

OVERVIEW

The Pathport® IP65 Gateway provides the full functionality of other Pathport gateways in an IP65 rated NEMA 4X enclosure, suitable for wet locations.

System integrators can now easily put fully customized universes of DMX where they are needed.

IMPORTANT SAFEGUARDS

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

Always read complete installation instructions prior to installation!

1. To reduce the risk of death, personal injury or property damage from fire, electric shock, falling parts, cuts/abrasions, and other hazards please read all warnings and instructions included.

Before installing, servicing, or performing routine maintenance upon this equipment, follow these general precautions.

2. Installation and service of equipment should be performed by a qualified licensed electrician.

3. When using electrical equipment, basic safety precautions should always be adhered to, including the following:

- Disconnect or turn off power before installation or servicing.
- Do not mount near gas or electric heaters.
- Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommend by the manufacturer may cause an unsafe condition.
- Do not use this equipment for other than its intended use.

4. Make all electrical and grounded connections in accordance with the National Electrical Code (NEC) and any applicable local code requirements.

5. All wiring connections should be capped with UL approved recognized wire connectors.

6. Pathway assumes no responsibility for claims arising out of improper or careless installation or handling of this product. Failure to follow any of these instructions could void product warranty.

SAVE THESE INSTRUCTIONS

PHYSICAL

- 10.24"W x 6.3"H x 3.56"D (260mm x 160mm x 90.5mm)
- 5.5 lbs (2.5 kg)
- Operating Temperature: 14°F-122°F (-10°C to 50°C)
- Environment: IP65, suitable for indoor or outdoor applications



STATUS INDICATORS

- PROCESSOR** Green. Steady heartbeat indicates processor is running; off indicates no power.
- RJ45 LEDs** The RJ45 Ethernet jack has two green LEDs. One will glow steady when the link is up and the other will flash with activity.
- DMX INPUT** Amber. Steady glow indicates port is receiving active DMX. Blinking indicates no incoming DMX signal. If both Input and Output LED's are off the port is Disabled.
- DMX OUTPUT** Green. Steady glow indicates port is transmitting DMX. Blinking indicates no DMX output.
- IDENTIFY** Blue. Blinks when identify is active.
- SD CARD OK** Green. Steady glow indicates microSD card is present. Off indicates no SD card present or SD card error/cannot be read. SD card is not needed for operation. See SD Card section below.

COMPLIANCE

- ANSI E1.11 DMX512-A R2013
- ANSI E1.20 RDM - Remote Device Management
- ANSI E1.31 sACN - Streaming ACN
- Art-Net
- Strand ShowNet
- Pathway ssACN
- ANSI E1.33 RDMnet - RDM over IP
- IEEE 802.3af Power-over-Ethernet
- Class 2 Low Voltage
- California Title 1.81.26, Security of Connected Devices
- FAR-889 Section 889(a)(1)(A) and Section(a)(1)(B)

CONNECTIONS

The Pathport PWPP IP65 features terminal strips that can be removed from the card to facilitate easy wiring installation or replacement. Make the following connections, **WITH THE POWER TURNED OFF**.

POWER & Network

The PWPP IP65 is designed to run on either Power-over-Ethernet (PoE). The gateway is Class 2 PoE and will draw up to 8 Watts. All network wiring should follow standard Ethernet rules and be installed by a qualified person. As part of the installation, all wiring should be certified under the TIA/EIA-568 standard. The outdoor rated Cat5e or Cat6 wire should enter through a Liquid Tight cord grip and be terminated on the supplied punchdown block. Use the supplied RJ45 jumper to feed the device. Do not terminate with an RJ45 connector directly to RJ45 jack on PWPP.

DMX512

When using solid core data wire, use the supplied Insulation Displacement Contact connectors. Stripe the outer jacket and use the Orange/Orange White pair and the solid Brown for common. Do not strip the insulation. For stranded wires, use the Compression Screw Connector terminals DMX connections consist of a common and twisted data pair. Connect DATA+ and DATA- to D1+ and D1-. Observe the same polarity convention throughout the system. Connect the cable common to the COM terminal. Refer to page 3 for more information.

CONTACT CLOSURE INTERFACE (CCI)

There is a 3-pole terminal connector included for dry contact closure input. The CCI supports two functions: **DMX Hold** and **RDM Pause**. See the Pathscape Manual for details on how to enable these functions.

DEFAULT SETTINGS

The PWPP IP65 ships as a DMX output gateway with **Pathway ssACN** Universe 1 through 8 enabled.

The following Ethernet receive protocols are unsecured and are **NOT ENABLED** by default: **Pathport**, **Strand Shownet**, **E1.31 streaming ACN** and **Art-Net**.

Before configuring and using the PWPP IP65, you must add it to a **Security Domain** using Pathscape.

To use the other listed unsecured protocols, you must use Pathscape and enable the device property ALLOW

SD CARD BACKUP

When a new, unused (formatted) microSD card is inserted into the PWPP IP65 P4/P8 card slot, the gateway's current configuration will be automatically copied to the SD card.

When a microSD card containing a saved configuration for a PWPP IP65 P4/P8 is inserted into another PWPP IP65 P4/P8, the configuration will automatically be copied from the SD card into the gateway. Only move to another unit of the same port count.

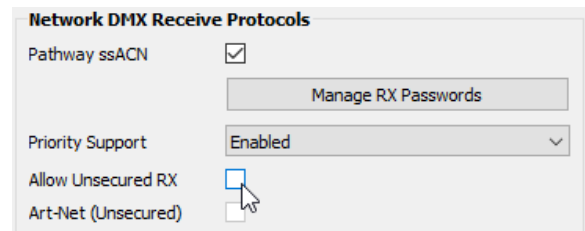
IMPORTANT - UNSECURED NETWORK PROTOCOLS

Due to new cybersecurity laws, all Pathport devices shipped after January 1, 2020 have security properties enabled. This means that by default, the device is not set up to receive unsecured network protocols such as Art-Net, E1.31 sACN, ShowNet, or Pathport Protocol.

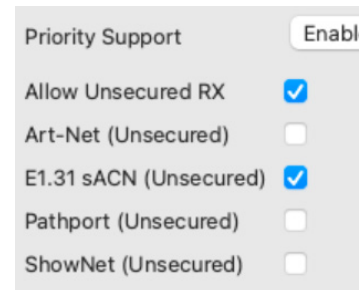
You must add the Pathport to a Security Domain using Pathscape before configuration and use.

Pathway ssACN (Secure sACN) is enabled by default.

To use the above unsecured protocols, open Pathscape. In the Pathport base device properties, under the **Network DMX Receive Protocols** section, click the **Allow Unsecured RX** checkbox.



Once checked, you may select the network protocol(s) to receive.



For further information, please see the following sections in the **Pathscape** manual: **Security**, **Pathport Properties > Network DMX Receive Protocols**.

PATHSCAPE CONFIGURATION

A large number of parameters may be customized for the PWPP IP65, including: port direction, output channel patch, input universe number, transmit and receive protocols and DMX speed. Network properties such as IP address and subnet mask are also customizable by the user.

Detailed gateway configuration and overall network system management are done using Pathscape software, which is available for download from www.PathwayConnect.com

Please refer to the **Pathscape manual** for information on configuring these additional properties.

In permanent installations, DMX512-A cables may be either one of two basic cable types: cables specified for use with EIA-485/EIA-485-A or EIA-422, and cables specified as EIA/TIA568 Category 5 or higher. Category cable meeting the requirements of a category higher than Category 5 is permissible.

ISO/IEC Category 5 Cables Use Insulation Displacement Contact Connectors				
RJ45 T-568B	Wire Color	Function	Pathway Term IDC	XLR5 Equivalent
1	White Orange	Data + (true)	3	Pin 3
2	Orange	Data - (complement)	2	Pin 2
3	White Green	Not Assigned		
4	Blue	Not Assigned		
5	White Blue	Not Assigned		
6	Green	Not Assigned		
7	White Brown	Data Common	1	Pin 1
8	Brown	Not Assigned		
Shell	Bare Silver	Not Assigned	Not Connected	Shell

Pathway Connectivity recommends you download and follow ANSI E1.27-2: Standard Wiring Practice for Permanently Installed Control Cables for Use with ANSI E1.11 DMX512-A available at https://tsp.esta.org/tsp/documents/published_docs.php.

Here are some additional notes abbreviated from the ANSI Standard.

- Shields and drain wires exposed by the process of preparing the cable for termination should be insulated from accidental contact with earth ground, data +, data - and data common.
- Under no circumstance should any cable conductor or shield be connected to earth ground
- Direct termination of a permanently installed cable on a male RJ-45 should not be allowed.

If using stranded twisted pair cables, you must use PWCON SPARE CSC3. See Pathway Accessories, Inserts and Spare Connectors table below for ordering information.

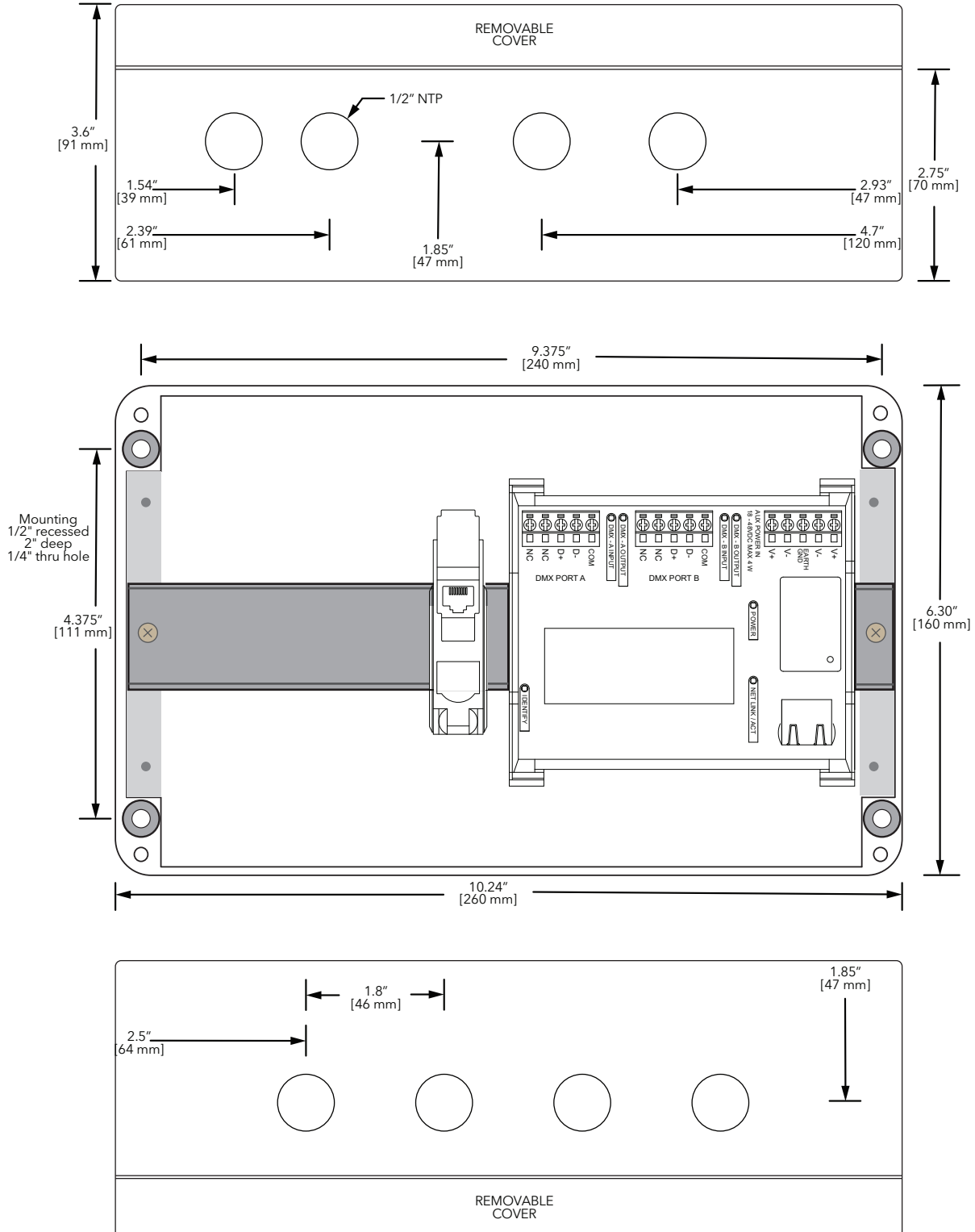
EIA-485 type cables (i.e., Belden, Proplex, etc) Use Compression Screw Connectors			
XLR5 Pin	Wire	Function	Pathway Term CSC
Pin 1	Shield	Data Common	1 (black)
Pin 2	Pair 1	Data - (complement)	2 (green)
Pin 3	Pair 1	Data + (true)	3 (red)
Pin 4	n/a	Not Assigned	
Pin 5	n/a	Not Assigned	
Shell	Not Connected		Not Connected

Pathway Connectivity offers many 'last mile' solutions for permanently installed cable plants. Listed below are just a few of the most popular products. Search our website for a complete listing of the following series: PWACC RJ45 Patch, PWCON Connector, PWINS

Pathway Accessories, Inserts and Spare Connectors	
PWACC RJPATCH Q4	Pathway Accessories, DIN RJ45 patch (3.5" of rail for 4), Qty (4)
PWINS RJ45EC PD	Insert, RJ45 EtherCON, Punch Down
PWINS RJ45EC RJ45R	Insert, RJ45 EtherCON, RJ45 Female (Rear)
PWINS XLR5F IDC5	Insert, XLR 5-Pin Female, 5-Pin Insulation Displacement Contact Connector
PWINS XLR5M IDC5	Insert, XLR 5-Pin Male, 5-Pin Insulation Displacement Contact Connector
PWCON SPARE CSC3 Q4	Connectors, Spare, 3-Pin Compression Screw Connector, Qty(4)
PWCON SPARE IDC3 Q4	Connectors, Spare, 3-Pin Insulation Displacement Contact Connector, Qty (4)
PWCON SPARE CSC5 Q4	Connectors, Spare, 5-Pin Compression Screw Connector, Qty(4)
PWCON SPARE IDC5 Q4	Connectors, Spare, 5-Pin Insulation Displacement Contact Connector, Qty (4)

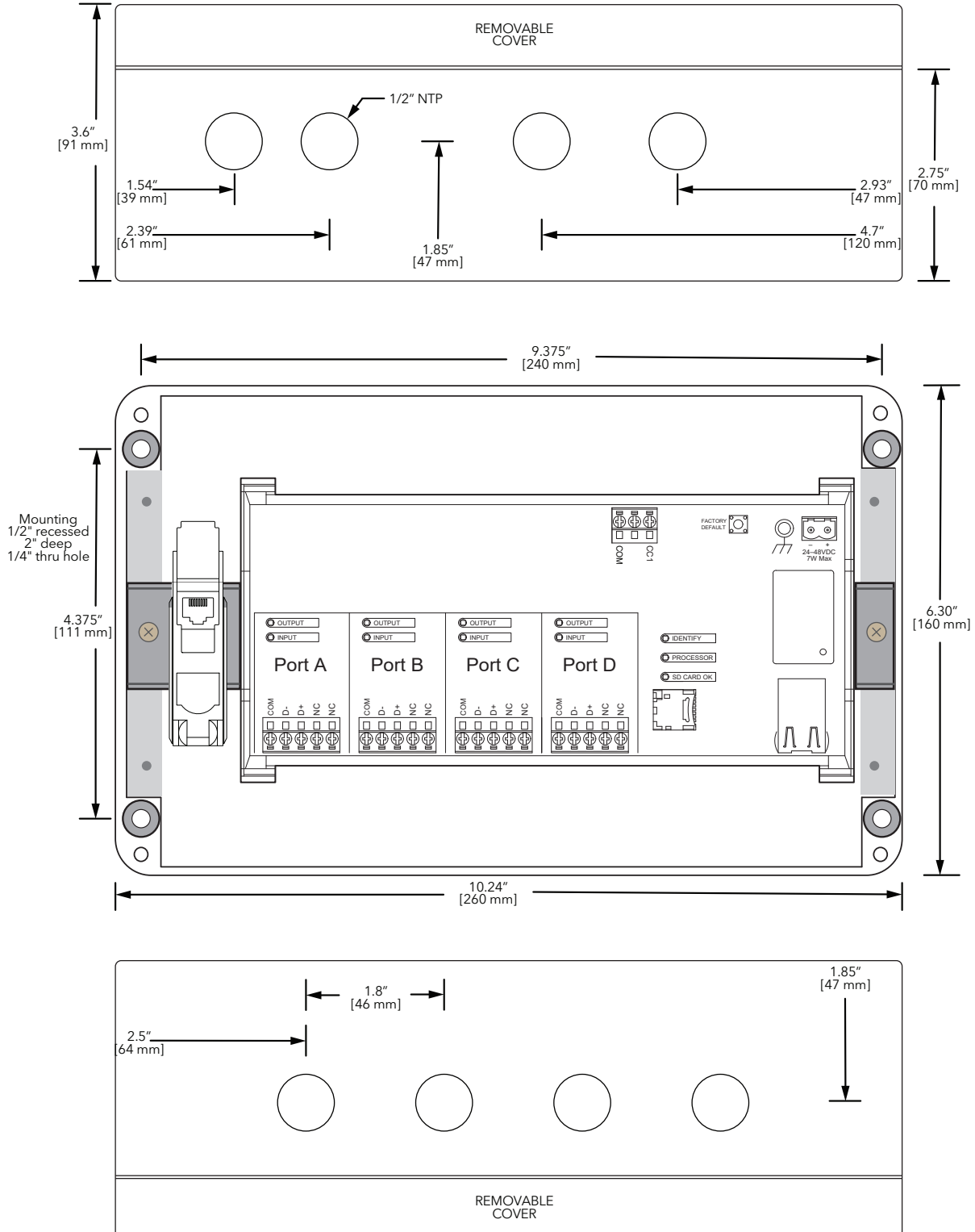
MOUNTING

PWPP IP65 P2 is designed for indoor or outdoor use. Mount the enclosure to the selected mounting location with appropriate fasteners using "through box - blind hole" construction. These holes are found outside of the gasket protection area to ensure a water tight seal for the internal compartment when the enclosure is securely closed. Ensure that location material and fasteners are approved for use by the local Authority having Jurisdiction.



MOUNTING

PWPP IP65 P4 is designed for indoor or outdoor use. Mount the enclosure to the selected mounting location with appropriate fasteners using "through box - blind hole" construction. These holes are found outside of the gasket protection area to ensure a water tight seal for the internal compartment when the enclosure is securely closed. Ensure that location material and fasteners are approved for use by the local Authority having Jurisdiction.



MOUNTING

PWPP IP65 P8 is designed for indoor or outdoor use. Mount the enclosure to the selected mounting location with appropriate fasteners using "through box - blind hole" construction. These holes are found outside of the gasket protection area to ensure a water tight seal for the internal compartment when the enclosure is securely closed. Ensure that location material and fasteners are approved for use by the local Authority having Jurisdiction.

