XP-3

Advanced Control Processor

Reference Guide

XP-3 Advanced Control Processor

Boasting a powerful 533MHz CPU and 128MB of non-volatile flash memory, the XP-3 processor packs a big punch at a moderate price. With a built-in ZigBee® transceiver and support for wireless bi-directional communications, the XP-3 can provide the user with rock-solid control and feedback from devices such as music servers, lighting, security, and much more. For complete control in any room, the XP-3 also allows powerful two-way control with Ethernet-enabled RTI wired controllers and has full support for the RTiPanel App.

The XP-3 provides superior quality and reliability as well as these features:

- Powerful 32bit, 533MHz CPU.
- 128MB of non-volatile Flash memory.
- One multi-purpose I/O ports.
- Two IR variable output ports.
- Two assignable voltage sense inputs.
- Two programmable relay outputs.
- One two-way RS-232 ports.
- One integrated 10/100Base-T Ethernet port.
- Built-in astronomical clock.
- Built-in 2.4GHz Zigbee® RF transceiver module.

Installation & Operation

PROGRAMMING THE XP-3

The XP-3 must be programmed to operate. All programming is done using RTI's *Integration Designer*® software and is downloaded using the USB Programming Port located on front of XP-3 or via Ethernet.

UPDATING FIRMWARE

It is highly recommended that this and all RTI products have the latest firmware installed. The firmware can be found in the Dealer section of the RTI website (www.rticorp.com). Install the firmware using the USB Programming Port located on the front of XP-3.

MOUNTING

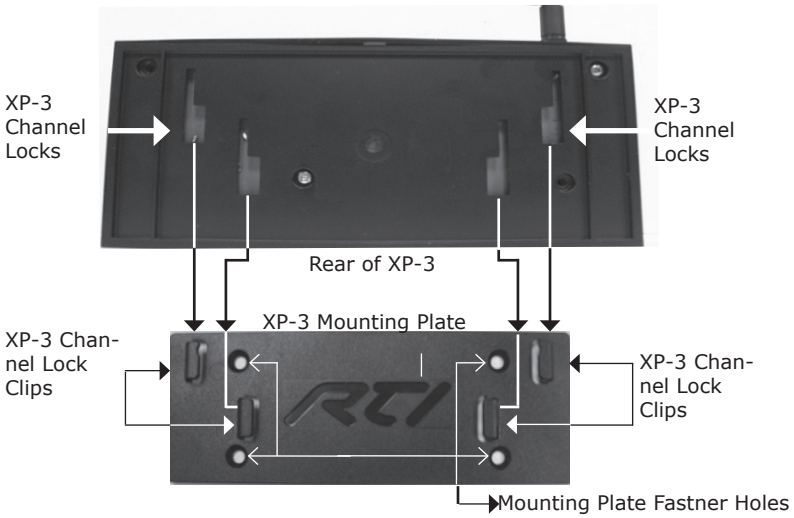
The XP-3 can be wall mounted (details below) or free standing.

The XP-3 does not need to be mounted near the equipment being controlled. The IR output ports and the optional Power Sensor modules can be extended up to 1000 feet. If RS-232 control ports or the CM-232 Communication Module are used, the distance limitation is usually 50 feet depending on baud rate.

MOUNTING INSTRUCTIONS

To mount the XP-3 to a wall, shelf, or cabinet you must use the enclosed mounting plate.

- Level and anchor XP-3 mounting plate to desired wall, shelf, or cabinet by screwing appropriate wall, shelf, or cabinet fasteners (not included with the XP-3) through the mounting plate fastener holes.
- *When mounting the XP-3, be certain to choose a safe location (e.g. away from electrical junction boxes, circuit breakers, wet locations, etc.)*
- Affix the XP-3 to the mounting plate by placing the XP-3 channel locks located on the rear of the XP-3 over the XP-3 channel lock clips located on the front of the mounting plate. Slide the XP-3 down until the channel lock clips lock into place.



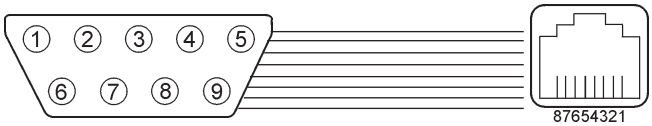
ETHERNET

This RJ-45 port allows connection to a 10/100 Base-T Ethernet network (LAN) for programming, control and two-way communication with compatible devices. Network settings such as the IP address are configurable within Integration Designer. This port also supports Power-over-Ethernet (POE) which will power the XP-3.

RS-232 PORT

The XP-3 is capable of two-way RS-232 communication and uses industry standard cat5 cable with RJ-45 termination (EAI-561). An RJ-45 to DB9 adapter is included with the XP-3. **NOTE:** RS-232 communication is typically limited to 50 feet depending on the baud rate.

RJ-45 TO DB-9 ADAPTER PINOUT



DB-9 Connector Pin Out

Pin	Signal Name	Signal Description
1	DCD	Carrier Detect
2	RXD	Receive Data
3	TXD	Transmit Data
4	DTR	Data Terminal Ready
5	GND	Signal Ground/Common
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	NC	Not Connected

RJ-45 Connector Pin Out

Pin	Signal Name	Signal Description
1	DSR	Data Set Ready
2	DCD	Carrier Detect
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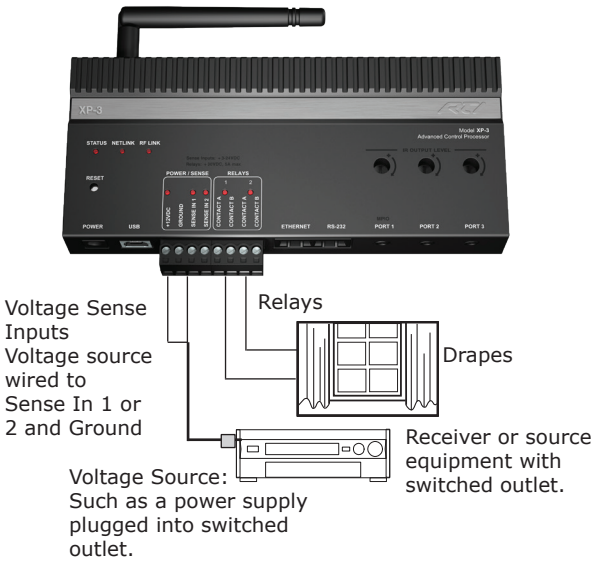
POWER

To power the XP-3, use the supplied 12VDC/1Amp power supply.

ALTERNATIVE: POWER-OVER-ETHERNET (POE)

The XP-3 can alternatively be powered using Power Over Ethernet, allowing the power to be extended to the XP-3 over the same Cat-5 cable that carries Ethernet communication. If this method will be used, a class 3 POE router or POE injector will need to be used.

SENSE INPUTS / RELAYS



VOLTAGE SENSE INPUTS/RTI TRIGGER INPUT

The XP-3 has two voltage sense inputs (+3-24 VDC) that are configurable within Integration Designer. During the execution of an event, macros can trigger IR commands, RS-232 commands, relay closure, etc., based on the status of the voltage sense input.

- Connect positive lead from voltage source to Sense In 1 or 2 terminal input and negative lead to Ground terminal.

NOTE: The SENSE IN 1 terminal can be configured in Integration Designer as an input for the RTI RM-433 antenna and RTI in-wall keypads. Systems using the XP-3 Control Processor that will incorporate an RTI 433MHz RF remote control (and the RM433 antenna) or non-Ethernet enabled RTI in-wall controller, should be limited to one secondary zone that will not be heavily used. (ie. guest bedroom, outdoor area etc).

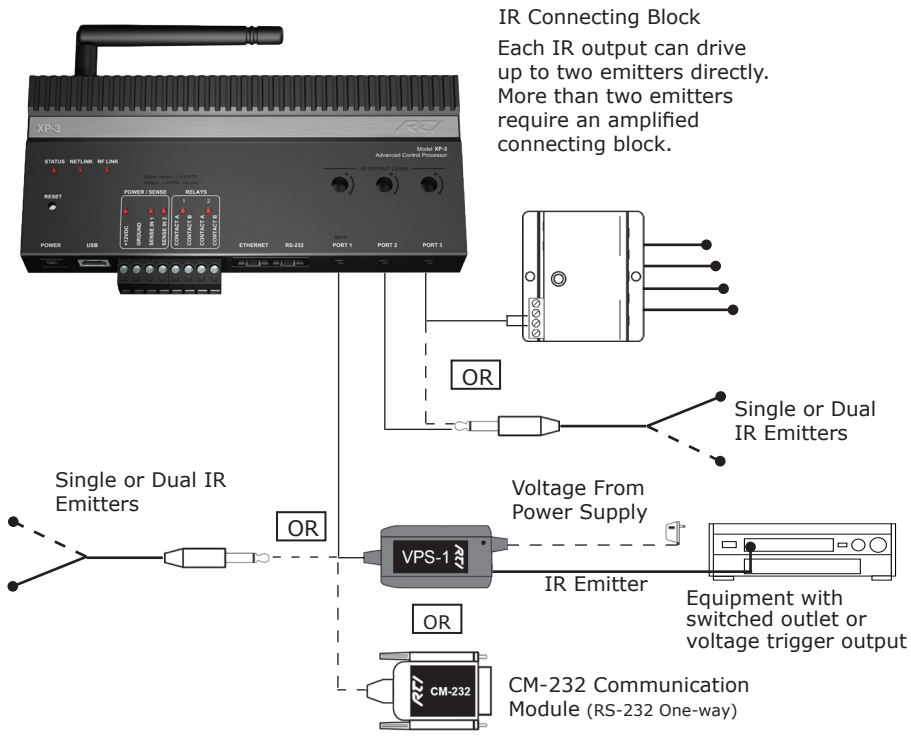
NOTE: When configured as an RTI trigger input, it does not allow IR pass-through from external devices and does not support IR receivers.

RELAYS

The two relays in the XP-3 can provide contact closure or switching control for loads up to 5A/30VDC each. Both relays are Normally Open when not energized, but they can be programmed to behave Normally Closed as long as power is applied to the XP-3.

- For contact closure control, connect the A and B contact terminals of a relay to the desired device.

MPIO / IR PORTS



INFRARED EMITTERS

The multi-purpose I/O port (port 1) on the XP-3 is compatible with industry standard infrared emitters and infrared repeating systems. Each output port is capable of driving up to two infrared emitters directly. The use of more than two infrared emitters requires the addition of an amplified connecting block. A connecting block can be wired up to 1000 feet away from the XP-3 using #22 AWG (minimum) wire.

INFRARED OUTPUT GAIN ADJUSTMENT

The IR output gain can be separately adjusted for each of the three output ports. The XP-3 is shipped with the IR gain set to the optimum level for most equipment, and it should only need to be adjusted if the attached equipment is not responding reliably. If adjustment is needed, rotate the IR output controls on the front of the XP-3 clockwise for higher output power, or counter-clockwise for lower output power.

VPS-1 SENSOR MODULE

The multi-purpose I/O port on the XP-3 is compatible with an RTI power sensing module (e.g. VPS-1). Follow the guide included with the module for installation instructions, and follow the instructions in the *Integration Designer*® software for programming details.

RS-232 COMMUNICATION MODULES (CM-232)

The multi-purpose I/O port on the XP-3 is compatible with an RTI RS-232 communication module (e.g. CM-232). Follow the guide included with the module for installation instructions, and follow the instructions in the *Integration Designer*® software for programming details.

STATUS LED

When the XP-3 processor is plugged in and booting up, the Status LED is lit red, indicating that the operating system is starting up. The Status LED will then turn green, indicating the system file and drivers are being loaded. When the light turns off, the processor has finished starting up and is ready for use. During operation, the Status LED will light green as the XP-3 executes commands or macros.

NET LINK LED

Lit red when connected to an Ethernet network.

RF LINK LED

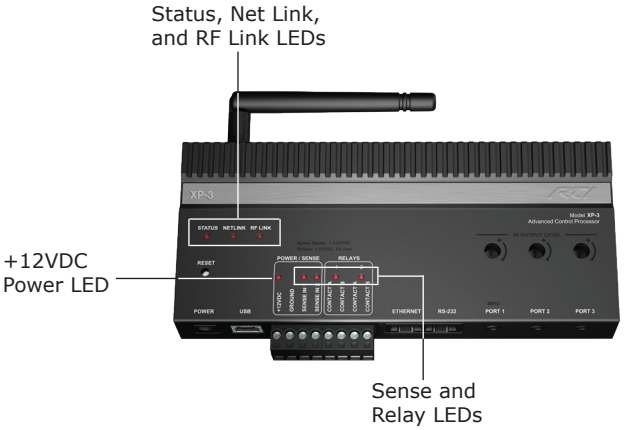
Blinks red when establishing communication or transferring data via 2.4 GHz Zigbee RF.

+12VDC POWER LED

Lit red when power is applied to the XP-3 via the 12VDC power supply.

SENSE/RELAY LEDS

Lit red when XP-3 is utilizing the Sense or Relay ports.



Product Contents

- One (1) XP-3 Advanced Control Processor
- One (1) Power supply (12V, 1A)
- One (1) RS-232 Adapter
- Two (2) Phoenix Connectors
- One (1) XP-3 Removable Antenna
- One (1) XP-3 Mounting Plate with Screws
- One (1) Reference Guide

Safety Suggestions

Read and Follow Instructions. Read all safety and operating instructions before operating the unit.
Retain Instructions. Keep the safety and operating instructions for future reference.
Heed Warnings. Adhere to all warnings on the unit and in the operating instructions.
Heat. Keep the unit away from heat sources such as radiators, heat registers, stoves, etc., including amplifiers that produce heat.
Power Sources. Connect the unit only to a power supply of the type described in the operating instructions, or as marked on the unit.
Power Cord Protection. Route power supply cords so that they are not likely to be walked on or pinched by items placed on or against them, paying particular attention to the cord plugs at power receptacles and at the point at which they exit from the unit.
Water and Moisture. Do not use the unit near water—for example, near a sink, in a wet basement, near a swimming pool, near an open window, etc.
Object and Liquid Entry. Do not allow objects to fall or liquids to be spilled into the enclosure through openings.
Servicing. Do not attempt any service beyond that described in the operating instructions. Refer all other service needs to qualified service personnel.
Damage Requiring Service. The unit should be serviced by qualified service personnel when:

- The power supply cord or the plug has been damaged.
- Objects have fallen or liquid has been spilled into the unit.
- The unit has been exposed to rain.
- The unit does not appear to operate normally or exhibits a marked change in performance.
- The unit has been dropped or the enclosure has been damaged.

Cleaning

To clean this product, lightly dampen a lint-free cloth with plain water or a mild detergent and wipe the outer surfaces.

NOTE: Do not use harsh chemicals as damage to the unit may occur.

Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the device.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received including interference that may cause undesired operation.

Industry Canada Compliance Statement

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received including interference that may cause undesired operation.

Cet appareil est conforme avec Industrie Canada exempts de licence standard RSS (s). Son fonctionnement est soumis aux deux conditions suivantes:
1. Ce dispositif ne peut causer des interférences nuisibles.
2. Cet appareil doit accepter toute interférence reçue y compris des interférences qui peuvent provoquer un fonctionnement indésirable.

DECLARATION OF CONFORMITY (DOC)
The Declaration of Conformity for this product can be found on the RTI website at:
www.rticorp.com/declaration

Contacting RTI

For news about the latest updates, new product information, and new accessories, please visit our web site at: **www.rticorp.com**

For general information, you can contact RTI at:
Remote Technologies Incorporated
5775 12th Ave. E Suite 180
Shakopee, MN 55379
Tel. (952) 253-3100
Fax (952) 253-3131
info@rticorp.com

Service & Support

If you are encountering any problems or have a question about your RTI product, please contact RTI Technical Support for assistance (see the Contacting RTI section of this guide for contact details).
RTI provides technical support by telephone or e-mail. For the highest quality service, please have the following information ready:

- Your Name
- Company Name
- Telephone Number
- E-mail Address
- Product model and serial number (if applicable)

If you are having a problem with hardware, please note the equipment in your system, a description of the problem, and any troubleshooting you have already tried.
Please do not return products to RTI without return authorization.

Limited Warranty

RTI warrants new products for a period of three (3) years (excluding consumables such as rechargeable batteries which are warrantied for one (1) year) from the date of purchase by the original purchaser (end user) directly from RTI / Pro Control (herein referred to as "RTI"), or an authorized RTI dealer.
Warranty claims may be initiated by an authorized RTI dealer using the original dated sales receipt or other proof of warranty coverage. In the absence of the receipt of purchase from the original dealer, RTI will provide warranty coverage extension of six (6) months from the date code of the product. Note: RTI warranty is limited to the provisions set forth in this policy and does not preclude any other warranties offered by third parties who are solely responsible for those other warranties.

Except as specified below, this warranty covers defects in product material and workmanship. The following are not covered by the warranty:

- Product purchased via unauthorized sellers or internet sites will not be serviced- regardless of purchase date.
- Damages caused by accident, misuse, abuse, neglect or acts of God.
- Cosmetic damage, including, but not limited to, scratches, dents and normal wear and tear.
- Failure to follow instructions contained in the Product Installation Guide.
- Damages due to products used in an application or environment other than that for which it was intended, improper installation procedures or adverse environmental factors such as incorrect line voltages, improper wiring, or insufficient ventilation.
- Repair or attempted repair by anyone other than RTI and Pro Control or authorized service partners.
- Failure to perform recommended periodic maintenance.
- Causes other than product defects, including lack of skill, competence or experience of user.
- Damage due to shipment of this product (claims must be made to the carrier).
- Altered unit or altered serial number: defaced, modified or removed.

RTI is also not liable for:

- Damages caused by its products or for failure of its products to perform, including any labor costs, lost profits, lost savings, incidental damages, or consequential damages.
- Damages based upon inconvenience, loss of use of the product, loss of time, interrupted operation, commercial loss, any claim made by a third party or made on behalf of a third party.
- Loss of, or damage to, data, computer systems or computer programs.

RTI's liability for any defective product is limited to repair or replacement of the product, at the sole discretion of RTI.
In cases where the warranty policy conflicts with local laws, the local laws will be adopted.