



## IntelliBox-I/O 2100 Device Server

- ▶ Network-enables equipment with SSH/SSL enterprise-grade security
- ▶ Proactively monitors the attached equipment
- ▶ Takes automatic control and/or troubleshooting action based on user-defined settings
- ▶ Automated reporting and notification via e-mail or RSS feed
- ▶ Secure remote access and control of digital I/O and relays
- ▶ 10/100 Ethernet interface with 1.5kv isolation (802.3 standard)
- ▶ Two serial ports (RS232 and RS422/485) with ESD protection and 1.5kv isolation from incoming power
- ▶ Two optically-isolated digital I/Os



## Fully Automate Your Remote Equipment with Real-time Event Management and Reporting

IntelliBox®-I/O 2100 is a breakthrough in truly automated control of remote equipment. Powered by Lantronix EventTrak™ technology, this highly-advanced, programmable device server connects your equipment to an IP network and monitors it to watch for events at specified intervals. When an event occurs, IntelliBox automatically sends pre-determined, user-defined command(s) to the equipment causing it to take appropriate and/or corrective actions – without any user intervention. IntelliBox can send email notification that the event was detected and handled accordingly.

### True Autonomous Control with EventTrak

IntelliBox proactively monitors and controls remote digital I/O, dry contact (relay) and RS232/422/485-based equipment. With built-in EventTrak technology, IntelliBox can be set to query an attached device at timed intervals then, depending on the results, take pre-specified action(s). Fluid-level monitoring is a simple example – if IntelliBox notices a digital float sensor drop to a ‘low level,’ it can trigger a relay to start the fluid pump. When the level is restored the relay is triggered to stop the pump. IntelliBox sends an email to the user notifying them of the situation and the actions taken. Instead of reacting to an event or problem, users are proactively notified that an event occurred and the appropriate response automatically took place. This also enables users to control networked equipment directly through the serial or I/O port rather than depending on a PLC or SCADA server. In some instances, several events should occur before action is taken. EventTrak allows “Chain Definitions” (series of events/ actions) to be defined. They can be saved, stored and transferred from one IntelliBox to another, providing a great deal of flexibility for large-scale deployment.

IntelliBox is ideal for alarms, fluid pumps, motor drives, lights, fans, phone systems, access/control/alarm panels, HVAC equipment, PLC’s, projectors, security cameras, proximity readers, card readers, etc.

### Automated Reporting

IntelliBox consolidates the task of monitoring/reporting on multiple pieces of equipment. Rather than query and review the output of each device separately, users can configure the IntelliBox to query attached

equipment at configurable intervals and gather the returned data. Incoming data can be sent via email or RSS feed, allowing hundreds of devices to be monitored from one RSS-enabled web page. Incoming data can be scanned for specific information. When it is detected, IntelliBox can send an email flagged as “Important” along with the data and take corrective action if needed.

### Enterprise-grade Security and Data Center Standards

Equipped with the Lantronix Evolution OS™ Networking Operating System, IntelliBox delivers enterprise-grade level networking security with built-in SSH/SSL support. The hardened OS and mature protocol stack are resilient to denial of service (DoS) and port mapping attacks and prevent it from being used to bring down other networked devices. Evolution OS uses familiar data-center standards such as a Cisco-like command line interface (CLI) very similar to that used by routers and hubs, simplifying configuration and enterprise network integration. It also incorporates XML – a standard tool for web services, data transfer and rich content management that encapsulates data into a text-based format.



### Proactive Management for the Industrial Environment

Ideally suited for industrial applications, IntelliBox is equipped with isolated serial, I/O and Ethernet ports and screw terminal connectors for serial, I/O, relay and power. It supports Modbus TCP, Modbus ASCII and Modbus RTU and is FM-approved for hazardous locations Class 1, Div. 2. IntelliBox also features 15KV serial port ESD protection which protects the IntelliBox from electrical overstress; ESD-protected I/O channels (independent and optically isolated); wide -40°–75°C operational temperature range; and flexible power with 9-30 VDC and 9-24 VAC input range.

IntelliBox can act as a Modbus TCP slave, enabling Modbus TCP masters to monitor the status of digital inputs and set the digital outputs and relays. It can also be used as a “Modbus bridge” (Modbus TCP to Modbus RTU/ASCII protocol converter) enabling users to connect RS232/RS485 Modbus RTU/ASCII devices to their Ethernet network to be controlled by Modbus TCP masters (PLCs, OPC Servers, SCADA Software, etc).



## Features and Specifications

### Serial Interface

2 Serial ports: 1 RS232, 1 RS422/485 (4-wire/2-wire) with terminal block connection  
Baud rate selectable from 300 to 230 Kbps  
Customizable baud rate support for non-standard serial speeds  
LED indicators for TXD and RXD activities

### Serial Line Formats

Characters: 7 or 8 data bits  
Stop bits: 1 or 2  
Parity: odd, even, none

### Flow Control

Hardware: RTS/CTS  
Software: XON/XOFF

### Modem Control

CTS, RTS, DTR, DCD on Serial 1

### Digital I/O

2 Independently configurable digital I/Os, configured via GUI set-up Menu  
Opto-isolated to eliminate grounding issues  
Logically compatible with 3.3V level and also higher voltage levels  
Transient voltage and polarity reversal protection built in

### Relay

Contacts are capable of handling up to 8A resistive load  
Contacts are mechanically isolated to eliminate grounding issues  
Contacts are non-latching with Normally Open (NO) or Normally Closed (NC) for simple application such as power failure indication

### Network Interface

1 RJ45 Ethernet port  
10Base-T/100Base-TX  
Full or half duplex  
Auto-negotiating or hard coded

### LED Indicators

10Base-T and 100Base-TX Link  
Ethernet Activity  
Serial Transmit Data  
Serial Receive Data  
Power / Status

### Management

Internal web server  
SNMP v2C (MIB-II, RS232MIB)  
Serial login  
Telnet/SSH login  
XML  
DeviceInstaller software

### Power

Removable screw terminal block connector  
9-30 VDC or 9-24 VAC with chassis ground  
2.3W

### Environmental

Temperature: -40°C to 75°C (-40° to 167°F) Operating  
Temperature: -40°C to 85°C (-40° to 185°F) Storage  
Humidity: 10% to 90% relative humidity, noncondensing

### Agency Approvals

UL, CSA, FCC, CE, TUV, CTick, VCCI, FM Class 1, Div. 2

### Protocols Supported

ARP, UDP/IP, TCP/IP, Telnet, ICMP, SNMP, DHCP, BOOTP, TFTP,  
Auto IP, SMTP, FTP, DNS, Traceroute, HTTP

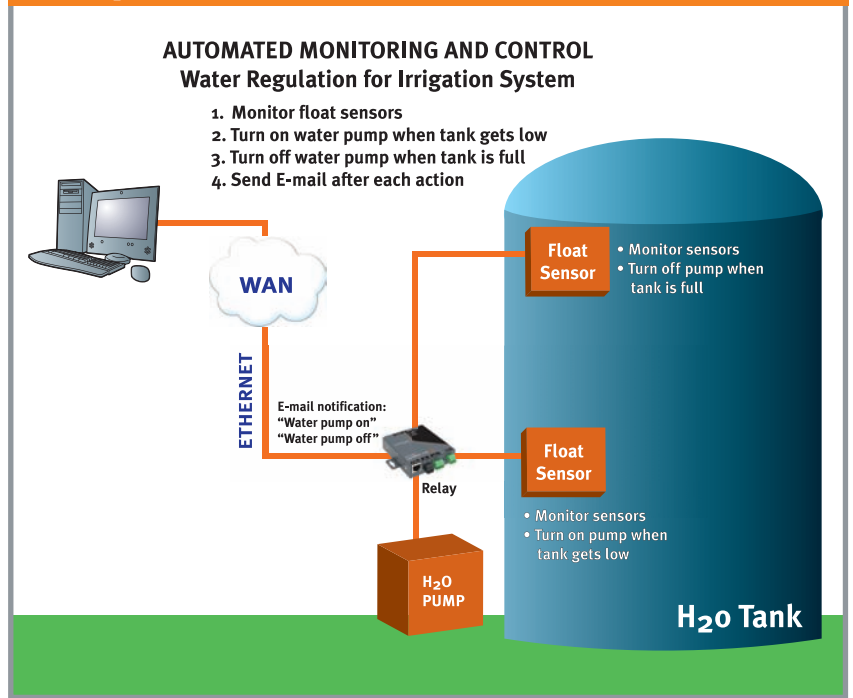
### Industrial Application Protocols

Modbus TCP, Modbus ASCII/RTU

### CPU

Lantronix DSTNI-EX 120 MHz clock, 256 KB SRAM, 16 KB Boot ROM Internal CPU Memory

## Example



### Memory

4 MB Flash  
2 MB SRAM

### EEPROM

64 Kbits

### Reset

Recessed push button

### Packaging

Case: metal enclosure with wall mounts  
IP30 enclosure rating  
Dimensions: (L x W x H): 115 x 109 x 23 mm (4.54 x 4.30 x .90 in), terminal blocks included  
Weight: 0.3 kg (0.63 lb) (10 oz)

### Shipping Dimensions (L x W x H)

254 x 216 x 70 mm (10 x 8.5 x 2.75 in.)

### Warranty

2-year limited warranty

### Isolation

1.5 KVAC / 2.1 KVDC galvanic isolation between power input port and Ethernet port (except chassis ground)  
1.5 KVAC / 2.1 KVDC galvanic isolation between power input port and serial ports  
1.5 KVAC / 2.1 KVDC galvanic isolation between Ethernet port and serial ports  
1.5 KVAC / 2.1 KVDC opto-isolation between digital I/O ports and all other ports  
1.5 KVAC / 2.1 KVDC mechanical isolation between Relay contacts and all other ports  
8 KV direct contact, 15 KV air discharge, ESD protection on all serial ports (IEC 1000-4-2, IEC 61000-4-2)  
40 A (5/50 ns) EFT protection (IEC 61000-4-4), 12 A (8/20 us) lightning protection (IEC 61000-4-5) on Ethernet port  
Transient voltage protection and ESD at power input with max non-repetitive surge current 800 A (8/20 us) (IEC 61000-4-2)  
Transient voltage protection and ESD with max non-repetitive surge power 600W peak (10/1000 us) at digital I/O ports

## Ordering Information

### Part Number

IBIO21002-01

### Description

IntelliBox-I/O 2100, 2 port IA device and I/O server with EventTrak, worldwide power supply with regional adapters.

# LANTRONIX®

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