TECHNICAL DATASHEET

IRC-114X Intelligent IR Controller

Introduction

Welcome to ONAS-TECH: Your Gateway to Cutting-Edge Electronics Solutions.

At ONAS-TECH, we are committed to reshaping the electronics industry landscape. With a foundation built on pioneering technological advancements, ONAS-TECH stands as your reliable partner for innovative and energy-efficient electronic solutions. As we embark on a mission to revolutionize the way electronics are perceived and utilized, we invite you to explore our latest product offerings and join us in shaping the future of technology together.

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For Technical support, please contact us: support@onastech.com

Overview

The IRC-1141 is an innovative IR controller specifically designed for Energy Saving & managing split-unit air conditioners. This device combines advanced sensing capabilities, multi-protocol communication, and user-friendly configuration, making it ideal for modern HVAC systems. Equipped with Modbus RTU and MQTT communication protocols, the IRC-1541 offers seamless integration with smart building automation systems and IoT platforms.4.

Applications

- **Residential:** Smart climate control for homes.
- **Commercial:** Energy-efficient HVAC management for offices and hotels.
- **IoT Integration:** Use in smart buildings and BMS for remote monitoring and control.
- **Custom Scenarios:** Adaptable for custom HVAC automation and energy-saving solutions.

Key Features

- **IR Control:** Enables remote operation of split-unit air conditioners.

- **PIR Motion Sensor:** Detects room occupancy for energy-saving HVAC management.

- **NTC10K Temperature Sensor:** Provides accurate temperature readings.

- **Digital Input:** Connects to external devices such as wall switches or door sensors.

- **Dual Communication Protocols:**

    - Modbus RTU via RS-485 for reliable wired integration.

    - MQTT for IoT.

- **Webserver Configuration:** Built-in interface for easy setup via a browser.

- **Compact Design:** Simple installation on walls or ceilings.

- **Power Supply:** 24V AC Standard compatibility with HVAC systems also there is another version powered 220V AC.

Technical Specifications

Electrical

- Power Supply: 12V DC, 24V AC ±10% - or - 220V AC ±10%
- Power Consumption: < 2W

Communication

- **Modbus RTU:**

  - **Interface:** RS-485
  - **Baud Rate:** Configurable (9600 / 19200 / 38400)
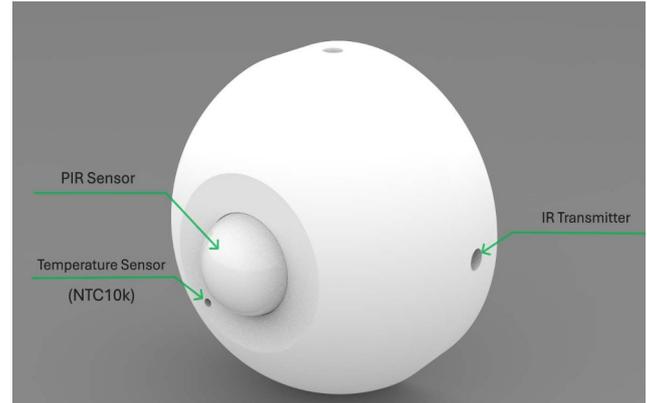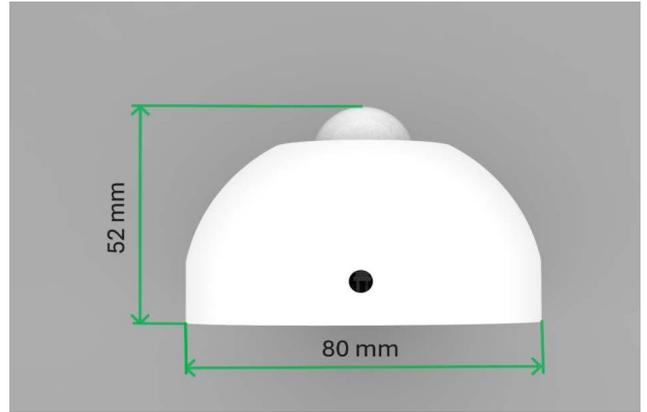
- **MQTT:**

  - **Protocol**: MQTT v3.1/v3.1.1
  - **Connectivity:** Wi-Fi
  - **Security:** TLS 1.2 (optional)

Sensors

- **IR Transmission:** Range up to 10 meters

- **PIR Motion Sensor:**
  - Detection Angle: 100°
  - Detection Range: 6 meters
- **NTC10K Temperature Sensor:**
  - Accuracy: ±0.5°C
  - perating Range: -10°C to +50°C

Digital Input

- **Type:** Dry contact
- **Functionality:** Configurable for external triggers (e.g., occupancy sensors or manual overrides).

Webserver Configuration Page

The IRC-1141 includes a built-in web server for seamless device configuration. Accessible via any web browser, it provides:

- **Network Setup:** Configure MQTT or Modbus communication settings.
- **Device Calibration:** Adjust PIR sensitivity and temperature sensor calibration.

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How to Install

Step 1: Mounting
- •Install the device on a wall or ceiling near the split-unit air conditioner.
- •Ensure the IR transmitter has a clear line of sight to the AC unit.

Step 2: Wiring
- •Connect the power supply to the terminals.
- •Wire the RS-485 terminals for Modbus RTU communication, if applicable.
- •Connect the digital input terminal, if required.

Step 3: Configuration
- •Access the webserver using a computer or mobile device.
- •Configure network settings (MQTT or Modbus) and test device functionality.

Order informations

please contact us we offering the following part numbers:

IRC-1140-DI	**:** IR control method using the built-in digital input
IRC-1142-MQTT	**:** IR control method using MQTT via Wi-Fi
IRC-1143-Modbus	**:** IR control method using Modbus via RS-485
IRC-1141-AIO	**:** All in one (DI MQTT & Modbus)

Contact us

For all inquiries regarding information and technical support,
we kindly request that you direct your correspondence to our dedicated team.
Our representatives are available to assist you via email at: support@onastech.com

Or visit our website   www.onastech.com

We look forward to resolving your inquiries promptly and professionally.