

Instructions



Pulse™ Remote Extender

3A6943B

EN

For use with Pulse Fluid Management System Components only. The Pulse Extender creates a supplementary Pulse Device Network. It connects to the Pulse HUB over the facilities LAN.

Not approved for use in European explosive atmosphere locations.
For Indoor use only.

Part 25P363**Important Safety Instructions**

Read all warnings and instructions in this manual before using the equipment.
Save these instructions.



Pulse Remote Extender Overview

Component Identification

The Pulse Remote Extender manages remotely deployed Pulse components. The components reside on a Personal Area Network (PAN) hosted by the Pulse Remote Extender. The Pulse Remote Extender sends component information to the Pulse HUB using a user supplied Local Area Network (LAN) connection (FIG. 1).

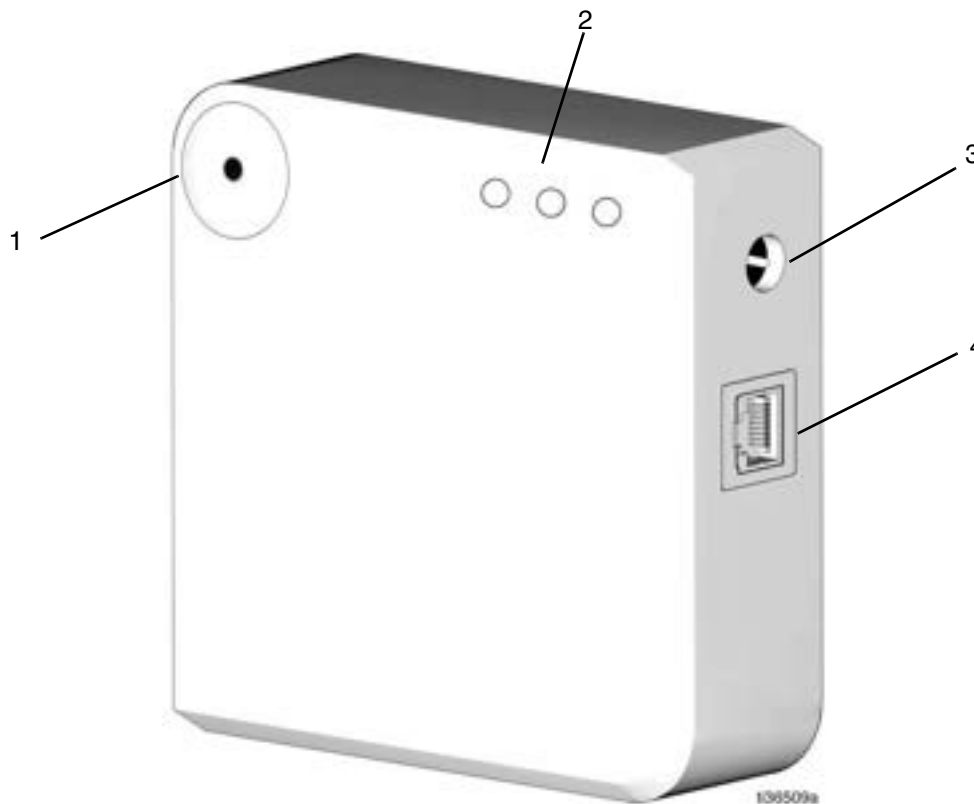


FIG. 1: Pulse Remote Extender Components

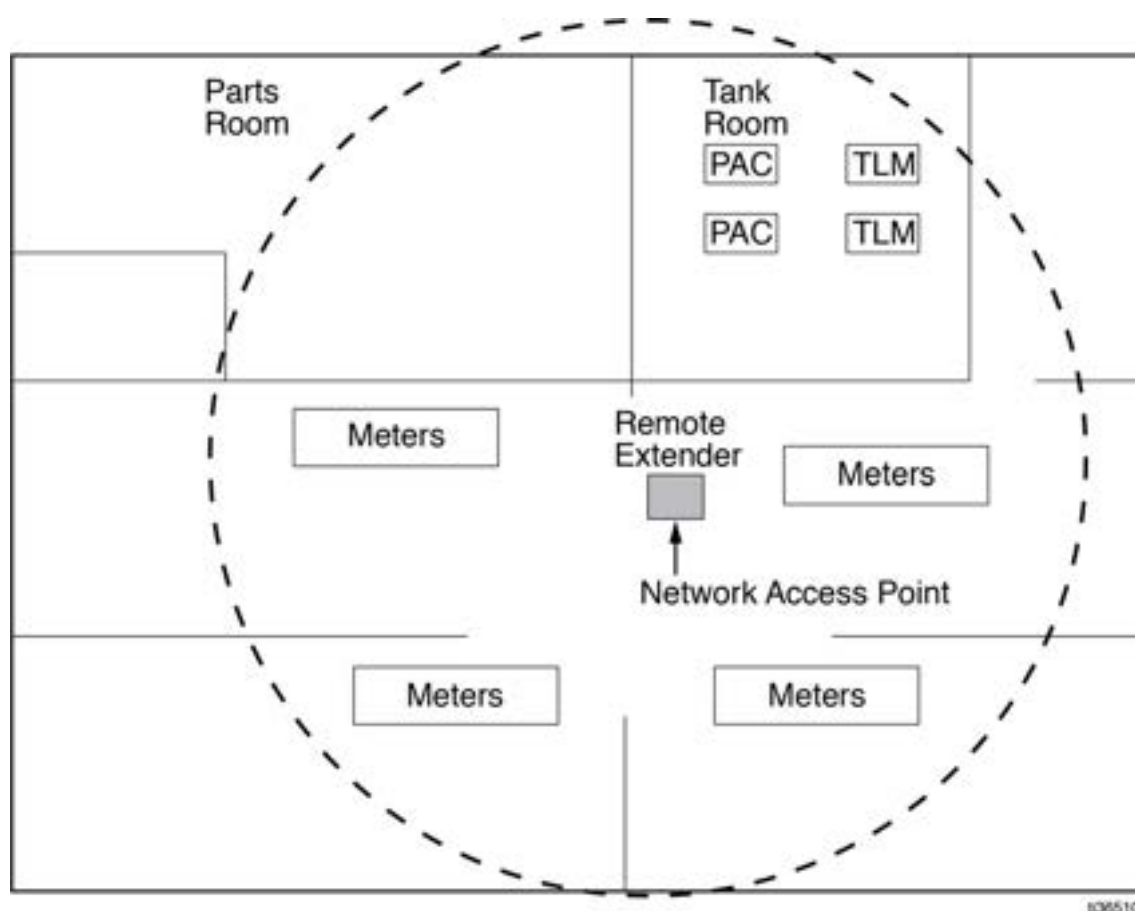
- 1 Button: Not used.
- 2 LED Status Lights
 - Power: indicates power is on when lit
 - Xbee: indicates hardware/configuration is active when lit
 - Network: indicates network is active when lit
- 3 Power Inlet Port (5VDC)
- 4 Ethernet (Network) Connection

Installation

Place the Pulse Remote Extender in the main part of the facility, located either high on a wall or on the ceiling.

Install the Pulse Remote Extender on an unobstructed line of sight of any Meters, Pump Air Controls or Tank Level Monitors (FIG. 2).

Installation should comply with all applicable local, state and national fire, electrical and safety codes and regulations.



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FIG. 2: Example of Facility Layout

Operation

The Remote Extender is configured for Dynamic Host Configuration Protocol (DHCP). On most networks, the Remote Extender automatically connects to the local network. It is recommended that the facility's IT department be contacted to provide the Remote Extender a reserved IP address located on the same sub-network as the Pulse HUB.

Remote Extender Discovery

1. Pulse HUB is stable on the local network at a fixed IP address.
2. Connect the Ethernet to the Remote Extender (FIG. 3).



FIG. 3: Connecting Ethernet

3. Connect the power adapter to the Inlet Port. The other end of the power adapter is plugged into a 120-240VAC electrical outlet.
4. Place Pulse HUB into Discovery Mode to begin the process of connecting the Remote Extender to the Pulse HUB.

NOTE: If the Remote Extender is in the initial listening state, this should only take a few seconds.

5. After the Remote Extender is found, exit Discovery Mode on the Pulse HUB.

Device Discovery

1. From the Pulse software, navigate to the Device Network Screen.
2. There are multiple sections listed under the Device Network header, one for the HUB and others for the Remote Extenders.
3. Toggle on Discovery Mode under the Remote Extender section.
4. Register devices with the Remote Extender following the instructions for your devices, similar to the device registration process for the HUB.

Troubleshooting

Problem	Cause	Solution
Power LED is not lit	Not being powered	Verify the power supply is connected to a power source. Verify that the device is connected to a power source.
	Hardware Failure	Disconnect power and reconnect. If problem persists, replace hardware.
XBee LED is not lit	Hardware/Configuration Failure	Disconnect power and reconnect. If problem persists after 60 sec., replace the hardware.
Network LED is not lit	Hardware/Configuration Failure	Disconnect power and reconnect. If problem persists after 60 sec., replace the hardware.
Network LED flashing yellow, slower than once per second	No Ethernet connection.	Disconnect Ethernet cable and reconnect. If that does not solve the issue, replace the Ethernet cable.
Network LED is flashing yellow, faster than twice per second	DHCP server is not responding. The device may not be connected to the DHCP server, even if there is a link to a hub or switch.	Check with network administrator.

Technical Specifications

Pulse Extender		
	US	Metric
Dimensions	3.0 x 3.0 x 3.0 in.	7.62 x 7.62 x 7.62 cm
Weight	0.15 lb	0.07 kg
Operating Voltage	5VDC	
Power Consumption	Typical: 1.2 W, Max: 2.5 W	
Operating Temperature	32° F to 104° F	0° C to 40° C
Relative Humidity	5% to 95% (non-condensing)	
RF Frequency Band	2.4 GHz (ISM) 2412-2472 MHz	
Maximum Transmit Power	6.3 mW (+8dBm)	
RF Range	200 ft.	60 m
PAN Bandwidth	5 MHz	
PAN Modulation	O-QPSK	
Maximum WiFi Transmit Power	18 MW (12 dBm)	
WiFi Bandwidth	20 MHz	
WiFi Modulation	OFDM, QPSK	

California Proposition 65

CALIFORNIA RESIDENTS

WARNING: Cancer and reproductive harm – www.P65warnings.ca.gov.

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