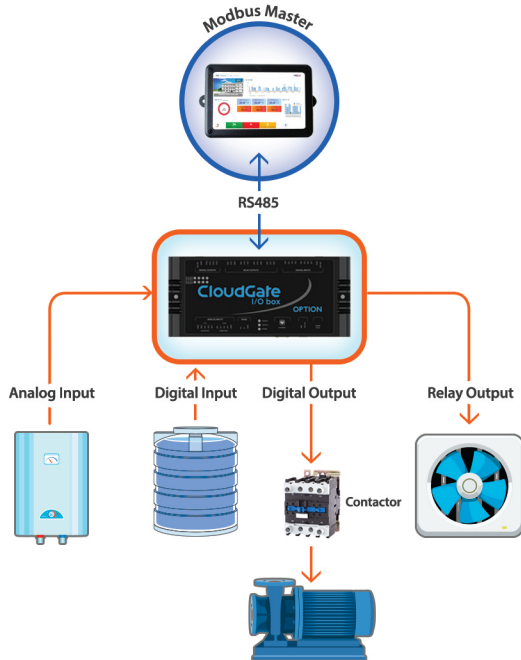# CloudGate
I/O box

Option's **CloudGate IO Box** is used to instrument legacy equipment on a factory floor for remote monitoring and control. **CloudGate IO Box** is equipped with analog inputs, digital I/O and relay outputs which can be connected to sensors and actuators. It acts as Modbus TCP or RTU slave, that can be controlled from IoT Gateways or any Modbus master controller for remote monitoring and control. Alternatively, it can bridge legacy devices supporting only RS485 to Ethernet using protocol converter mode.

Multiple industries can leverage **CloudGate IO Box** for implementing solutions like Building management Systems, Factory floor automation, Home Automation and Infrastructure Monitoring.
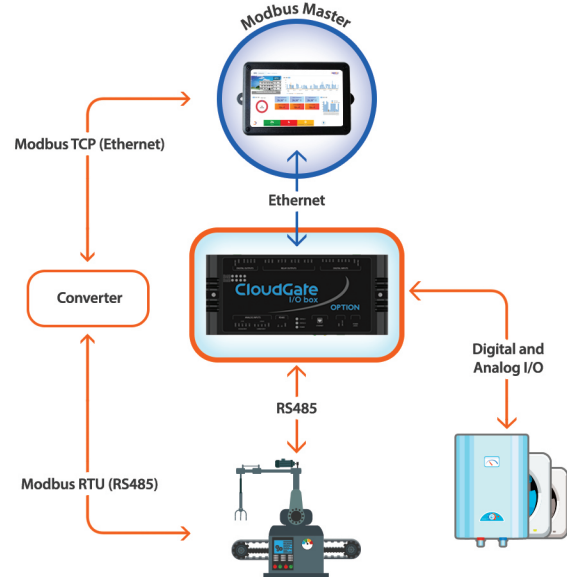
Modes of operation

Modbus RTU Slave

In this mode, CloudGate IO Box will act as a Modbus RTU slave based on the RS485 interface connected. Various devices can be connected over the Analog and Digital I/O of the CloudGate IO Box.

Protocol Converter Mode

In this mode, the CloudGate IO Box will act as a protocol converter between RS485 slave devices and Modbus TCP master. CloudGate IO Box will act as Modbus RTU master and Modbus TCP slave at the same time.

Additionally, CloudGate IO Box can act as a Modbus TCP slave for the devices connected using Analog and Digital I/O.

Specifications

Processor	32 - bit ARM® Cortex® - M4 CPU Running at 120MHz
Memory	32 Mb Flash, Serial 2Kb EEPROM
Software	Protocol Stack: IPv4, DHCP Client Preloaded Free RTOS, lwIP stack Modbus TCP slave (Ethernet) or Modbus RTU slave (RS485) Protocol converter mode - Modbus TCP slave (Ethernet) and Modbus RTU master (RS485) HTTP Web server for configuration and status Software upgrade from web based GUI
Connectivity	Network Interfaces - 1x10/100 Mbps Ethernet, RJ45 Connector Isolated Serial Interface -1× RS485 at 9600/19200/38400/57600/115200 baud with surge Protection
I/O	**Analog Input** ● Channel: 4 - Ch Digital Isolation ● Input Range: 0 -10V ● Input impedance: >5 MΩ ● Resolution: 12bit ● Precision: 0.2 % of FSR **Digital Input** ● Channels: 8 - Ch Optically Isolated ● Input range: 0 - 24V ● Logical High (min): 14V ● Logical Low (max): 5V ● Isolation voltage: 1500Vrms **Digital Output** ● Channel: 4-Ch Optically isolated ● Output range: LOW - 0V, HIGH - 24V ● Output current: 20mA (Sink and Source) ● LED Indication: Yes ● Isolation Voltage: 1500Vrms **Relay Output** ● Channel: 4 - Ch ● Switching Power: 60W(Max) ● Switching Voltage / Current: 230VAC,110VDC / 2A(Max) ● LED Indication: Yes
Dimensions	200mm x 90mm x 47mm Durable rigid plastic enclosure
Environmental specification	Operating temperature: 0 to 70°C Storage temperature: -20 to 70°C
Power Input	Dual power source - PoE (Active) or 24V DC-Jack Low power consumption
Mounting	DIN rail mount and wall mount Pluggable type terminal connections
LED	Three status LEDs, Output LEDs and Ethernet Activity LEDs
Weight	385gm
Ordering Info	CGIO-30-P1 DC jack and PoE + Accessories
	CGIO-31-P1 DC jack only + Accessories