

# IPG-8T / IPG-8R

IP NETWORK SWITCH CONTACT RELAY



INSTRUCTION BOOK  
IB6392-01

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## DESCRIPTION

The IPG-8T Relay Contact transmitter monitors 8 separate switch contact input signals and sends the status of each switch input via an embedded device server to a matching relay output receiver placed anywhere on the network. Use this unit when you want to send contact switch or relay information over a LAN Local Area Network or on a wireless network transmission path back to a receiver. This contact relay over network system can be used to relay alarm contacts or remote control signals for industrial applications.

The IPG-8T continuously monitors the input switch contact condition of 8 channels A-D and sends a data stream via the network connection to the receiver IPG-8R unit. This unit uses a standard 8P8C network cable for connection onto any LAN or network system. The signals generated will go anywhere on a network using TCP/IP protocol.

The embedded device server uses 10/100Mbit Ethernet protocol, auto sensing, stable, field proven TCP/IP protocol, easy configuration through a web interface or by direct Ethernet cable connection, Password Protection capable and Bi-Color LED indicators for Link status, speed, and activity.

The IPG-8T transmitter can be used on a wireless link to return the contact information to another location to control the relay outputs. This unit will work with any network capable of carrying TCP/IP protocol.

The IPG-8T has an easy mounting flange that will mount to any surface with just two screws and is supplied with a 12 VDC power cube. This unit does not use P.O.E. Power Over Ethernet on the network connector, it is powered by a 12 VDC power cube. This unit is designed to be used with the matching 8 channel receiver called IPG-8R.

## IPG-8T MOUNTING INSTRUCTIONS

The rugged one-piece mounting structure allows you to mount the unit firmly in place with two screws. Select a place to mount the unit away from harsh or wet environments indoors is recommended, however if it is placed outdoors it should be placed in a NEMA enclosure or similar water proof location. The IPG-8T should be located near the switch or contact source equipment or anywhere along the path of the IP video signal. Select a position that gives you the best access to wire the system and reduce the labor in installation. This equipment should not be placed in a public area where tampering could occur.

## IPG-8R MOUNTING INSTRUCTIONS

The rugged one-piece mounting structure allows you to mount the unit firmly in place with two screws. Select a place to mount the unit away from harsh or wet environments indoors is recommended, however if it is placed outdoors it should be placed in a NEMA enclosure or similar water proof location. The IPG-8R should be located close to the area where to relay outputs will be needed or anywhere along the path of the IP video signal. Select a position that gives you the best access to wire the system and reduce the labor in installation. This equipment should not be placed in a public area where tampering could occur.

## HOW TO CABLE THE IPG-8T

Attach a twisted wire pair to any of the switch contact inputs marked A-H, one pair for each switch input. The use of twisted wire is recommended to reduce interference from outside RF and magnetic sources. Connect the other end to your switch contact or relay signals sources.

Next connect a network cable from the IPG-8T unit to your network using a straight wired cable as you normally would when you connect to an IP switch or router. If you are directly connecting from an IPG-8T to the IPG-8R then be sure to use a reverse wired network cable. Then connect the 12 VDC power wires from the power cube to the unit. The polarity is directed inside the unit so the wires can be connected either way.

## HOW TO CABLE THE IPG-8R

Attach a network cable coming from the network switch or LAN cable to the IP Data Port on the side of the IPG-8R. If the power is applied and the network is live, you should see the LEDs on the network connector begin to flash while the network connection is being established. If the companion IPG-8T is sending signals, you will see the Green relay LEDs display the condition of the switch inputs. While the network cable is disconnected you will only see the RED LED lite indicating a disconnect of the network cable or discontinuity of the data signal. When the data path is established the RED LED will go out.

## POWER SUPPLY INSTALLATION

The IPG-8T and IPG-8R are powered by 12 VDC wall mount power cubes. Just connect the power cube wires to the screw terminals marked "12VDC " with no polarity required. A Green LED power indicator on the IPG-8T will illuminate. On the IPG-8R unit there is no power LED indicator however if there is no network input the RED ALM (alarm) LED will be lit. And if the switch inputs are active ON the Green Relay condition LEDs will be on.

**WARNING:** Be careful to only connect the power supply to these two screw terminals and no other terminals, as voltage connected to the other terminals could damage the equipment or blow the fuse in the power cube. The power supply terminals have directing diodes inside the unit so that either polarity of 12 VDC can be connected to the input terminals. It does not matter which one is positive or negative for connection.

## OPERATION

When all the cables and wires are connected, and the power is on you should see at least 1 green PWR LED on the IPG-8T and the network connector will show the following depending on the connection speed and duplex or simplex operation. Here is the network LED indication table.

### NETWORK CONNECTOR BI-COLOR LED TABLE (for both IPG-8T and IPG-8R)

#### LEFT SIDE LINK LED

OFF	No Link
Amber	10 Mbps
Green	100 Mbps

#### RIGHT SIDE LINK LED

OFF	No Activity
Amber	Half-Duplex
Green	Full-Duplex

## CARE AND MAINTENANCE

There is no routine maintenance or calibration required with this equipment.

## APPLICATIONS (WHERE TO USE THE SYSTEM)

This system is used where there is a desire to send contact switch or relay signals over an Ethernet cable.

## GROUND LOOPS

The IPG-8T and IPG-8R are completely isolated from ground to prevent ground loops from occurring due to installation. The IPG-8T and IPG-8R will not induce ground loops in the data signal.

## RE-ADDRESSING THE UNITS

Both the IPG-8T and IPG-8R come from the factory with pre-programmed working addresses and individual MAC address for each unit. The MAC address is located on the sub-board module inside the unit and, also can be read using the “DeviceInstaller” software download.

The factory loaded address for each unit are as follows:

	IPG-8T		IPG-8R
Address:	192.168.2.31		192.168.2.36
Sub-Net:	255.255.255.0		255.255.255.0
Gateway:	0.0.0.0		0.0.0.0
Port:	10001	SEE PORT # WARNING	10001

There are two ways to change the address and communication information, direct Ethernet connection from a PC using a downloadable access interface, or by using the WEB based interface.

## DIRECT ETHERNET CABLE CONNECTION

To use a direct Ethernet connection to program new IP Addresses into the IPG-8T and IPG-8R units the easiest way is to use the Lantronix “DeviceInstaller” utility. You can download it at: [WWW.LANTRONIX.COM](http://WWW.LANTRONIX.COM). Click on “KNOWLEDGE & SUPPORT”, then “TECHNICAL SUPPORT”, and download the “STAND-ALONE DEVICEINSTALLER”. This downloaded program will allow you to Locate the units on a network and Change the units IP Addresses when they are powered up. To change the configuration of the XPORT data sub-board you must install the reset jumper located next to the XPORT module on the data sub-board. For any programming this jumper must be installed on the two pin connector and then for proper operation of the device the jumper must be removed and hung on one pin for storage.

If you are connected to either the IPG-8T or the IPG-8R unit you can use the DeviceInstaller utility to view and change the addresses of the units. CAUTION: you must have the Ethernet card on your computer set to a static address that includes the first three octets in the existing IPG-8T or IPG-8R units (192.168.2.xxx) or the software will not be able to locate the devices and you must use “Straight Through” non-reversing IP cable connection and you must have the programming jumper in place inside the unit

## CONNECTION THROUGH IP SWITCHES

You can also access the units to change the address through any router by using the same method and by using a “Straight” wired IP cable connection.

## THE DEVICEINSTALLER UTILITY

You can read more about use of the software utility by opening the “DeviceInstaller Help” document that downloaded with the “DeviceInstaller” utility. CAUTION: Do not change any of the operating settings other than the IP Address, Subnet Address, and Default Gateway Address. Changes can be made that will disable the operation of the devices or cause them to malfunction.

## USING DEVICEINSTALLER

Once DeviceInstaller is loaded, launch the application by clicking on the Icon. A pop up “Warning: No serial ports where found on this PC” will appear, Click “OK”. The software will search for devices on the network. When it is located double Click on the XPORT-05 device. The Device Info screen will appear. At the point you can re-program the IP Address, Subnet Address, and default Gateway Address by Clicking on the “ASSIGN IP” Tab. Always use the “Assign a specific IP address” method and Click on Next. Enter the IP Address, Subnet Mask (if it does not auto fill), and the Default Address. Click Next, and then Click the ASSIGN button. Then just wait for the “DONE” indication. If you change the Address of the IPG-8T transmitter unit, you must also change the “Remote Host” address in the IPG-8R receiver unit to match the IPG-8T address. The “Remote Host” address can be accessed by using the DEVICEINSTALLER main page while connected to the IPG-8R and click on “WEBHOST” and then go to “Connections” and fill in the same IP address used by the IPG-8T unit. This action creates a “Serial Tunnel” for the data to communicate between transmitter and receiver. It is suggested that IP addresses only be changed when it is required by the system.

CAUTION: Do not change the Port number unless absolutely necessary. If you must change the port number be aware that there are RESERVE port numbers that can not be used. Here is a list of the restricted port numbers. If you use one of these port numbers the devices will stop working and you could become “locked out” and you may lose the ability to access the units. Here is the list of reserved, restricted port numbers:

### DO NOT USE THESE PORT NUMBERS:

1-2024	Reserved (well known ports)
9999	Telnet setup
14000-14009	Reserved for Redirector
30704	Reserved (77F0h)
30718	Reserved (77FEh)

**WARNING:** We recommend that you not use the reserved port numbers for this setting as incorrect operation may result.

# DEVICEINSTALLER PAGE

Lantronix DeviceInstaller 4.4.0.7

File Edit View Device Tools Help

Search Options Exclude Assign IP Upgrade Import Provisioning File Generate Device File

Lantronix Devices - 1 device(s)

- Ethernet (192.168.2.30)
- XPort
  - XPort-05 - firmware v6.10
  - 00-80-A3-D3-07-6E

Device Info Configuration Records Status Records Web Configuration Telnet Configuration

Address: http://192.168.2.36/secure/ltx\_conf.htm

## XPort LANTRONIX

### Device Status

Product Information	
Firmware Version:	V6.10.0.3
Build Date:	29-Dec-2017
Network Settings	
MAC Address:	00-80-A3-D3-07-6E
Network Mode:	Wired
DHCP HostName:	< None >
IP Address:	192.168.2.36
Default Gateway:	192.168.2.1
DNS Server:	0.0.0.0
MTU:	1400
Line settings	
Line 1:	RS232, 9600, 8, None, 1, Hardware.

WebManager Version: 2.0.0.6 Copyright © Lantronix, Inc. 2007-2014. All rights reserved.

Done

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