



# CONSPEC®

INNOVATION THAT DIGGS DEEPER.

## OPTIO I/O



## Optio I/O Controller

The Conspec Optio I/O Controller is a simple easy to use I/O controller designed to give the user the ability to monitor and control a range of field devices either locally or remotely via Modbus.

With its wide array of input gas sensors, air flow sensors, temperature/pressure/humidity sensors, integrated field device sensors or third party remote sensors, such as water level, flow or motion sensor, analog and digital input/output relay ports, the Optio Fan Controller can be configured to take local action based on sensor alarm levels and autonomously turn on/off I/O or set a given value without the need for an external front-end system.

The Optio I/O Controller can also be used without input sensors to remotely control a field device via standard Modbus communication allowing the user to integrate the Optio I/O Controller into a larger SCADA/PLC system.

### BENEFITS

- Reliable & Stable Operation
- Combines Gas Monitoring and I/O Controls into a single unit
- Multiple Sensor Support such as O<sub>2</sub>, CO, CO<sub>2</sub>, CH<sub>4</sub>, Air Velocity, Relative Humidity, Pressure, Temperature, etc.
- Simple Sensor Replacement with No Need for Initial Calibration of Sensor
- Enhanced Alarming Capabilities
- Easy Menu Navigation - Icon Based
- Industry Standard Communication Protocols for Easy Integration
- Multiple I/O Options

### APPLICATIONS

- Mining and Tunneling
- Ventilation Management
- Fan Control Systems
- External Alarming
- Water Pump Systems
- Conveyor Systems

**OPTIO™ I/O**  
Reliability when every second matters.



Reliability when every second matters.

## Technical Specifications

### SENSORS

- Up to six installed sensors per monitor
- Factory preconfigured and calibrated
- Sensor extension up to 100ft (30m)
- Plug-and-Play Electrochemical sensors:
  - CO, O<sub>2</sub>, NO<sub>2</sub>, NO, H<sub>2</sub>S, and more
- NDIR sensors:
  - CO<sub>2</sub>, CH<sub>4</sub>
- Other sensors:
  - Particulate Matter, Air Velocity, Weather Station, etc.

### ALARMS

- 4 Custom Alarm Levels with hysteresis and hold-to-alarm times
- Sensor Fail-High and Fail-Low alarms
- Ability to associate relay outputs with alarm levels from a single sensor, or multiple sensors using logical "AND/OR"

### I/O CAPABILITIES

- 6 Relay Outputs (250 VAC, 220 VDC, 2A)
- 6 Multi Function Ports - DI/DO/AI (0-5V, 0-3.6V)
- 2 4-20mA outputs
- Horn/Strobe configurable control

### INPUT POWER OPTIONS (NON IS)

- 6-30 VDC
- 100 - 240VAC 50/60Hz
- Battery Power (wireless operation)

### COMMUNICATION INTERFACES

- Conspec Trunk, RS-485, RS-232, Conspec Wireless 900MHz/800MHz (pending) Band, Wi-Fi, Ethernet, POE, LTE, Leaky Feeder (VHF, UHF)
- Com Distance up to 6km (3.75miles)

### COMMUNICATION PROTOCOLS:

- MODBUS RTU, MODBUS TCP, Conspec Legacy ACCESSOR

### CONFIGURATION

- Using IR remote with local LCD menu
- Via MODBUS/Conspec Legacy Accessor Register Map using Conspec OASIS software/Conspec Senturion SCADA

### MENU & DISPLAY

- Intuitive menu using graphical LCD
- Password protected (user or admin)
- Quick info screen shows device settings
- Real-time readings of multiple sensors
- Dimmable RGB backlight
- Backlight color indicates monitor status

### USER INTERFACE

- IR remote control
- 4 Local Tactile Buttons
- Conspec OASIS Windows configuration software

### DIMENSIONS

- 12"x15"x8" @ 12lbs
- 15"x15"x8" @ 12lbs with horn/strobe

### POWER CONSUMPTION

- 2mA @ 15VDC (no sensors and 10% Backlight)
- 3mA @ 15VDC (3 EC Sensors and 10% Backlight)
- 3mA @15VDC (1 NDIR CH<sub>4</sub> Sensor and 10% Backlight)
- 9mA @15VDC (1 NDIR CO<sub>2</sub> Sensor and 10% Backlight)
- 12mA @ 15VDC (2 EC, 1Pres/Hum/WB, 1 CH<sub>4</sub>, 1 CO<sub>2</sub> and 10% Backlight)
- 33mA @15VDC (1 Pellistor CH<sub>4</sub> Sensor and 10% Backlight)

### TEMPERATURE & HUMIDITY RANGE

- -20°C to +40°C, 0-95% RH non-condensing
- Condensation recovery algorithm for NDIR CH<sub>4</sub> sensors

### WARRANTY

- One year standard warranty