

Infrared Products

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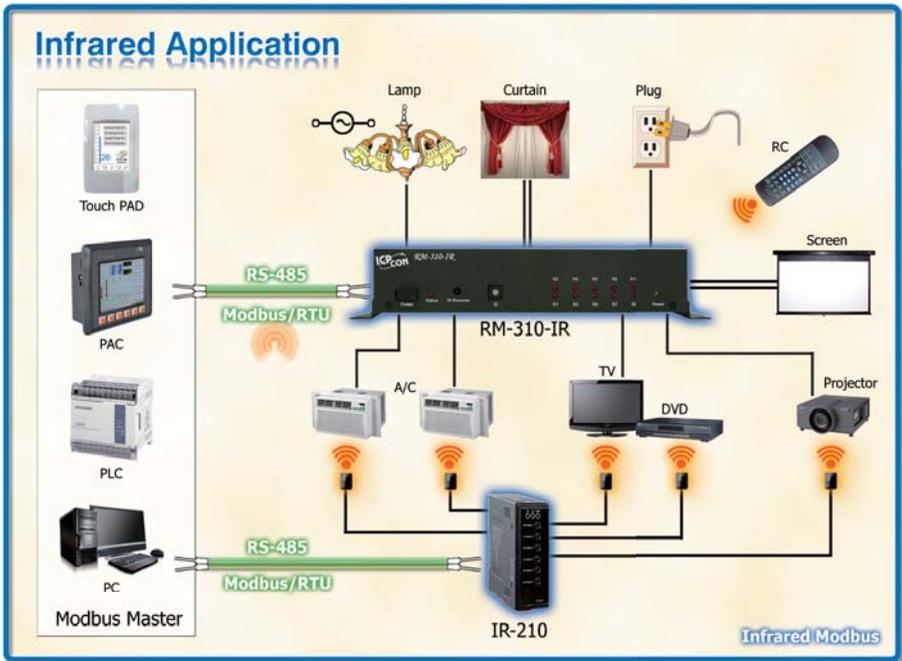
7.1. Overview

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Infrared Products

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Overview



Infrared (IR) light is invisible to human being because its wavelength is below the visible spectrum. The consumer electronics industry has been employing the infrared (around 950nm) for a long time. Invisibility, low power consumption and low cost are the reason why IR is chosen for remote control purpose. Because IR behaves as a normal light, the target devices require line-of-sight to be controlled by an IR remote control. There are many IR sources all around, however, modulation of IR signal at emitter side and demodulation at the receiver side are done to diminish the interference of ambient light. The IR signal is often modulated at a frequency between 30 kHz and 60 kHz which are commonly used in consumer electronics. These devices usually apply different IR protocols and commands of their own without a unified standard. If the IR commands can be collected together and be integrated with the control interface, it can provide convenience and flexibility for the automated applications.

ICP DAS has developed various IR products to apply in home automation. These IR products will help users to control and integrate these IR devices into a control system. Therefore, by integrating the PAC and others series of ICP DAS, users can easily to establish the home automation system.

Advantages & Benefits

- With RS-232 and RS-485 Interfaces.
- Support Modbus/RTU protocol.
- No special or proprietary hardware is required.
- Easy to integrated with automation.
- High noise immunity.

• Infrared Product Selection Guide



IR series products here are classified into IR Remote Module and IR Power Relay Module. They can be easily integrated with the PACs and other series of ICP DAS's products to establish the home automation application.

Model Name	Output	UART Interface	Protocol Support	Page
IR-210	6 x IR Output Channels	1 x RS-232 1 x RS-485	Modbus RTU	7-2-1
RM-310-IR	10 x High Power Relay Channels	1 x RS-232 1 x RS-485	Modbus RTU IR commands	7-2-1

7.2. Infrared Modules

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IR-210

Universal IR Learning Remote Module

Introduction

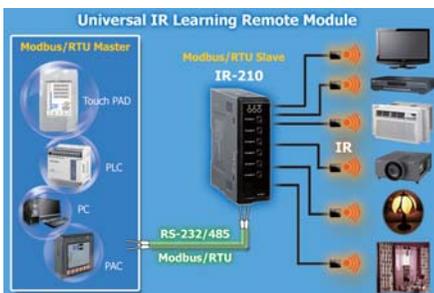
The IR-210 is a universal IR learning remote module which can learn IR remote commands of diverse electronic devices. The learning results can be stored in the module or saved to a file. The IR-210 supplies 6 IR output channels for individual and simultaneous control on multiple devices. The accompanied RS-232 and RS-485 interfaces with Modbus/RTU protocol provide an easy way of remote control by the Modbus master devices. The application can be home entertainment devices, video conferencing, light control and e-Classroom service etc. IR-210 is well-suited for smart home and building automation.

Features

- 6 IR output channels for controlling multiple devices
- 1 IR learning input
- Supports IR carrier frequencies: 32.768, 36, 37.037, 38, 40 and 56 kHz
- Can learn and store 176 IR commands
- Supports RS-232 and RS-485 serial interface
- Supports Modbus/RTU protocol
- Assignable 256 Modbus Network IDs
- Baud rate settings: 9600, 19200, 38400, 57600 and 115200 bps
- Configurable NONE / ODD / EVEN parity and 1 or 2 stop bits
- Provides transmitting / learning / power indication LEDs
- Built-in Watchdog
- RoHS Compliance



Applications



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Infrared Modules

Available soon



RM-310-IR

10-ch High Power Relay Module

Introduction

The RM-310-IR is a 10-channel high power relay module designed for the power control of indoor appliances. The relay module can switch up to 15 A loads. There are NO/NC switches and protection circuit for each channel. The channels can be controlled independently or sequentially by serial communication with Modbus RTU protocol, as well as by wireless IR remote control. Maximum 5 sets of CW & CCW motor control are also provided. The application field can be manual/automatic power switch, timer switch, light scenario control and energy conservation etc.

Features

- 10 channels high power loops: 15A x 2, 10A x 2, 5A x 6
- NO and NC for each channel
- Protection circuit for each channel
- Independent and sequential power control
- Supports maximum 5 sets of CW/CCW motor control
- Supports RS-232 and RS-485 serial interface
- Supports Modbus/RTU protocol
- Assignable Modbus Network IDs: 0 ~ 15
- Supports IR commands for IR remote control
- Built-in watchdog



Ordering Information

IR-210 CR	Universal IR Learning Remote Module (RoHS)
RM-310-IR CR	10-CH High Power Relay Module

Accessories

CA-IR-SH2251	Single-headed IR emitter (with adhesive pad)
CA-IR-SH2252	Dual-headed IR emitter (with adhesive pad)