



# Datasheet

## ALM-173-R1 Module

Part No. 0000008

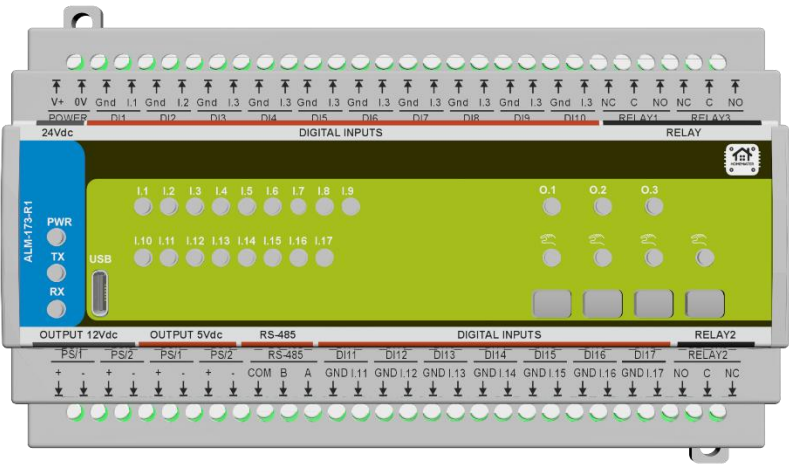
### About the product

The ALM-173-R1 is a high-performance alarm expansion module designed for modular integration with HomeMaster MicroPLC and MiniPLC systems via RS-485 Modbus RTU. It enables seamless connection of alarm sensors and output devices for automation, security, and smart-building control.

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, USB-C female (5V DC via USB-C) for programming
Aux Power Outputs	12 V and 5 V (isolated)
Power consumption	typ. 1.85W, max. 3W
Raspberry PI	RP2350A
Digital Inputs	4 isolated, surge protected digital sourcing inputs
Outputs	3 digital output (relays with optocoupler and varistor surge protection), dry contact 250VAC 16A at $\cos\varphi = 1$ , 250VAC 9A at $\cos\varphi = 0.4$ 30VDC 10A
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



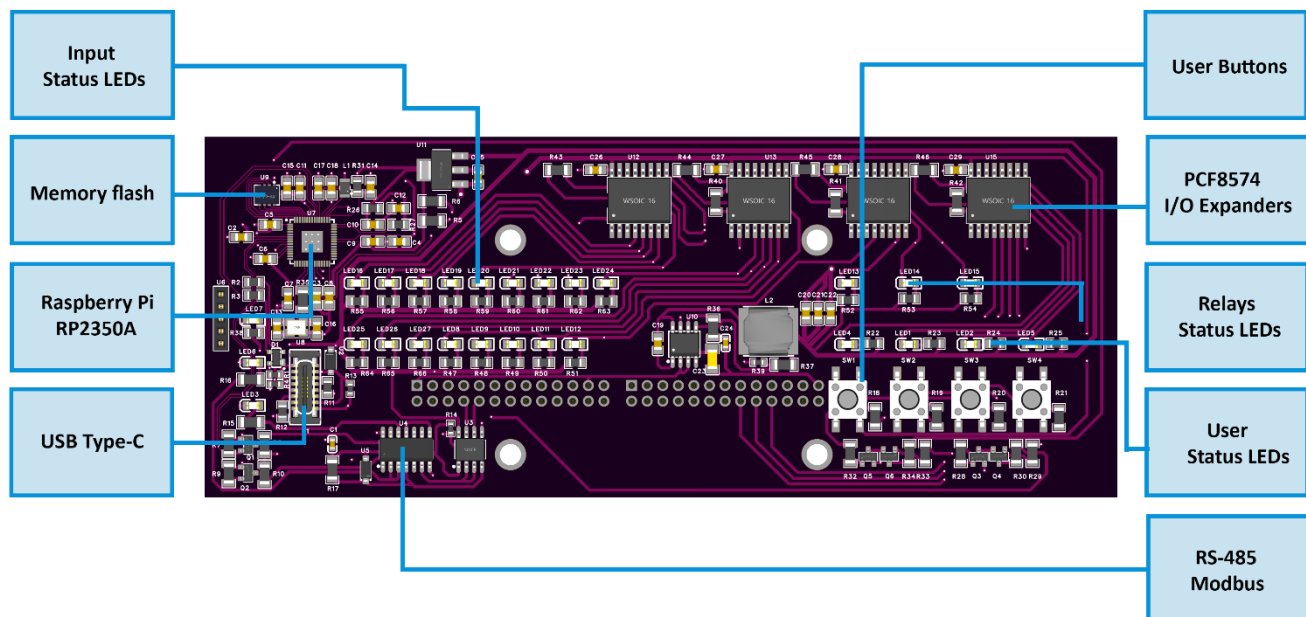
Real-time clock	PCF8563
Ambient temperature	0 ... 40°C / 32 ... 104°F
Humidity	max. 95% r.H. (non condensing)

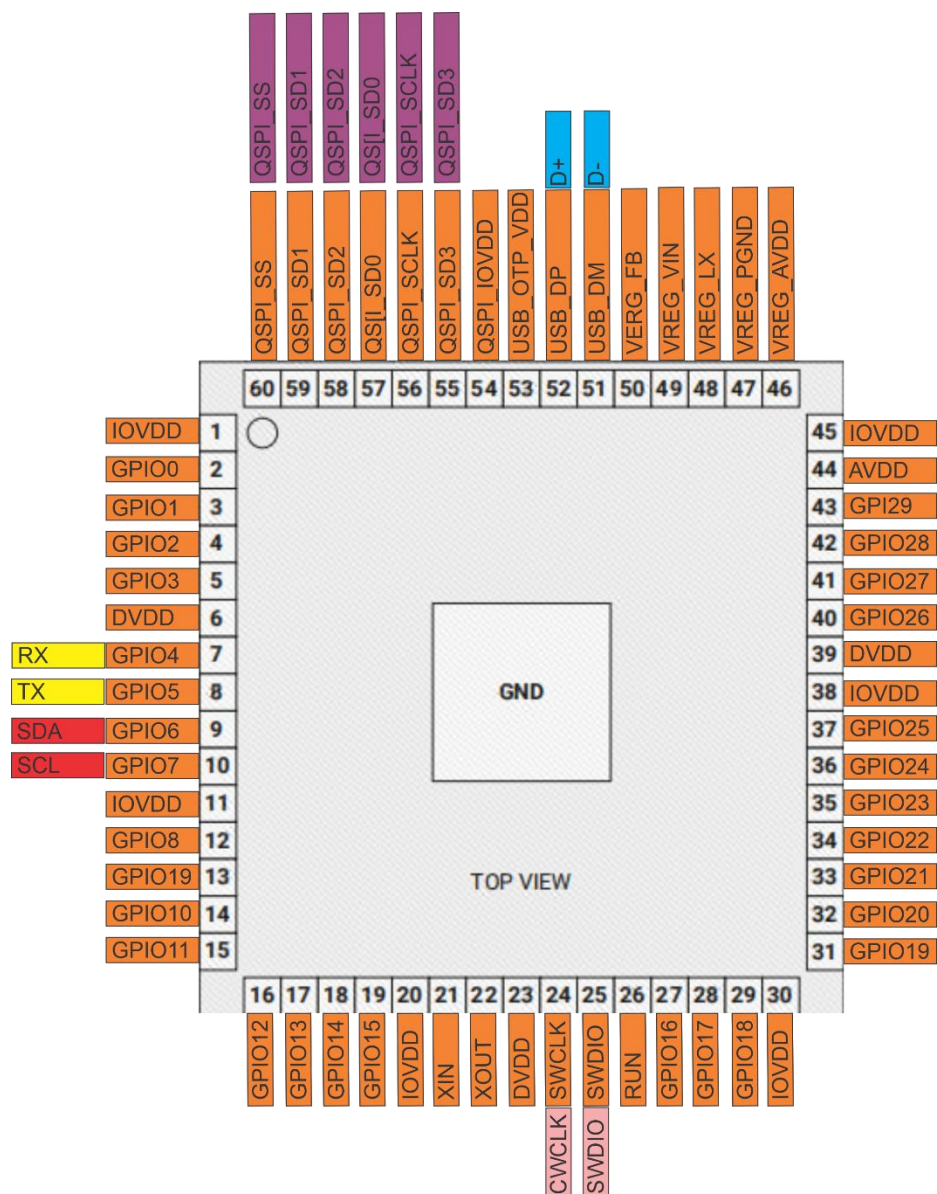
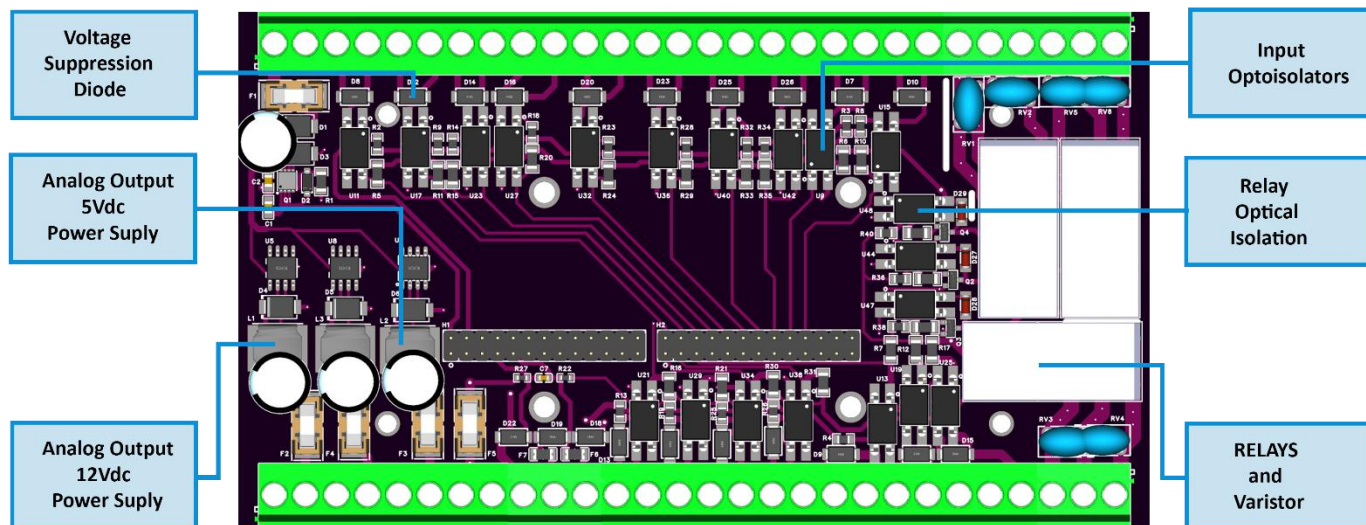
### Information: \*

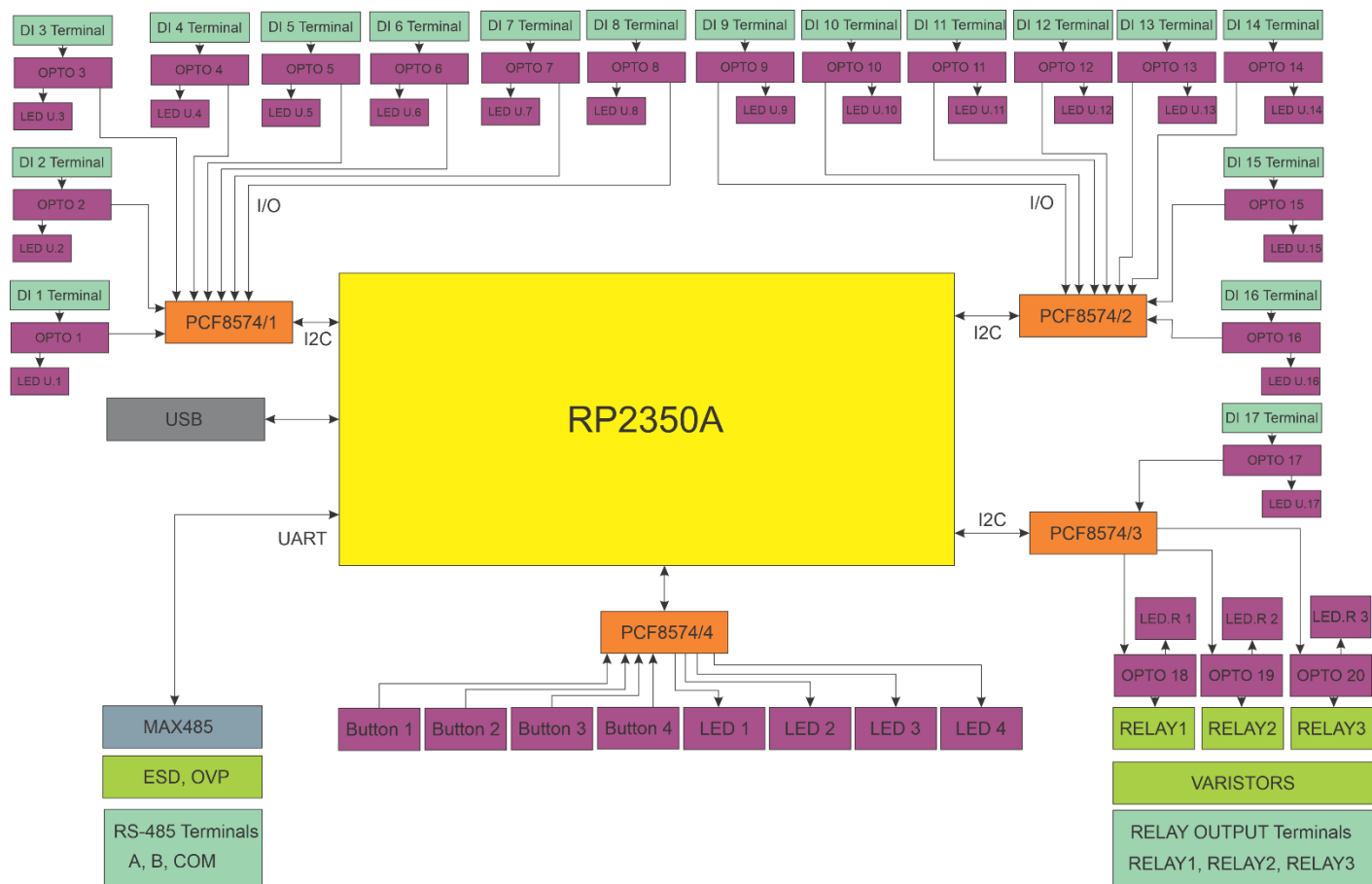
High loads at the digital outputs result in heat development, which can influence the lifetime in the long run. We recommend using coupling relays with loads greater than 5A.

## Connections

Terminals	300V 20A 26-12 AWG 2.5mm <sup>2</sup> , Torque of terminal blocks 0.5 ... 0.6Nm /0.37 ... 0.44 lbf ft, Pitch: 5.08mm(.200")
Wi-Fi antenna	SMA male
USB	USB type-C





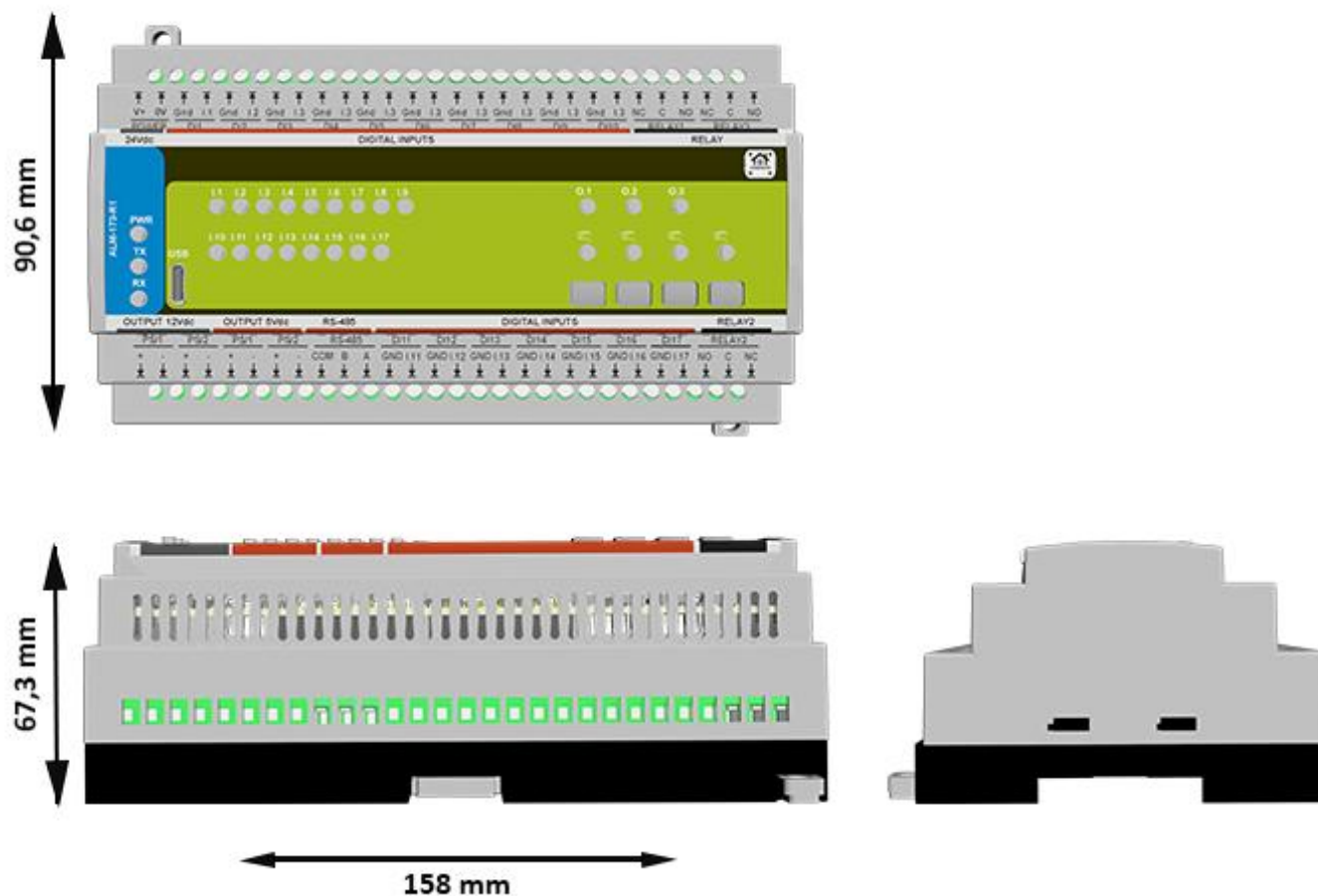


## Product Characteristics

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	157.4 x 91 x 58.4 mm (6.2 x 3.58 x 2.3 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.

**Published by**

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