



iPulse® Installation and User Guide

IP2-PoE

Hardware Version 2.0



iPulse® Installation and User Guide

Owner's Record

The model and serial numbers are located on the bottom of the iPulse unit. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your VideogeniX dealer regarding this product.

Model No. _____

Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the unit. Refer servicing to qualified personnel only.

WARNING

This installation should be made by qualified service person and should conform to all local codes.

WARNING

A readily accessible disconnect device shall be incorporated in the building installation wiring.

For customers in the U.S.A.

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



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1. About iPulse® IP2-PoE

The iPulse® provides an automatic external means to reset an electronic device that has malfunctioned due to various internal or external events. This document details installation, basic operation, device connection and LED indicators of the VideogeniX iPulse® IP2-PoE Device.

iPulse® PoE Model

Model	Operating Modes	Power Connector
IP2-PoE	Intelligent Mode or Timed 12 Hour	Power over Ethernet

Note: The IP2-PoE supports devices with a dry contact, passive or active solid-state output relay.

! Caution:

iPulse is not weatherproof. When connected to an outdoor camera Please make sure it is protected inside a weatherproof enclosure. *Do not open iPulse® or all warranties will be voided.*

! WARNING:

To prevent fire or shock hazard, do not expose the unit to rain or moisture.
To avoid electrical shock, do not open the unit. Refer servicing to qualified personnel only.

Operating Modes

The iPulse®-PoE operates in one of two modes, Intelligent Reset Mode and Timed Reset Mode. iPulse® automatically detects the operating mode by monitoring the I/O Detect input. If iPulse® detects a change in the I/O Detect input, it will enter the Intelligent Reset mode. Otherwise, iPulse® will remain in Timed Reset mode. You can choose to use Timed Mode by twisting the I/O Detect wires together and securing them with the included wire nut.

Intelligent Reset Mode

The Intelligent Reset Mode monitors an output on the device being protected. The output signal on the device is commanded by the iPulse Manager Software or other network software designed to support iPulse®. When iPulse® detects the loss of acceptable communication, after a pre-determined detection period, it power restarts the protected device. Generally, a power restart will restore the device to proper operation. After 2 consecutive failed attempts to restart the device, iPulse® goes into fault mode and only re-starts the protected device once every four hours. When the device starts operating correctly, iPulse returns to normal (non-fault) mode.

Timed Reset Mode

The Timed Reset Mode, simply cycles power on the protected device once every 12 hours. When used in Timed Reset mode, iPulse® connects directly inline with the device's power, does not use the I/O Detect Cable and does not require any remote commanding software (in this case the toggle wires should be twisted together using the included wire nut).

Note: If Timed Reset Mode is used on a PTZ camera, the camera will typically reset to its home position upon reset. For this reason, we recommend using Intelligent Reset Mode whenever possible for PTZ cameras.

Relay Types

When operating in Intelligent Reset Mode, the iPulse PoE monitors an output from your camera. These outputs come in various forms. The iPulse has been developed to support Dry Contact, Passive Solid-State and Active Solid State relay types. Please refer to device compatibility document (040-000005-001) to ensure the I/O Detect Cable is connected correctly for your



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device's relay type. Please refer to Appendix A if your camera is not listed or if you need more information regarding the various output relay types,



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2. Package Contents

The IP2-PoE contains the following components:

iPulse IP2-PoE Components (095-00006-001)			
Item	Qty	Description	Part Number
1	1	iPulse® IP2-PoE	095-00003-001
2	1	1' (one foot) Ethernet cable	154-00010-001
3	1	Wire nut	029-00001-001
4	1	CD-ROM with software and manuals	046-00001-001
5	1	Quick Start Guide	040-00006-001

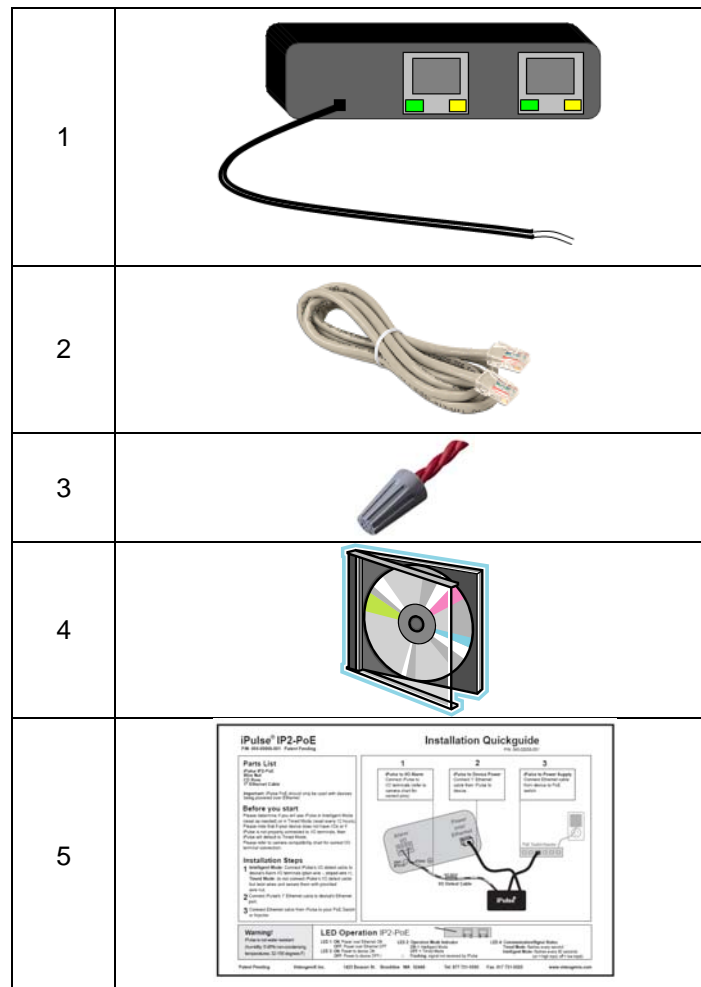


Figure 1. iPulse IP2-PoE Package Contents.

Note: If any parts are missing, please contact VideogeniX for replacement.



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3. Installation Steps

1. Check the package contents against the chart above,
2. Select Operation Mode
3. Install Hardware
 - Timed Reset Mode
 - Intelligent Reset Mode
4. Read LED Operation instructions
5. Install Software – see iPulse Manager Software (on CD-ROM)



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4. Hardware Installation

The hardware installation depends upon the desired operating mode. If the Timed Reset Mode is desired, follow the steps in section 4.A. If the Intelligent Reset Mode is desired, follow the steps in section 4.B.

! Warning: Please note that for optimal performance, PoE devices should be installed within 300ft of PoE Switch/Injector

4.A. iPulse®-PoE Timed Reset Mode Installation - (IP2-PoE)

The Timed Reset Mode connections are shown in Figure 2.

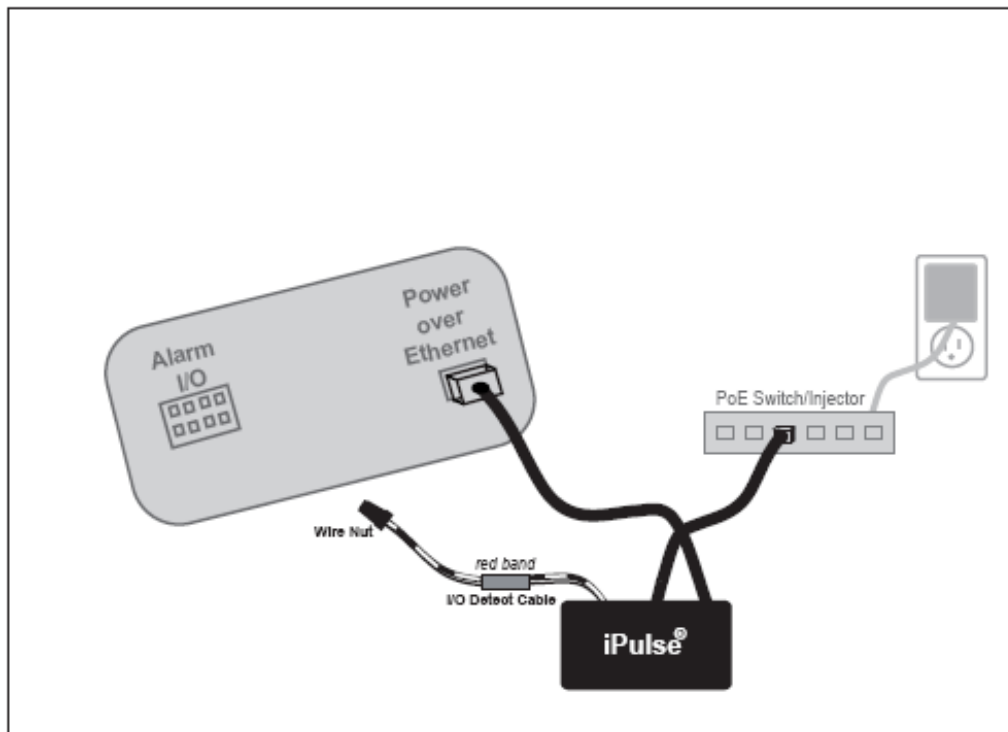


Figure 2: iPulse® PoE – Timed Mode Installation

1. Do not connect I/O Detect cable. Instead, twist wires together with provided wire nut.
2. Connect the provided 1' Ethernet cable from the iPulse PoE **device** port to the camera's (or other PoE device) PoE port (see Figure 2).
3. Connect PoE cable from PoE Switch/Injector to iPulse's PoE **switch** port.
4. If not already connected, connect the AC/DC power supply to PoE Switch/Injector.
5. No iPulse Manager Software installation is necessary.

Your iPulse PoE is now connected in Timed Mode. Your PoE device should be operating and power reset once every 12 hours.



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4.B. iPulse IP2-PoE Intelligent Reset Mode Installation - (IP2-PoE)

Operating the iPulse® Intelligent Reset Mode requires an output connection to the protected device via the I/O Detect cable. Figure 3 illustrates the typical connections for Intelligent Reset Mode

! Warning - If Intelligent Reset Mode connection is incorrect and iPulse® does not detect I/O communication, iPulse will remain in Timed Reset Mode and re-start your device once every 12 hours.

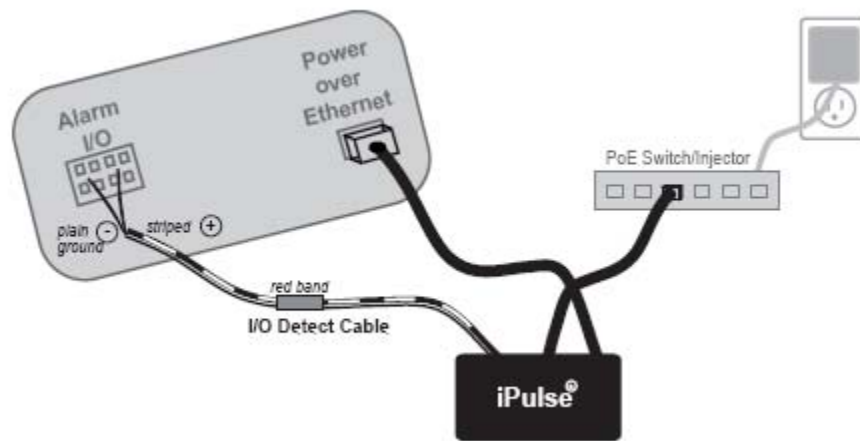


Figure 3: Connection for iPulse® PoE in Intelligent Reset Mode

1. Locate your camera in the device compatibility document (040-000005-001). For the latest Camera Chart visit www.videogenix.com. If your camera is not listed, please refer to Appendix A for proper I/O Detect connection.
2. Connect the striped I/O Detect wire to the I/O terminal specified for your device.
3. Connect the plain (no stripe) I/O Detect wire to the I/O terminal specified for your device.
4. Connect the supplied 1' Ethernet cable from the iPulse PoE **device** port to the Camera's (or other device's) PoE port.
5. Connect an Ethernet cable from PoE Switch to iPulse's central PoE **switch** port.
6. If not already connected, connect the AC/DC Power Supply to the PoE Switch/Injector.
7. Add your device's configuration to the iPulse Manager Software or Network video recording (NVR) software (See iPulse Manager Software installation in CD-ROM).

Note 1: Connection polarity **MUST** be observed for all devices.

Note 2: If the input connections need to be modified, the striped wire is plus VDC and the solid wire is ground (0 VDC).



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! Warning: It is generally not recommended to use PoE to power cameras or other devices for distances longer than 300ft.



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5. iPulse® PoE LED Operation - (IP2-PoE)

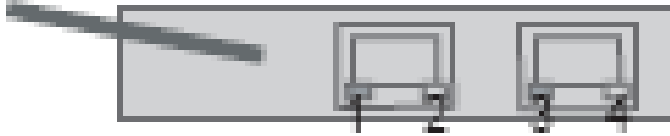


Figure 4: iPulse® PoE – LED Operation

LED Operation

LED 1 – iPulse Power Indicator

- ON : Power Over Ethernet On
- OFF : Power Over Ethernet Off

LED 2 – Operation Mode Indicator

- ON : Intelligent Mode, device operating as expected
- OFF : Timed Mode
- Flashing : Intelligent Mode, device fault detected

LED 3 – Device Power Indicator

- ON : Power to device from iPulse On
- OFF : No Power to Device from iPulse

LED 4 – Communication/Signal Status

- Timed Mode : Flashes every second
- Intelligent Mode: Flashes every 90 Seconds (On = input High, Off = input Low)



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6. Appendix

Appendix A – Output Relay Configuration and Connections

(Intelligent mode only)

Output Relay Configuration

The relay output configurations vary based on the manufacturer's design. Because of these variations, the iPulse® I/O Detect input needs to operate in one of three ways. Refer to your device user manual for more information regarding the output relay configuration to your device. The following diagrams show proper connection to a device that is being run in iPulse Intelligent mode and should be referenced in instances where the included device chart does not specify the output pins or terminals to be used when connecting to iPulse.

Dry Contact

The first and most common method requires the iPulse to supply current to the dry contacts of a relay. This configuration is shown in Figure 5.

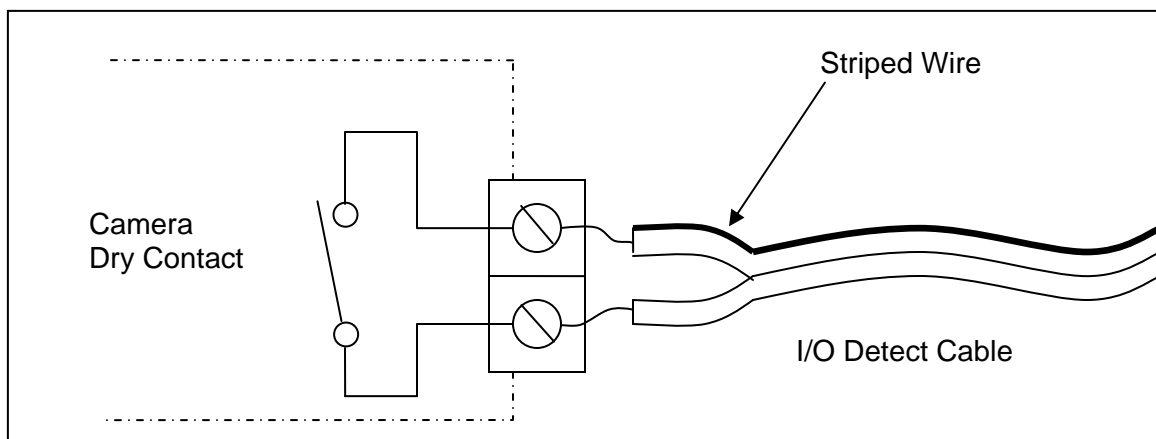


Figure 5: Dry Contact Relay I/O Detect Connection



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Passive Solid-State

The second method is similar, requiring the iPulse to supply current to an open collector output transistor. This configuration is shown in Figure 6.

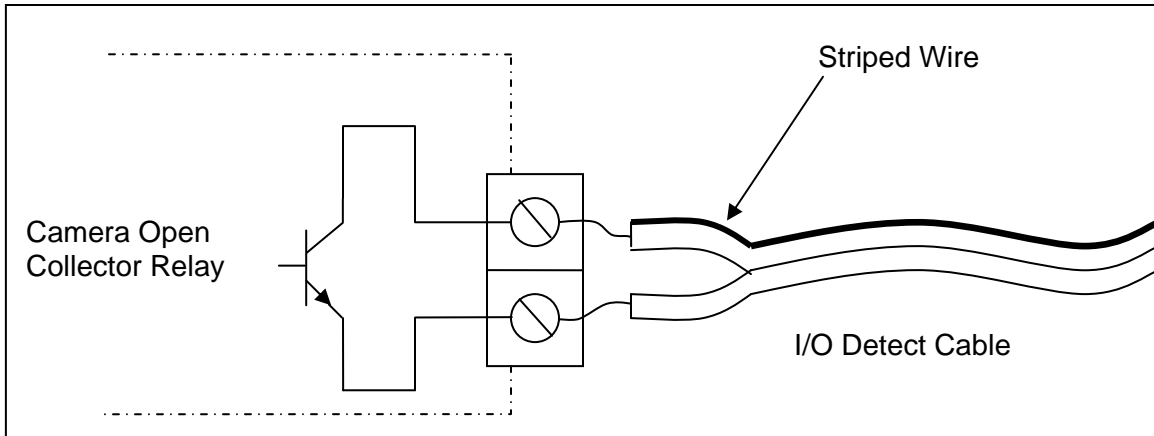


Figure 6. Passive Solid-State Relay I/O Detect Connection

Active Solid-State

The third and least common method is the emitter follower where the device output supplies the current used for detection. This configuration is shown in Figure 7.

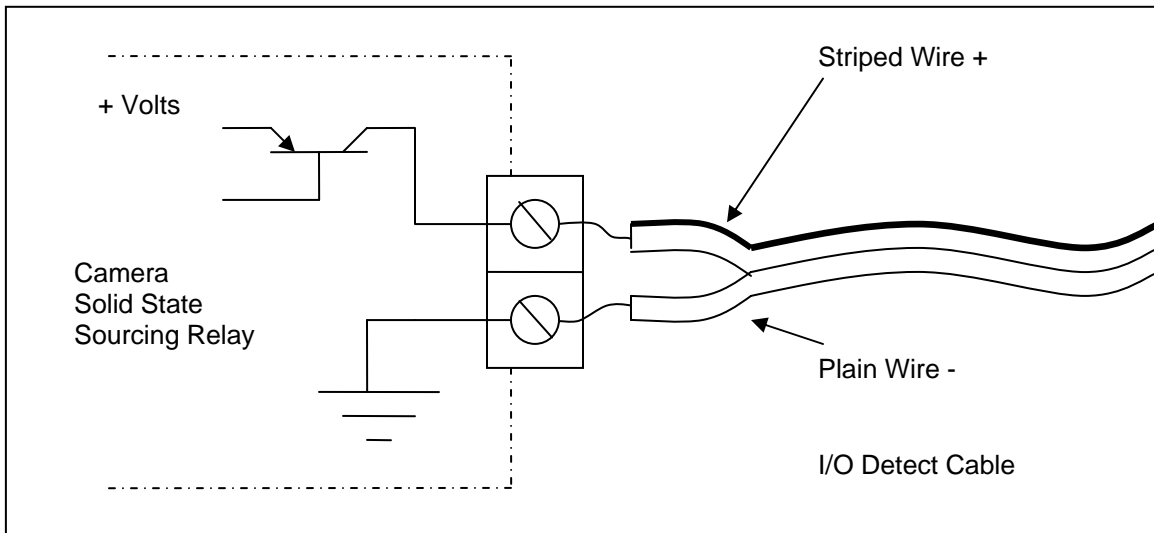


Figure 7: Active Solid-State Relay I/O Detect Connection



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Appendix B – Product Specifications (IP2-PoE)

Cable Connections

- RJ-45 PoE Power and Data In
- RJ-45 PoE Switched Power and Data Out

Power Requirements

- Power provided by PoE Source
- Typical Operating Current: 3 ma
- Peak Operating Current: 12 ma

I/O Detect Input

- Input Voltage : -25VDC to +25VDC
- Threshold : +1.9 VDC

Timer Mode Reset Cycle

: 12 Hours

Power Reset Period

: 5 Seconds

Environmental

- Temperature: 0 to 158 Degrees F
- Humidity: 5 to 95% non-condensing

Enclosure Dimensions

- : 3.15" x 1.58" x 0.79"
- : 80mm x 40mm x 20mm



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Appendix C – iPulse IP1-STD Quick Start Guide

iPulse® IP2-PoE

P/N: 095-00006-001 Patent Pending

Parts List
 iPulse IP2-PoE
 Wire Nut
 CD Rom
 1" Ethernet Cable

Important: iPulse PoE should only be used with devices being powered over Ethernet.

Before you start
 Please determine if you will use iPulse in Intelligent Mode (reset as needed) or in Timed Mode (reset every 12 hours). Please note that if your device does not have I/Os or if iPulse is not properly connected to I/O terminals, then iPulse will default to Timed Mode.
 Please refer to camera compatibility chart for correct I/O terminal connection.

Installation Steps
1 Intelligent Mode: Connect iPulse's I/O detect cable to device's Alarm I/O terminals (plain wire -, striped wire +).
 Timed Mode: do not connect iPulse's I/O detect cable but twist wires and secure them with provided wire nut.
2 Connect iPulse's 1" Ethernet cable to device's Ethernet port.
3 Connect Ethernet cable from iPulse to your PoE Switch or Injector.

Installation Quickguide

P/N: 040-00006-001

1

iPulse to I/O Alarm
 Connect iPulse to I/O terminals (refer to camera chart for correct pins)

2

iPulse to Device Power
 Connect 1" Ethernet cable from iPulse to device.

3

iPulse to Power Supply
 Connect Ethernet cable from device to PoE switch.

Warning!
 iPulse is not water resistant (humidity: 5-85% non-condensing, temperatures: 32-158 degrees F)

LED Operation IP2-PoE

LED 1: ON: Power over Ethernet ON OFF: Power over Ethernet OFF	LED 2: Operation Mode Indicator ON = Intelligent Mode OFF = Timed Mode	LED 4: Communication/Signal Status Timed Mode: flashes every second Intelligent Mode: flashes every 90 seconds (on = high input, off = low input)
LED 3: ON: Power to device ON OFF: Power to device OFF	Flashing: signal not received by iPulse	

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