Operating Manual

Meech

HYPERION™
A Meech Innovation

Hyperion PulseDrive
Pulsed DC Controller

Contents

M0038 - REV3 CN0588

1. Safety instructions

Before using this product, read the following safety and operating notes to ensure your own personal safety and to help protect your equipment. Failure to do so could result in injury. Connected equipment may require additional safety instructions. Observe all safety instructions for additional equipment before operating.

1.1. Definition of safety warnings & symbols

Safety and operating notes found in the document will be supplemented with the following warnings and symbols.

Safety warnings	**Caution**	A low-risk hazardous situation where minor or moderate injury can occur.
	Notice	A low-risk hazardous situation where damage to the equipment & products can occur.
Symbols	**General hazard** 	This symbol draws attention to a hazardous situation.
	Electrical shock 	This symbol draws attention to the risk of electrical shock.
	Notice 	This symbol draws attention where instructions must be followed.
	Referral 	This symbol instructs the reader to consult to a separate information source.

1.2. General safety

Before setting up the equipment:

- Read the operating instructions carefully and ensure you understand how to correctly use the equipment.
- Installation & testing must only be completed by suitably qualified personnel.
- Inspect the working environment and ensure it is clean and clear of hazards before removing equipment from packaging & product installation.
- Visually check all equipment for damage. If damaged, contact your local Meech representative before continuing.
- Always keep a copy of the operating manual close to the system to refer to.

1.3. Electrical safety

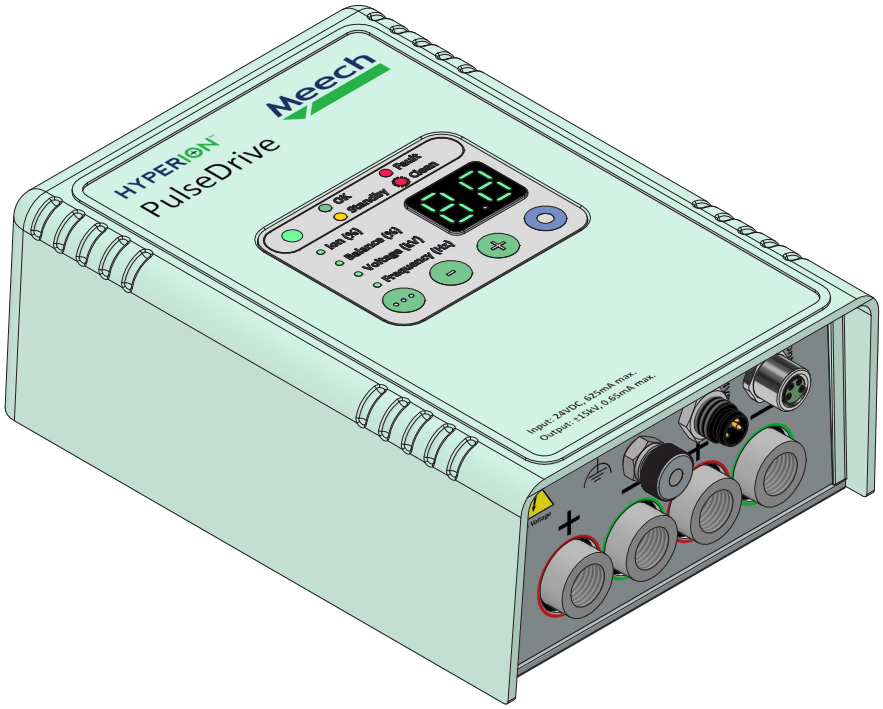
Before working on the equipment:

- Before installing or performing maintenance on the equipment, ensure the system is electrically isolated. Failure to do so could result in injury.
- Check the equipment and cables for any damage. If damaged, contact your local Meech representative before continuing.
- Ensure all wiring is completed by suitably qualified personnel.
- Check all wiring connections are correct in relation to the wiring diagrams later in this manual.

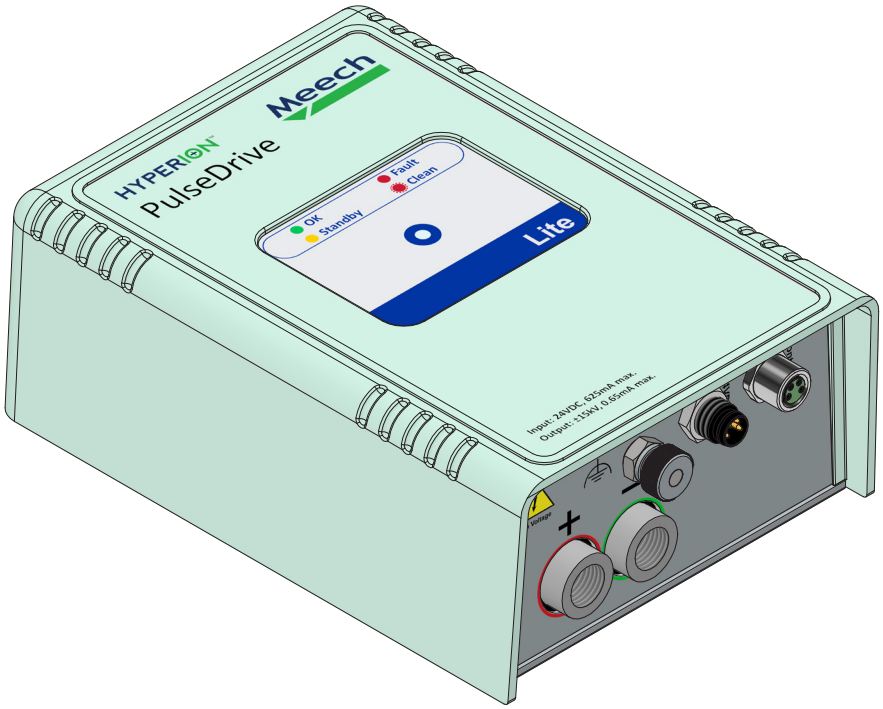
2. Introduction

The Hyperion PulseDrive Pulsed DC Controller is powered from a 24VDC power supply and produces an adjustable output of 2 to 15kVDC Pos/Neg (depending on the model variant), capable of driving Meech DC ionising equipment. Splitters can be used to provide additional output connections where needed.

The Plus variant offers a membrane keypad for local adjustment of parameters, and provides a local performance indication.
The Lite variant features an integrated LED for local performance indication, and settings & configurations can be adjusted with either a BarMaster or SmartControl Touch.



Hyperion PulseDrive Plus



Hyperion PulseDrive Lite

3. Package contents

Carefully examine the packaging and its contents before use. If damage is evident, do not destroy the packaging and immediately notify the carrier of a possible damage claim. Shipping claims must be made by the consignee to the carrier.

The following items will be found inside the PulseDrive packaging:

Item	**Product code**	
Hyperion PulseDrive Pulsed DC Controller*	***PulseDrive variant***	***Variant model code***
	Lite 15kV	APD15-LITE-00
	Plus 15kV	APD15-PLUS-00
	Plus HL 5.5kV†	APD-HL5.5KV-PLUS-00
	Plus HL 9.0kV‡	APD-HL9.0KV-PLUS-00
Earth cable	D3310	
Universal mounting bracket kit	KIT0286	
Quick start guide	M0053	

*** = Only one PulseDrive unit is included**
† = Suitable for 924EX
‡ = Suitable for 976EX

3.1. Options

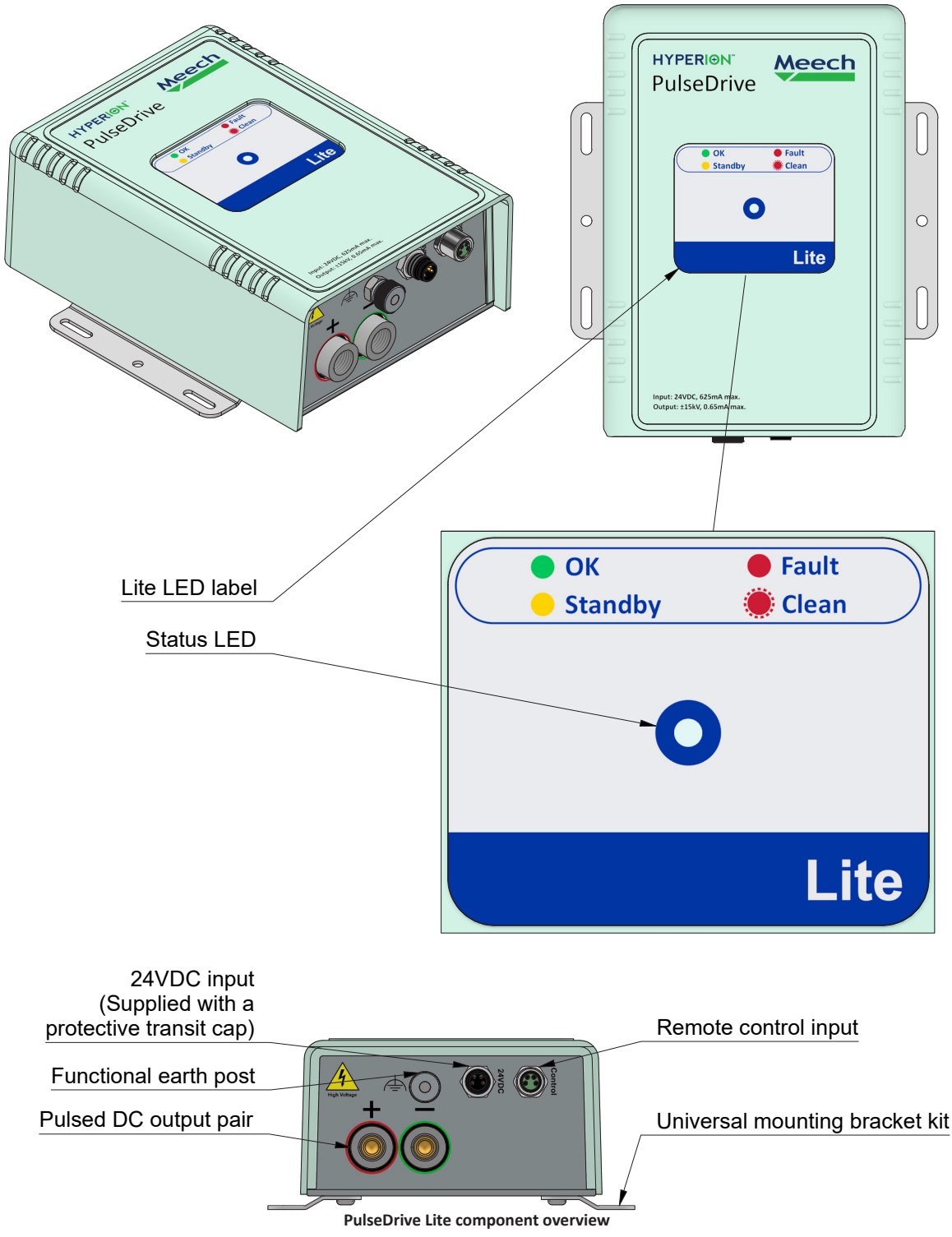
The following items can be purchased from Meech to supplement & provide extra functionality to the PulseDrive.

Item	**Product code**
Switchmode power adaptor 15W *Switchmode Power Adaptors take the local electrical supply and convert it to a stable and filtered 24VDC output.*	A900IPS-SM-15W-STRIP A900IPS-SM-15W-EURO A900IPS-SM-15W-UK A900IPS-SM-15W-USA
Hyperion BarMaster Remote Programmer *The BarMaster is a remote programmer used for changing parameters on Hyperion products.*	A900IPS-BARMASTER
Hyperion SmartControl Touch *SmartControl Touch allows the user to monitor, control and adjust the performance of multiple connected Hyperion ionizing bars and sensors via the built-in touchscreen or remotely via PLC, tablet or remote desktop computer.*	ASMARTCON-TOUCH-LAN
4-pin M8 2m connection cable *For connection of the PulseDrive to a customer's own 24VDC power supply.*	A900IPS-PCS2 Contact your local Meech representative for options.

4. Component overview

4.1. PulseDrive Lite

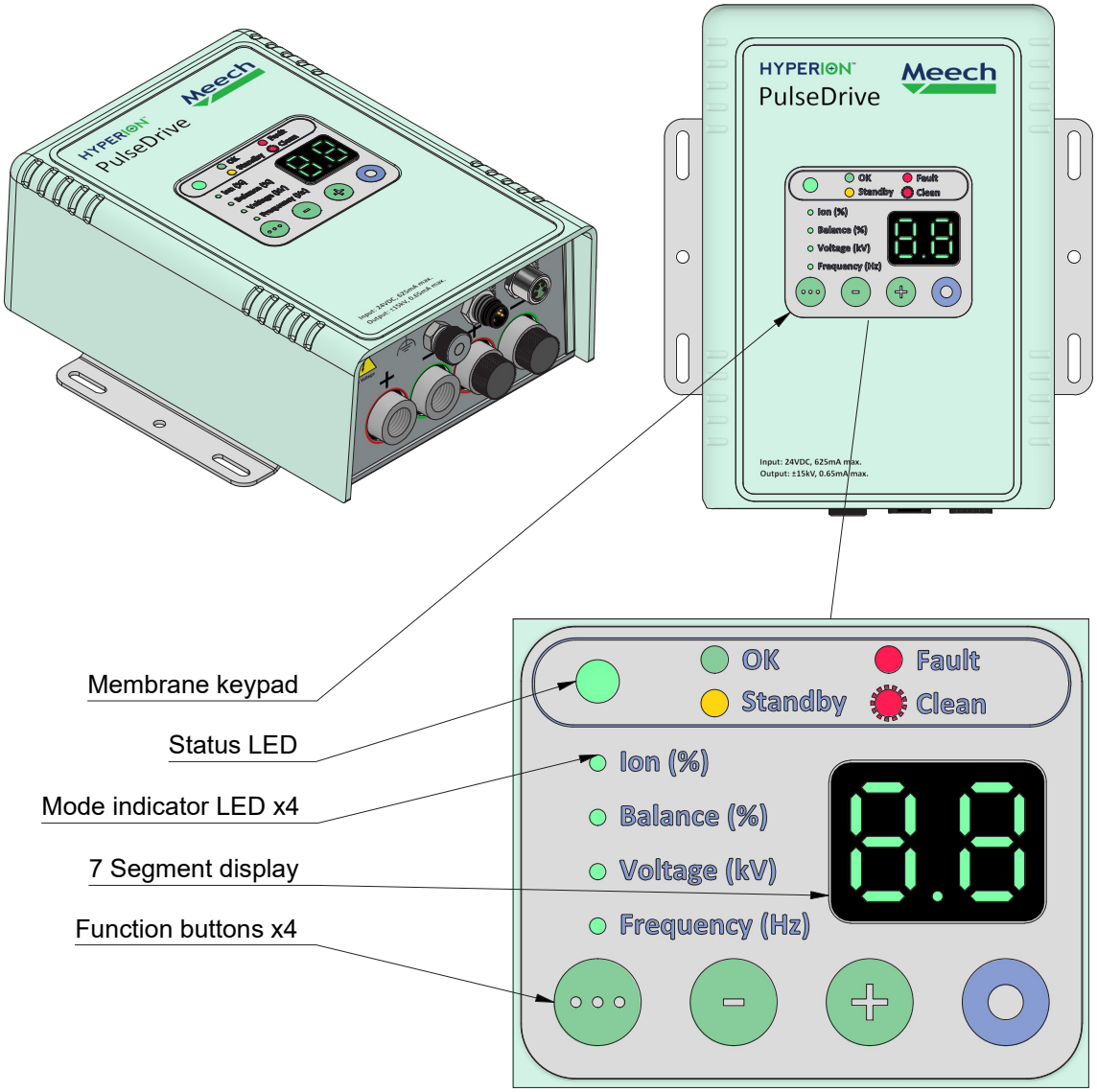
The PulseDrive Lite features a status LED to alert the user should any parameter fall outside a predetermined range. A BarMaster or SmartControl Touch is required to both view and modify its output settings.



PulseDrive Lite component overview

4.2. PulseDrive Plus

The PulseDrive Plus features a keypad with a seven-segment display to both view and modify its output settings. It also features a status LED to alert the user should any parameter fall outside a predetermined range.



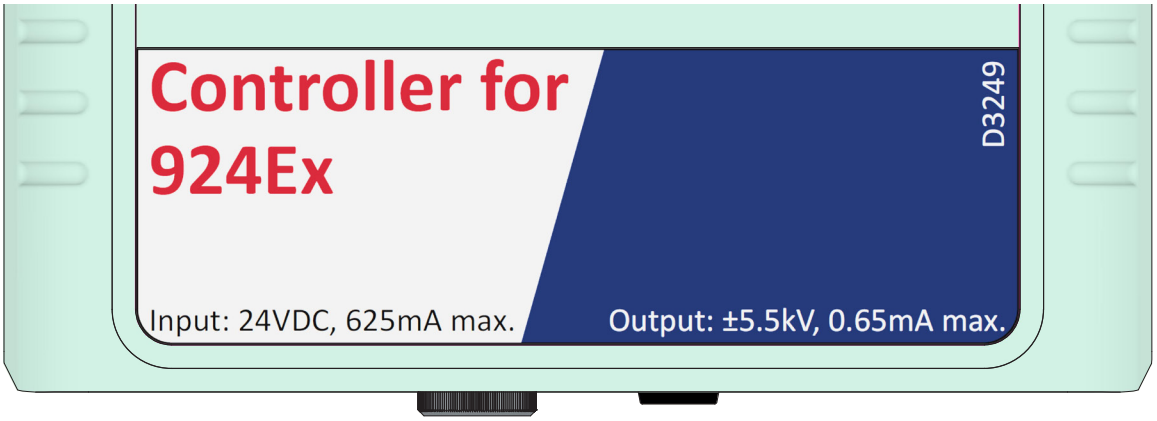
PulseDrive Plus component overview

4.3. PulseDrive Plus HL variants

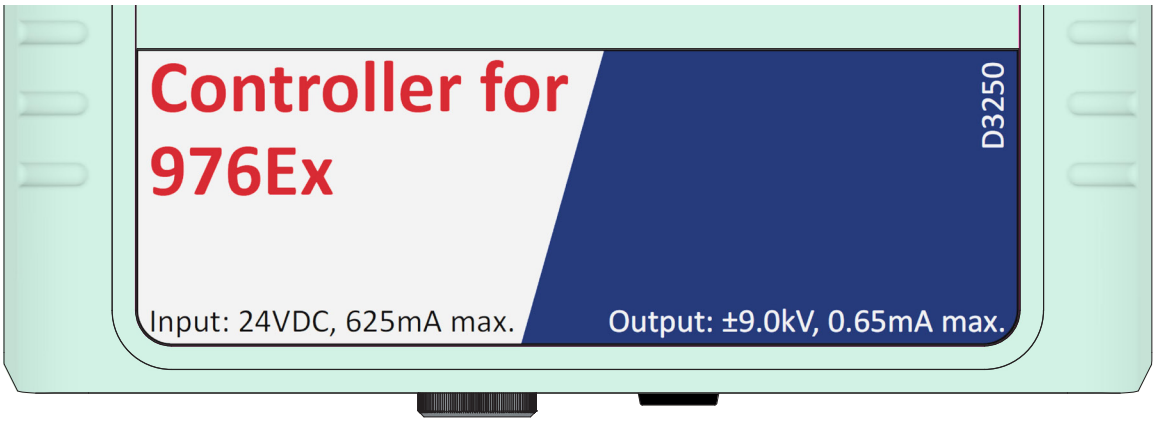
Caution –
Risk of injury & equipment damage.

The PulseDrive Plus HL must be positioned in a non-hazardous area.
The PulseDrive Plus HL must **NOT** be used/placed in EX rated zones.

The PulseDrive Plus HL variants are intended to drive Meech EX ionising bars, which are designed for use within Hazardous Locations. Each HL variant has the bar it must be used with, as well as its maximum output voltage specified on the label on its enclosure.



PulseDrive Plus HL 5.5kV label



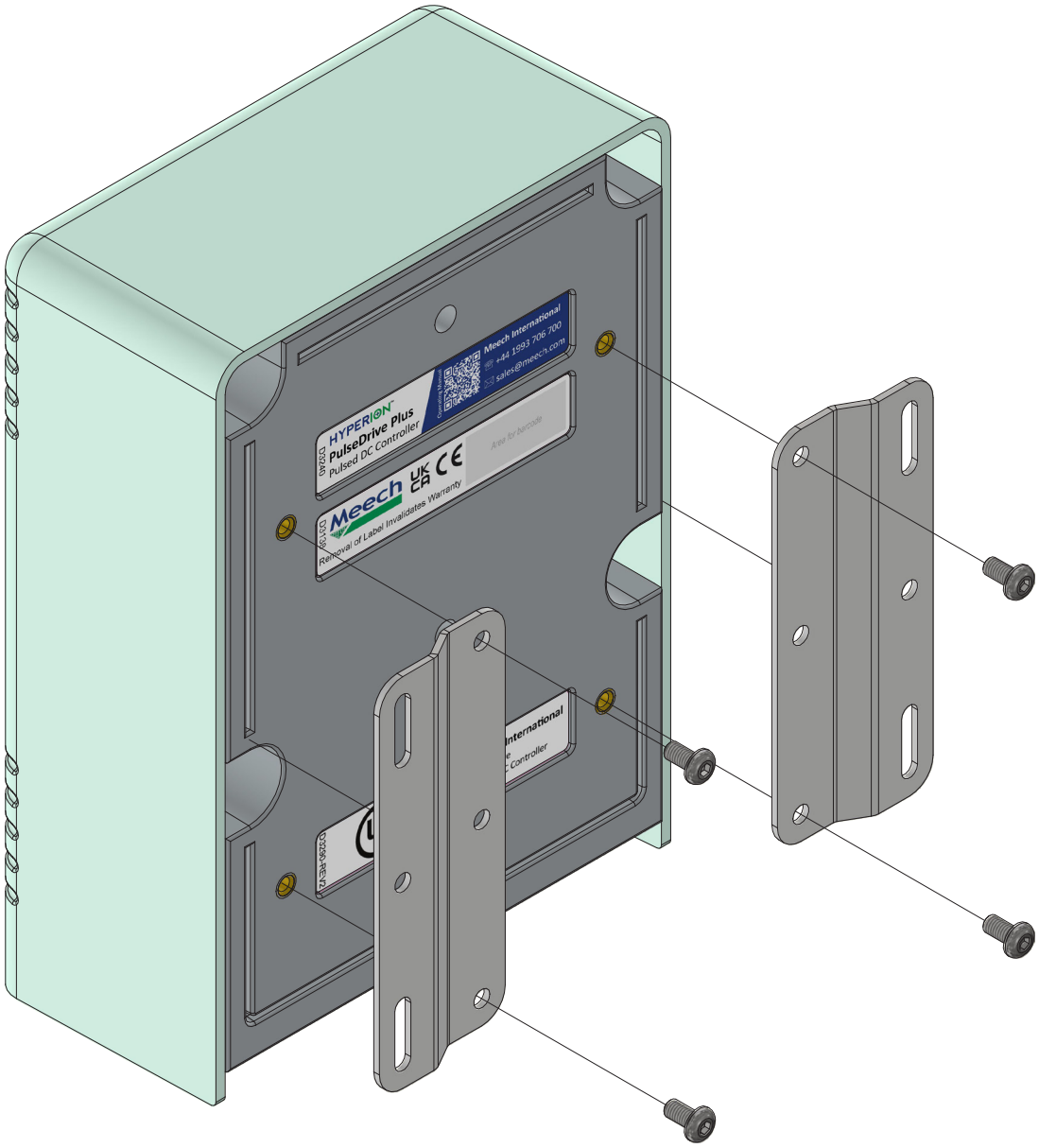
PulseDrive Plus HL 9.0kV label

5. Installation

5.1. Mechanical installation

The PulseDrive should be mounted on a surface capable of supporting 1kg, in a well-ventilated area, away from any sources of potential contamination. Clearance of 150mm is recommended to allow for electrical connections.

1. Attach the Universal Mounting Bracket kit to the rear of the PulseDrive with a 2mm hex key.



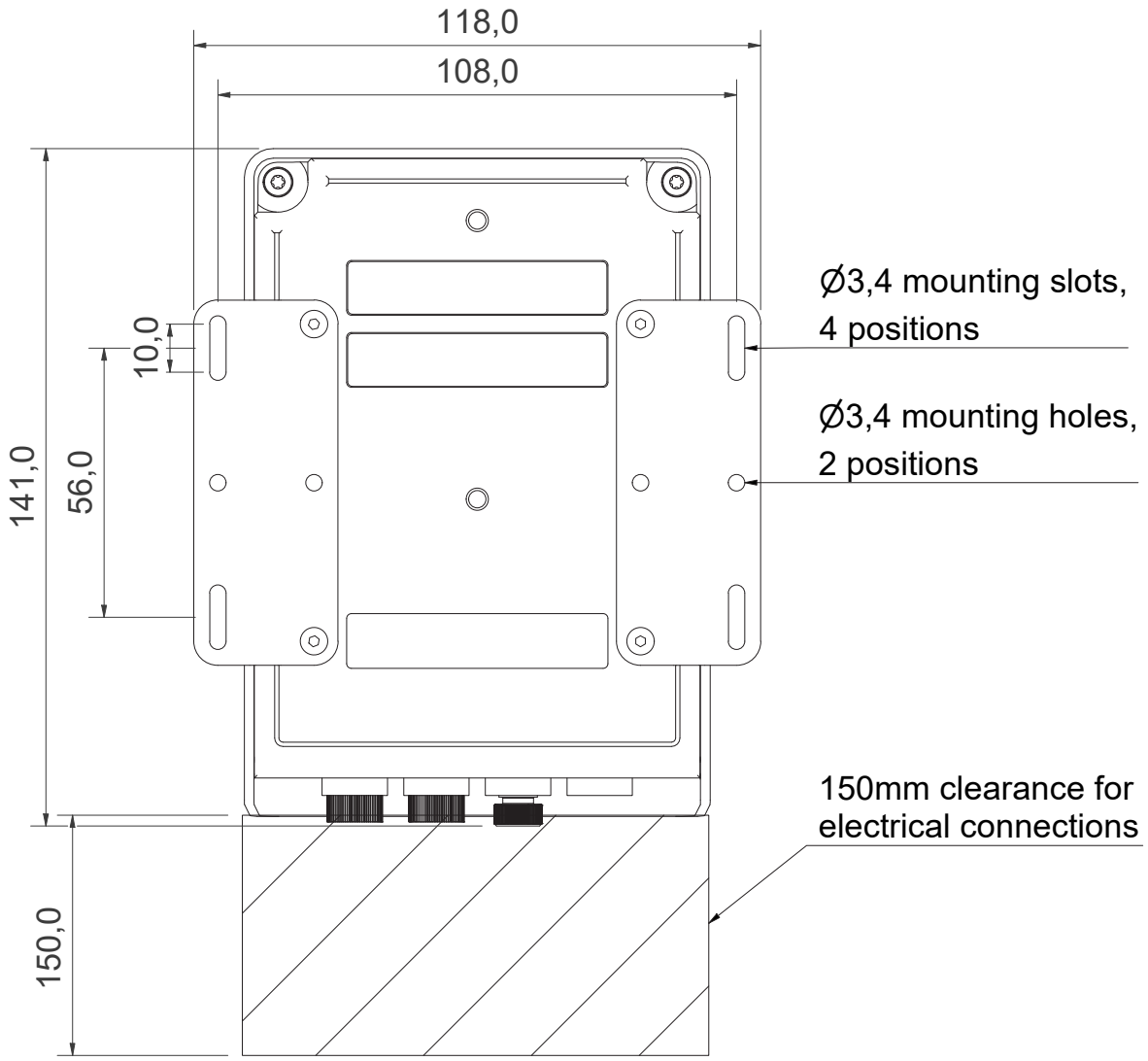
Mounting bracket installation

Notice –
Unit failure through contamination will invalidate the warranty.

Ensure the unit is protected from sources of contamination.

2. Mount the PulseDrive by using either the 3.4mm slots or holes shown below.

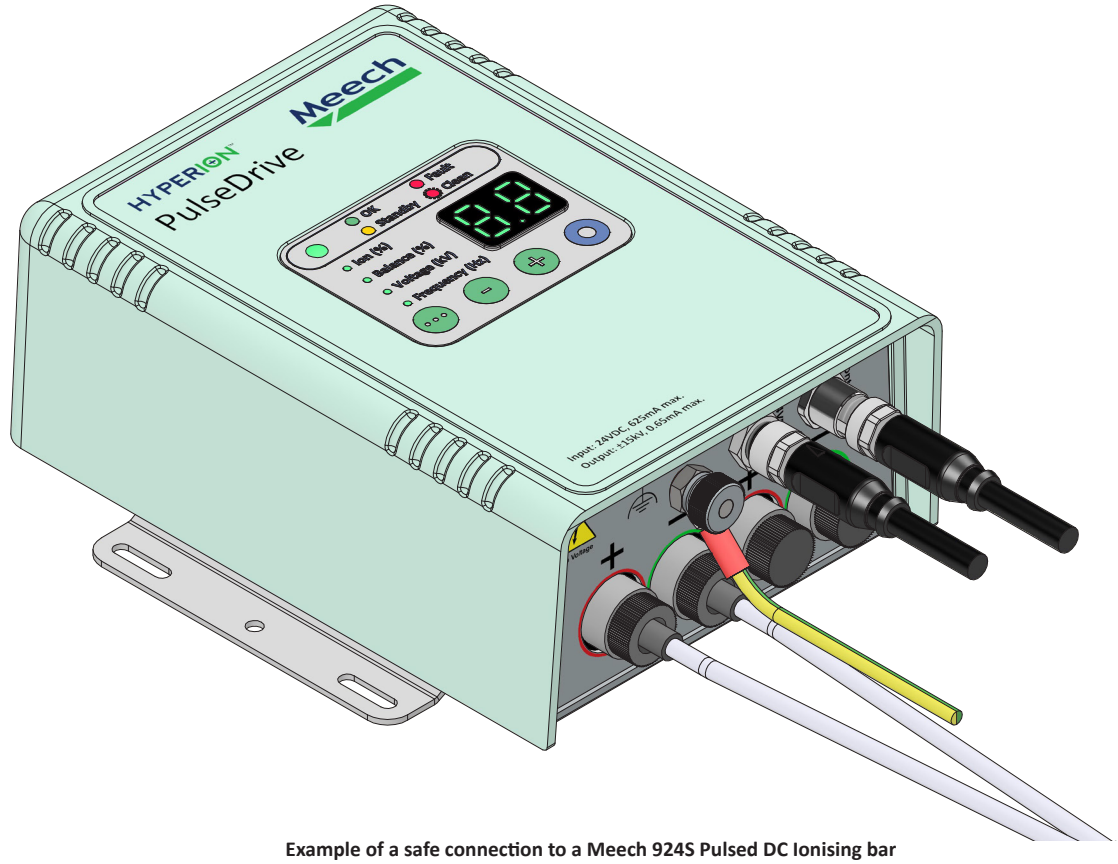
   Providing 150mm of clearance in front of the electrical connections is recommended, to allow for easier ioniser connection.



Mounting dimensions

5.2. Ionising product connection

This section details how to connect 2x Meech DC ionisers into the HV ports on the connector end of the PulseDrive Plus, as well as detailing the necessary electrical inputs.



Example of a safe connection to a Meech 924S Pulsed DC Ionising bar

Caution –

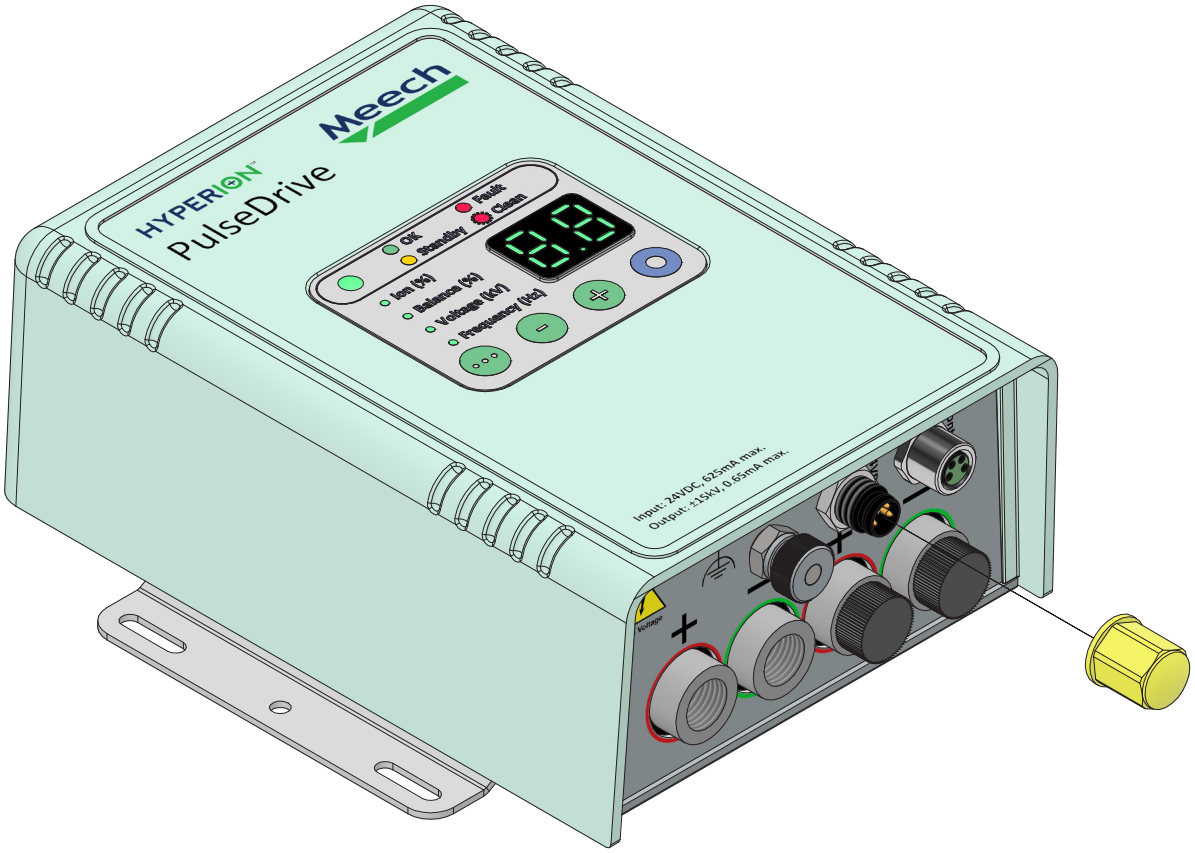
From the HV output sockets and beyond, an ES2 circuit (with respect to IEC62368-1) is present.

Caution –
Injury due to electric shock.

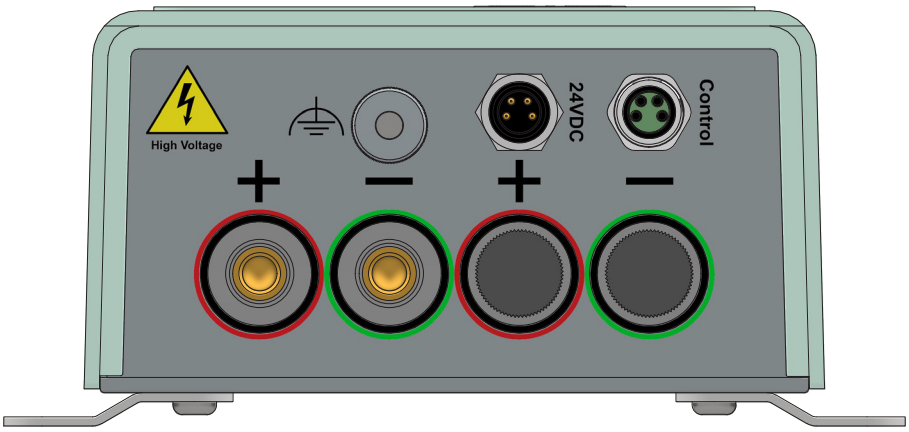
Before making any connections, ensure the PulseDrive is electrically isolated.

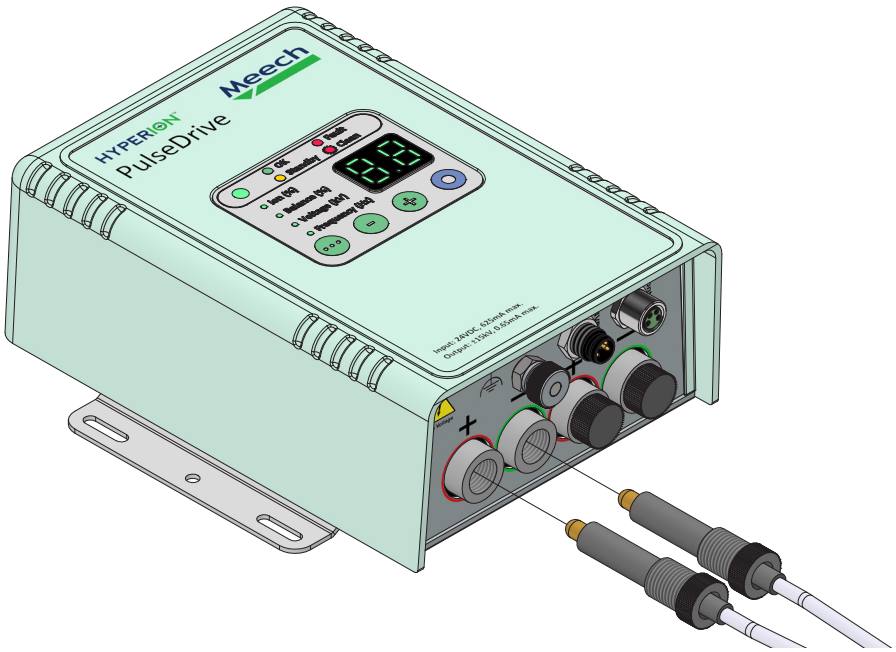
Please ensure that only Meech supplied products are connected to HV ports.

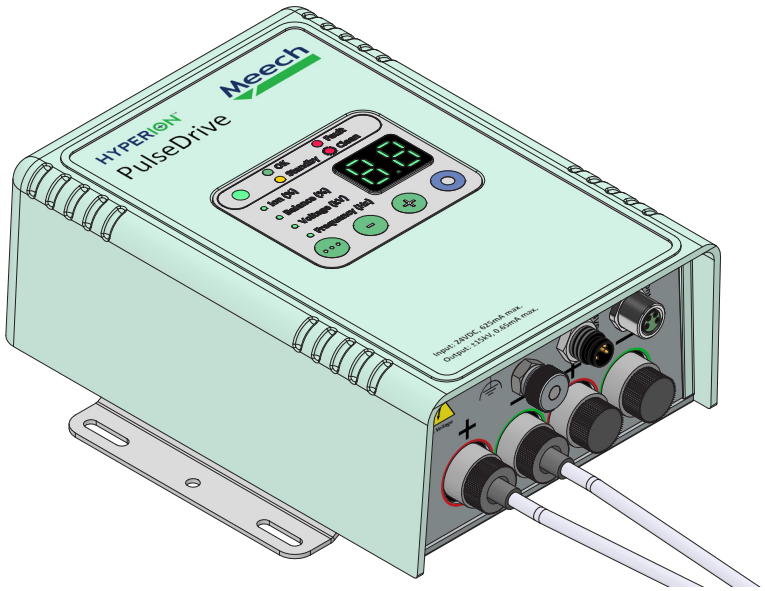
1. Remove the transit cap.



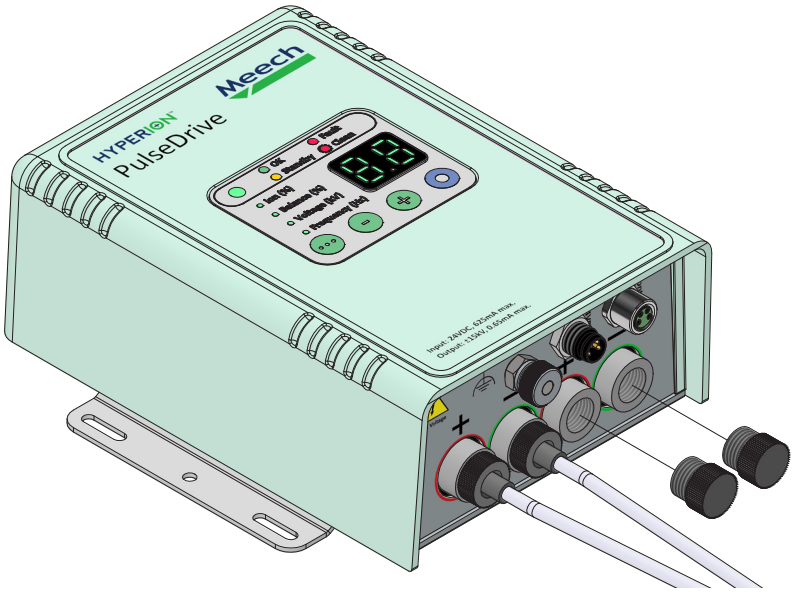
2. Insert the connectors of the DC ioniser into the PulseDrive, then fasten the connectors. Ensure the connection polarity is correct.

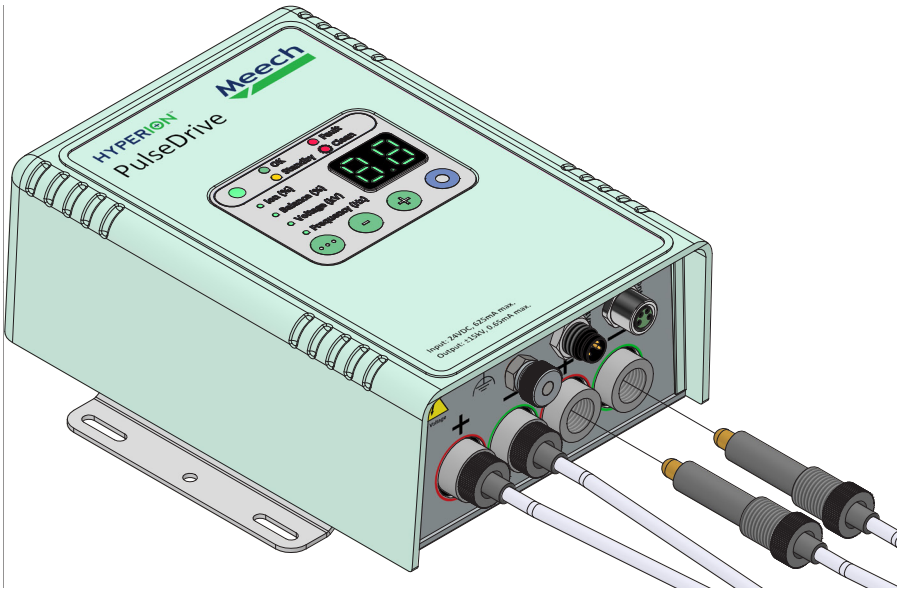


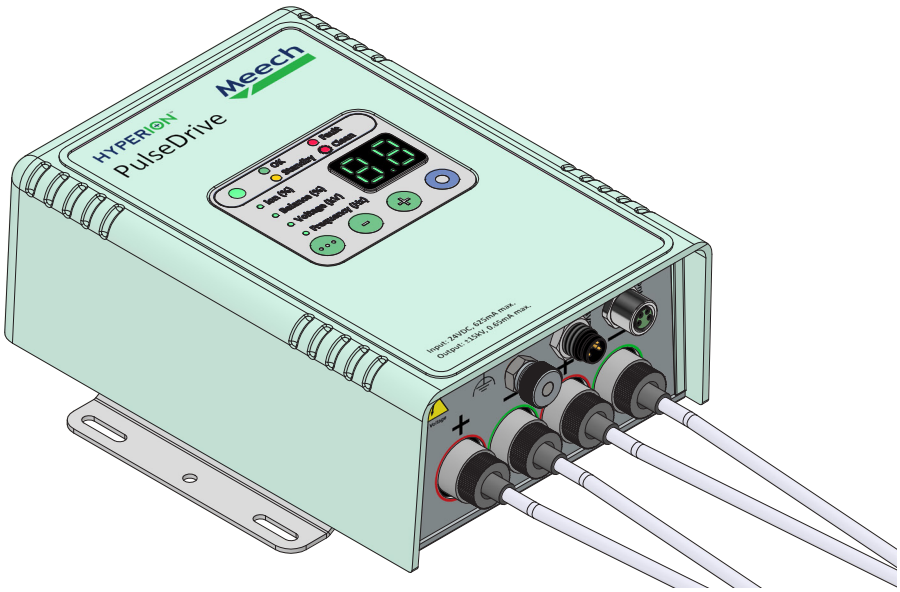




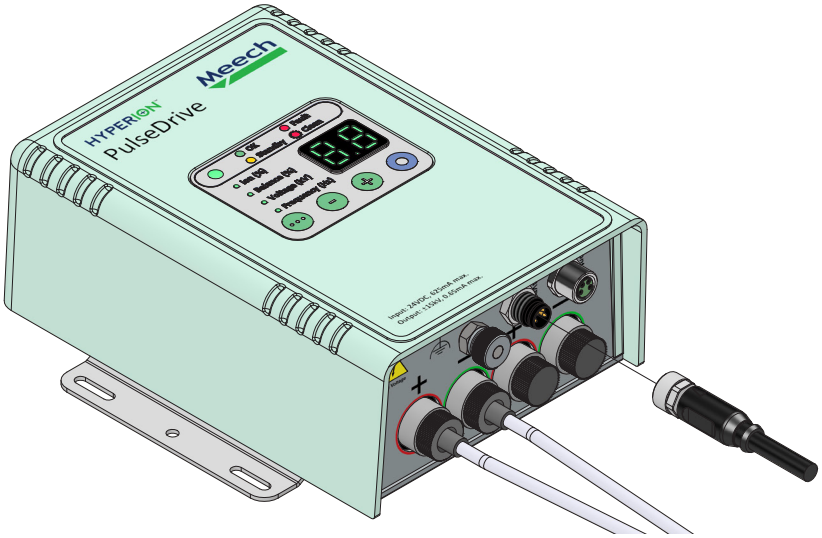
If 2x Meech DC ionisers are being directly connected (Plus variants only), remove the output blanking plugs and repeat step 2.



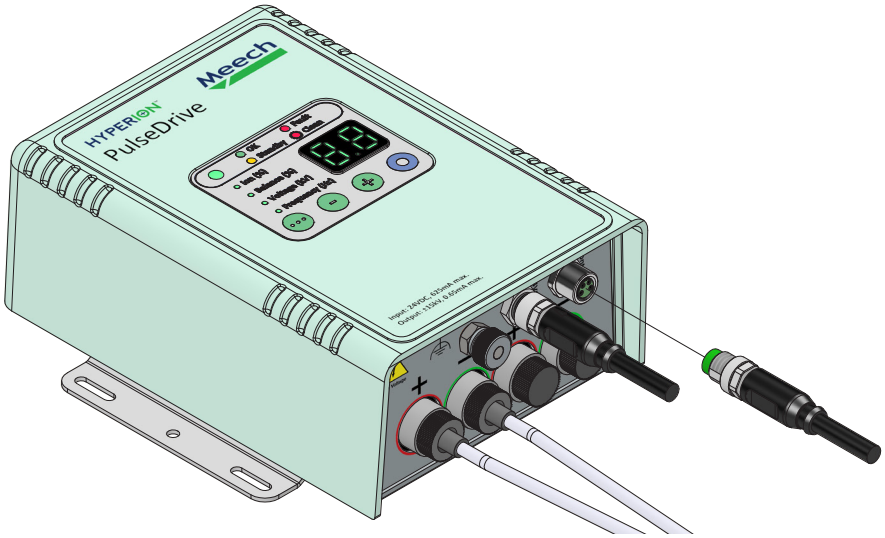




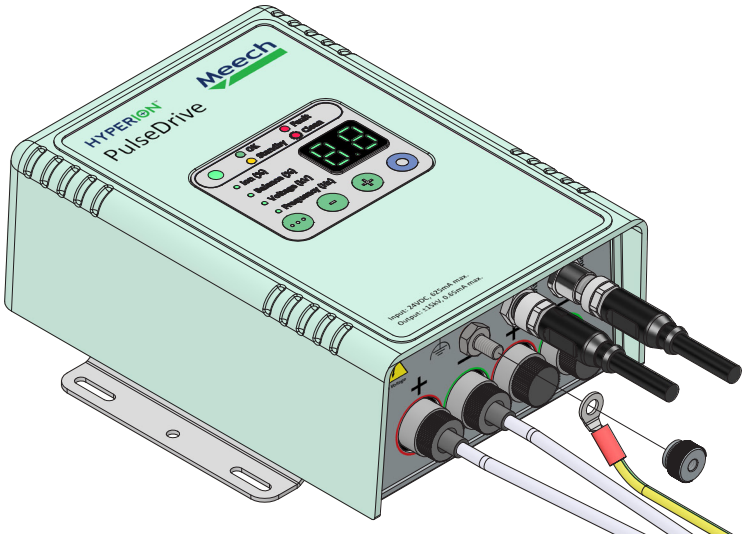
3. Connect the 24VDC supply cable into the 24VDC input port.



4. If required, connect the control cable into the control input port.



5. The PulseDrive must be earthed using the M4 earth post. Fit the earth cable, and secure it with the M4 thumb nut.



6. Grounding & 24VDC supply

The PulseDrive must be grounded through the power supply, as well as through the M4 Earth post on the unit.

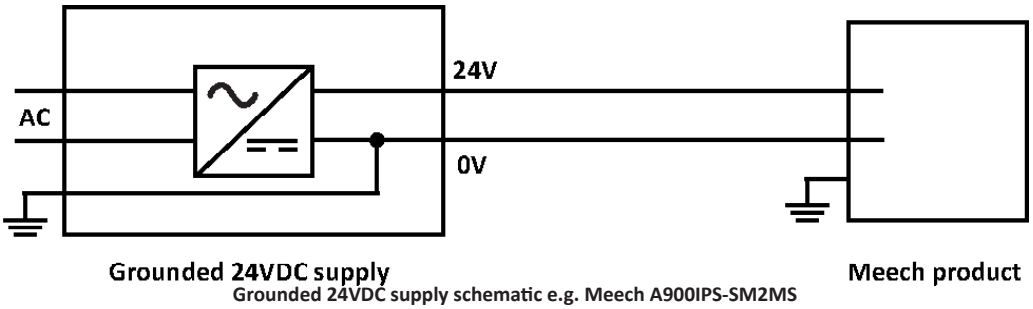
All power supplies used must be compliant with IEC62368-1 or IEC60950-1.

Notice –
The PulseDrive must be electrically grounded.

Failure to do so may damage the equipment and will invalidate the warranty.

6.1. Meech 24VDC power supply

This refers to the use of a Meech A900IPS-SM2MS 24VDC power supply to power the PulseDrive, which is grounded internally & supplied with an IEC C5 cable.

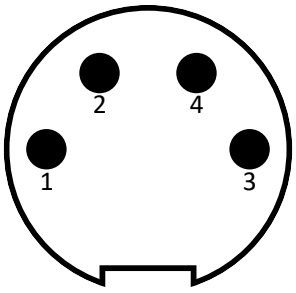


Grounded 24VDC supply schematic e.g. Meech A900IPS-SM2MS

6.2. Customers own 24VDC power supply

It is the customers responsibility to check that the 24VDC power supply being connected is grounded.

- The 24VDC power supply must be protected with a 2A fuse.
- Connection to the PulseDrive is through the M8 24VDC 4-pin connector. The figure below shows the pin numbers of the connector.



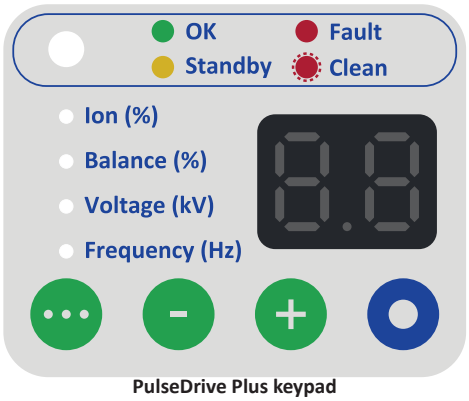
Male connector on the 24VDC input port, as viewed from the mating face.

Pin	Colour	Function	Specification
1	Brown	V_{in} (625mA max)	24VDC (22 to 26V)
2	White	Alert output	0V/24V
3	Blue	GND	0V
4	Black	Fault output/standby input	0V/24V

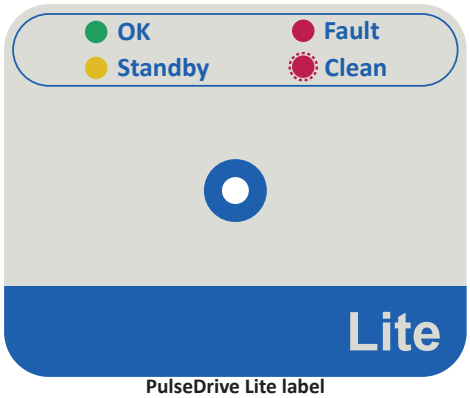
7. Operation

The PulseDrive Plus features a keypad for direct adjustment of its output parameters, while the PulseDrive Lite requires either a BarMaster or SmartControl Touch to modify these settings.

Each PulseDrive variant is equipped with a status LED that displays the units health and indicates any active alarms.



PulseDrive Plus keypad



PulseDrive Lite label

7.1. Using the keypad (Plus variants only)

The keypad on the PulseDrive Plus allows the user to both view and modify its output parameters (Ion reference, Balance, Voltage & Frequency).

When the PulseDrive is locked, the selection LED remains solid, displaying the ion reference percentage. When the PulseDrive is unlocked, the selection LED flashes next to the selected parameter, which can then be adjusted and saved.
Once adjustments are complete, the keypad should be locked.
If an output variable is changed but not saved within 120 seconds of the last adjustment, the changes will be discarded, and the keypad will automatically lock.

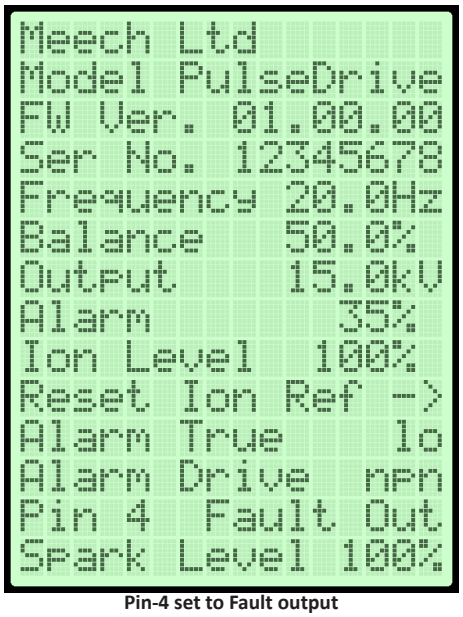
Lock/Unlock		
Lock/ Unlock	••• 2s	Press & hold (2 seconds): Toggles the keypads locked state
Unlocked		
Select parameter	•••	Press to cycle through the output variable
Decrease value	−	Decreases the displayed variable value
Increase value	+	Increases the displayed variable value
Save	○	Saves the displayed variable value
Locked		
Reset ion reference	− & + 5s	Press & hold both buttons (5 seconds): Reset ion reference

When a SmartControl Touch is connected, the PulseDrive keypad will display EC (External Control) and cannot be used to change output parameters.

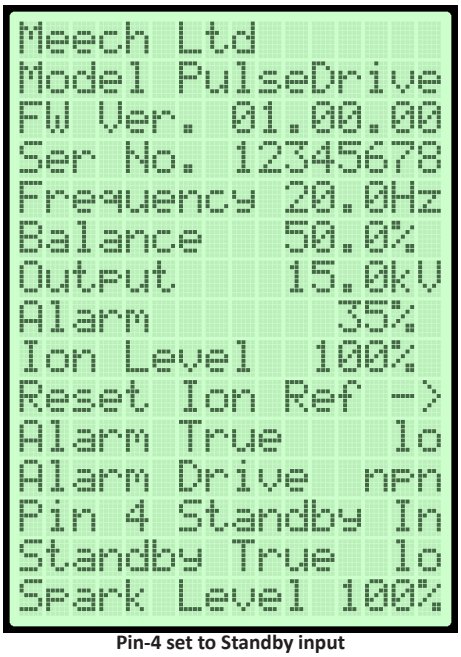
7.2. Using a BarMaster

The BarMaster is connected inline with the 24VDC power supply cable for the PulseDrive. Attach the 24VDC power cable to the BarMaster, then fit its cable to the 24VDC input port on the PulseDrive. When finished, disconnect the BarMaster and reconnect the 24VDC to the PulseDrive.

When powered, the screen will display data similar to below. The arrows keys on the BarMaster keypad can be used to navigate through and adjust the PulseDrive parameters.



Pin-4 set to Fault output



Pin-4 set to Standby input

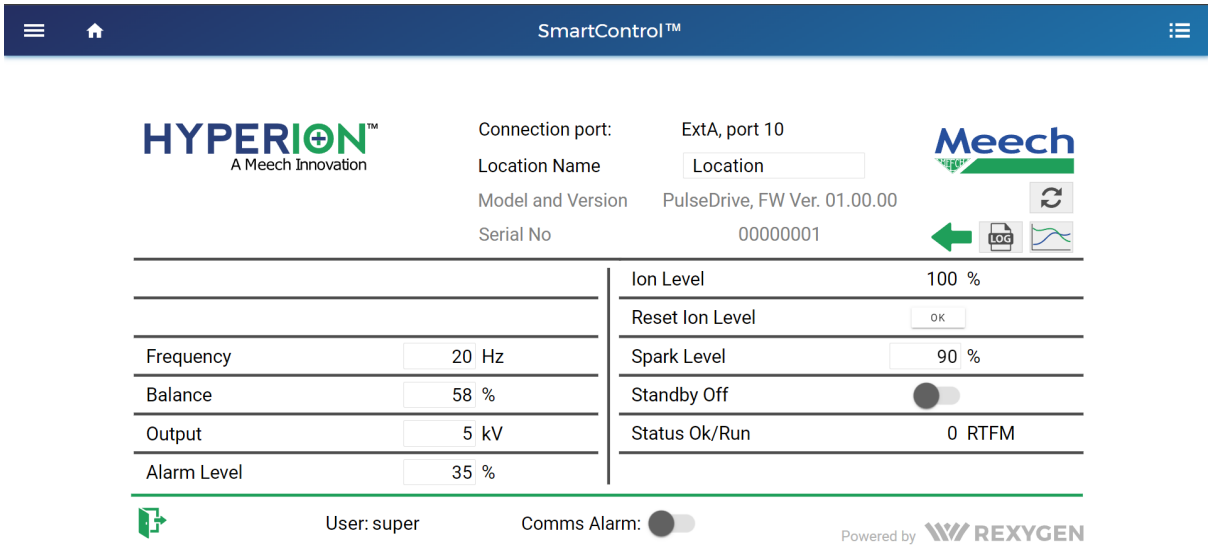
BarMaster keypad		
Up		Press to cycle through the parameters
Down		
Left		Press to adjust the parameters
Right		
OK		This button is redundant and has no function.

Please refer to the BarMaster operating manual for more information.

7.3. Using a SmartControl Touch

The SmartControl Touch is powered by 24VDC and can have up to 30 Meech Hyperion devices connected to it. The output parameters can be adjusted by simply touching the values.

With the PulseDrive connected, its touchscreen will display a screen similar to below.



SmartControl Touch user interface for the PulseDrive

Notice –
Ensure the PulseDrive is correctly configured before connecting the SmartControl Touch.

Pin-4 of the 24VDC input port must be set as a fault output to ensure correct operation of the SmartControl Touch.

Please refer to the SmartControl Touch operating manual for more information.

7.4. Modifying the output parameters

Notice –
Ionising equipment will not operate at their optimum and may be damaged if the output parameters are incorrectly set.

Ensure the output parameters are correct for the connected ionising equipment.

Please refer to the operating manual of the connected ionising product for specific operating parameters.

7.4.1. Ion reference alarm

The performance of a connected ioniser can be measured by monitoring the ion reference percentage. A brand new, clean ioniser will be operating at maximum performance and as such, will read as 99% on its keypad (Plus variant) or 100% on a BarMaster/SmartControl Touch.

A low ion current alarm will trigger when the performance of a connected ioniser drops below the factory preset of 35%. The status LED on the PulseDrive will flash red, and an alert signal will be sent from Pin-2 (white) of the 24VDC input port. This alarm level can be changed (to a higher percentage for critical applications for example) by using its keypad (Plus variant) or with a BarMaster/ SmartControl Touch.

Over an ionisers life time, its emitter pins will gradually wear down and dirt will accumulate on both the pins and its body. This will reduce the ionisers performance, and will decrease the ion reference percentage. As part of regular maintenance, it is recommended to clean both the emitter pins and the body of the ioniser. Regular cleaning will restore the ion reference percentage, extend the ionisers lifespan and ensure optimal performance.

The ion reference should only be reset after making changes to the output parameters or changing the connected ionisers, by using the keypad (Plus variant) or with a BarMaster/SmartControl Touch.

7.4.2. Balance

The default output balance of the PulseDrive is set to 54:46 Pos:Neg. In most applications, this will give accurate control of charges across the operating range of the ioniser. If required, the balance can be adjusted by using its keypad (Plus variant) or with a BarMaster/SmartControl Touch.

For applications requiring high accuracy neutralisation, a Meech 983v3 can be used to read the voltage on the target material. The balance can then be fine-tuned to give near-zero residual charge for the specific installation.

For industrial applications, where speed of charge control is important, the balance can be adjusted to increase the speed of charge removal. For example, if the target material carries a high negative charge, the balance can be adjusted to produce more positive ions.

7.4.3. Voltage

The voltage must be set dependent on the connected ioniser, as well as the distance between the ioniser and the target material. For example, a close range or delicate application relies on a lower output voltage, whereas a longer range or heavily charged target will require a higher output voltage.

Generally, Meech ionising products should be run at their default voltage setting for optimum performance. The voltage output of the PulseDrive depends on the variant, but it can be adjusted by using its keypad (Plus variant) or with a BarMaster/SmartControl Touch.

The table below lists the operating voltages for ionising products compatible with the PulseDrive.

7.4.4. Frequency

The output frequency of the ioniser depends on the distance to its target. Over a longer range, positive and negative ions may recombine before reaching the target if they are not emitted for a long enough time. To prevent this, a close-range ioniser requires a higher frequency, while a long-range ioniser operates more effectively at a lower frequency.

The PulseDrive is set to 20Hz as standard, but this can be adjusted by using its keypad (Plus variant) or with a BarMaster/SmartControl Touch.

Ionising product	**Typical operating parameters**		
	Voltage	**Frequency**	**Range**
251 Pulsed DC Ion Gun for PulseDrive	8kVDC Pos/Neg	20Hz	0 to 150mm
261v2 Ionising Nozzle	9kVDC Pos/Neg	20Hz	0 to 150mm
924EX Hazardous Area Pulsed DC Ionising Bar	5.5kVDC Pos/Neg	20 to 5Hz	20 to 200mm
924S Short Range Pulsed DC Ionising Bar	7.5kVDC Pos/Neg	20 to 5Hz	20 to 200mm
971 Long Range Pulsed DC Ionising Bar	15kVDC Pos/Neg	5 to 1Hz	150 to 750mm*
976EX Hazardous Area Pulsed DC Ionising Bar	9kVDC Pos/Neg	5 to 1Hz	150 to 750mm*

*** = Air boost may be required for longer ranges**

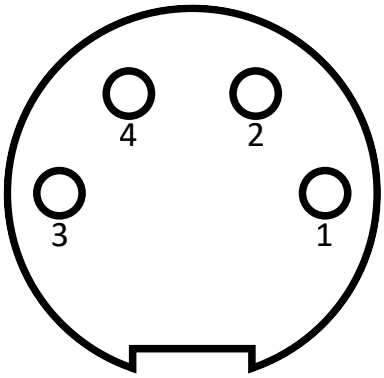
7.5. Remote control

The PulseDrive is capable of being controlled remotely, through its control input port, 24VDC input port or SmartControl. This allows the PulseDrive to be toggled in and out of standby mode when connected to a Meech 251 Ion Gun, or a separate PLC/switch system.

7.5.1. Control input port

Standby mode can be toggled by connecting either Pin-2 or Pin-4 to Pin-3 on the control input port. Connecting either pin to Pin-3 gives a Lo signal, and leaving them disconnected gives a Hi signal.

The unit will be in run mode when **both** Pin-2 and Pin-4 are either connected to Pin-3 (Lo) or disconnected (Hi).
The unit will be in standby mode when either Pin-2 **or** Pin-4 are connected to Pin 3 (one is Lo, the other is Hi).



Female connector on the control input port, as viewed from the mating face.

Pin-2 (White)	Pin-4 (Black)	Mode
Hi	Hi	Run
Hi	Lo	Standby
Lo	Hi	Standby
Lo	Lo	Run

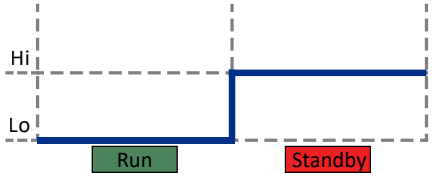
Lo = connected to Pin-3
Hi = disconnected from Pin-3

Pin	Function	Specification
1	Not used	N/A
2	Remote input A	Toggles standby function when connected to Pin-3
3	0V GND	Toggles standby function when connected to Pin-2 or Pin-4
4	Remote input B	Toggles standby function when connected to Pin-3

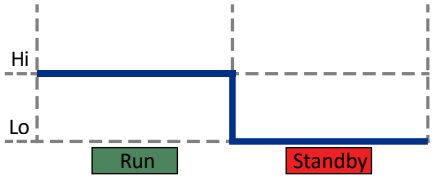
7.5.2. 24VDC input port

By adjusting the Pin-4 (black) setting from Fault output to Standby input with a BarMaster, standby mode is toggled by either connecting Pin-4 to 24V (Standby True = Hi) or 0V GND (Standby True = Lo).

Refer to section 6.2 ‘Powering using a customers own 24VDC power supply’ for more information on the 24VDC port.



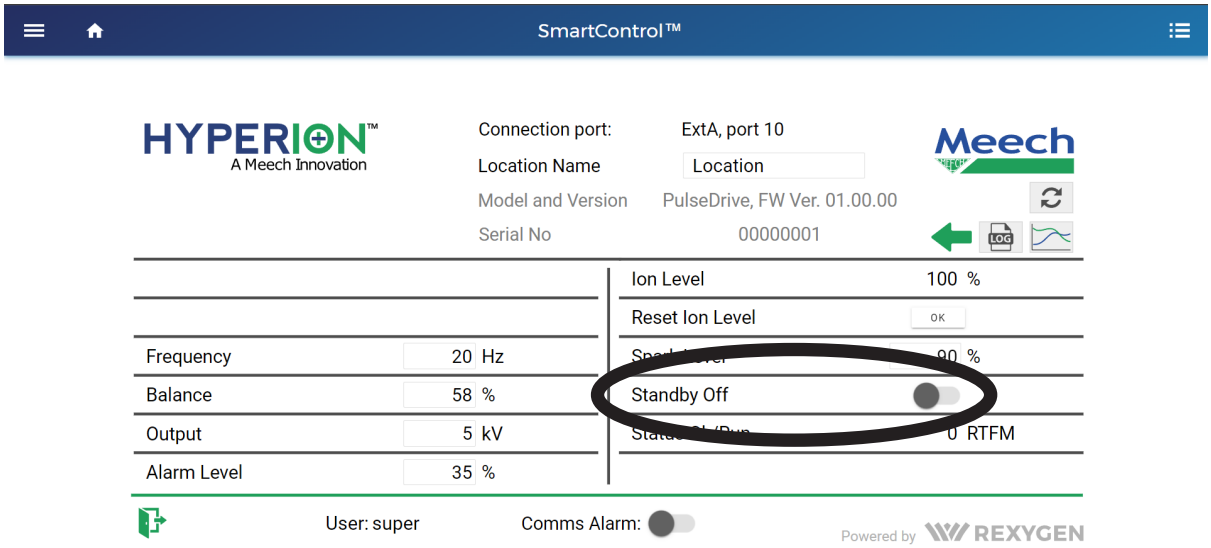
Standby True = Hi
Standby True = Hi - Pin-4 toggles standby when connected to 24V



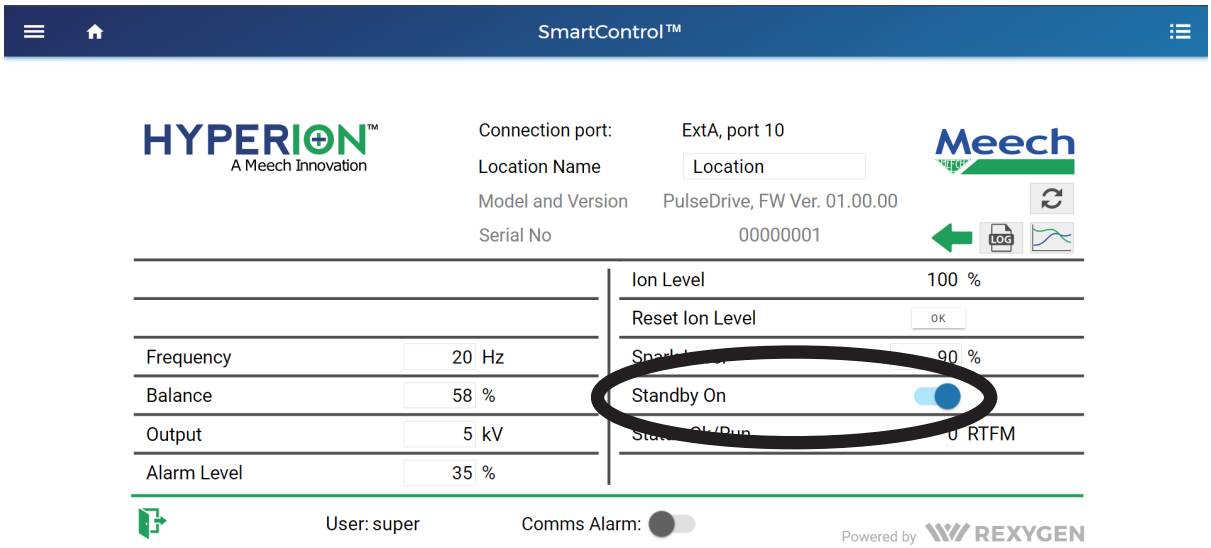
Standby True = Lo
Standby True = Lo - Pin-4 toggles standby when connected to 0V

7.5.3. Software

Once the PulseDrive is connected to a SmartControl Touch through the 24VDC input port, standby mode can be toggled through its interface as seen below (circled).



Standby mode off



Standby mode on

Please refer to the SmartControl Touch operating manual for more information.

8. Monitoring

The PulseDrive continually monitors its internal health and can trigger an alarm should any parameter fall outside a predetermined range.

Alarms can be monitored either via the status LED, or through the alarm outputs.

8.1. Status LED

The LED colour combinations are below:

LED colours	**Alarm status**	**Description - *corrective actions***
Green	Normal	Normal operation
Yellow	Normal	Standby - HV output is off
Flashing green	Normal	Normal operation - BarMaster/SmartControl connected
Flashing yellow	Normal	Standby - HV output is off, BarMaster/SmartControl connected
Red	Fault	HV (Overcurrent) - *Check outputs/reduce load*
Flashing red	Alert	Low ion current - *Check attached ionisers for contamination*
Flashing green/red	Fault	Internal issue - *Restart the device*
Flashing red/yellow	Fault	Real Time Fault Monitoring (RTFM) - *Refer to section 8.1.1.*
Flashing green/yellow	Alert	Real Time Fault Monitoring (RTFM) - *Refer to section 8.1.1.*

- **Fault** – The PulseDrive has a fault, and the output has been shut off.
- **Alert** – Attention may be required for the PulseDrive.

If the PulseDrive has a fault, perform the *corrective actions* above then cycle power to reset the unit.

8.1.1. Real Time Fault Monitoring codes

The following RTFM codes may be observed on the status LED to provide a more detailed alarm overview. The LED will flash green or red with up to 5 yellow flashes, to display different fault codes.

Additionally, the keypad on the PulseDrive Plus will display a code for easier troubleshooting.

LED colours	**Keypad code**	**Alarm status**	**Description –** ***Corrective actions***
Green & 2 yellow flashes 	A2	Alert	HV output: Approaching current limit – *Reduce output load*
Green & 3 yellow flashes 	A3		24VDC power supply: Approaching under voltage – *Check power supply*
Green & 5 yellow flashes 	A5		Internal temperature: Approaching temperature limit – *Ensure PulseDrive has sufficient cooling*
Red & 4 yellow flashes 	F4	Fault	24VDC power supply: Reached over voltage – *Check power supply*
Red & 5 yellow flashes 	F5		Internal temperature: Reached temperature limit – *Ensure PulseDrive has sufficient cooling*

8.2. Remote monitoring

8.2.1. Alarm outputs

Remote alarm monitoring is provided by Pin-2&4 of the 24VDC input port. These alarm signals output either 0 or 24V and are suitable for direct connection to a PLC input, or to control an external 24V relay.

- **Alert (Pin-2 white)**
  This pin is used to report when attention may be required for the PulseDrive.
- **Fault (Pin-4 black)**
  This pin is used to report when the PulseDrive has a fault, and the output has been shut off (unless configured as standby input – see section 7.5.).

On PulseDrive power-up, Pin 2&4 will remain in Hi state for up to 60 seconds before they are used as outputs.

Note: When a BarMaster remote programmer is connected, alert and fault outputs are temporarily disabled.

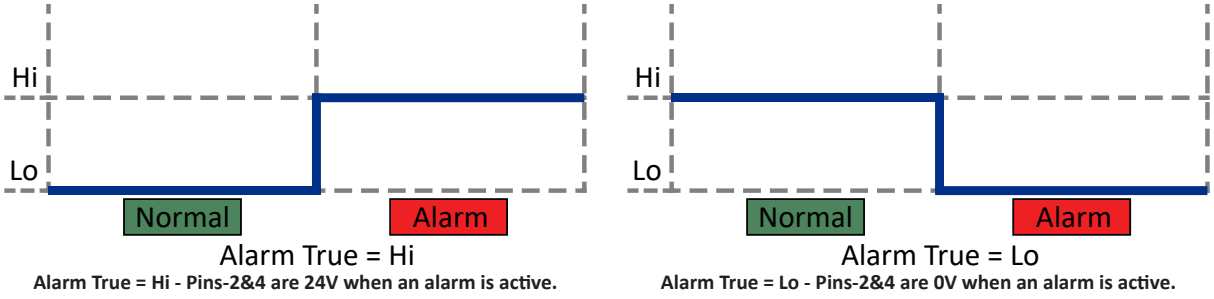
8.2.2. Alarm output drive options

Using a BarMaster*, the alarm output can be configured to meet most requirements. As standard, the PulseDrive will be supplied with a factory preset configuration of Output drive = NPN, where Alarm True = Lo.

There are 3 different output drive options which are designed to allow easy integration with most PLC equipment.

1. **Output drive = NPN** – 24V is supplied via an internal 2.2kΩ resistor, 0V is supplied directly. **
2. **Output drive = PNP** – 24V is supplied directly, 0V is supplied via an internal 2.2kΩ resistor. **
3. **Output drive = N+P** – Both 24V & 0V are supplied directly. ***

The output polarity (Alam True) can be set to go to Hi (24V) or Lo (0V) when there is an issue.

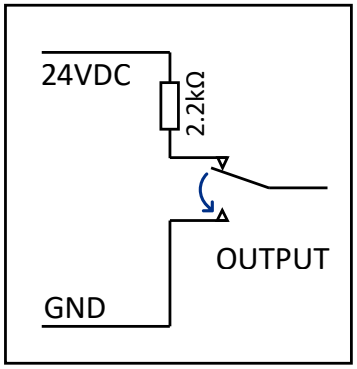


* = Please refer to BarMaster operating manual

** = Using NPN (default Hi) or PNP (default Lo) allows for multiple products to be connected in parallel, triggering a common alert without interfering with each other's operation.

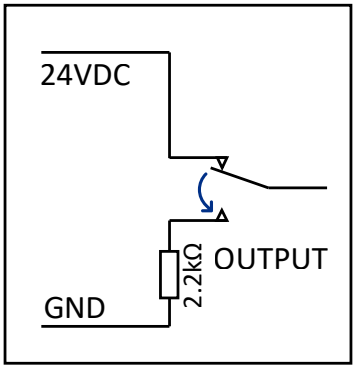
*** = Using N+P **does not** allow for any products to be connected in parallel.

Output Drive = NPN
Alarm True = Lo

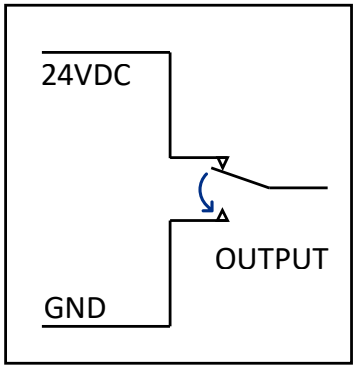


Default: Can be used with multiple devices in parallel.

Output Drive = PNP
Alarm True = Lo

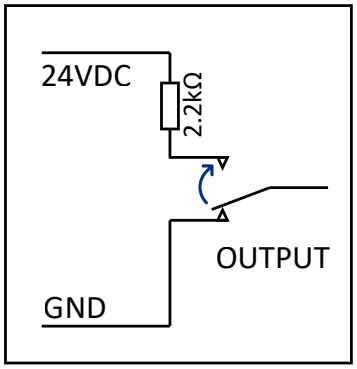


Output Drive = N+P
Alarm True = Lo

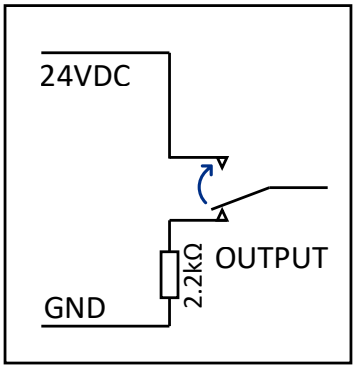


When Alarm True = Lo, OK = 24V & Alert/Fault = 0V

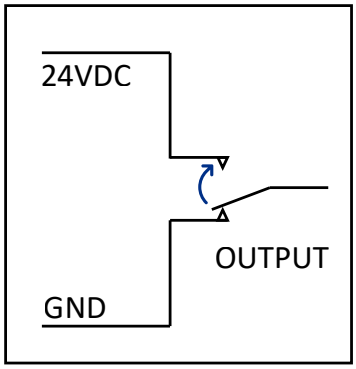
Output Drive = NPN
Alarm True = Hi



Output Drive = PNP
Alarm True = Hi



Output Drive = N+P
Alarm True = Hi



On power on, the output signal stays high for 60 seconds, so Alarm True=Hi may cause issues on power cycle.

When Alarm True = Hi, OK = 0V & Alert/Fault = 24V

9. Technical & construction data

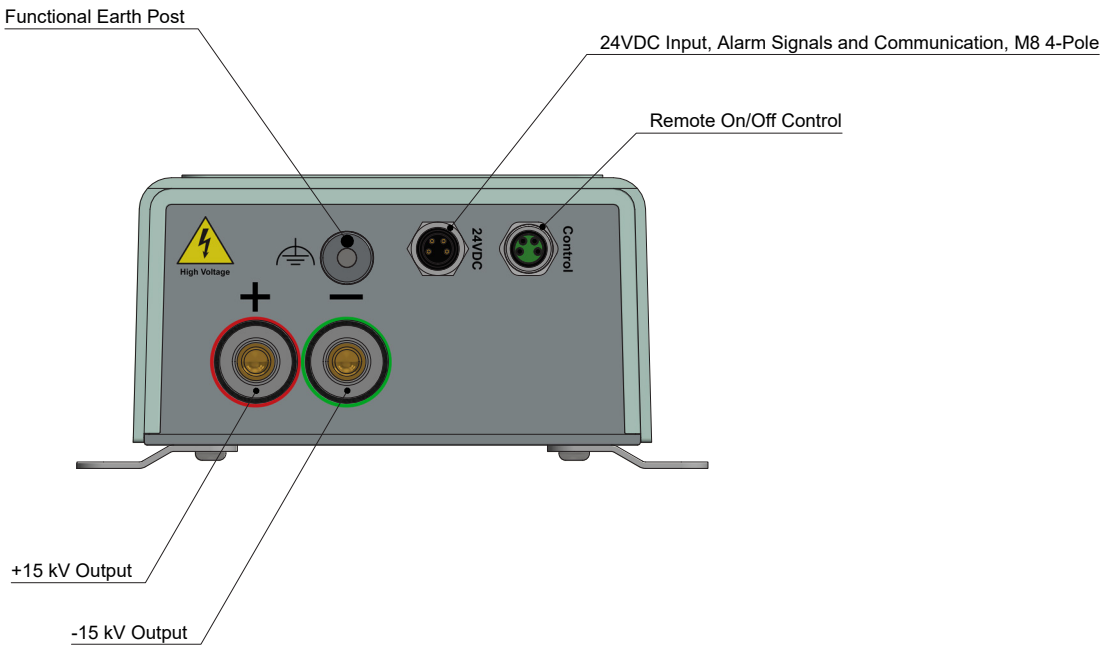
Dimensions (LxWxH)	141mm x 118mm x 55mm (With mounting brackets) 141mm x 97mm x 51mm (Without mounting brackets)	
Weight	600g	
Maximum ambient temperature	55°C	
Mounting	2x 3.4mm holes, 4x 3.4mm x 10mm slots	
Mounting height	To comply with UL 62368-1, the PulseDrive must be mounted at a height of ≤2m	
Enclosure	FR ABS	
Electrical connections	2x 4-Pin M8 & earth terminal	
Input current	Maximum 625mA	
Input voltage	24VDC (22 to 26V)	
Output current	Maximum 0.65mA	
Output voltage	Lite 15kV	2 to 15kVDC Pos/Neg (Default 9kV)†
	Plus 15kV	2 to 15kVDC Pos/Neg (Default 9kV)‡
	Plus HL 5.5kV	2 to 5.5kVDC Pos/Neg (Default 5.5kV)‡
	Plus HL 9.0kV	2 to 9kVDC Pos/Neg (Default 9kV)‡
Output frequency	1 to 20Hz (Default 20Hz)†‡	
Output balance	80:20 to 20:80 Pos:Neg (Default 54:46 Pos:Neg)†‡	
Output ports	Lite	2x HV ports (1 positive, 1 negative)
	Plus	4x HV ports (2 positive, 2 negative)
Alarm outputs/ standby input	Dual outputs for Alert/Fault monitoring (0/24V)*: 1x Alert output 1x Fault output/standby input	
Alarm output drives	Compatible with IEC 61131-2 type 1,2,3 PLC inputs	
Local indication	Green/yellow/red LED	
Protection class	IP65 construction	

*** = Adjustable via BarMaster**
† = Adjustable on PulseDrive Lite via BarMaster or SmartControl Touch
‡ = Adjustable on PulseDrive Plus via Keypad, BarMaster or SmartControl Touch

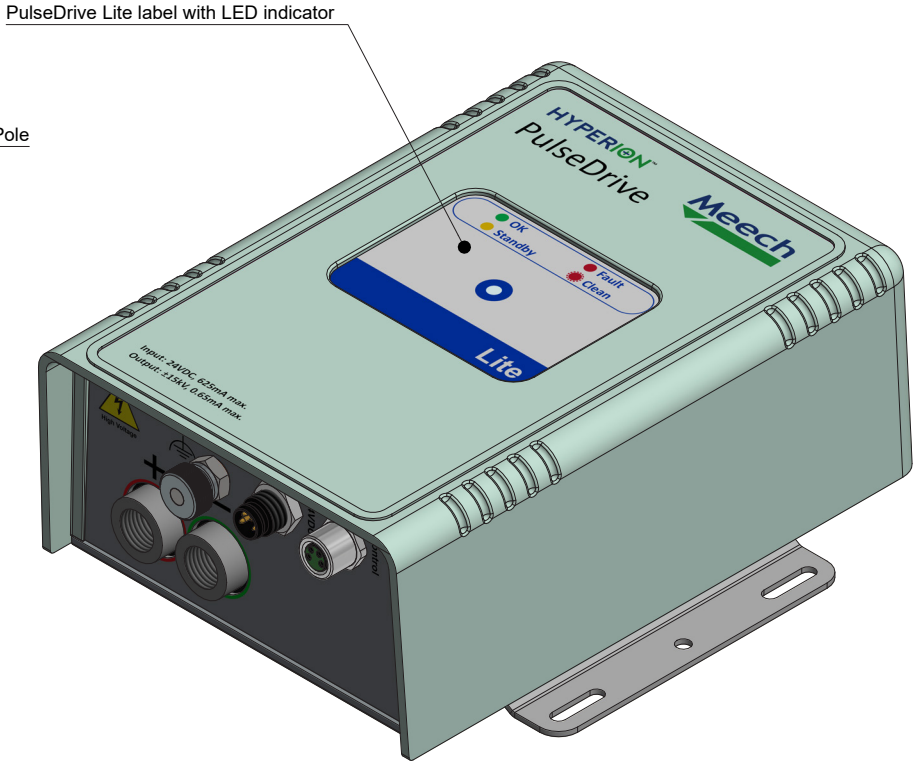
10. Technical drawings

Contact Meech customer services at customerservice@meech.com for additional technical drawings, providing the model code (see section 3).

Page	PulseDrive variant	Variant model code
29-31	Hyperion PulseDrive Lite PDC Controller	APD15-LITE-00



Connections



Isometric View

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email: sales@meech.com
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'Meech International' is a trading style of Meech Static Eliminators Ltd

TITLE :	HYPERION PULSEDRIVE LITE PDC CONTROLLER
DRAWING NO:	APD15-LITE-00
MATERIAL :	VARIOUS
FINISH :	VARIOUS

TOLERANCE UNLESS OTHERWISE SPECIFIED
General ± 0.2mm
Machined Work Metric ± 0.1mm
Sheet Metal Fabrications ± 0.5mm
Extrusion Work Metric ± 0.2mm
Angular ± 0°30'

DIMENSIONS IN MM DO NOT SCALE

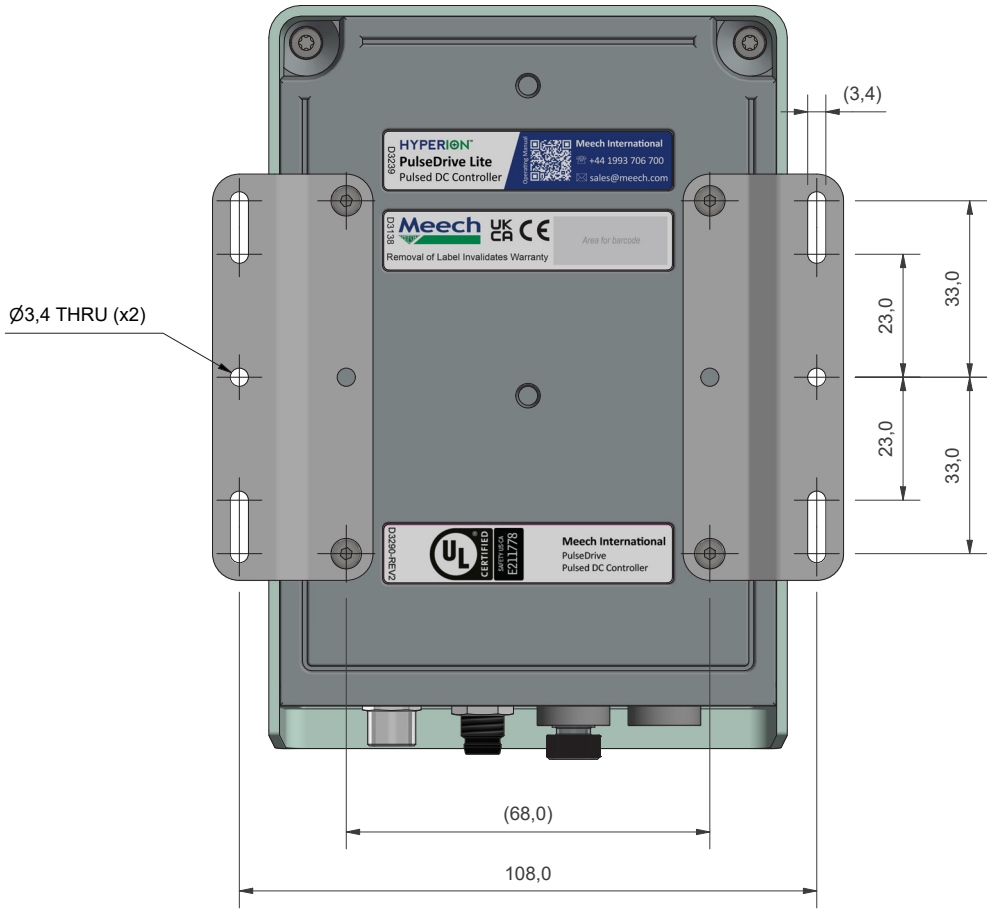
CRITICAL TO FUNCTION (CTF) DIMENSIONS AS MARKED

SHEET	A3
SCALE	NTS

PROJECTION

DETAIL :	MARKETING
DRAWN BY :	BC
CHECKED BY :	J KEOGH
SIGNED OFF BY :	dcbr 14-4-25
DATE :	04/09/2024
SHEET :	1 / 3
CHANGE NOTE:	CN0594
MODEL REVISION NO:	1
DRAWING REVISION:	C

Hole Locations with KIT0286 Mounting Brackets



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'Meech International' is a trading style of Meech Static Eliminators Ltd

TITLE :	HYPERION PULSEDRIVE LITE PDC CONTROLLER
DRAWING NO:	APD15-LITE-00
MATERIAL :	VARIOUS
FINISH :	VARIOUS

TOLERANCE UNLESS OTHERWISE SPECIFIED
General ± 0.2mm
Machined Work Metric ± 0.1mm
Sheet Metal Fabrications ± 0.5mm
Extrusion Work Metric ± 0.2mm
Angular ± 0°30'

DIMENSIONS IN MM DO NOT SCALE

CRITICAL TO FUNCTION (CTF) DIMENSIONS AS MARKED

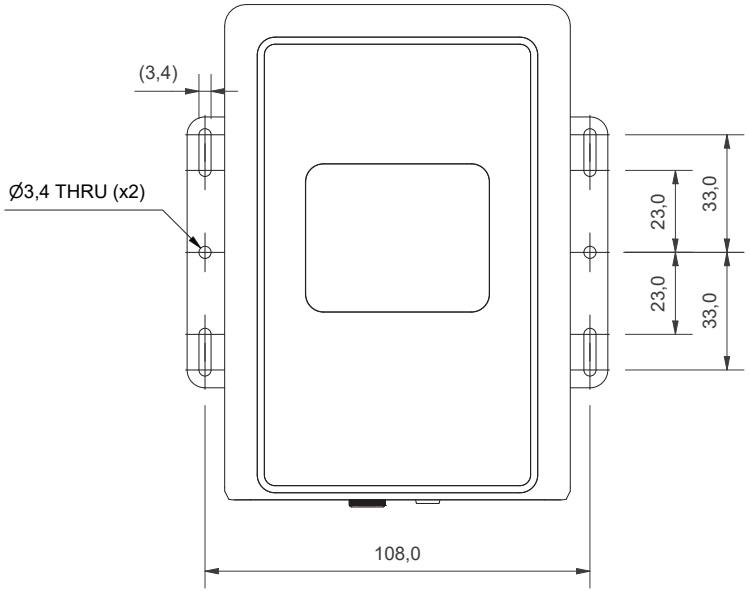
SHEET	SCALE
A3	NTS

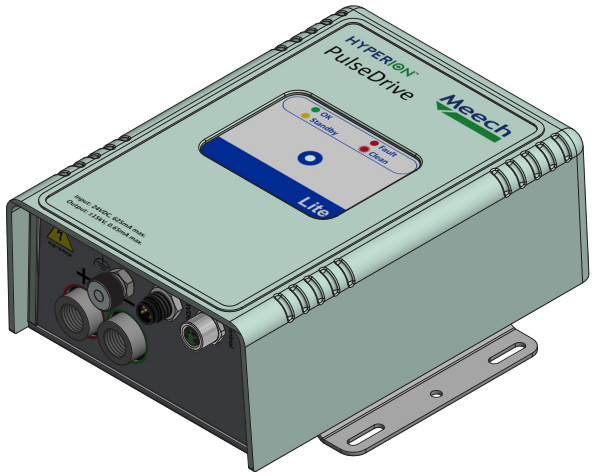
PROJECTION

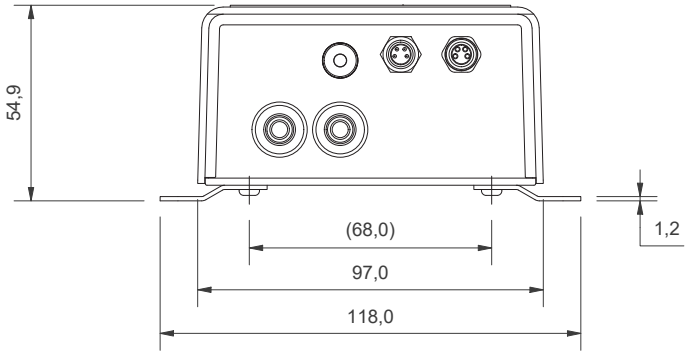
DETAIL :	MARKETING
DRAWN BY :	BC
CHECKED BY :	SEE SHEET 1
SIGNED OFF BY :	SEE SHEET 1

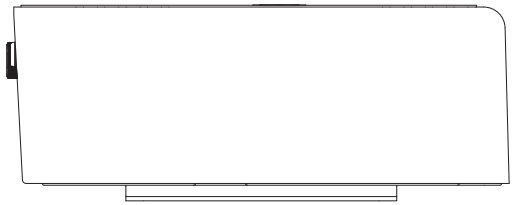
DATE :	04/09/2024
SHEET :	2 / 3

CHANGE NOTE:	CN0594
MODEL REVISION NO:	1
DRAWING REVISION:	C









Meech International 2 Network Point Range Road, Witney OX29 0YN, UK Tel: +44 (0) 1993 706700 Fax: +44 (0) 1993 776977 email: sales@meech.com web: www.meech.com	TITLE : HYPERION PULSEDRIVE LITE PDC CONTROLLER	TOLERANCE UNLESS OTHERWISE SPECIFIED General ± 0.2mm Machined Work Metric ± 0.1mm Sheet Metal Fabrications ± 0.5mm Extrusion Work Metric ± 0.2mm Angular ± 0°30'	SHEET A3 / SCALE NTS	DETAIL : MARKETING	DATE : 04/09/2024	CHANGE NOTE: CN0594	MODEL REVISION NO: 1
	DRAWING NO: APD15-LITE-00		PROJECTION	DRAWN BY : BC	SHEET : 3 / 3		DRAWING REVISION: C
	MATERIAL : VARIOUS	DIMENSIONS IN MM DO NOT SCALE		CHECKED BY : SEE SHEET 1			
'Meech International' is a trading style of Meech Static Eliminators Ltd	FINISH : VARIOUS	CRITICAL TO FUNCTION (CTF) DIMENSIONS AS MARKED		SIGNED OFF BY : SEE SHEET 1			

11. Maintenance

The PulseDrive should be regularly cleaned with a dry cloth to keep it free from dust and other contaminants.

Should the PulseDrive become wet, ensure it is thoroughly dried before restoring power to it.

12. CE approval

A CE Declaration of Conformity for this product exists and can be provided on request.

13. UL approval

The PulseDrive Pulsed DC Controller is compliant with UL Listing requirements.
A copy of the UL certification can be found at www.meech.com/download/ul-certificates/

14. Health & safety

- **Emission of Ozone**
  Considerably lower than the international standard of 0.1ppm.
- **Output current**
  The maximum output current is less than 5mA to prevent serious harm to the operator, nevertheless any contact with the output post should be avoided where possible.
- This equipment is not suitable for use in locations where children are likely to be present.

15. Repairs & warranty

The Hyperion PulseDrive Pulsed DC Controller is warrantied by Meech International Ltd. to the original purchaser against defects in material and workmanship for 2 years after shipment.

For support, contact your local Meech representative. Alternatively, more details can be found at:

https://meech.com

support@meech.com

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