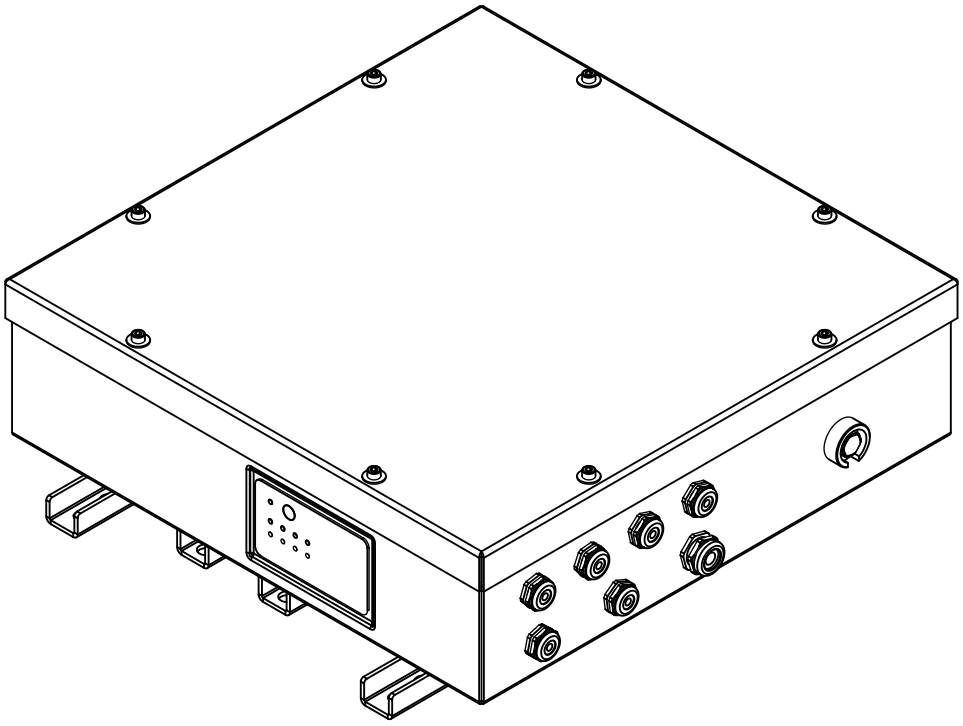
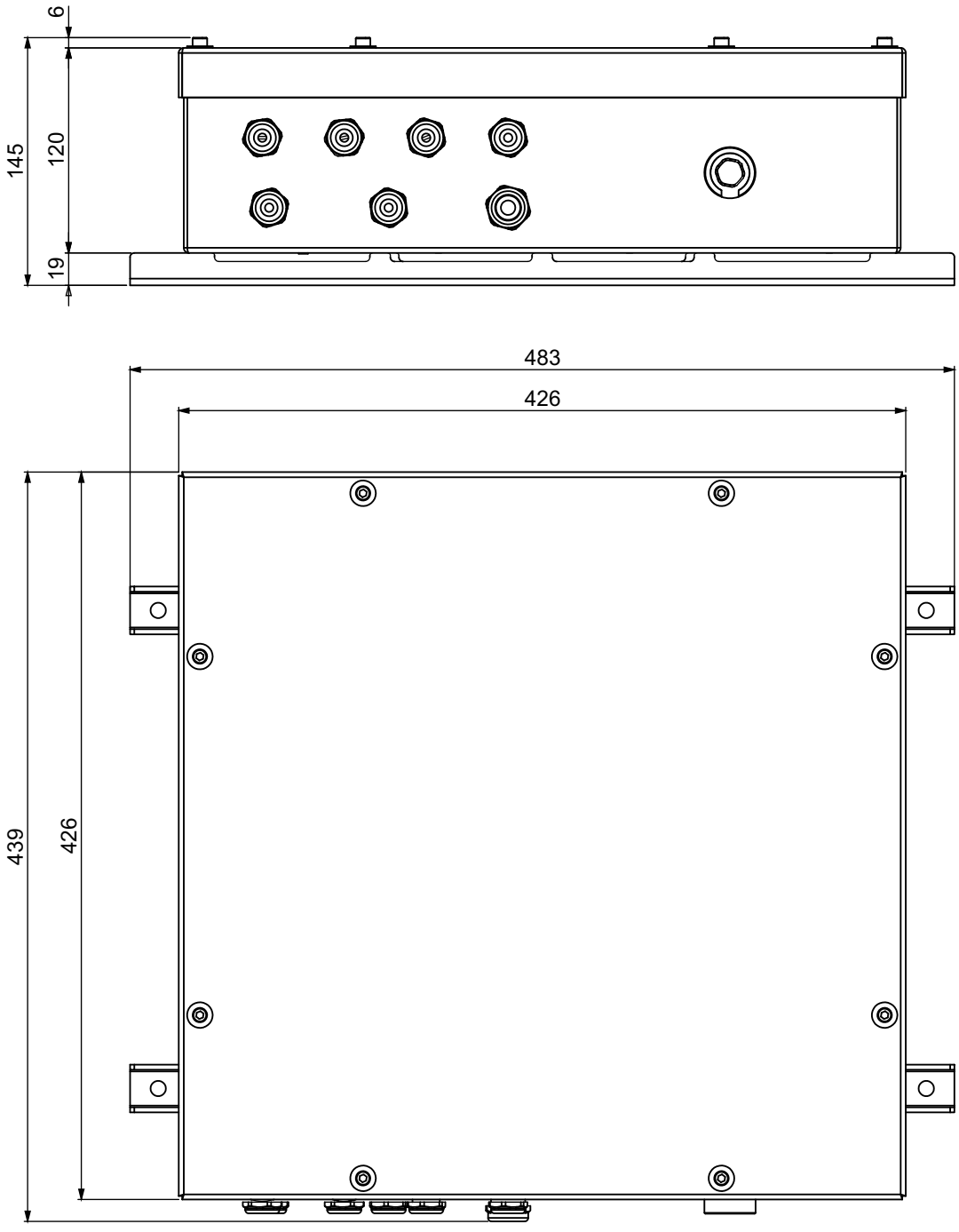
P3 PowerPort 1000 IP
Installation model
User manual



Martin
by HARMAN

Dimensions

All measurements are expressed in millimeters



Contents

Safety Information

WARNING!
Read the safety precautions in this section before installing, powering, operating or servicing this product.

The following symbols are used to identify important safety information on the product and in this document:

Warning! Safety hazard. Risk of severe injury or death.

Warning! Hazardous voltage. Risk of severe or lethal electric shock.

Warning! Fire hazard.

Warning! Refer to manual before installing, powering or servicing.

Warning! Read this user manual before installing and operating the P3 PowerPort 1000 IP.

Warning! The P3 PowerPort 1000 IP is designed to integrate with other devices in a video display installation. Follow the safety precautions given not only in this user manual but also in the manuals of all the devices you connect to it. Observe all warnings given in the manuals and printed on devices. Install and operate devices only as described in the manuals and only in accordance with local laws and regulations. Keep this manual for future reference. Manuals are supplied with devices and also available for download from www.martin.com.

Warning! The Martin® P3 PowerPort 1000 IP is not for household use. It presents risks of severe injury or death due to fire and burn hazards, electric shock and falls. It must be installed by qualified technicians only.

Warning! There are no user-serviceable parts inside the P3 PowerPort 1000 IP. Refer any operation not described in this manual to Martin® or its authorized service agents.

If you have any questions about how to operate the P3 PowerPort 1000 IP safely, please contact your Martin® supplier or call the Martin® 24-hour service hotline on +45 8740 0000, or in the USA on 1-888-tech-180.

PROTECTION FROM ELECTRIC SHOCK

- The P3 PowerPort 1000 IP can supply a safe maximum current of 5 A on each of its four power + data outputs. Do not connect devices that draw a combined total current of more than 5 A to a power + data output.
- Check and respect the directions given in the user manuals of all the devices that you intend to connect to the P3 PowerPort 1000 IP, particularly the instructions, warnings and limits that apply to:
  - system layout,
  - connections to other devices,
  - specified cables,
  - maximum cable lengths, and
  - maximum number of devices that can be connected.
- Provide a means of locking out AC mains power that allows power to the installation to be shut down and made impossible to reapply, even accidentally, during work on the installation.
- Shut down power to the installation during service and when it is not in use.
- Ensure that the P3 PowerPort 1000 IP is electrically connected to ground (earth).

- Connect the P3 PowerPort 1000 IP to AC mains power at 120-277 V~ (nominal), 50/60 Hz only.
- Double-pole/neutral fusing is used. If the installation is not completely disconnected from power, parts may remain live even if one of the two mains fuses has blown.
- Use only a source of AC mains power that complies with local building and electrical codes and has both overload and ground-fault (earth-fault) protection.
- Use only a power input cable that has 14 AWG or 2.5 mm² minimum conductor size and an outer cable diameter of 8 - 13 mm (0.35 - 0.5 in.). Power cable must be hard usage type (SJT or equivalent) and heat-resistant to 90° C (194° F) minimum. In the EU the cable must be HAR type.
- Use only the cables specified by Martin® for the devices concerned to interconnect them. If the specified cables are not long enough for an intended cable run, consult Martin® for assistance in finding or creating a safe alternative cable
- Before applying power to the installation, check that all power distribution equipment and cables are in perfect condition and rated for the current requirements of all connected devices.
- Isolate the installation from power immediately if the product, power cable or power plug are in any way damaged, defective or wet, or if they show signs of overheating.

PROTECTION FROM BURNS AND FIRE

- Do not attempt to bypass fuses.
- Provide free airflow around the device.
- Do not operate the P3 PowerPort 1000 IP if the ambient temperature (Ta) exceeds 55° C (131° F).
- Do not modify the P3 PowerPort 1000 IP in any way not described in this manual or install other than genuine Martin® parts. Use only accessories approved by Martin®.

PROTECTION FROM INJURY

- When installing the P3 PowerPort 1000 IP above ground level, ensure that the primary installation hardware and supporting structure can hold at least 10 times the weight of all the devices they support.
- In an overhead installation or where the P3 PowerPort 1000 IP may cause injury if it falls:
  - block access below the work area and work from a stable platform whenever installing, servicing or moving the P3 PowerPort 1000 IP,
  - as soon as work is completed, check that all hardware and components are securely in place and that all installation hardware used is securely fastened.

Introduction

Thank you for selecting the Martin® P3 PowerPort 1000 IP Install. Functionally identical to the P3 PowerPort 1000 IP Rental, the installation model is an integrated power and data processor for Martin's range of creative LED video products, including the Exterior PixLine and VC-Dots. When driven by one of Martin's award-winning P3 System Controllers, it powers the connected products with high-quality image processing capabilities and extremely easy setup and configuration. Its full IP66 / NEMA Enclosure Type 3 outdoor rating and optional fiber-optic interface make the product perfect for permanent outdoor installations.

For possible system layouts when using the P3 PowerPort 1000 IP with Martin® video products, please see the user documentation for those products. Martin® user documentation is supplied with products and available for download from the Martin® website at http://www.martin.com, where you can also find the latest specifications, firmware updates and support information for all Martin® products.

Martin® welcomes input from users. Comments or suggestions regarding this manual can be e-mailed to service@martin.dk or posted to: Technical Documentation, Martin Professional A/S, Olof Palmes Allé 18, DK-8200 Aarhus N, Denmark.

Unpacking

The following items are included with the P3 PowerPort 1000 IP:

- 1 x M20 cable gland for AC mains cable pass-through
- 6 x M16 cable glands for P3 video data and Hybrid power and data output cable pass-through
- This user manual

Cables, connectors, and adaptors for connection to Martin® video products are listed under "Accessories" on page 20.

Overview

The parts identified below are referred to throughout this manual.

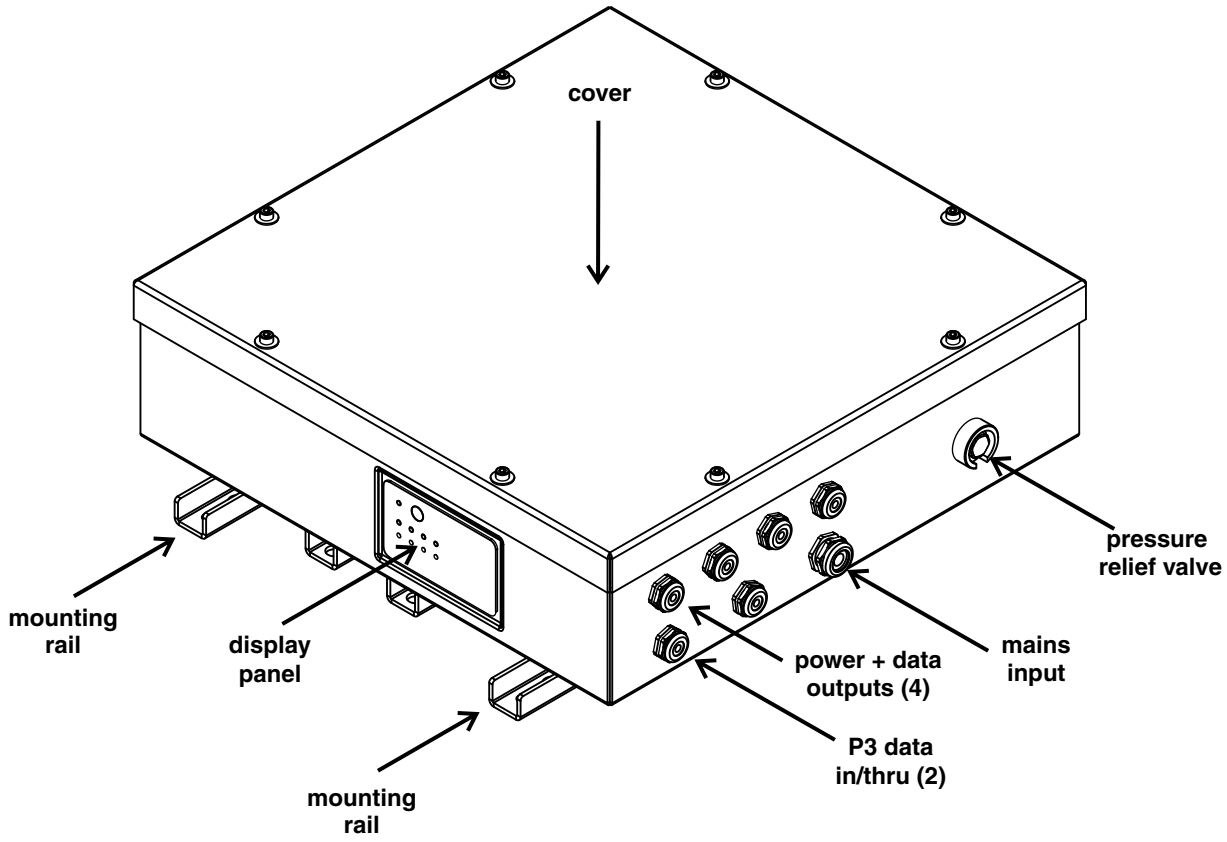


Figure 1: Parts identification

Physical installation

Warning! All fasteners used to mount the P3 PowerPort 1000 IP must be corrosion resistant and strong enough to mount the fixture safely.

The device is manufactured in aluminum. Avoid mounting in direct contact with other types of metal, as this can cause galvanic corrosion. When fastening to a dissimilar metal surface:

- Use an electrically insulating material (such as rubber or plastic) or coating between the mounting rails and the other metal.
- Use a non-conductive coating such as Delta Seal on fasteners (screws, bolts, washers, etc.) where they come into contact with the mounting bracket.

The fixture's mounting rails must be securely anchored to a suitable support. The mounting surface must be hard, fixed and flat.

The P3 PowerPort 1000 IP can be installed in any orientation *except* with cable glands facing up or the cover facing down, which might allow water to collect on the seals. The preferred orientation is shown below. If mounting in another orientation, install so that cables enter from below or add a drip loop as shown in Figure 3.

Allow free airflow and at least 100 mm (4 in.) of clearance around the device.

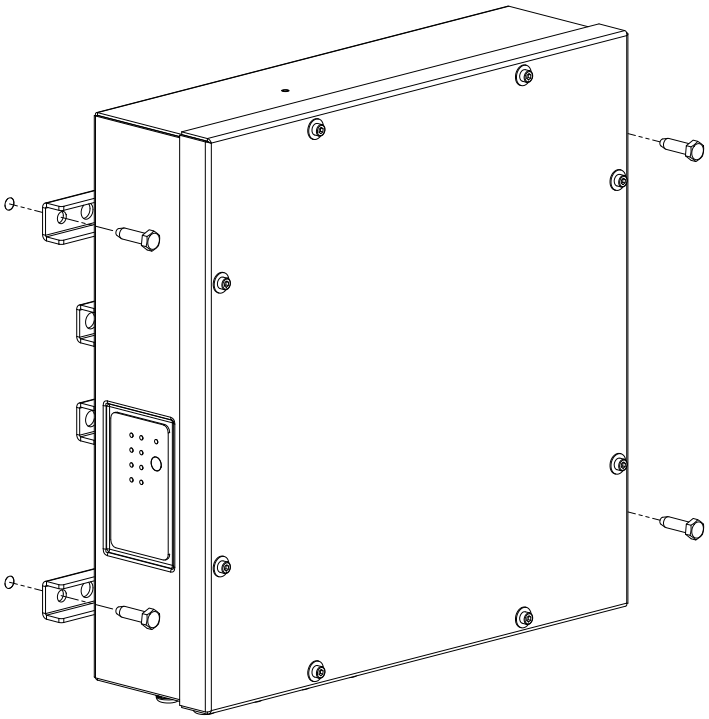


Figure 2: Preferred mounting, cable glands down

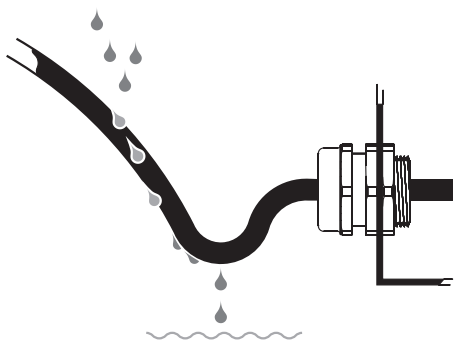


Figure 3: Drip loop

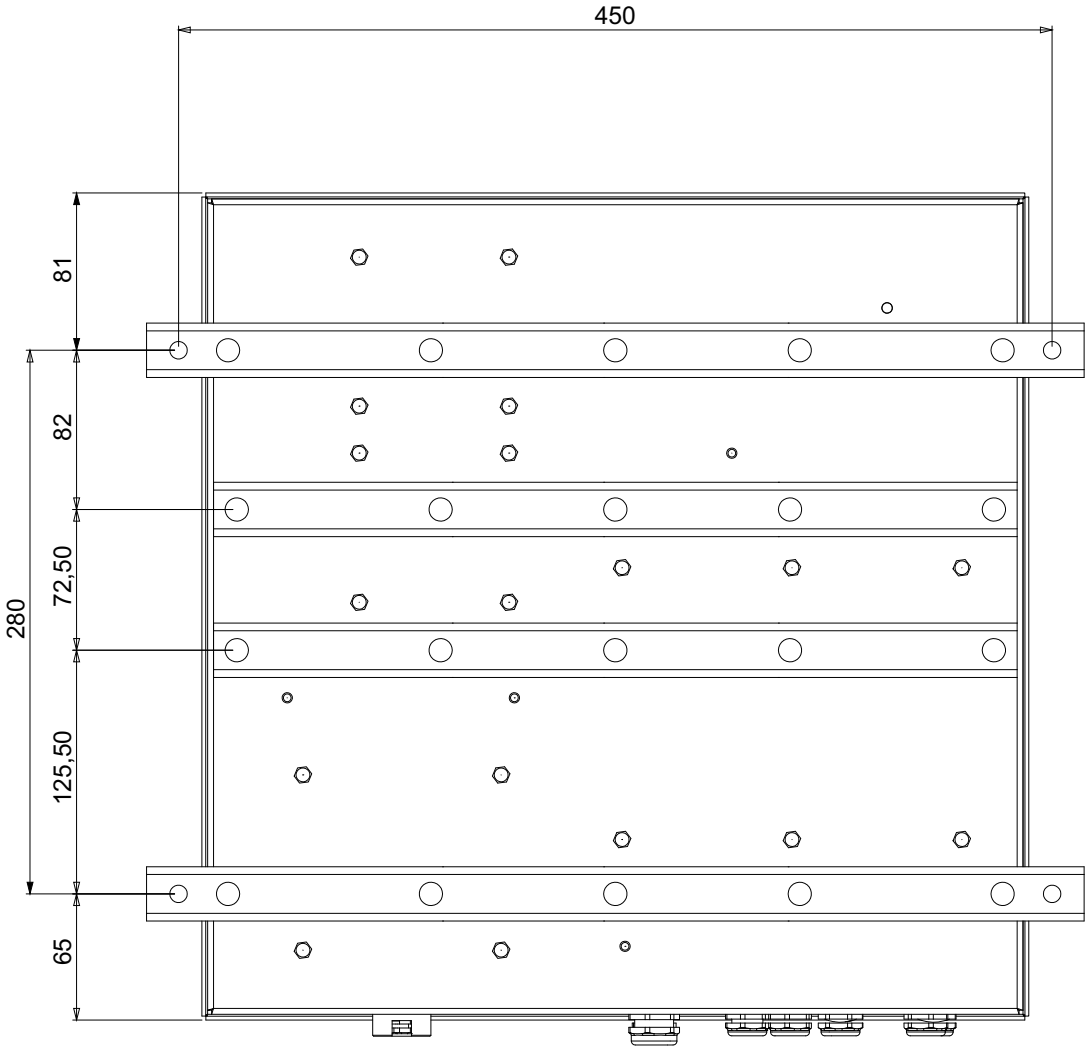


Figure 4: Mounting hole spacing (in mm)

Power and data wiring

Warning! For protection from electric shock, the P3 PowerPort 1000 IP must be electrically connected to ground (earth). The AC mains supply must be fitted with a fuse or overload circuit breaker and ground-fault (earth-fault) protection.

Warning! The power input cable must meet the specifications listed under "Protection from electric shock" on page 4.

Warning! Double-pole/neutral fusing. If the installation is not completely disconnected from power, parts may remain live even if one of the two mains fuses has blown.

Warning! The current draw at each of the P3 PowerPort 1000 IP's four DC power/video data outputs must not exceed 5 A per output. Before connecting devices to the outputs, check carefully the information about system layouts and maximum safe limits in all the user manuals of the devices in the system.

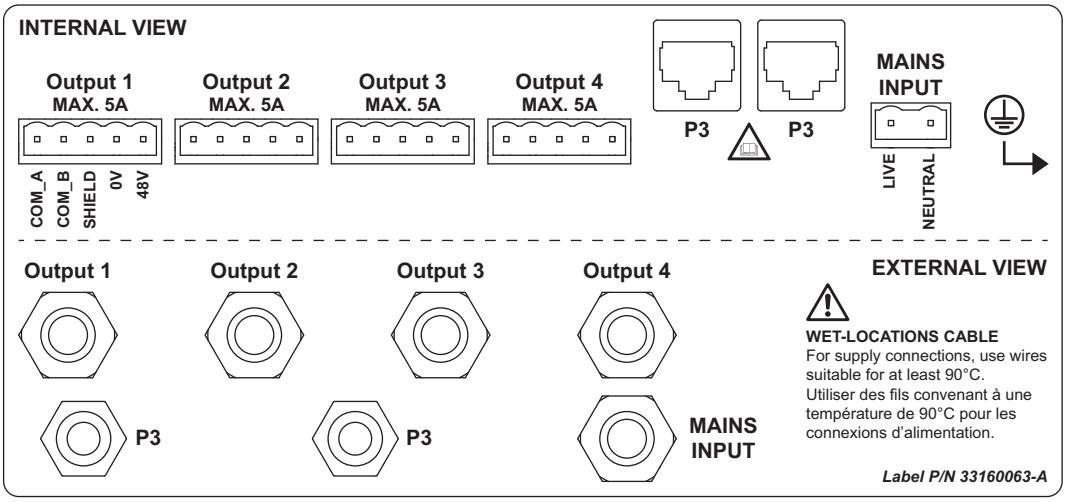
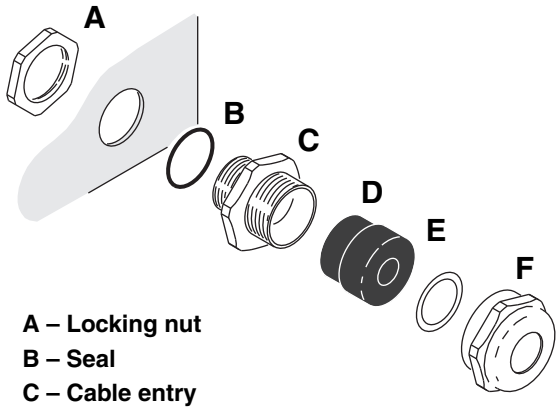


Figure 5: Power and data connections, internal and external views

General wiring procedure

When you pass cables through the housing as described in the following sections, use this procedure:

1. See Figure 6. Ensure that there is a rubber seal **B** on the locking nut end of the cable entry **C**, and push this end through the hole provided in the housing so that the seal faces the outer surface of the housing.
2. Screw the locking nut **A** onto the cable entry from inside the housing. Prevent the cable entry from turning, and tighten the locking nut until the seal makes a water-resistant seal against the outer surface of the housing. Do not over-tighten, as this may damage the seal or housing.
3. Thread the cable through the compression nut **F**, washer **E**, gland **D**, and cable entry **C.**
4. Allow enough cable slack inside the housing to make connections. Prevent the cable entry from turning and tighten the compression nut sufficiently to make a water-resistant seal. Do not over-tighten, as this may damage the gland. Check that the cable is gripped firmly.



A – Locking nut
B – Seal
C – Cable entry
D – Gland
E – Washer
F – Compression nut

Figure 6: Cable gland assembly

AC mains power input

The P3 PowerPort 1000 IP must be connected directly to AC mains power. It features an auto-sensing switch-mode power supply that automatically adapts to power at 120-277 V~ (nominal), 50/60 Hz.

Note that the device utilizes double-pole/neutral fusing that allows it to be connected to two live phases. However, lethal current may be present even if one of the two mains fuses has blown. Shut down power to the entire installation at the building's main power distribution board and lock out power before carrying out any installation or maintenance work.

The power cable must meet the cable specifications listed under "Protection from electric shock" on page 4.

Connecting to AC mains power

The device is intended to be hard-wired to a building installation circuit though the large cable gland (M20). To connect the P3 PowerPort 1000 IP to AC mains power:

1. Verify the AC power circuit is shut down and locked out.
2. Prepare the end of the cable by stripping 20 mm (0.8 in.) of the cable's outer jacket. Strip 8 mm (1/3 in.) from the end of each of the wires.
3. Remove the top cover.
4. Remove the sealing cap from the Mains Input hole.
5. Locate the large cable gland (M20) and install the cable through the Mains Input hole as described above in the general wiring procedure.
6. Refer to Figure 5. Connect the live conductor (with brown or black insulation) to the live terminal. Connect the neutral conductor (white or blue insulation) or in some cases the second live conductor to the neutral terminal.
7. Install a suitable spade plug connector on the ground conductor (green or yellow/green) and fasten securely to the ground post.
8. Insert the connection plug into the mains input socket on the circuit board.

If you install a cord cap (mains plug) on the power cable, install a grounding-type (earthed) plug, following the plug manufacturer's instructions. Table 1 shows some possible mains power pin identification schemes.

Wire Color (US system)	Wire Color (EU system)	Pin	Symbol	Screw (US)
black	brown	live	**L**	yellow or brass
white	blue	neutral	**N**	silver
green	yellow/green	ground (earth)	⏚ or ⏚	green

Table 1: Cord cap connections

P3 video input and throughput

The P3 PowerPort 1000 IP relays the P3 video data signal from a Martin® P3 system controller to a Martin® LED-based video display system. Note that the P3 PowerPort 1000 IP has active video processing circuits and must be powered on before it will relay a P3 signal from an input connector to throughput and output connectors.

The P3 PowerPort 1000 IP has two internally mounted RJ-45 Ethernet sockets for connection of the P3 video signal. It does not matter which of the sockets you use for input and throughput.

Ethernet cable can be used to transmit the P3 video signal up to a maximum length of 100 m (328 ft.). If the installation requires the signal to be sent over more than 100 m, you can use commercially available Ethernet-optical converters and optical fiber cable to transmit the video signal (see later in this chapter).

Connecting the P3 video signal using Ethernet cable

Requirements

You can use Cat 5e or better shielded Ethernet cable to carry the P3 video signal. The cable must have an external diameter of 5.5 - 10 mm (0.22 - 0.39 in.) and be suitable for the installation environment. The cable must not exceed 100 m (328 ft.) in length.

Installation

To connect a P3 video signal to the P3 PowerPort 1000 IP via Ethernet cable:

1. Make sure that the P3 PowerPort 1000 IP is not connected to AC mains power.
2. See Figure 7. Remove the eight retaining screws from the cover and lift the cover off the housing.
3. Remove the sealing cap from one of the holes marked **P3** in the housing (see EXTERNAL VIEW in Figure 5 on page 10).
4. Install one of the supplied M16 cable glands in the hole as described in “General wiring procedure” on page 10.
5. Pass the bare end of the Ethernet input cable through the cable gland and into the housing, leaving enough slack for the cable to be connected to one of the RJ-45 sockets labeled PL7 or PL8 on the connections PCB inside the P3 PowerPort 1000 IP.
6. Install a male RJ-45 connector on the end of the cable.
7. Plug this connector into one of the RJ-45 sockets labeled PL7 or PL8 on the connections PCB.
8. Tighten the cable gland to make an effective seal around the Ethernet cable, reinstall the cover safety cable and reinstall the cover, tightening the 8 cover retaining screws evenly to make an effective seal.

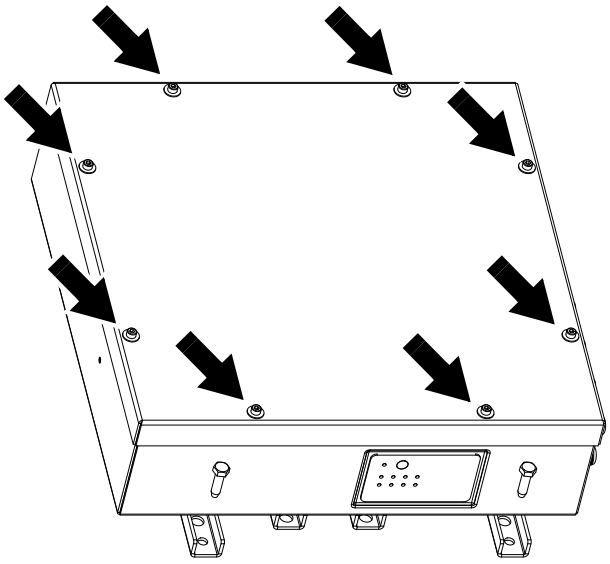


Figure 7: Cover retaining screws

Relaying the P3 signal

To relay the P3 video signal to another P3 PowerPort (or other P3-compatible device), repeat the above procedure, connecting the throughput Ethernet cable to the unused RJ-45 data socket in the P3 PowerPort 1000 IP and passing the cable through an M16 cable gland installed in the unused hole marked **P3** in the housing.

Connecting the P3 video signal using fiber-optic cable

Requirements

You can use optical fiber cable to extend the P3 video data link beyond the maximum permitted length for Ethernet cable of 100 m (328 ft.). To use this option, you will need to obtain the following items:

- 35 mm length of 7.5 mm top hat slotted DIN rail
- 2 x M5 self-locking nuts
- Ethernet-to-fiber converter for the start of the optical fiber link
- Unmanaged fiber-to-Ethernet converter that is suitable for installation inside the P3 PowerPort 1000 IP.

  The converter must accept a 24 VDC power source, mount on 7.5 mm top hat DIN rail and have maximum dimensions of L x W x H = 200 x 100 x 45 mm (8 x 4 x 1.75 ins.).

  It must be able to operate at up to the maximum expected temperature inside the P3 PowerPort 1000 IP housing, i.e. 82° C (180° F) if the ambient temperature is at the maximum permitted level of 55° C (131° F). Some items in the IE-Giga-MiniMc Miniature Media Converter range from B&B Smartworx (for example) meet and exceed this maximum temperature requirement provided that they are connected to 24 VDC power on the main circuit board inside the P3 PowerPort 1000 IP. Please check full suitability of any fiber-to-Ethernet converter before purchasing it for use with the P3 PowerPort 1000 IP.

Note that while the P3 PowerPort 1000 IP can be used down to a minimum temperature of -30° C (-22° F), the fiber-to-Ethernet converter may not meet the same minimum temperature specifications. For example, items in the IE-Giga-MiniMc range of converters mentioned above are not designed to be used at temperatures below -25° C (-13° F).

- Optical fiber cable that is suitable for the intended use, particularly the installation environment. If the cable does not have an external diameter of 5.5 - 10 mm (0.22 - 0.39 in.), you must also obtain an M16 cable gland that is suitable for the external diameter of the cable.
- A Cat 5E, Cat 6 or better unshielded Ethernet patch cable approx 20 cm (8 in.) long.
- Suitable optical fiber connectors and connector installation tools.

Installation

To connect P3 video data to the P3 PowerPort 1000 IP via optical fiber cable:

1. Make sure that the P3 PowerPort 1000 IP is not connected to AC mains power.
2. See Figure 7 on page 12. Remove the 8 screws from the cover and open the P3 PowerPort 1000 IP.
3. Fasten a 35 mm length of slotted 7.5 mm DIN rail **A** to the two bolt ends **B** provided in the housing using M5 self-locking nuts.
4. Remove the sealing cap from one of the holes **C** marked **P3** in the housing.
5. Install one of the supplied M16 cable glands (or a cable gland that is suitable for the optical fiber cable external diameter) in the hole as described in “General wiring procedure” on page 10.
6. Pass the bare end of the fiber input cable through the cable gland and into the housing, leaving enough slack for the cable to be connected to the fiber-to-Ethernet converter **D** inside the P3 PowerPort 1000 IP.

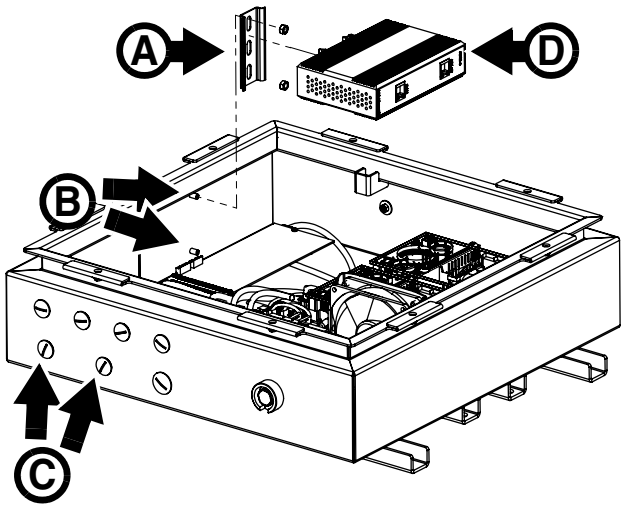


Figure 8: Installing a fiber-to-Ethernet converter

7. Install a connector on the optical fiber cable that is suitable for the converter **D.**
8. Install DC power leads on the converter **D**.
9. Fasten the converter **D** to the DIN rail.
10. Connect the optical fiber cable to the converter’s RX port.
11. See Figure 9. Socket PL6 (arrowed) is available for use as a 24 VDC power source on the connections PCB inside the PowerPort. A connector with screw terminals is supplied installed in the socket. If the converter’s DC power leads already have a suitable connector installed, plug the connector into socket PL6 in place of the connector that is supplied. Otherwise, fasten the converter’s DC power leads into the screw terminals of the connector that is supplied. Connect the **+ve** lead to the terminal marked **24V** and the **-ve** lead to the terminal marked **0V**.

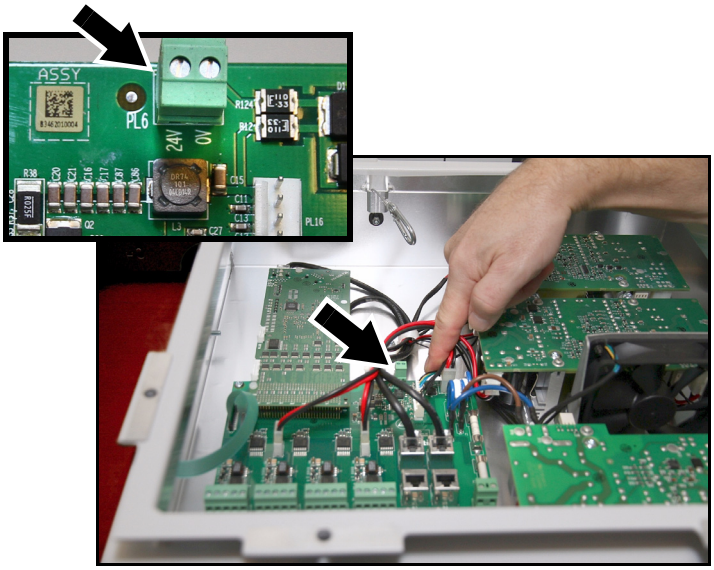


Figure 9: 24 VDC source at PL6

12. Use an Ethernet patch cable to connect the Ethernet output from the converter to either of the RJ-45 sockets labeled PL7 or PL8 on the connections PCB.

13. Tighten the cable gland to make an effective seal around the optical fiber cable, reinstall the cover safety cable and reinstall the cover, tightening the 8 cover retaining screws enough to make an effective seal.

Relaying the P3 signal

To relay the P3 video signal to another P3 PowerPort (or other P3-compatible device), via optical fiber cable, install an optical fiber throughput cable as described above, but connecting the throughput cable to the TX port in the converter and passing the cable through an M16 cable gland installed in the unused hole marked **P3** in the housing.

To relay the P3 video signal to another P3 PowerPort (or other P3-compatible device), via Ethernet cable, install an Ethernet throughput cable as described in “Connecting the P3 video signal using Ethernet cable” on page 12, connecting the throughput cable to the unused RJ-45 data socket in the P3 PowerPort 1000 IP and passing the cable through an M16 cable gland installed in the unused hole marked **P3** in the housing.

Hybrid power + data output

Warning! Before you connect devices to the P3 PowerPort 1000 IP’s power + data outputs, read all the devices’ user manuals carefully and respect the system layout guidelines and limits given in the manuals. User manuals are supplied with products and available for download from www.martin.com.

The P3 PowerPort 1000 IP supplies DC power at 48 V and relays P3 video data to Martin® video display devices over hybrid DC power + video data cables.

The P3 PowerPort 1000 IP has four power + data outputs. Each output can supply a maximum current of 5 amps (giving a maximum combined total of 20 amps).

Each output is protected by an automatic circuit breaker. If an output is overloaded or short-circulated, it is immediately shut down. Outputs can be re-enabled either by pushing the multi-function button on the side panel or remotely via the P3 System Controller. The circuit breaker attempts to reactivate the output automatically after several minutes. If the problem is still there or happens again, the circuit breaker immediately shuts down the output again.

Connecting hybrid power and video data output

Use only hybrid power + data cables supplied by Martin® to connect Martin® video display devices. See ”Accessories” on page 20 for available cables. Do not exceed the maximum lengths for cable runs specified in user manuals.

To connect video devices:

1. Verify that the AC power circuit is shut down and locked out.
2. For each output that you intend to use, prepare the end of the cable by stripping 20 mm (0.8 in.) of the cable’s outer jacket. Strip 8 mm (1/3 in.) from the end of each of the wires.
3. Remove the top cover.
4. Remove the sealing cap from one of the four output holes.
5. Install the cable through an M16 cable gland in the open hole as described above in the general wiring procedure.
6. Referring to Figure 5,
   - connect the WHITE wire to 48V terminal,
   - connect the BLACK wire to the 0V terminal,
   - connect the shield braid to the SHIELD terminal,
   - connect the RED wire (data +) to the COM_A terminal,
   - connect the GREEN wire (data -) to the COM_B terminal.
7. Insert the connection plug into an output socket on the circuit board.
8. When all cables have been connected, replace the top cover.

Using the product

Warning! Before applying power to the P3 PowerPort 1000 IP:

- ***Carefully review the safety information starting on page 4***
- ***Check that the installation is safe and secure.***

Do not use the P3 PowerPort 1000 IP if the ambient temperature exceeds 55° C (131° F) or falls below -30° C (-22° F).

Applying power

The P3 PowerPort 1000 IP Install is intended to be wired to a switched AC circuit. It does not have a power on/off switch. To apply power to the device, switch on the AC circuit to which it is connected.

Status LEDs and control button

See Figure 10. The display panel on the side of the P3 PowerPort 1000 IP offers the following features:

- The **Output 1 - 4 Data** LEDs **A** light when data is being transmitted at that output.
- The **Output 1 - 4 Power** LEDs **B** light when 48 VDC power is present at that output.
- The **Status** LED **C** gives feedback about device status. A key is printed under the status LEDs on the P3 PowerPort 1000 IP control panel for quick reference. See Table 2 on page 16 for full details.
- The Control button **D** lets you call up test patterns and reboot or reinitialize the device. See Table 3 on page 16 for full details.

The LEDs can be disabled from the P3 System Controller.

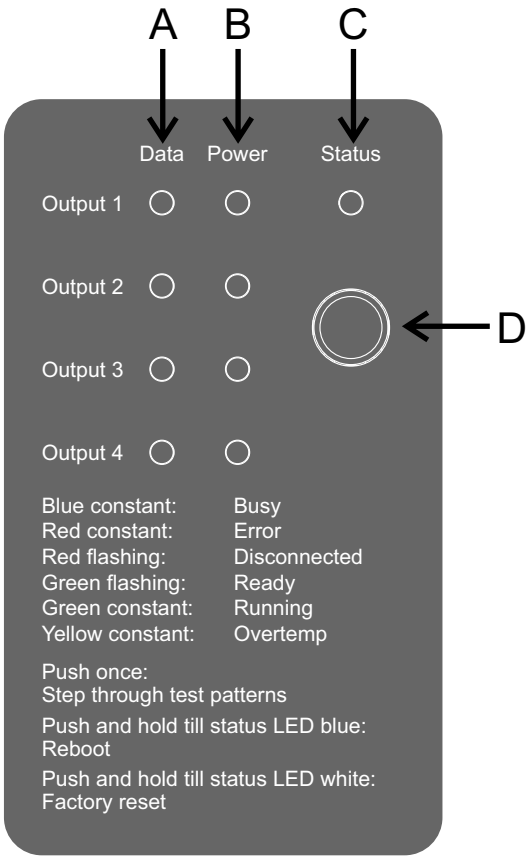


Figure 10: Status LEDs and control button

The LED marked **Status** gives the information in Table 2 below:

Color	Output	Indication	Action required
Blue	Constant	Busy (e.g. booting up or writing to flash memory).	Wait a moment for normal operation to be resumed.
Red	Constant	Error. The P3 PowerPort 1000 IP has encountered a fatal error and can not run.	Perform a factory reboot, followed by a firmware upload.
Red	Flashing	Disconnected. A P3 System Controller could not be found.	Connect a P3 System Controller to the network.
Green	Flashing	Ready. A P3 System Controller is present on the network.	Configure the P3 System Controller to use any or all products connected to the P3 PowerPort 1000 IP.
Green	Constant	Running. A P3 System Controller is sending video data.	None.
Yellow	Constant	Overtemperature.	Allow the P3 PowerPort 1000 IP to cool down. If problem persists, check that the ambient temperature is not above the 55° C (131° F) maximum. Check that there is free airflow around the device.

Table 2: Key to status LED information

Control button functions

A key to the functions of the single control button on the P3 PowerPort 1000 IP's side panel is printed on the panel and given in Table 3 below:

Button action	Function
Repeated short press	Display the following test patterns on all the video display products that are correctly connected (one short press scrolls to next pattern): - Calibrated white - Full red - Full green - Full blue - Vertical scrolling gradient - Dimmed uncalibrated white
Press and hold until status LED lights blue	Reboot the P3 PowerPort 1000 IP.
Press and hold until status LED lights white	Reinitialize the P3 PowerPort 1000 IP, returning it to its default factory settings.

Table 3: Key to control button functions

The test patterns that are stored in internal memory let you check that the video display products in an installation are correctly connected without the need for a P3 system controller.

Note that test patterns can also be called up on P3 system controllers and on individual system components that have a test/control button.

If any of the outputs of the P3 PowerPort 1000 IP have been disabled because of an overload or short circuit, pressing the control button will re-enable the output(s) at the same time as it applies a function as shown in Table 3.

Handling DMX and RDM

The P3 PowerPort 1000 IP will relay DMX-controlled video data from a P3 system controller. P3 controller user manuals explain how to connect a DMX controller to the P3 controller and control an installation using DMX. However, the P3 PowerPort 1000 IP does not support DMX or RDM (Remote Device Management) data that is sent directly from a DMX / RDM controller without being processed by a P3 controller. If you want to set up direct DMX / RDM control, see the display device user manuals or contact your Martin® supplier for advice.

Service and maintenance

Warning! Read "Safety Information" on page 4 before servicing the P3 PowerPort 1000 IP.

Warning! Disconnect the P3 PowerPort 1000 IP from AC mains power before servicing.

Warning! Refer any service operation not described in this manual to a qualified service technician.

Important! Excessive dirt buildup causes overheating and will damage the product. Damage caused by inadequate cleaning is not covered by the product warranty.

The user will need to clean the P3 PowerPort 1000 IP periodically. All other service operations on the P3 PowerPort 1000 IP must be carried out by Martin® or its approved service agents.

Installation, on-site service and maintenance can be provided worldwide by the Martin® Global Service organization and its approved agents, giving owners access to Martin's expertise and product knowledge in a partnership that will ensure the highest level of performance throughout the product's lifetime. Please contact your Martin® supplier for details.

Cleaning

Warning! Do not use a high-pressure water jet for cleaning. Take care not to damage seals and wiring during cleaning.

Warning! Disconnect from power before cleaning.

Cleaning schedules vary depending on the operating environment. It is therefore impossible to specify precise cleaning intervals for the P3 PowerPort 1000 IP. Environmental factors that may result in a need for frequent cleaning include airborne dust and pollution.

Inspect products frequently to see whether cleaning is necessary. If in doubt, consult your Martin® dealer about a suitable maintenance schedule.

To clean the product, use warm water and a soft brush or a low-pressure or medium-pressure water jet. Use car shampoo to help remove dirt and grease. If possible, dry with a soft cloth to avoid streaking. Do not use a stiff brush or scouring pad. Do not use solvents or abrasives.

Installing new software

It may be necessary to upload new software (i.e. device firmware) to the P3 PowerPort 1000 IP if it appears to have a software-related fault or if you want to update to a newer software version.

Software for Martin® products is available from the Martin® website. The P3 PowerPort 1000 IP software can be installed from the P3 System Controller over the P3 data link. See the P3 System Controller user manual for software installation instructions.

Condensation and pressure relief valve

Under certain conditions, condensation may become visible inside the device. This is normal and harmless. Any condensation will gradually be expelled by the device's Gore-Tex pressure relief valve as the device goes through power off/on cycles.

The pressure relief valve is shown in Figure 1 on page 7. Make sure that the valve is clean and unblocked. The valve must be able to breathe freely so that it can equalize pressure and expel water vapor. If a valve becomes blocked, excessive pressure can damage seals or cause air and water to be sucked along cables and into the device.

Water on the valve membrane will block the membrane's micropores. Do not allow water to collect on or near valve. If you suspect that a valve has become blocked with dirt, contact your Martin® supplier.

Troubleshooting

Problem	Probable cause(s)	Remedy
Status LED on side panel lights red.	Error has occurred.	Check that system is correctly connected, set up and running. Hold control button pressed in until it turns blue, then release, to reboot P3 PowerPort 1000 IP. Restart P3 system controller.
Product is completely dead.	No power to product.	Check that AC circuit is switched on.
	Fuse blown.	Disconnect from power and contact Martin® Service or an authorized Martin® service partner for assistance.
	Internal fault.	Disconnect from power. Do not attempt repairs yourself. Contact Martin® Service or an authorized Martin® service partner for assistance.
Devices connected to one of the power + data outputs are completely dead.	Controller incorrectly setup.	Check controller settings and rectify any problems.
	Poor connections.	Check connections and rectify any faults.
	Circuit breaker has tripped (if this happens, the Power status LED for that output on side panel will not light).	Reset circuit breaker by sending command from P3 controller or pressing multi-function button on side panel. If circuit breaker trips again: • Output may be overloaded. See user manuals of all connected devices. Check that devices are connected as specified and that the number of connected devices does not exceed the maximum permitted limit. • Output may be short-circuited. Check wiring and rectify any faults. If a circuit breaker trips repeatedly and you cannot find the cause, disconnect from power and contact Martin® Service or an authorized Martin® service partner for assistance.
	Internal fault.	Disconnect from power. Do not attempt repairs yourself. Contact Martin® Service or an authorized Martin® service partner for assistance.
Video display products do not behave as intended.	Bad low-voltage DC power transmission.	Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.
	Bad video data transmission.	Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.
	Incorrect addressing of products.	Check product address and P3 system controller settings.
	Product in installation is defective and is disturbing data transmission.	Substitute known good products one at a time until normal operation is regained. Have faulty product serviced by qualified technician.

Table 4: Troubleshooting

Specifications

Physical (including mounting rails)

Length (including cable glands) . . . . . 439 mm (17.3 in.)
Width . . . . . 483 mm (19.0 in.)
Height . . . . . 146 mm (5.8 in.)
Weight . . . . . 8 kg (17.7 lbs.)

Control and Programming

Addressing and status . . . . . Via P3 System Controller
Mapping . . . . . Via P3 System Controller
Firmware update . . . . . Via P3 System Controller

Control/User Interface

Device status . . . . . Multicolor LED
Data output status . . . . . Four LEDs
Power output status . . . . . Four LEDs
Device test and reset . . . . . Multi-function button

Status LEDs and pushbutton can be disabled remotely if required

Video Signal Protocol

Video signal type . . . . . Gigabit Ethernet
Video signal compliance . . . . . Martin® P3 proprietary protocol
P3 data cable type . . . . . Ethernet, shielded CAT 5e or better
P3 data cable length . . . . . Up to 100 m (328 ft.) between any two devices, extendable with Ethernet switch or conversion to fiber

System Integration

Martin® VC-Dot family via Martin® VC-Feeder
Martin® Exterior PixLine family
Martin® Exterior Dot-HP family
Martin® VDO Sceptron family
Martin® VC-Grid family (indoor product)
Martin® VC-Strip family (indoor product)

See www.martin.com for latest information.

Construction

Housing . . . . . Aluminum
Mounting brackets . . . . . Aluminum
Color . . . . . Alu grey (custom colors available to special order)
Ingress protection . . . . . IP66, NEMA Enclosure Type 3
Effective Projected Area (EPA) . . . . . 0.21 m^2

Installation

Mounting . . . . . Surface mount with user-supplied hardware
Orientation . . . . . Any, except cable glands facing up or top cover facing down

Connections

AC mains power input . . . . . Internal screw terminal (through M20 cable gland)
P3 data in/out* . . . . . Two internal RJ45 sockets (through two M16 cable glands)
Combined power & data out . . . . . Four internal screw terminals (through M16 cable glands)

P3 data input can be adapted for fiber optic cable with user-supplied converter

Electrical

AC mains power input . . . . . 120-277 V~ (nominal), 50/60 Hz
Power supply units . . . . . Auto-ranging electronic switch-mode
Power input cable type . . . . . AWG 14 or 2.5 mm^2, SJT, UL-listed or HAR type
DC power output . . . . . 48 V
Maximum permitted current draw per output . . . . . 5 A
Maximum permitted total current draw from all outputs combined . . . . . 20 A
Main fuses . . . . . Double-pole/neutral fusing, 2 x 16 AF (fast-acting), 250 VAC
Typical total power consumption . . . . . 1100 W

Thermal

Maximum ambient temperature (T_a max.) . . . . . 55° C (131° F)
Minimum ambient temperature (T_a min.) . . . . . -30° C (-22° F)
Cooling . . . . . Convection

Approvals

EU safety . . . . . EN 60950
EU EMC . . . . . EN 55032, EN 55103-2, EN 55024, EN 61000-3-2, EN 61000-3-3
US safety . . . . . ANSI/UL 60950-1
US EMC . . . . . FCC Part 15 Class A
Canadian safety . . . . . CSA C22.2 No. 60950-1
Canadian EMC . . . . . ICES-003 Class A
Australia/NZ . . . . . RCM (pending)

Included Items

Six M16 x 1.5 IP68 Cable Glands, Metal, cable Ø 5.5 mm - 10 mm (0.22 - 0.39 in.) . . . . . P/N 13102031
One M20 x 1.5 IP68 Cable Gland, Metal, cable Ø 8 mm - 13 mm (0.32 - 0.51 in.) . . . . . P/N 13102090

Accessories

Hybrid* cables & connectors

Power+Data Cable, Install, CMX, BBD-BBD 1 m (3.2 ft.) . . . . . P/N 91616055
Power+Data Cable, Install, CMX, BBD-BBD 2.5 m (8.2 ft.) . . . . . P/N 91616056
Power+Data Cable, Install, CMX, BBD-BBD 5 m (16.4 ft.) . . . . . P/N 91616057
Power+Data Cable, Install, CMX, BBD-BBD 10 m (32.8 ft.) . . . . . P/N 91616058
Power+Data Cable, Install, CMX, BBD-BBD 25 m (82 ft.) . . . . . P/N 91616059
Power+Data Cable, Install, CMX, 100 m (328 ft.) . . . . . P/N 91616060
Power+Data Connector, BBD Male . . . . . P/N 91611750
Power+Data Connector, BBD Female . . . . . P/N 91611751
Caps for Female BBD Connector, Set of 10 . . . . . P/N 91616052

VC-Dot cable adapters

Power+Data Adapter, M16-BBD 0.25 m (9.8 in.) . . . . . P/N 91616053
Power+Data Adapter, BBD-M16 0.25 m (9.8 in.) . . . . . P/N 91616054

**Hybrid cables carry both DC power and data over separate conductors.*

Related Items

Martin® P3-050 System Controller . . . . . P/N 90721090
Martin® P3-100 System Controller . . . . . P/N 90721010
Martin® P3-150 System Controller . . . . . P/N 90721015
Martin® P3-200 System Controller . . . . . P/N 90721020
Martin® P3-300 System Controller . . . . . P/N 90721060
Martin® P3-PC System Controller . . . . . P/N 90721030

See www.martin.com for latest information.

Ordering Information

Martin® P3 PowerPort 1000 IP, Installation Model . . . . . P/N 90721080

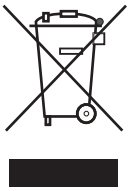
Specifications subject to change without notice. For the latest product specifications, see www.martin.com

FCC Compliance

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canadian Interference-Causing Equipment Regulations - *Règlement sur le Matériel Brouilleur du Canada*

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le Matériel Brouilleur du Canada.



Disposing of this product

Martin® products are supplied in compliance with Directive 2012/19/EC of the European Parliament and of the Council of the European Union on WEEE (Waste Electrical and Electronic Equipment), where applicable.

Help preserve the environment! Ensure that this product is recycled at the end of its life. Your supplier can give details of local arrangements for the disposal of Martin® products.

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