

Pyure MVP16™ Standalone System

Air and Surface
Purification System

Installation Guide





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3. Scope of this Guide

This guide describes the installation and functionality of the Pyure MVP16™ Hydroxyl Generator Air and Surface Purification System.

4. Important Safety Guidelines

Throughout this manual, special references are made when conditions warrant increased attention and are paramount to personnel and equipment safety. All warnings, cautions, and notes must be thoroughly reviewed and understood prior to any attempts to operate, service, troubleshoot or repair any part of this equipment. A WARNING, CAUTION, or NOTE found in this manual will be illustrated using the following identifiers and definitions:

SIGNIFICANCE	IDENTIFIER	DEFINITION
WARNING	 WARNING	Used to indicate a procedure or operation which, if not executed properly, could result in serious injury or loss of life.
CAUTION	 CAUTION	Used to indicate a procedure or operation which, if not executed properly could result in damage to the equipment.
NOTE	<i>NOTE: The word note and associated text will be in bold and italicized font.</i>	Used to indicate information deemed essential to emphasize.

Table 1: Installation guide warnings

5. About the Manufacturer

The Pyure Company Inc.® is a United States corporation (formerly HGI Industries Inc.), whose cutting-edge atmospheric hydroxyl radical generating technology has been at the forefront of high-volume air and surface decontamination for the past 20 years. Company headquarters, research, development, and custom fabrication are located in Boynton Beach, Florida, USA.



6. MVP16™ Hydroxyl Generator System Description

6.1 System Overview

Pyure Dynamic Protection® systems feature sensor driven, interactive process controls. They are scalable to any size and offer significant economies of scale when treating large surface areas. They can be integrated into a single or multiple HVAC /air handling systems, depending on the layout and configuration.

6.2 System Components

6.2.1 00819355022519 MVP16™ Hydroxyl Generator 120V Unit w/AC [MVP1610]

00819355022601 MVP16™ Hydroxyl Generator 120V Unit [MVP1612]

00819355022526 MVP16™ Hydroxyl Generator 230V Unit w/AC [MVP1608]

00819355022618 MVP16™ Hydroxyl Generator 230V Unit [MVP1611]
(see Appendix A: 12.8)

The MVP16™ Unit(s) contains Pyure's proprietary hydroxyl generating optics and electronics. A unit can be directly installed in-line with an existing HVAC or air handling system. The MVP16™ Unit(s) are wired to an Insight™ Edge Gateway, Insight™ Edge Controller, or local PC, which in turn controls optic function and Pyure's hydroxyl production.

6.2.2 00819355022373 Pyure Insight™ Edge 1000 – Gateway, Rack Mount [INEXX15]

00819355022380 Pyure Insight™ Edge 1100 – Gateway [INEXX16]

00819355022397 Pyure Insight™ Edge 1101 – Gateway w/HMI [INEXX17]
(see Appendix A: 12.1 - 12.3)

Utilizing Pyure's proprietary software and control logic, these systems are designed to modulate Pyure hydroxyl production based

on real-time feedback from sensors in the treatment space, thus maintaining target levels proven to be effective at reducing pathogen, air pollutant, and odor levels. Up to four Sensors can be connected to each MVP16™ Unit. The main electrical supply is wired to each MVP16™ Unit. The Pyure Insight™ Edge Gateway plugs into a standard electrical outlet.
(see Appendix A for wiring instructions).

6.2.3 00819355021314 MVP™ Remote 'DR' Sensor [MVPXXMA47] (see Appendix A: 12.6)

Pyure's Remote 'DR' Sensor(s) are specified for specific applications and are integral to the MVP16™ system. The sensors provide constant real-time feedback to the MVP16™ Unit. This data is collected, analyzed and utilized by the unit to make necessary adjustments in hydroxyl production.

6.2.4 00819355022533 Pyure 'AQ' 900 Sensor [ENS-AQ-001]] (see Appendix A: 12.6) & 00819355021185 MVP™ Sensor Conversion Interface [MVPXX56] (see Appendix A: 12.8)

The Pyure 'AQ' 900 Sensor(s) & MVP™ Sensor Conversion Interface are specified for specific applications and are integral to the MVP16™ system. The sensors provide constant real-time feedback to the MVP16™ Unit. This data is collected, analyzed and utilized by the unit to make necessary adjustments in hydroxyl production.



6.3 Specifications

6.3.1 00819355022519

MVP16™ Hydroxyl Generator 120V w/AC
[MVP1610]

00819355022526

MVP16™ Hydroxyl Generator 230V w/AC
[MVP1608]

Dimensions (LxWxD): 37.0" x 32.0" x 25.7"
(940 x 812 x 654 mm)
Weight: 152.0 lbs (68.9 kg)
Voltage: 120VAC @60Hz
(00819355022519) /or/
230VAC @50/60Hz
(00819355022526)
Power: 1100 Watts (nominal)
Velocity: Max 3,000 ft/min
Certification: CE, IP65 -Contact
Pyure for certification
requirements

6.3.2 00819355022601

MVP16™ Hydroxyl Generator 120V
[MVP1612]

00819355022618

MVP16™ Hydroxyl Generator 230V
[MVP1611]

Dimensions (LxWxD): 31.0" x 32.0" x 25.5"
(787 x 813 x 648 mm)
Weight: 152.0 lbs (68.9 kg)
Voltage: 120VAC @60Hz
(00819355022601) /or/
230VAC @50/60Hz
(00819355022618)
Power: 1100 Watts (nominal)
Velocity: Max 3,000 ft/min
Certification: CE, IP65 -Contact
Pyure for certification
requirements

6.3.3 00819355022373

Pyure Insight™ Edge 1000 – Gateway, Rack
Mount [INEXX15]

Dimensions (LxWxD): 3.5" x 18.9" x 12.1"
(89 x 481 x 308 mm)
Weight: 2.0 lbs (0.9 kg)
Voltage: 100-240VAC @50/60Hz
Power: 36 Watts
Certification: CE, EN, FCC, IEC, RCM,
REACH, RoHS, UKCA,
VCCI, WEEE

6.3.4 00819355022380

Pyure Insight™ Edge 1100 – Gateway
[INEXX16]

Dimensions (LxWxD): 16.9" x 14.7" x 8.0"
(429 x 373 x 203 mm)
Weight: 12.5 lbs (5.7 kg)
Voltage: 90-246VAC @50/60Hz
Power: 120 Watts
Certification: CE, EN, FCC, IEC, RCM,
REACH, RoHS, UKCA,
VCCI, WEEE

6.3.5 00819355022397

Pyure Insight™ Edge 1101 –
Gateway w/HMI [INEXX17]

Dimensions (LxWxD): 16.9" x 14.7" x 8.0"
(429 x 373 x 203 mm)
Weight: 15.6 lbs (7.1 kg)
Voltage: 90-246VAC @50/60Hz
Power: 120 Watts
Certification: CE, EN, FCC, IEC, RCM,
REACH, RoHS, UKCA,
VCCI, WEEE

6.3.6 00819355021314

MVP™ Remote 'DR' Sensor
[MVPXX47]

Dimensions (LxWxD): 14.7" x 7.9" x 16.0"
(372 x 200 x 407mm)
Weight: 12.0 lbs (5.4 kg)
Voltage: 24VDC

6.3.7 00819355022533

Pyure 'AQ' 900 Sensor



Dimensions (H x Dia): 2.5" x 5.1" (64 x 130mm)
Weight: 0.4 lbs (0.2 kg)
Voltage: 12VDC

6.3.8 00819355021185

MVP™ Sensor Conversion Interface [MVPXX56]

Dimensions (LxWxD): 9.5" x 7.5" x 4.7"
(242 x 191 x 119mm)
Weight: 4.3 lbs (2.0 kg)
Voltage: 24VDC

6.3.9 00819355021482

MVP™ Main Disconnect (optional) [MVPXX41]

Dimensions (LxWxD): 12.3" x 10.7" x 8.2"
(313 x 271 x 208mm)
Weight: 5.8 lbs (2.6 kg)
Voltage: 600VAC (Max)

6.4 Safety

6.4.1 General Precautions

Pyure Technology™ produces the same concentrations of hydroxyls and organic oxidants that are naturally present in our outdoor environment. Following Pyure's operating guidelines ensures safe application of the system. Operating personnel should be aware of equipment safety items and procedures while servicing equipment.

⚠ CAUTION: Maintenance is performed by Pyure qualified technicians¹.

NOTE: Any damage to equipment resulting from unauthorized maintenance practices or actions taken by personnel that have NOT been qualified by The Pyure Company may nullify and void existing manufacturer warranties.

NOTE: Pyure engineers routinely customize the MVP16™ hardware and software configurations in order to meet the customer's air purification requirements. Accessing internal components by unauthorized personnel could result in a diminished operating capacity.

Qualified technicians performing maintenance on the MVP16™ system must observe all safety and personal protective equipment [PPE] rules for the particular site they are working in. All operating, maintenance, and repair personnel must read and follow local operation procedures to ensure personal safety and prevent unintended equipment damage.

All personnel operating and servicing the MVP16™ systems shall become thoroughly familiar with and frequently review the general, electrical and UV safety precautions. These precautions are in addition to the specific warnings and cautions noted throughout this manual and maintenance procedures.

6.4.2 Electrical Safety

⚠ WARNING: Service on electrical components must be conducted by a verifiably trained and certified electrician and standard Lockout/Tagout [LOTO] procedures must be followed.

The MVP16™ system operates on a 120 Volt 60Hz /or/ 230 Volt 50/60Hz (depending on the model). The MVP16™ unit supplies 24 Volt DC for control logic and sensors. The user interface screen can be accessed by using the MVP16™ application on a user supplied PC or the HMI of the Pyure Insight Edge™ Gateway 1101.

Gateways have no user/operator-serviceable parts. Operators should however be aware of any potential electrical hazards such as loose wiring or other electrical systems in the vicinity of the unit.

¹Pyure Technical Services can be reached by calling The Pyure Company's main office in Boynton Beach, Florida, at 877-735-3701.



6.4.3 Ultraviolet (UV) Radiation Safety

Operators should be aware of any UV light energy escaping from inside the MVP16™ Unit(s) optic chamber. The precautions in this section are provided for when UV energy is known to be escaping from within the enclosure, or when operator personnel may be assisting servicing personnel.

⚠ WARNING: Damaged seals around MVP16™ Unit(s), impacts to the enclosure or misalignment of the duct could result in the inadvertent seepage of UV energy into the immediate vicinity of the unit.

⚠ WARNING: Direct UV energy is known to cause serious burns to exposed skin and eyes.

⚠ WARNING: Exposed skin must be protected when working with direct UV energy. All personnel working in the vicinity of exposed UV energy must wear long sleeves and face shields that protect against UVC energy.

If direct UV energy is escaping, immediate action should be taken to block or shield the UV energy from direct view. Covering the escaping light with an opaque item such as a towel or cardboard can be done as a temporary safety measure. The unit should also be cordoned off and clearly marked as a potential UV hazard to prevent exposure to other personnel. Your qualified servicing organization or Pyure Technical Services¹ should be contacted to resolve the problem as soon as practical.

KEEP OUT OF THE REACH OF CHILDREN.

WARNING – UV radiation emitted from this device.

Unintended use of the device, or damage to the housing, may result in exposure to ultraviolet radiation.

Ultraviolet radiation may cause eye and skin irritation.

Avoid exposing eyes and skin to ultraviolet radiation.

The use of this device is a supplement to and not a substitute for standard infection control practices to control transmission of infections; users must continue to follow all current infection control practices, including those practices related to cleaning and disinfection of environmental surfaces.

7. Theory of Operation

Nature's Process Outdoors

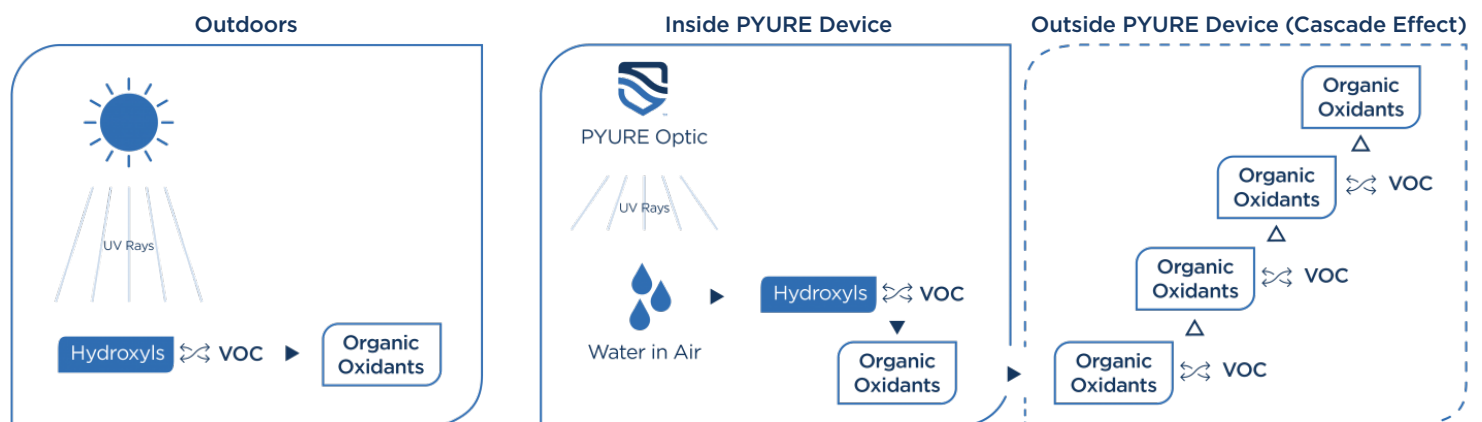
Sunlight Produces Hydroxyls & Organic Oxidants

- Airborne hydroxyls are ideal sanitizing agents.
- Atmospheric hydroxyls are continuously produced by the action of the sun's ultraviolet energy on oxygen and water in our atmosphere.
- Hydroxyls react with a broader range of chemicals and are a million times more reactive than ozone.
- Hydroxyls react so fast that they are consumed within a few milliseconds and never accumulate.
- Hydroxyls react with volatile organic compounds (VOC) and produce organic oxidants, which also sanitize but are not as reactive, so they exist longer than hydroxyls.
- Hydroxyls and organic oxidants keep the air outside safe to breathe by decomposing natural and man-made pollutants and pathogens.

Indoors with Pyure Dynamic Protection

Pyure produces the same concentrations of hydroxyls & organic oxidants as the sun generates outdoors

- By replicating the levels found outdoors, Pyure ensures safety and efficacy.
- Hydroxyls are a natural oxidant and the most important cleansing agent in our outdoor environment.
- Hydroxyls do not exist naturally indoors – they are consumed within milliseconds when produced by sunlight.



8. Receiving and Handling

CAUTION

This product is fragile and contains glass parts. Extreme caution must be taken by forklift.

The MVP16™ Unit is large and heavy. Please take the appropriate precautions when lifting from the crate.

8.1 System – typical packaging

The MVP16™ unit is securely strapped to the base of a crate for shipping.



Figure 1: MVP16™ packaging

Keys for the MVP16™ unit are secured inside the unit as shown.

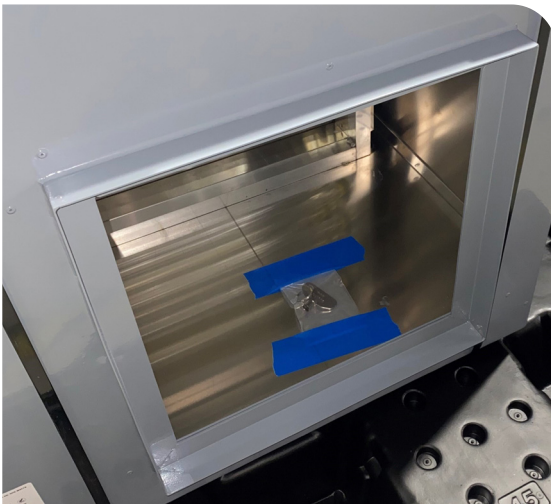


Figure 2: MVP16™ key location

8.2 MVP16™ Hydroxyl Generator Unit(s)

Take care while removing any additional product packed around the unit.

Once everything is removed and the bands are cut, carefully lift the unit from the crate.

For safety and to avoid fingerprints on optics, use protective gloves when handling optics.



Figure 3: MVP16™ product views

9. General Installation Information

9.1 Discussion

Pyure's MVP16™ system has been configured and installed based on specific applications. For fixed installations, the equipment, clearances, environmental conditions, and operating parameters have been determined and are part of the license to operate the system. Any changes in the operating environment, including, but not limited to, chemical usage, volume of treated area, air flow changes, product types, operating profile, etc., need to be re-evaluated with respect to the system configuration and operation. (Installation should be done by a qualified service technician/group.)

Important

Qualified personnel: Please refer to all related electrical schematics. (Appendix A: 12.8 - 12.12)



Figure 4: MVP16 System sample configuration with two Remote 'DR' Sensors

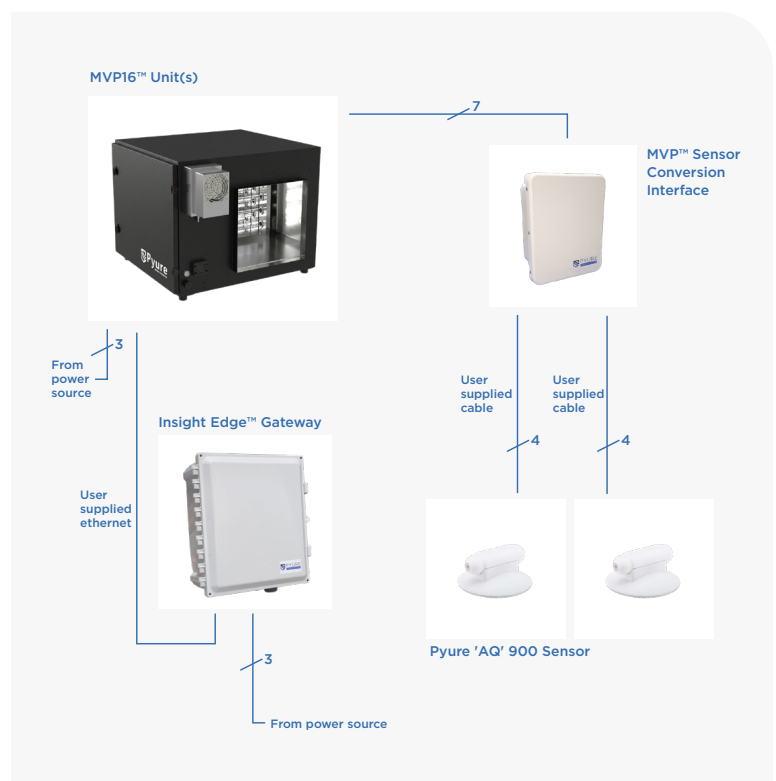


Figure 5: MVP16 System sample configuration with two Pyure 'AQ' 900 Sensors

9.2 Insight Edge™ Gateway

Install in an easily accessible location at a good working height for Human Machine Interface (HMI)/ touch screen function (usually 54" – 60" [1371mm – 1524mm] to the center of the panel).

The electrical supply is wired to the Gateway (see Section 12.9-12.12) and wired to each MVP16™ Unit(s). Sensors are supplied with electrical power from the MVP16 unit (see Section 12.9-12.12).

Parts included for installation options:



Insight Edge™ Gateway
1100 - 00819355022380

Insight Edge™ Gateway
1101 - 00819355022397



Gateway Enclosure
Mounting Brackets (x4)

9.3 Pyure MVP16™ networked cables

The Gateway and the MVP16™ Unit(s) are networked together using standard ethernet cables.

9.4 MVP16™ Hydroxyl Generator Unit(s)

Pyure's MVP16™ Unit(s) are typically configured to be integrated to an air distribution system (pre-determined by Pyure's technical team), providing optimal treatment of the coverage areas.

The MVP16™ Unit(s) receives electrical power directly (see Section 12.9 - 12.12).

Standard MVP16™ Unit components

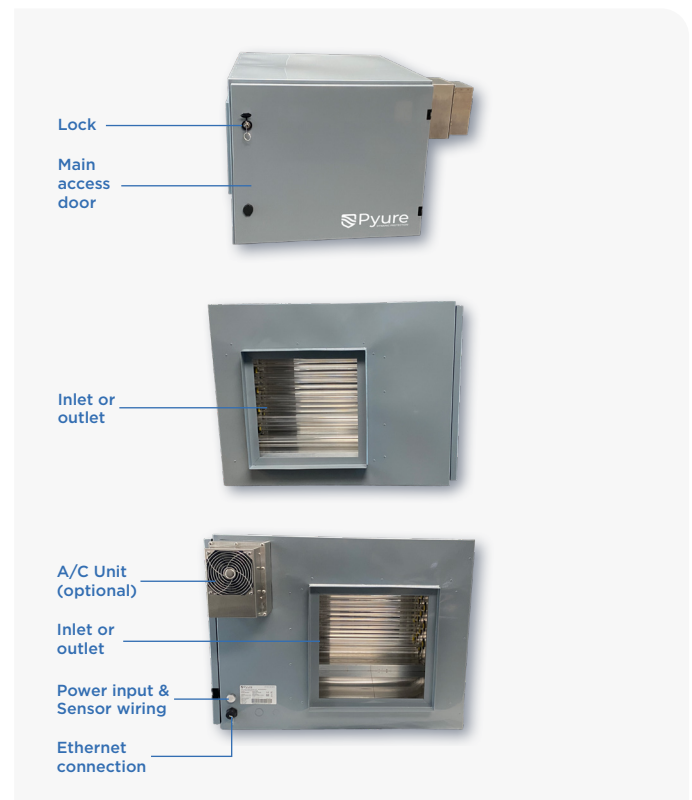


Figure 6: MVP16™ unit components

NOTE: For wiring and cables see Section 12.9 - 12.12

9.4.1 Typical Installation of an MVP16™ Hydroxyl Generator system includes the following steps:

1. Remove the MVP16™ Unit(s) from its packaging.
2. MVP16 unit is built to accept a standard 16" x 16" duct connection.
3. Typical MVP16™ Unit(s) installations.
 - a. Suspended option
MVP16™ Unit(s) are ready for suspended installations. Raise the unit into position, supported by the skid used for shipping. The unit should be installed level, and care should be taken to avoid damage. Attach the unit according to local building codes.

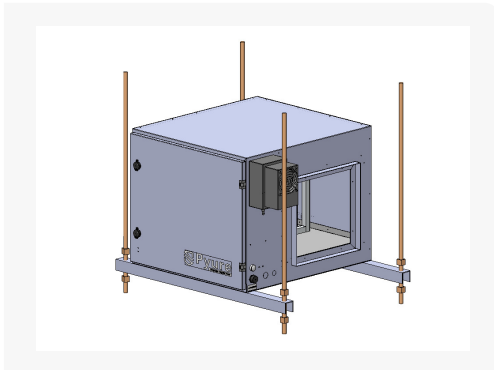


Figure 7: Unistrut Parallel Beam Suspension Installation

- b. Horizontal surface option
Ensure the unit is stable and secure.

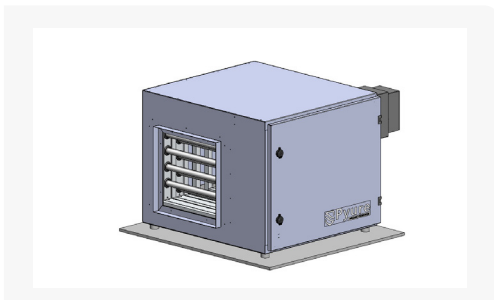


Figure 8: Horizontal surface installation

4. For serviceability of the optic racks, provide 36" clearance on the opening side of the unit.
5. Attach the MVP16™ ethernet cable between the MVP16™ Unit(s) and Gateway.
6. Connect source power to the MVP16™ Unit(s) as shown in Appendix A.

9.5 Typical Sensor Installation

The MVP16™ System requires a minimum of one Sensor per Gateway (zone) and can accept up to four Sensors per MVP16™ unit (the number of Sensors and placement of sensor elements is determined by Pyure's technical team and a Pyure qualified technician prior to installation).

9.5.1 00819355021314 MVP™ Remote 'DR' Sensor

The Sensor consists of a main enclosure, one remote sensor factory cable (up to 98ft. (30m) length) and one remote sensor housing complete with sensor element. The main sensor enclosure should be installed in an easily accessible location and wired to the MVP16 unit (see Section 12.9-12.10). The remote sensor housing with sensor element is installed as per Pyure's qualified technicians direction and the remote sensor factory cable connects it back to the main sensor enclosure (installed to local electrical code requirements). Parts included for installation:



MVP™ Remote 'DR' Sensor Enclosure 00819355021314



Sensor Cable (x1)



Sensor Element Storage Container



Sensor Element



Sensor Housing (x1)



Mounting Brackets (x4)



Insight Edge™ Gateway
1100 - 00819355022380

Insight Edge™ Gateway
1101 - 00819355022397



'DR' Sensor Enclosure
Panel
00819355021314

Mounting the Gateway Enclosure and Sensor Enclosure:

Use the included hardware from each enclosure for a vertical installation. First, secure the brackets to the back of the Controller enclosure and Sensor enclosures, then secure both enclosures to a firm structure capable of sustaining the weight.

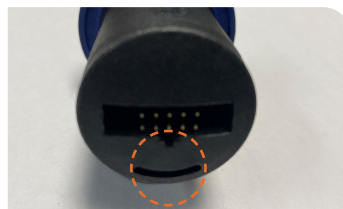
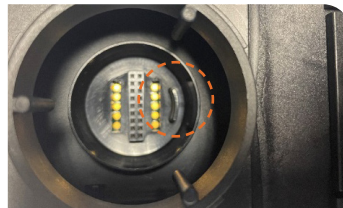
Installing the Sensor Panel:

Important -

Ensure that you feed the small end of the sensor cable from the inside of the enclosure first. Push and pull the entire length through the cable gland, leaving enough length for a service loop.



1. Fit the cable grommet around sensor cable and loosely secure the cable gland.



2. On both sensor connectors, ensure that the curved tab inside the housings locate exactly into the corresponding aperture.



3. Introduce a service loop in the sensor cable which will also provide extra strain relief. Next, firmly secure cable gland.



4. Once the sensor bracket has been secured to an upright sturdy structure, angle the base of the sensor downwards to the back of the bracket and push down until there is a click and positive alignment.

To remove the sensor, push down on the front tab and pull upwards.



5. Ensure that you align the tab on the cable connector with the sensor housing connection groove. Gently screw into place (do not overtighten).

9.5.2 00819355022533 Pyure 'AQ' 900 Sensor & 00819355021185 MVP™ Sensor Conversion Interface

The Pyure 'AQ' 900 Sensor consists of a sensor base complete with a sensor element and requires an MVP™ Sensor Conversion Interface. The Sensor Conversion Interface enclosure should be installed in an easily accessible location and wired to the MVP16 unit (see Section 12.9 - 12.12). The 'AQ' 900 Sensor base with sensor element is installed as per Pyure's qualified technicians direction and the user supplied cable connects it back to the Sensor Conversion Interface enclosure (installed to local electrical code requirements).

Parts included for installation:



Sensor Conversion Interface



'AQ' 900 Sensor

Mounting the MVP™ Sensor Conversion Interface Enclosure:

Mount Sensor Conversion Interface enclosure on wall or support structure using the four 5/16" holes, keeping clearance around sides for wiring/conduit connections to be made.

The interface enclosure does not have pre-drilled or pre-punched holes for conduit. When drilling or punching conduit holes be sure to protect internals from machine damage and debris.

Mounting the Pyure 'AQ' 900 Sensor:

Mount 'AQ' sensor flush to the wall using the keyhole slots on the back of the sensor, keeping in mind wiring connections will come into the sensor via the cutout section of the base.



'AQ' 900 Sensor rear view

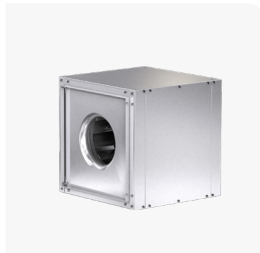


'AQ' 900 Sensor front view without sensor element

9.6 Optional Components



Light shield/filter box



External blower

9.7 Local Disconnect Switch

Pyure recommends a local disconnect is installed near the MVP16™ Unit.



Figure 9: MVP16™ with local disconnect



9.8 Electrical Supply (see Appendix A: 12.9 - 12.12)

Each MVP16™ Gateway requires one dedicated electrical supply:

Insight Edge™ 1000 Gateway, Rack Mount:
00819355022373: 100 - 240VAC, @50/60Hz
(36 Watts)

Insight Edge™ 1100 Gateway:
00819355022380: 90 - 246VAC, @50/60Hz
(120 Watts), See Appendix B for power cord options

Insight Edge™ 1101 Gateway, with HMI:
00819355022397: 90 - 246VAC, @50/60Hz
(120 Watts), See Appendix B for power cord options

Each MVP16™ Unit requires a dedicated electrical supply:

MVP16™ Hydroxyl Generator 120V Unit w/AC:
00819355022519: 120V @60Hz
(1100 Watts nominal),
L1, Neutral, Ground

MVP16™ Hydroxyl Generator 230V Unit w/AC:
00819355022526: 230V, @50/60Hz
(1100 Watts nominal),
L1, L2, Ground

MVP16™ Hydroxyl Generator 120V Unit:
00819355022601: 120V @60Hz
(1100 Watts nominal),
L1, Neutral, Ground

MVP16™ Hydroxyl Generator 230V Unit:
00819355022618: 230V, @50/60Hz
(1100 Watts nominal),
L1, L2, Ground

9.9 Control Wiring (see Appendix A: 12.9 - 12.12)

9.9.1 Gateway to each MVP16™ Unit(s)

Standard ethernet cabling.

9.9.2 MVP16™ unit to Remote 'DR' Sensor

To each Sensor: 4 Conductors + Ground

(24VDC, 50mW)
18 AWG minimum
(see Appendix A: 12.9 & 12.11)

9.9.3 MVP16™ unit to MVP™ Sensor Conversion Interface & Pyure 'AQ' 900 Sensor

To Conversion Interface:	6 Conductors + Ground (24VDC, 50 Watts) 18 AWG minimum (see Appendix A: 12.11 & 12.12)
To 'AQ' 900 Sensor:	User supplied cable(4conductor + Ground) (see Appendix A: 12.10 & 12.12)

9.9.4 Remote 'DR' Sensor to Remote Sensor Housing with Sensor Element

One factory-terminated low voltage cable (supplied with the MVP™ Remote 'DR' Sensor) needs to be installed between the Sensor Enclosure and the Remote Sensor Housing. The 'large' connector end needs to remain inside the Sensor Enclosure while the 'small' connector end needs to be routed through the large strain-relief connector in the bottom of the Sensor Enclosure. The 'large' connector plugs into the Sensor Display Module inside the Sensor Enclosure. **Caution is required as the pins in the connector base are easily damaged/bent if installed incorrectly.** The connector plugs into the Display Module in one direction only.

The small connector end/cable can then be routed through to the Remote Housing and plugged into the side port (connector plugs into base in one direction only). The final step is installing the Sensor element (supplied with Remote 'DR' Sensor) into the Remote Sensor Base Station. **Caution is required as the pins in the Sensor base are easily damaged/bent if installed incorrectly.** The Sensor plugs into the Remote Sensor Base Station in one direction only.

9.10 Air Side Requirements

9.10.1 Duct Airflow Velocity

Pyure recommends installation of the MVP16™ Unit to an HVAC duct with a minimum velocity of 100 feet per minute and a maximum velocity of 3,000 feet per minute .

9.10.2 Duct Bypass

Most of the time, the MVP16™ Unit(s) are installed in bypass ducts to minimize static pressure in the duct work system.

Galvanized metal or rigid aluminum ducting is recommended. Flexible plastic ducting must not be used.

The HVAC duct takeoffs for the duct bypass should be 45 degree with a scoop, one to force air through the bypass and the other to create additional suction through the bypass. Many duct takeoffs include both a scoop and damper, which will simplify the recommended requirements.

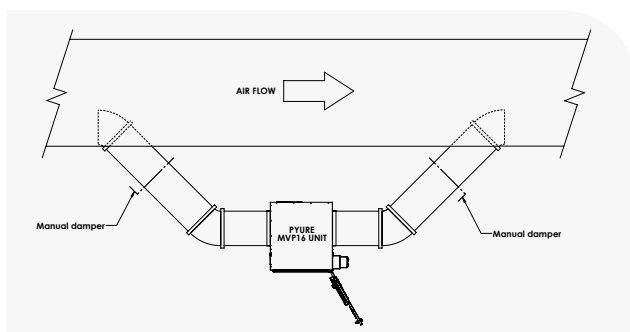


Figure 10: MVP16™ Duct bypass

9.10.3 Ambient Humidity Levels

Pyure recommends 25% + relative humidity for optimal performance.

9.10.4 Interlock

The MVP16™ Unit(s) should be interlocked with the HVAC fan where they are installed. This will ensure that when the HVAC fan is off, the MVP16™ optics will also be turned off.

To complete this interlock, a control voltage signal must be made to the corresponding terminal blocks of the MVP16™ Unit. This control signal can be either 24V (AC or DC), 120VAC or 208-240VAC depending on control relay selected in the MVP16 unit and available voltage source.* The interlock signal can come from the relevant HVAC unit, or when that is not practical, from a local airflow proving device (pressure differential switch, sail switch, etc.).

****NOTE: All wiring to be carried out according to local electrical code requirements***

10. General Cleaning

This section provides procedural guidance on how to clean the MVP16™ System. These procedures are intended to be performed on a recurring basis to ensure proper operation of the MVP16™ equipment. The periodicity of these procedures will be dictated by the environmental conditions where the equipment resides, and minimum recurrence intervals should be determined during the system configuration process.

NOTE: *Recurrence intervals may be modified over time based on operating conditions and experience gained utilizing the system.*

⚠ CAUTION: Due to the sensitive nature of the equipment housed inside the MVP16™ System, the following procedures should be followed precisely and with extreme care.

10.1 Exterior

The exterior of the MVP16™ System components may be cleaned using non-abrasive soap and water. In highly contaminated/greasy environments, a suitable degreaser may be applied first, and then removed with soap and water.

⚠ CAUTION: Under no circumstances shall the equipment be hosed down with high pressure water or steam at any pressure.

10.2 Cleaning the MVP16™ Hydroxyl Generator Unit(s) Optic Chambers and Optic sleeves

⚠ CAUTION: The optic sleeves are very fragile. Extreme care must be used when working on the MVP16™ Unit(s) while the sleeves are exposed.

⚠ CAUTION: The approved cleansing solution for cleaning interior components of the Optics Subsystem is: 90% distilled water + 10% isopropyl alcohol. The solution shall be applied using lint-free wipes while wearing latex gloves.

⚠ CAUTION: Wear protective eye wear and latex gloves when handling optics.

The steps listed below are used to access and clean the Optic Chamber and Optic sleeves.

1. De-energize the MVP16™ System
 - a. Turn the local disconnect or electrical supply to the MVP16™ Unit(s) to the Off position.
 - b. Apply lock out/tag out (LOTO) markers in accordance with the host facility LOTO guidelines.
2. Depending on the installation, the associated HVAC unit may need to be shut down. Refer to host facility guidelines prior to initiating cleaning procedures on the MVP16™ Unit.
3. Follow host facility protocol to confirm MVP16™ Unit(s) are de-energized and safe to work on.
4. Use the access key to unlock the two corner locks on the front door of the MVP16™ unit.
5. Open the door to gain access to the Optic Racks, Optic Rack connectors and t-bolt fasteners.
6. Remove all eight t-bolt fasteners securing the four Optic Racks.
7. Push Optic Rack connector levers down to release the Optic Rack cables on all four Optic Racks.
8. Pull the optic racks out of the reaction chamber in order and place them in a stable location.

NOTE: Ensure the racks are labeled prior to removal so they can be reassembled into the same location. Failure to do so could alter the



physical configuration of the optics with the programmable logic in the Controller Subsystem

9. Clean the optic racks using the approved cleansing solution (see CAUTION note above), lint-free wipes and latex gloves.
10. If re-installing optics, ensure they are cleaned using the approved cleansing solution (see CAUTION note above), lint-free wipes and latex gloves.
11. Visually inspect the optics, optic sleeves and isolation grommets. If there are any indications of cracks or pitting of the sleeves, or missing, deteriorated or broken grommets, renew the optic rack.
12. Carefully reinsert the optic racks into their original locations.
13. Reinstall the t-bolt fasteners and reconnect the Optic Rack connectors.
14. Close the door of the MVP16™ Unit and use the access key to lock the two corner locks.
15. Remove LOTO markers and turn the local disconnect or breaker back to the ON position.

*****END OF PROCEDURE*****

11. Scheduled Maintenance

11.1 Important Reminders

⚠ CAUTION: Only Pyure-certified technicians are authorized to remove access panels to perform component-level maintenance on the MVP16™ system.

NOTE: Any damage to equipment resulting from unauthorized maintenance practices or by actions taken by personnel that have NOT been certified by Pyure may nullify and void existing manufacturer warranties.

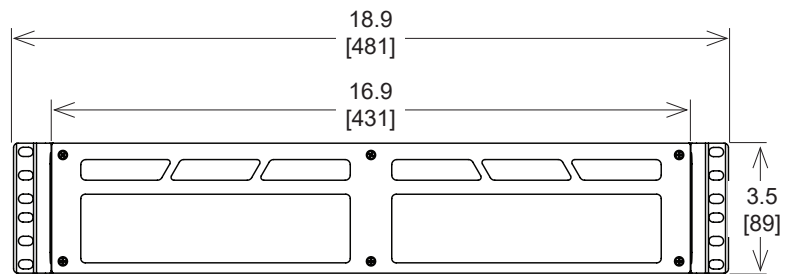
NOTE: Pyure engineers routinely customize the MVP16™ system hardware and software configurations in order to meet the customer's specific air purification requirements. Accessing internal components by unauthorized personnel could result in a diminished operating capacity.

Operators are not authorized to perform any periodic or annual maintenance on the MVP16™ units or controllers. Only MVP™ series certified service technicians are authorized to perform maintenance tasks on these units.

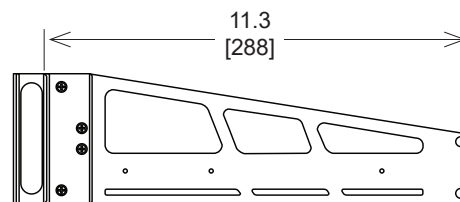
Note that for coordination with maintenance activities, periodic maintenance tasks may be weekly, monthly, quarterly or some other interval. The periodicity of these tasks depends on the operating environment and will be initiated at the time the system is specified and commissioned. As operating experience is gained, the periodicity may be adjusted based on system performance and operating conditions.

12. Appendix A: Technical Documents

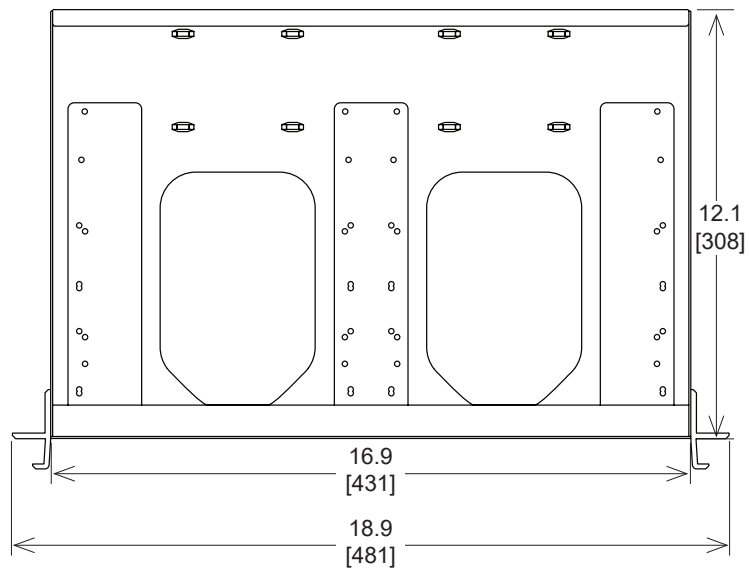
12.1 Appendix A:
00819355022380
Pyure Insight™ Edge
1000 Gateway, Rack
Mount Adaptor



FRONT

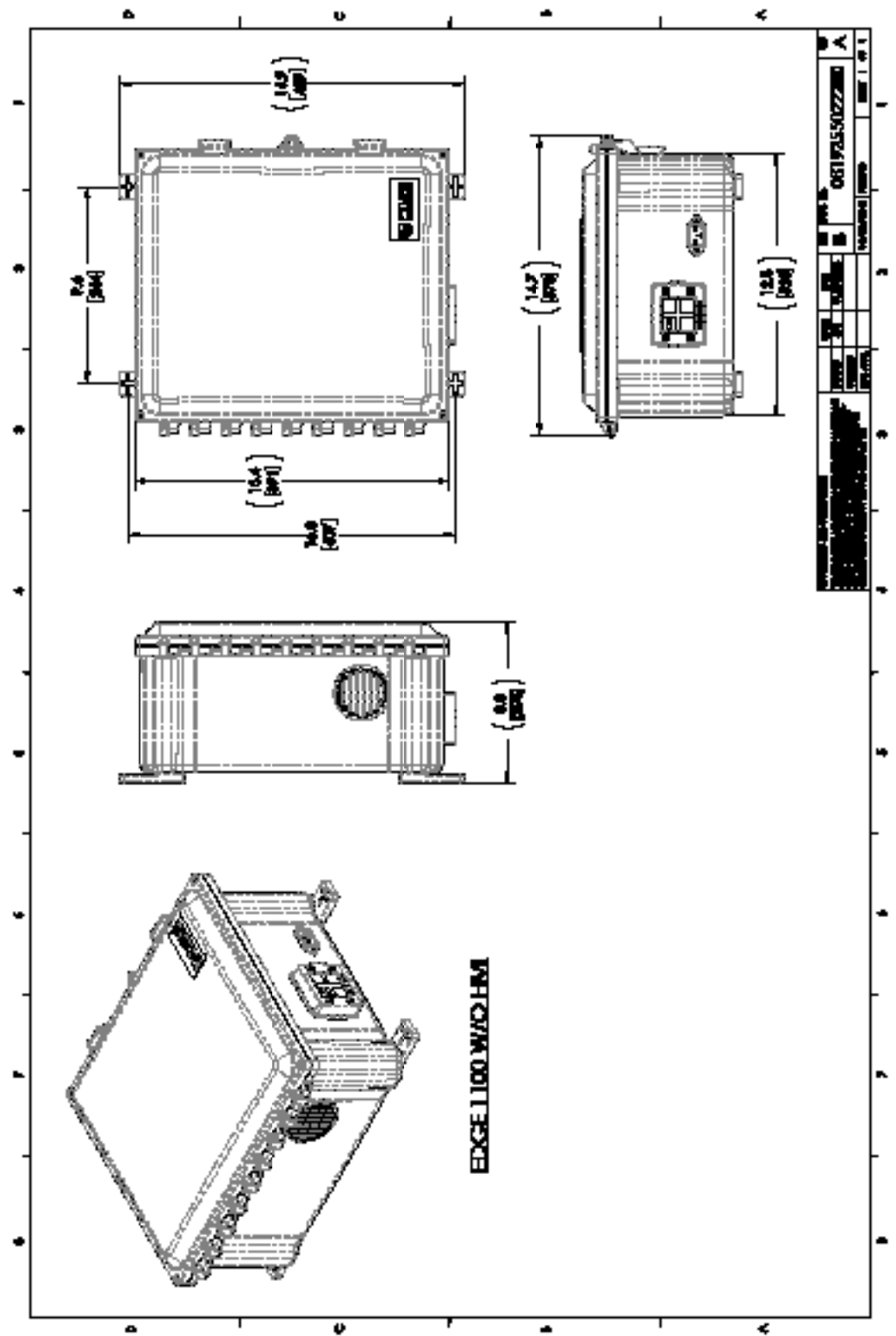


SIDE

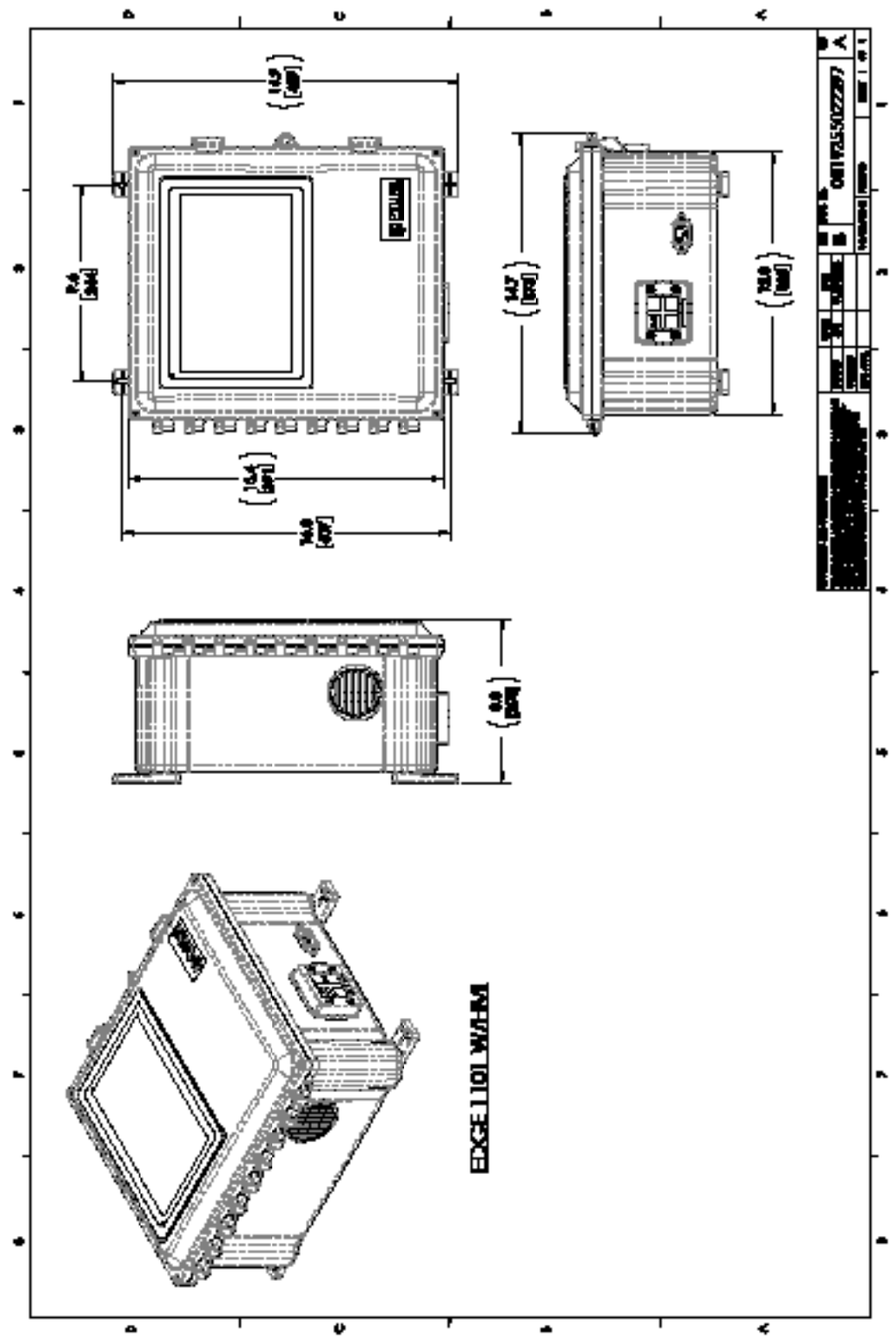


TOP

12.2 Appendix A:
00819355022380
Pyure Insight™ Edge
1100 Gateway



12.3 Appendix A:
00819355022397
Pyure Insight™ Edge
1101 Gateway, with HMI





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NOTES:

1. SHOWN LOCATION OF ITEM 2 LABEL.
2. REMOVE AEROGUARD LABEL.
3. USE ITEM 3 (PMN01LL020) AND REMOVE MINI 50 LETTERING FROM IT AS PER SHOWN.

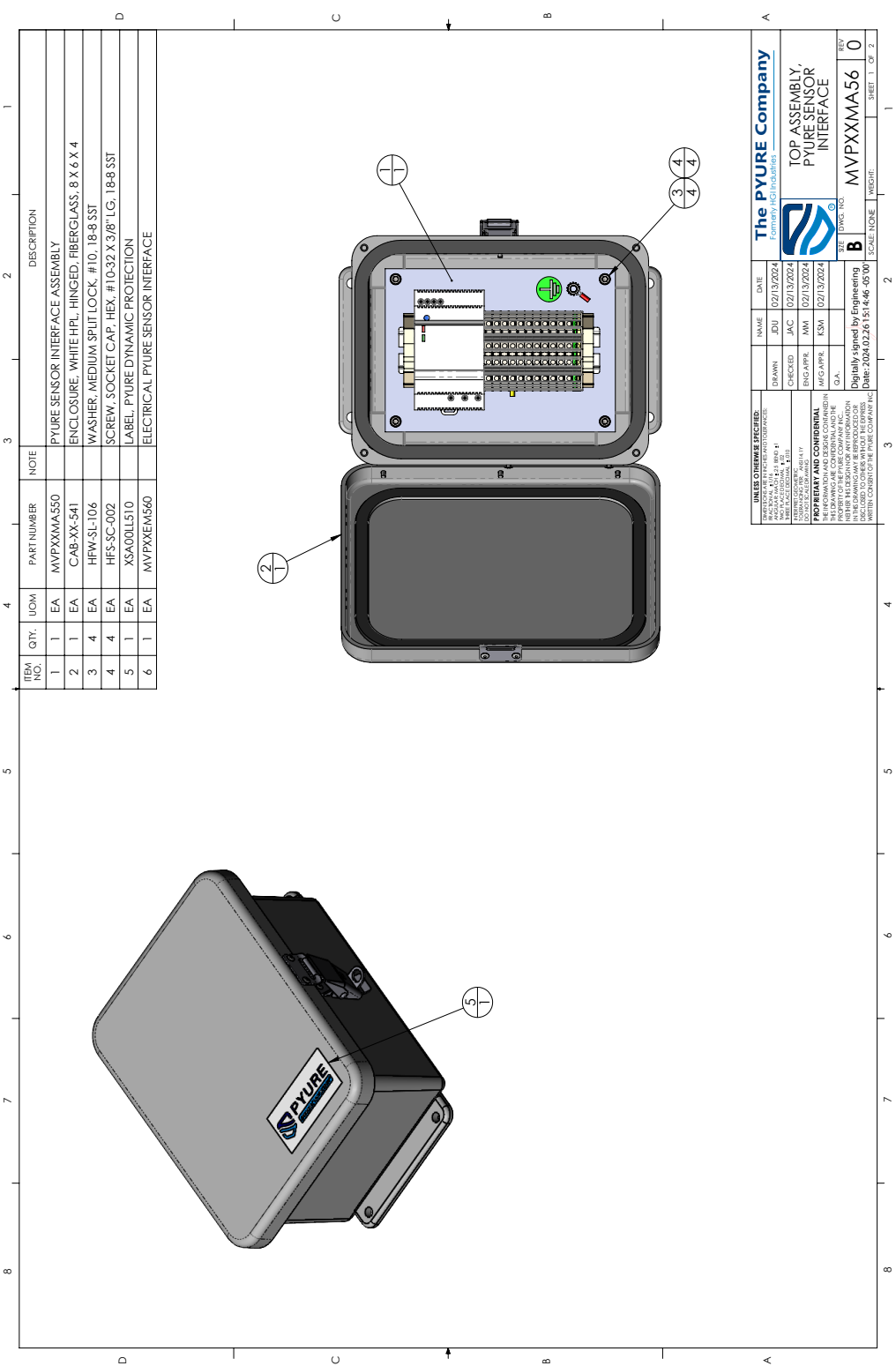
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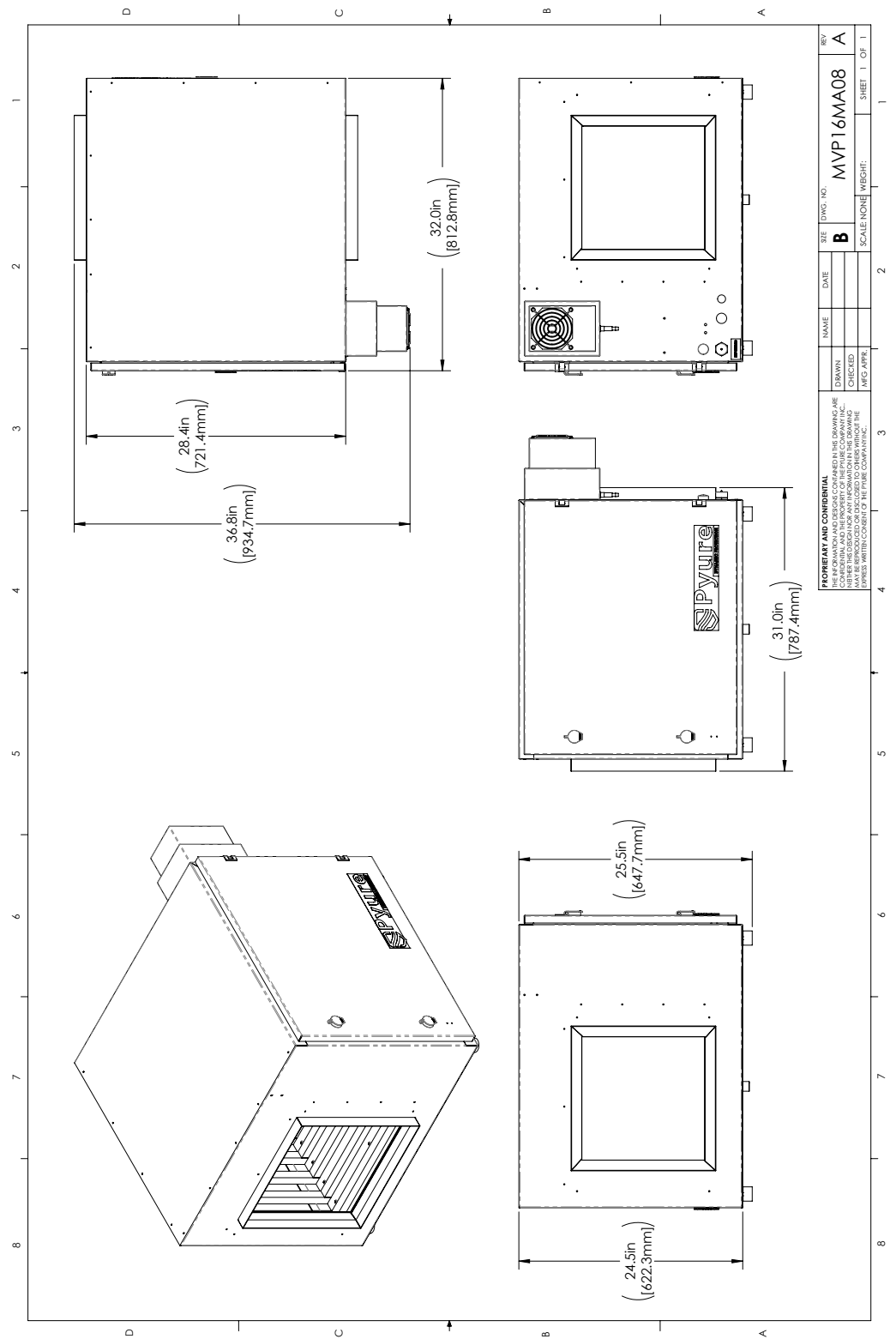


12.7 Appendix A:
00819355021185
MVP™ Sensor
Conversion Interface
(cont)



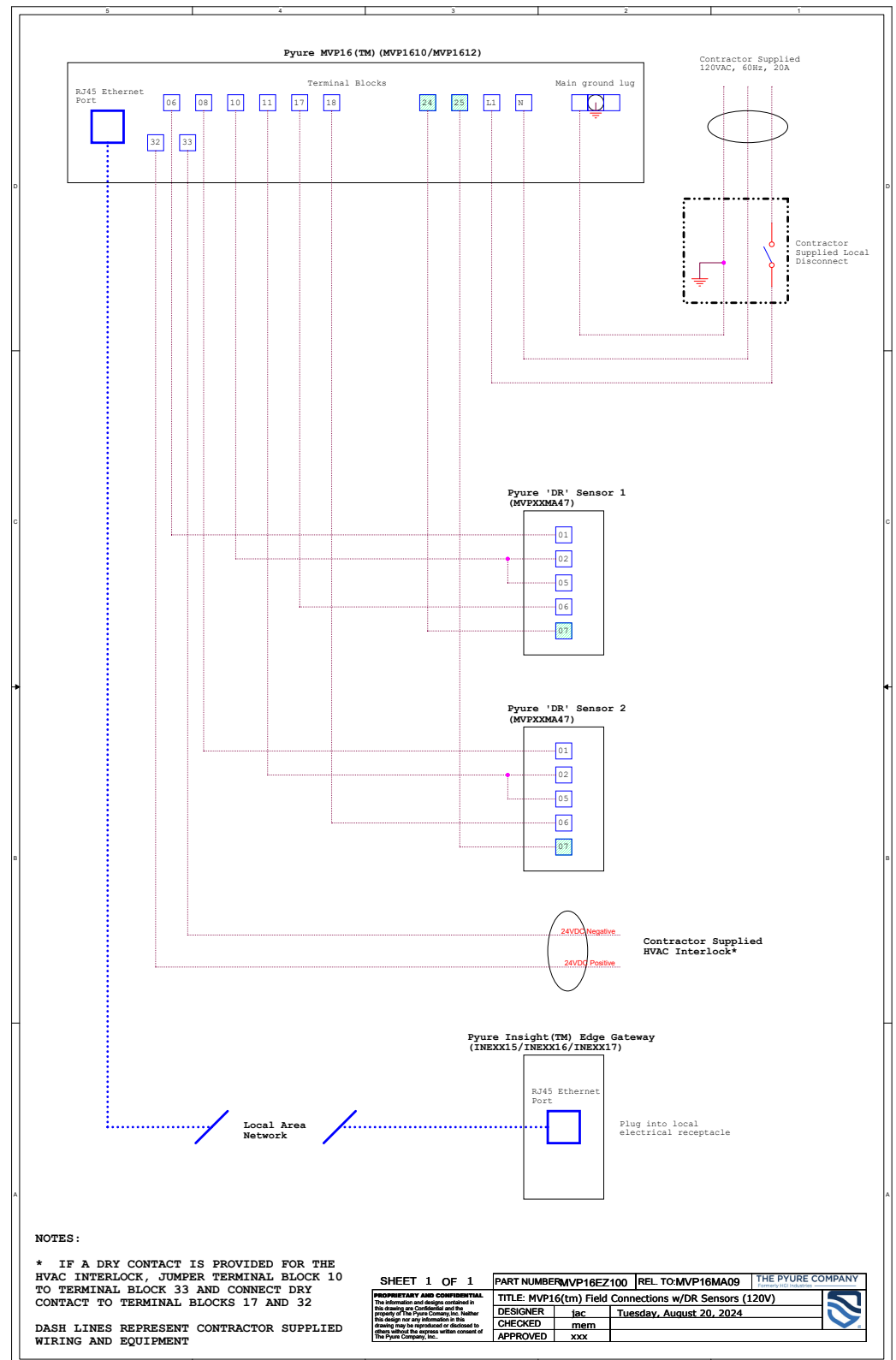
12.8 Appendix A:
00819355022519/
00819355022526
MVP16™ Hydroxyl
Generator 120/230V
Unit w/AC

00819355022601/
00819355022618
MVP16™ Hydroxyl
Generator 120/230V
(not shown)



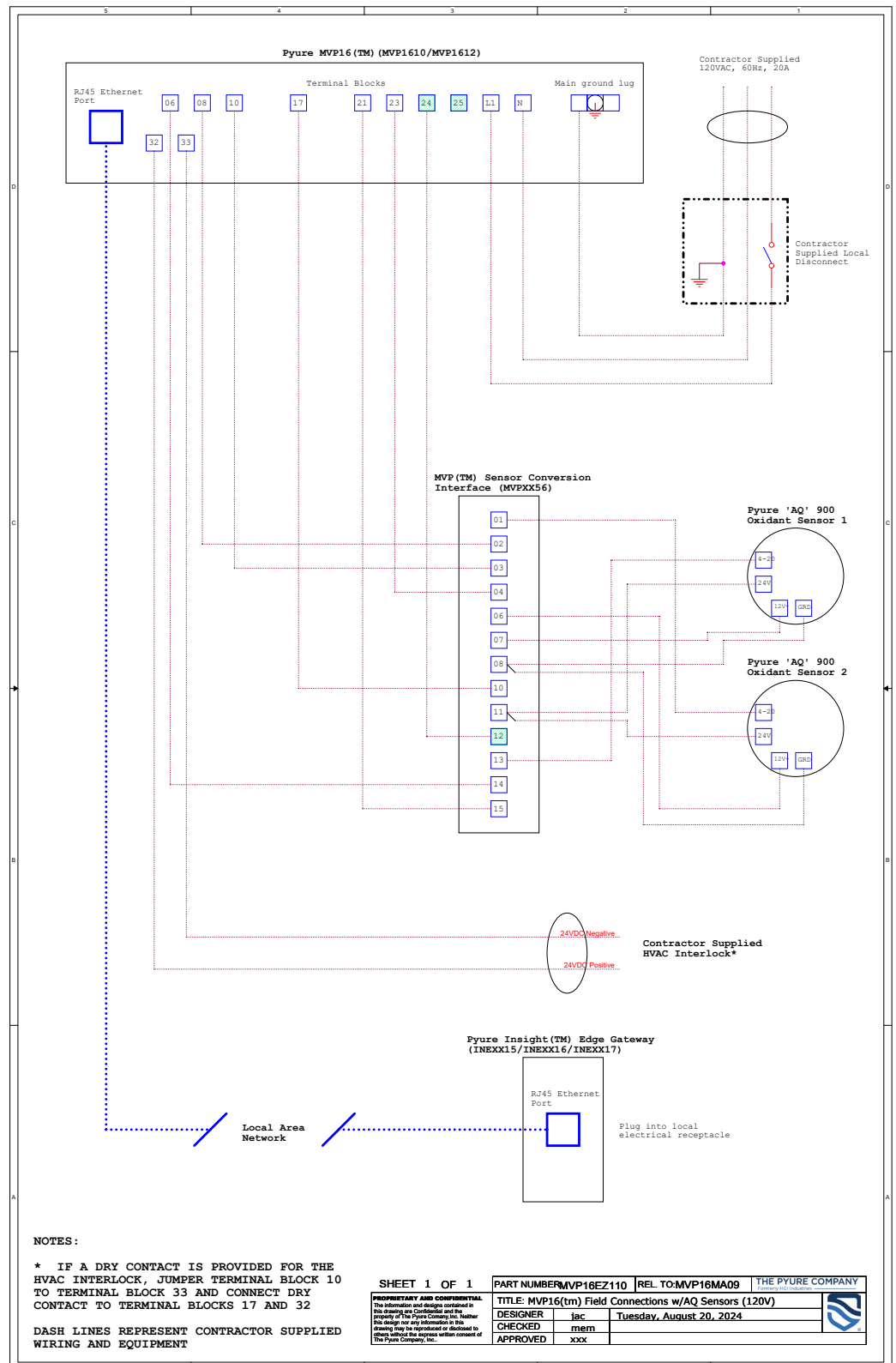


12.9 Appendix A:
00819355022519
00819355022601
MVP16 120V models
(with and without AC)
with 2 DR sensors
schematic



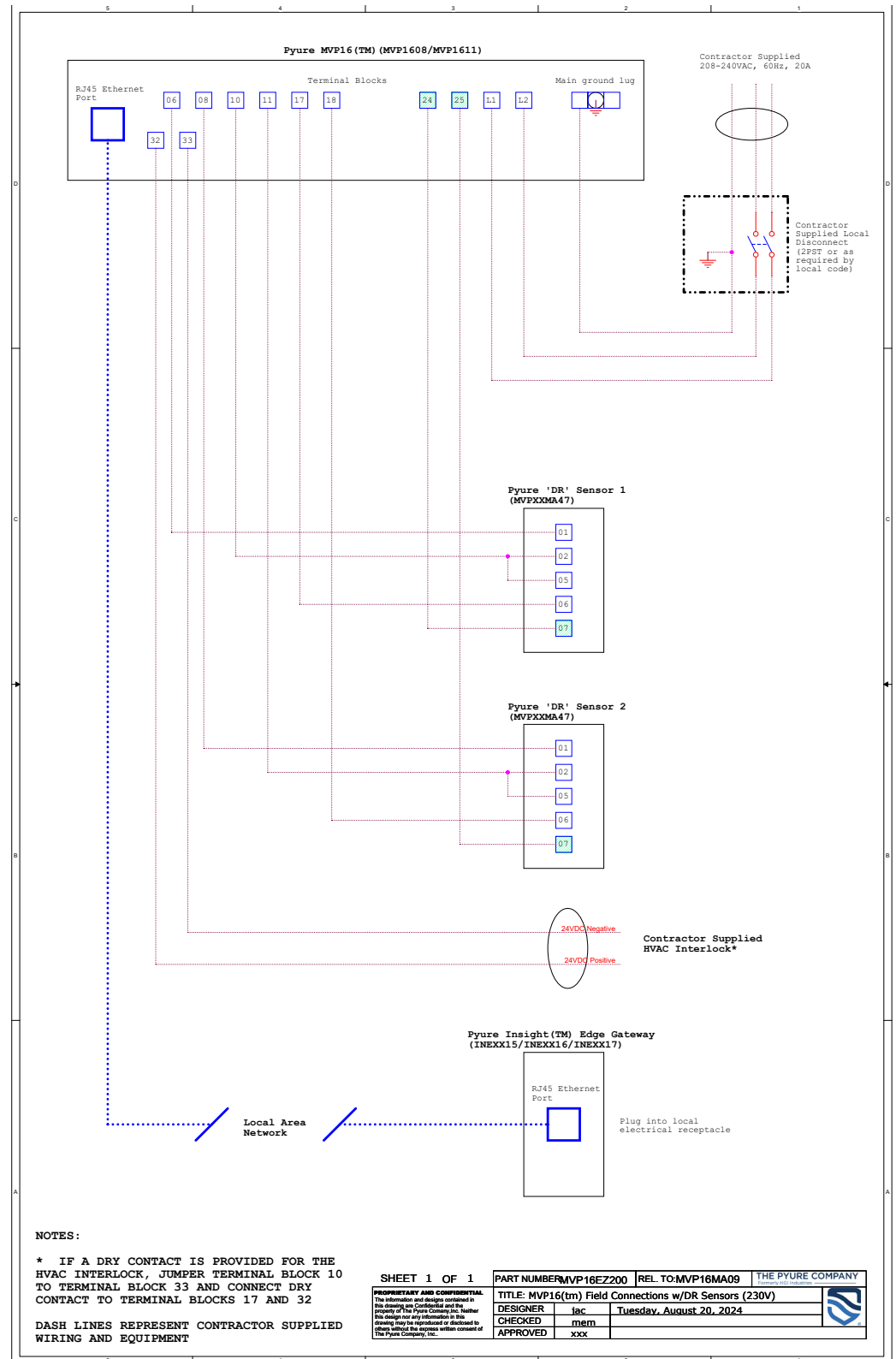


12.10 Appendix A:
00819355022519
00819355022601
MVP16 120V models
(with and without AC)
with 2 'AQ' sensors
schematic

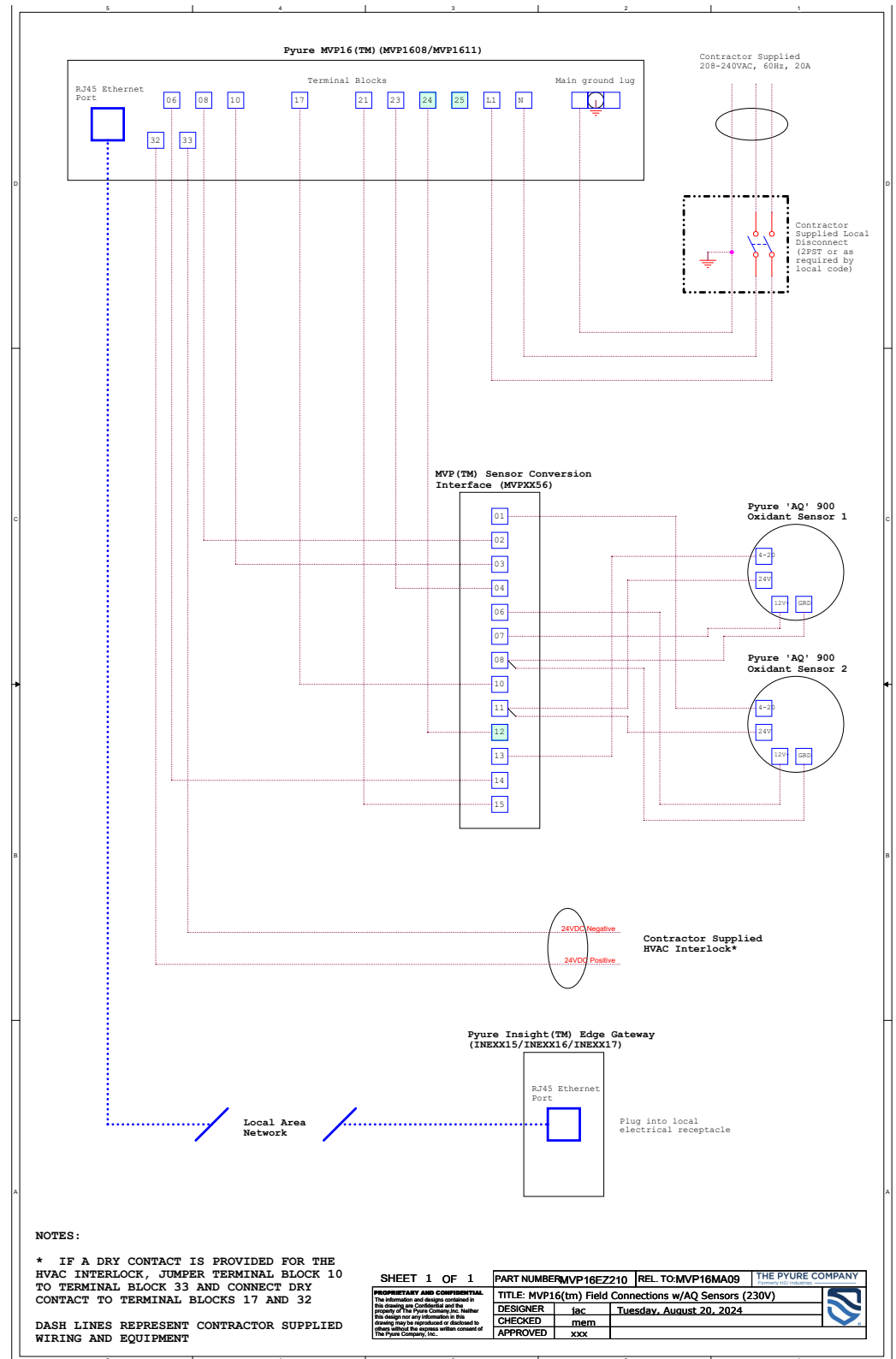




12.11 Appendix A:
00819355022526
00819355022618
MVP16 230V models
(with and without AC)
with 2 DR sensors
schematic



12.12 Appendix A:
00819355022526
00819355022618
MVP16 230V models
(with and without AC)
with 2 'AQ' sensors
schematic





13. Appendix B – Pyure Insight™ Edge 1100 & 1101 Gateway Power Cord Options

PYURE 120V POWER CORDS	PRODUCT NUMBER
NEMA 5-15P Plug w/IEC C13, V-LOCK Power Cord	00819355022359

PYURE 230V POWER CORDS	PRODUCT NUMBER
CEE 7/7 EU Plug w/C13 V-Lock Power Cord	00819355021857
SI 32 Israel Angled Plug w/C13 Power Cord	00819355021864
BS1363A UK Plug 13A Fused w/C13 Power Cord	00819355021871
AS3112 Australia Plug w/C13 V-Lock Power Cord	00819355021888
CEI 23-50 Chile/Italy/Uruguay Plug w/C13 V-Lock Power Cord	00819355021895
GB2099 China Plug w/C13 V-Lock Power Cord	00819355021901

Table 2: Gateway power cord options

14. Appendix C – Limited Warranty

Limited Warranty

The Pyure Company (“Pyure”), Incorporated, warrants that this Pyure product(s) (excluding spare parts and consumables) shall be free from defects in workmanship or materials for a period of two (2) years from the date of shipment from Pyure. Visit www.pyure.com/warranty-registration to complete and register your warranty online.

The Pyure Company (“Pyure”) warrants that the product(s) will be free from defects in materials and workmanship for the period of two (2) years from the date of shipment from Pyure (or at Pyure’s sole option) under the following terms and conditions:

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