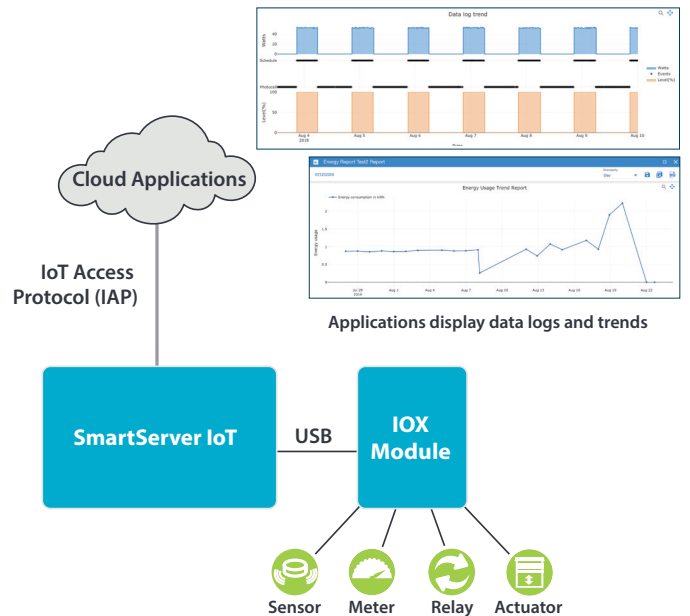


# IOX Expansion Module



## Overview

Collect, log and visualize IoT data from everyday sensors and meters, communicate with devices over serial interfaces, and control relays and actuators found in building and industrial automation systems. Easily share data with remote clients and cloud applications for alerts, analytics and more.

## Product Description

IOX is a compact, programmable companion module to our SmartServer™ IoT for connecting to industrial devices. It features multiple configurable digital I/Os and serial interfaces for controlling or communicating with devices such as digital sensors, dry contact relays, push buttons, etc. It also features optional power measurement for accurate energy metering.

The IOX complies with DIN 43880 form factor standard and connects to a local SmartServer IoT via a USB connection. IOX can be programmed very simply using Dialog's IAP/MQ APIs to configure the I/Os and read data which is logged in the SmartServer IoT or accessible by remote clients and applications.

With industrial grade specifications, the IOX can be used in most facilities, factories and infrastructure projects. It provides 5VDC as a reference, or to power simple devices.

The IOX works with SmartServer IoT to connect IIoT devices

## Features and Benefits

- Local I/O expansion module for Dialog's SmartServer IoT
- Programmable using IAP/MQ APIs
- Configurable digital inputs and outputs
- Programmable serial RS-485 and RS-232 interfaces
- USB interface to the SmartServer IoT
- Optional high accuracy power metering
- Push button reset/connect and LED status indicators
- DIN 43880 compliant enclosure
- 5 VDC reference power source; 50mA max current

# PRODUCT SPECIFICATIONS

## Hardware and electrical specifications

Memory:	2MB flash memory
Input power:	12-42VDC 0.25A or 10-30VAC 50/60 Hz 0.23A, or 5VDC when powered by USB
Indicators:	Power LED, Ready LED, I/O LED
Buttons:	Reset, Connect
Temperature range:	-20°C to +85°C
IP rating:	IP 20
Form factor:	DIN 43880 4TE

## Interfaces

USB C 2.0:	1 port for connection to SmartServer IoT
Digital inputs:	8 @ 0-31V; each with 5 configurable ranges
Digital outputs:	6 optically isolated digital outputs with 100mA sink
Relay outputs:	2 relay contacts; each supports up to 277VAC@10A or 30VDC@10A
Power measurement input (Metering model only):	Measures 100-277VAC (up to 3 phases) voltage, current and power via external CTs; 0.5% accuracy; screw terminal
RS-485:	1 4-connection screw terminal block
RS-232:	1 UART compatible interface
5VDC:	1 reference voltage output

## Digital input modes:

- Digital level input with optional edge trigger implemented as a dry contact with external voltage source or sourced by I/O expander power output
- DIN 43 864 compatible pulse count input supporting 30ms or longer low-high-low pulse collected over configurable interval (1/s to 1/3600s)
- Frequency input with a range of 1Hz to 20kHz with a minimum resolution of <0.5% collected over configurable interval (1/s to 1/3600s)

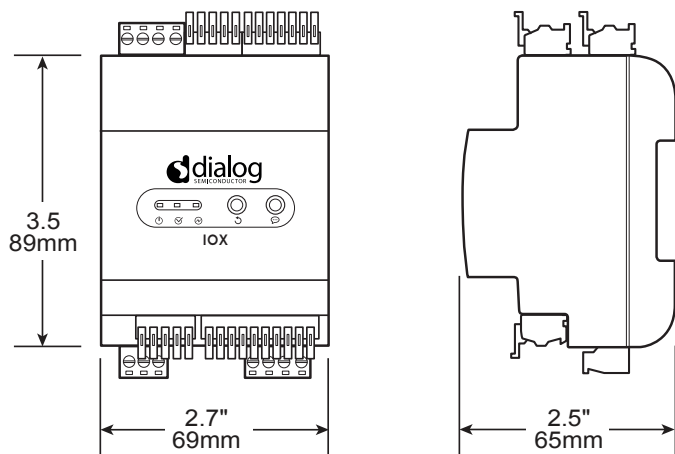
## Digital output modes:

- Digital level output implemented with an open drain requiring external pull up
- Frequency outputs with minimum range of 1Hz to 20KHz; 0.005Hz minimum resolution
- Configurable single pulse output with normally high or normally low output; 0-30 day range; 1ms minimum resolution
- Configurable pulse width modulated output with a configurable normally high or normally low output; 2ms to 30s period range; minimum resolution of 0.4% of the period

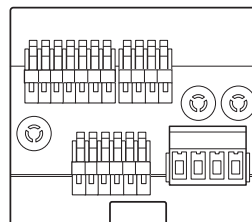
## Safety, compliance and warranty

Safety:	CSA/UL 62368-1, EN 62368-1
EMC:	FCC Part 15 Class B, EN 55032, EN 55024, AS/NZS CISPR 32 Class B
RoHS compliance:	RoHS II
Warranty:	1 year limited warranty

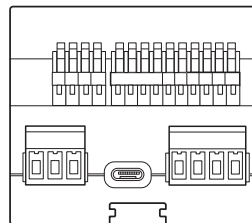
## DIMENSIONS, MOUNTING AND CONNECTIONS



The IOX modules are designed for DIN-rail mounting; dimensions for both modules are the same



Top view: Connectors for 8 digital outputs, RS-485, and 1-3 phase current sense and line voltage inputs (metering model only)



Bottom view: Connectors for RS-232, 8 digital inputs, AC/DC power input, USB port, and 2 relay outputs

Model #	Product Name	Product Description
41700-100	IOX I/O Expander	Configurable I/O module for use with SmartServer IoT
41700-110	IOX I/O Expander with Metering	Configurable I/O module for use with SmartServer IoT, includes metering input