



Corporate Overview



PANL SMART LIVING



PANL ROOM MANAGER



PANL DESK MANAGER



IoT Portal



LDSBus

About Us

Our Products and Solutions

IoTPortal is a [Platform as a Service \(PaaS\)](#) product that enables users to **sense, monitor, and control** smart buildings, offices, industrial spaces, and agricultural environments globally. This platform integrates seamlessly with diverse environments, enhancing operational efficiency.



PanL offers the **PanL Desk and Room Manager systems**, designed for [efficient and cost-effective space management](#). The **PanL Smart Living system** provides bespoke [home and smart office automation](#), ensuring comfort, wellness, and optimal energy control.



About Us

Our Products and Solutions

Modbus

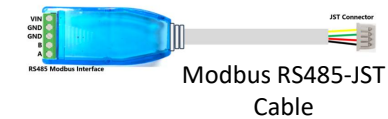
Sensors and Actuator products can be simply integrated into an existing Modbus system such as Building Management Systems (BMS) that enables users to **sense, monitor, and control**

LDSBus

Simple connectivity from LDSBus Sensors and Actuators (up to 320 per gateway) to IoTPortal Gateway. Connect with RJ45 to power and communicate with each Sensor and Actuator on the LDSBus.

Easily change LDSBus device parameters via the LDSBus Configuration Utility.

Create local Sensor and Actuator Network using LDSBus Python SDK.



Modbus 4-in-1
Sensor



Modbus pH
Sensor

Modbus/SDI-12
Adapter
for Energy Meter



LDSBus USB
Adapter



IoTPortal Gateway



LDSBus 4-in-1
Sensor

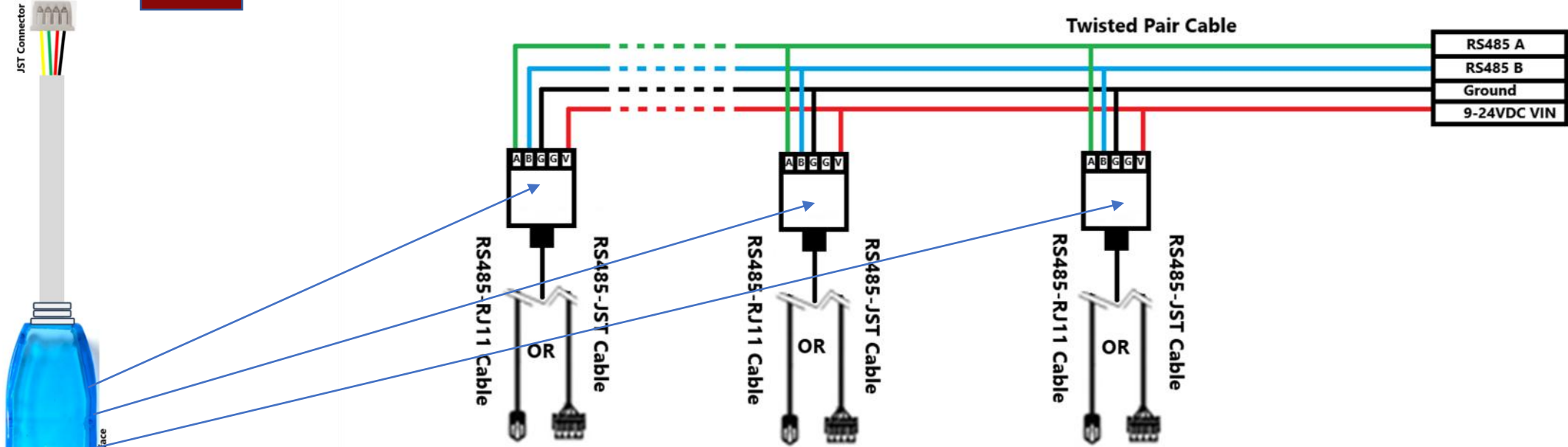


IoT Portal

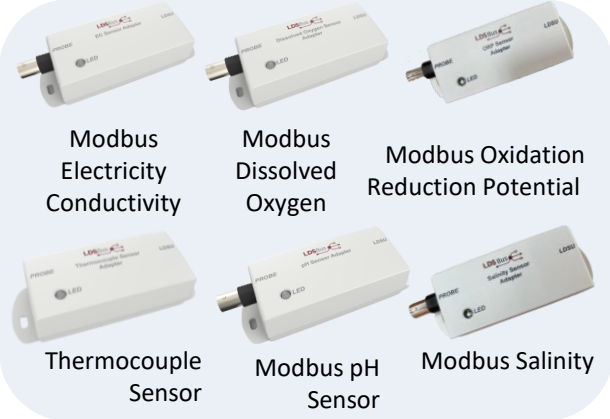
Sense | Monitor | Control

Versatile, Scalable Sensor-to-Cloud Connectivity

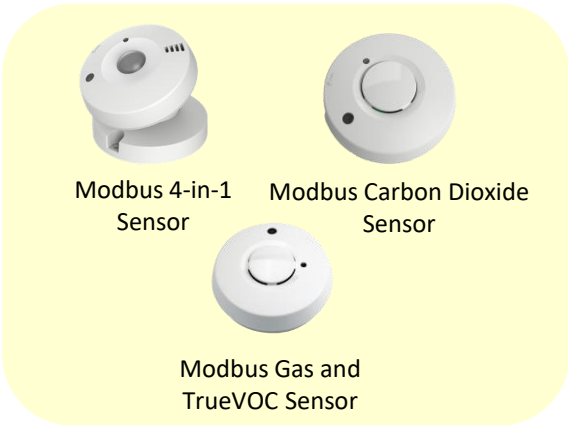
Modbus Products Ecosystem



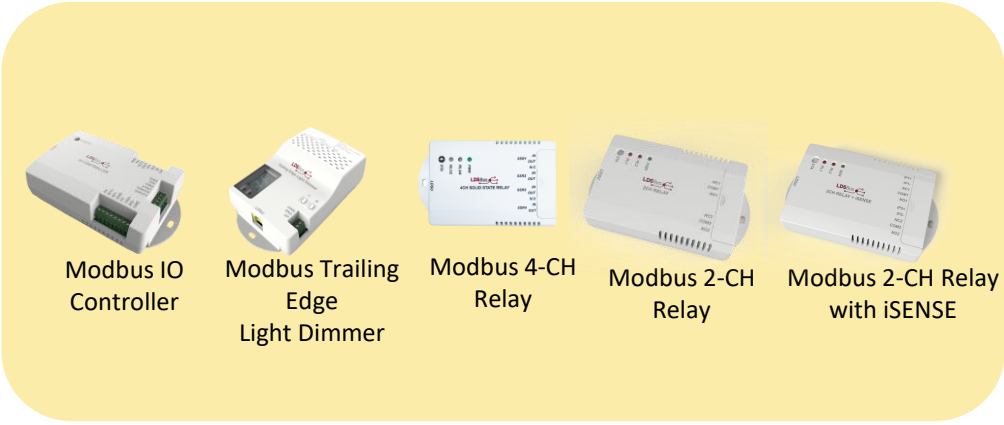
Sensor Adaptors*



Built-in Sensors

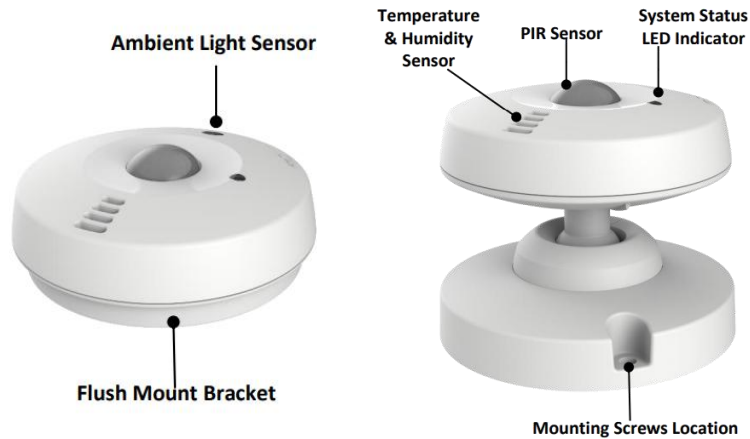


Actuators



*Does not include probes





Modbus Devices: Built-In Sensors



Modbus 4-in-1 Sensor

Small compact 4-in-1 sensor with the dimensions of 62mm (D) x 25mm (H)

Measures:

-  **Temperature** up to 70°C ($\pm 0.2^{\circ}\text{C}$)
-  **Humidity** of 0 to 95% ($\pm 2\% \text{RH}$)
-  **Ambient light** level (up to 64KLux)
-  **Passive Infra-Red (PIR)** motion detection





Applications:



Modbus CO₂ Sensor

Another 4-in-1 sensor but measure Carbon Dioxide (CO₂) instead of PIR motion detection.

Measures:

-  **CO₂** of 0 to 40,000 ppm
-  **Temperature** up to 70°C ($\pm 0.2^{\circ}\text{C}$)
-  **Humidity** of 0 to 95% ($\pm 2\% \text{RH}$)
-  **Ambient light** level (up to 100KLux)



Modbus Devices: Built-In Sensors



Modbus Gas and TureVOC Sensor

Measure Total Volatile Organic Compound (TVOC) and Index Air Quality (IAQ) in a compact and low-profile design

Measures:



TVOC of 0 to 65000ppm



IAQ of 0 to 500

Applications:



Modbus Devices: Actuators





IO Controller

The **Modbus Isolated IO Controller** offers 2 isolated digital and analogue input/output channels.

Suitable for use in numerous and diverse applications such as simple IO control, or 0-10V dimmers, weather station, water level detector or sensor,....

Features:

-  Built-in power supply (3.3V / 5V / 10V / 12V) and external power supply option
-  Flexible combination of internal or external power supply

Applications:





Trailing Edge Light Dimmer

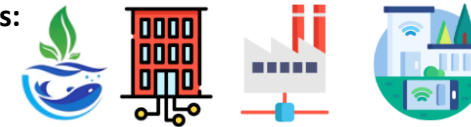
The **Modbus Trailing Edge Light Dimmer** can be integrated with dimmable LEDs and lamps with single channel AC inputs and loading.

Suitable for grow lamps application.

Features:

-  AC trailing edge dimmer (550W@240VAC, 230W@100VAC)
-  2-digit dimming percentage display

Applications:

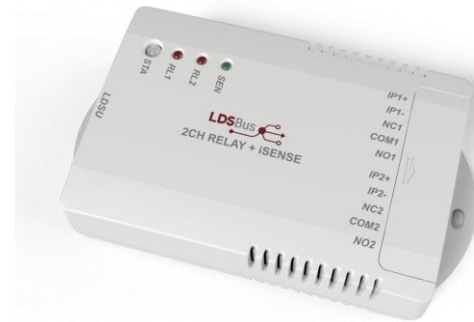


Modbus Devices: Actuators

2-Channels Relay



2-Channels Relay + iSENSE



The **Modbus 2-CH Relay** incorporate 2 relay controller hat have high load current handling capacity of 16A. These relays can switch both AC and DC loads.

Ideal for usage in forward and reverse motor control applications, switching on/off high power loads and additionally perform load sensing simultaneously. Eg: sun shade motors, lighting, Air and Water pumps, sirens and warning probes, ...

Features:



2 relays (AC/DC switching up to 16A)



Maintains relay state across power cycles



Current sense monitoring up to $\pm 20A^*$ (iSENSE option)

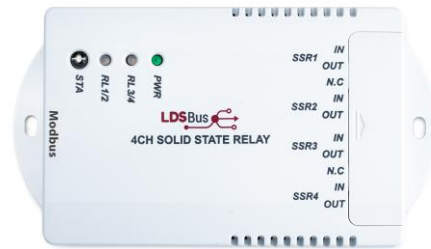


Support both AC (250V) and DC (300V) load switching

Applications:



Modbus Devices: Actuators



4-Channels Solid State Rel

The **Modbus 4-CH SSR** incorporates 4 relay controllers with an AC load current handling capacity of 1.80A. The relays can switch AC loads between 50Hz and 60Hz with additional zero-cross features.

Ideal for are forward and reverse motor control applications, switching loads on and off, and handling inrush current efficiently.

Features:



4 relays (AC switching, Zero-Cross detection)



Sold State Switch



Rated Voltage – 20VAC ~ 240VAC



Rated Power – 1.80A @240VAC / 440W @240VAC

Applications:



Modbus Devices: Sensor Adaptors



Electricity Conductivity (EC)

The **Modbus EC Sensor Adaptor** is designed to work with any EC probes with a BNC connector and probe Cell Constant $K=0.1$, $K=1.0$ and $K=10$.

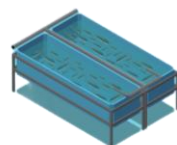
Suitable for use in measuring salts, nutrients and impurities in water eg. Hydroponics, aquaponics and aquaculture in both fresh & marine water.

Measure:



EC range of 0.001mS/cm to 150mS/cm with linearized output and 0.001mS/cm resolution

Applications:



DO (Dissolved Oxygen)

The **Modbus DO Sensor Adaptor** is designed to integrate with any DO analogue galvanic probe with a BNC connector.

Suitable for use in measuring water quality in nutrient tanks, fisheries and hatcheries, water & sewage treatment plants, swimming pools, ...

Measure:



Measures DO range from 0 to 20 mg/L with linearized output and 0.01mg/L resolution



Oxidation Reduction Potential (ORP)

The **Modbus ORP Sensor Adaptor** is designed to support any ORP probe with a BNC connector.

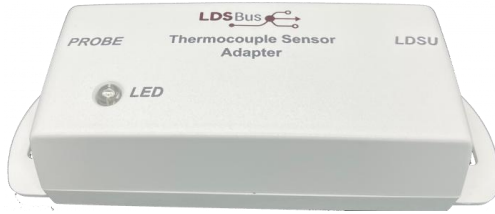
Suitable for use in measuring salts, nutrients and impurities in water eg. Hydroponics, aquaponics and aquaculture in both fresh & marine water.

Measure:



ORP range from -2000mV to ± 2000 mV with linearized output and 1mV resolution

Modbus Devices: Sensor Adaptors



Thermocouple

The **Modbus Thermocouple Sensor Adaptor** is designed to work with any **K-type thermocouple probe**. Automated cold junction compensation and linearization for high accuracy readings.

Suitable for use in food production, metal extruders, furnaces, cryogenic baths, freezers, ...

Measure:



Temperature range from -200°C to 1372°C ($\pm 0.5^\circ\text{C}$)

Applications:



pH

The **Modbus pH Sensor Adaptor** is designed to integrate with any pH probe with a BNC connector.

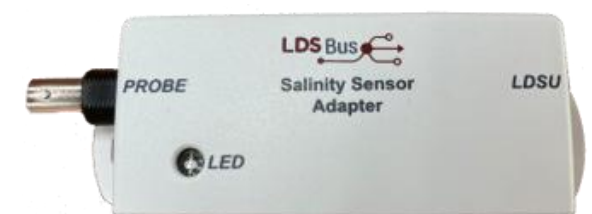
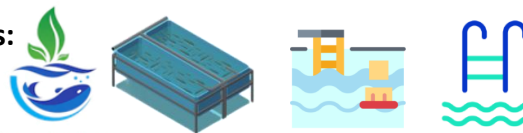
Suitable for use in nutrient tanks, fisheries and hatcheries, water & sewage treatment plants, swimming pools, ...

Measure:



pH range from 0 to 14pH with linearized output and 0.01 pH resolution

Applications:



Salinity

The **Modbus Salinity Sensor Adaptor** is designed to support any salinity probe with a BNC connector.

Suitable for use in measuring water quality, nutrients and impurities in hydroponics, aquaponics and aquaculture in both fresh & marine water.

Measure:

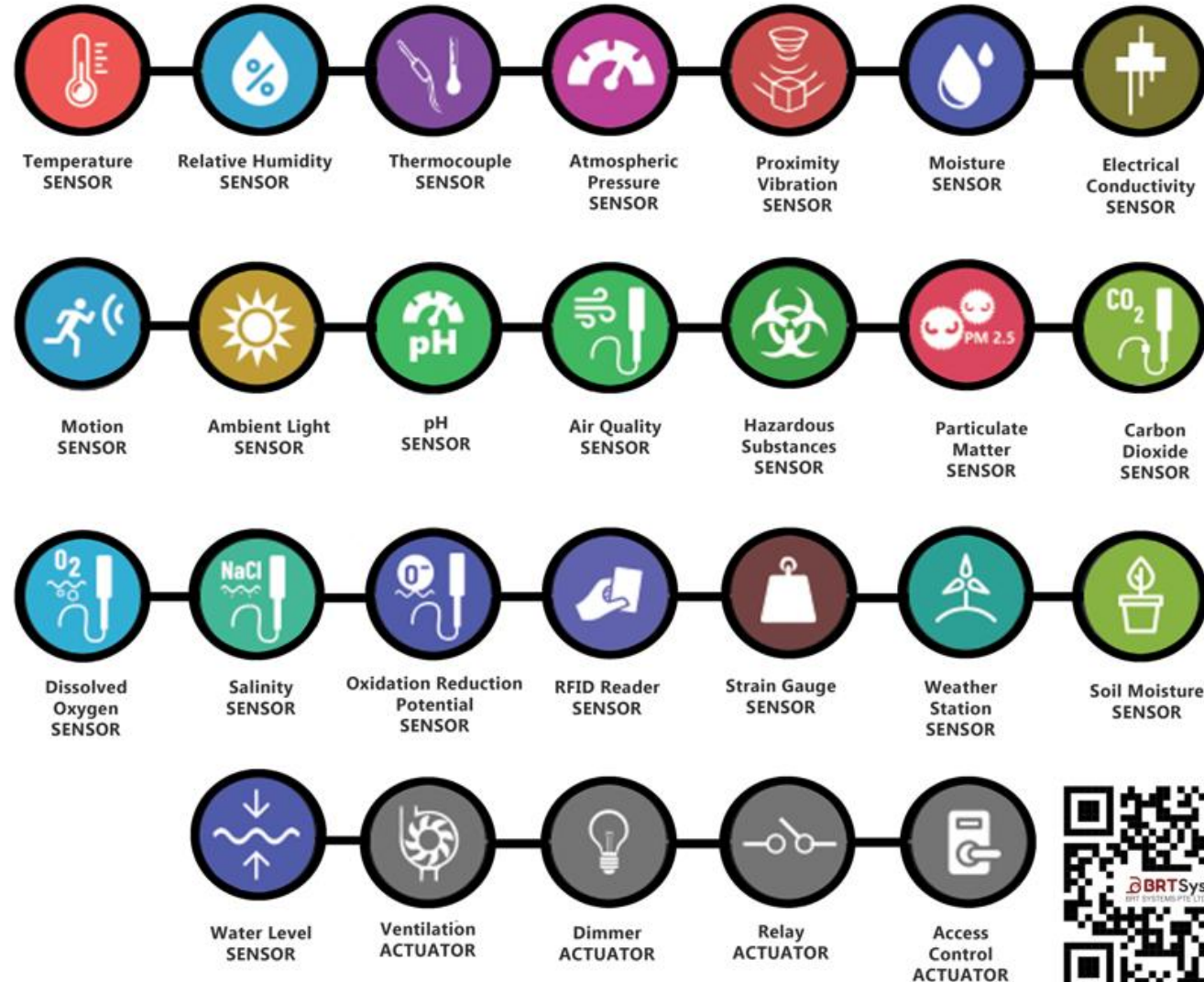


Salinity range from 1 to 120 ppt with linearized output and 0.01 resolution

Applications:



One-Stop Smart System Solution





Website : www.brtsys.com

Email : marketing@brtsys.com



PANL SMART LIVING



PANL ROOM MANAGER



PANL DESK MANAGER



IoT Portal



LDSBus