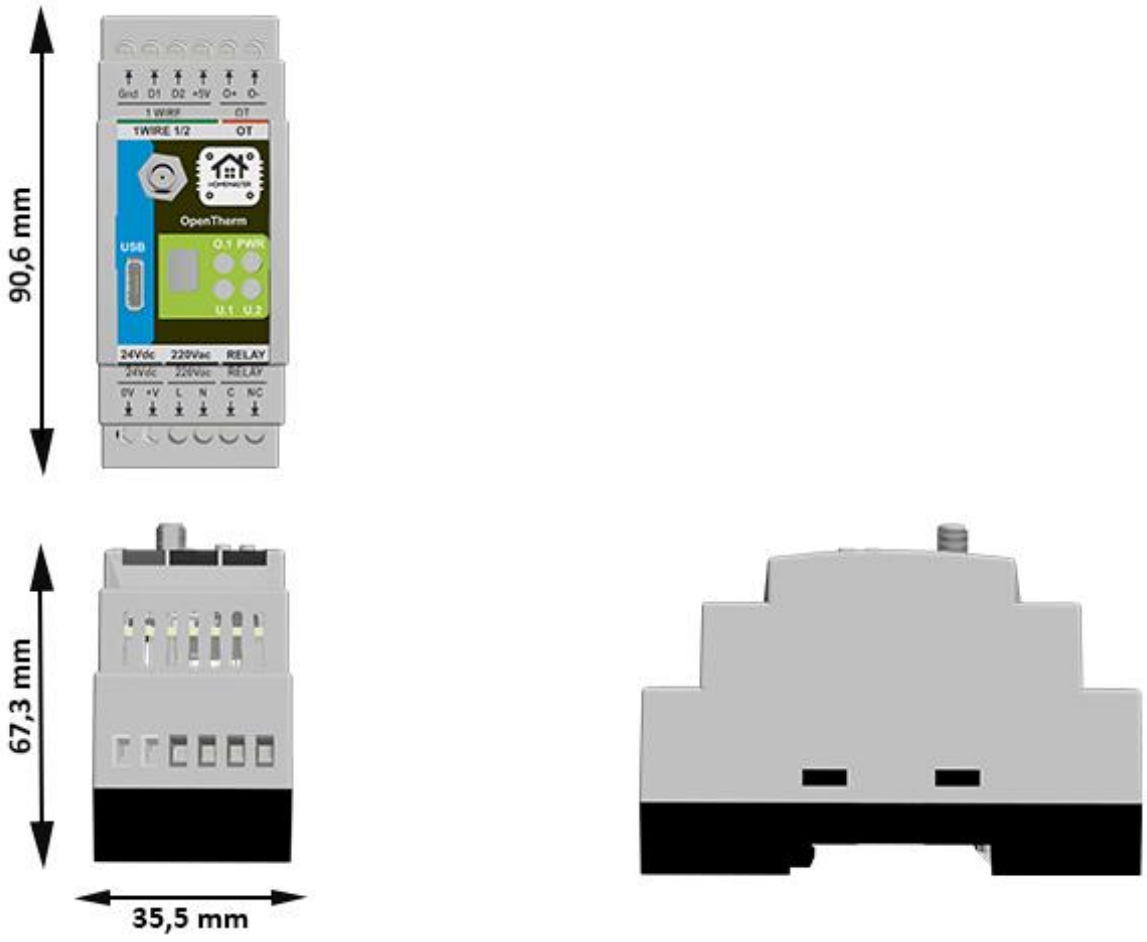


Product Characteristics

Mounting type	DIN rail according to EN50022, 35mm
Colors	Light Gray/Black, Smoke Panel
Material	PC/ABS/V0
Finish	Matte

Weight & Dimensions

Net weight	420g
Total weight	580g
Product dimensions	35.5 x 90.6 x 67.3 mm (1.39 x 3.56 x 2.64 in) (LxWxH), 9 division units
Pack size	230x140x87mm (9 x 5.5 x 3.4 in) (LxWxH),



Certifications & Standards

Safety rating	IP20
Operation	Type 1 (UL60730-1, CSA E60730-1)
Rated impulse voltage for digital output	2.5kV (UL60730-1, max. Altitude 2000m)
Degree of pollution	2
Certifications	CE, UL60730-1, CSA E60730-1

The ESP32 MiniPLC enables a variety of connected devices to work with HOMEMASTER technology.

See https://www.home-master.eu for more details.

Communication between iPhone, iPad, Apple Watch, HomePod, or Mac and the HomeKit- enabled ESP32 MiniPLC is secured by ESPHome and Home Assistant technology.

Installation must be carried out by a qualified electrician in accordance with the relevant regulations.

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