Operating Manual

Meech

HYPERION™
A Meech Innovation

Operating Manual
900 Hyperion BarMaster

Contents

Introduction

The Meech BarMaster remote programmer allows you to unlock the full performance of the range Hyperion bars with Integrated Power Supplies (IPS). Whilst the default settings of Hyperion IPS bars are suitable for most applications, this unique device provides adjustment of a range of parameters including output balance, frequency and the clean-pin alert settings. This allows the bar to be setup precisely for the application it is being used on.

Temporarily connected in line with the 24V supply to the bar, the settings are adjusted using simple controls. Once programming is complete, the BarMaster is disconnected. When the bar is re-powered, it operates at the newly programmed settings.

Unpacking And Inspection

Your Hyperion BarMaster was carefully packed at the factory in a container designed to protect it from accidental damage. Nevertheless, we recommend careful examination of the carton and contents for any damage.

If damage is evident, do not destroy the carton or packing material and immediately notify the carrier of a possible damage claim. Shipping claims must be made by the consignee to the delivering carrier.

Technical and Construction

Dimensions (W x H)	143 x 81 x 25
Construction	ABS
Cable	2m
Input Voltage	24V
Electrical Connection	4 Pin M8 Connector

Product Features

Compatibility	The BarMaster can be used to program any IPS bars in the Hyperion range (see Appendix 1).
2 metre cable	Allows operator to stand a safe distance away from the machine during programming.
Instrument case	Safe, clean storage when not in use

Connection

The BarMaster is connected in line with the ionising bar's 24V power supply cable. The power cable is connected to the BarMaster and, in turn, its cable is connected to the bar.

Warning: It is recommended to turn-off the 24V power supply to the bar and wait a few seconds before disconnecting the power cable from the bar. Failure to do so will not damage the equipment, but may result in a small shock caused by the stored energy in the bar.

Attach the cable on the BarMaster to the M8 connector on the bar, then connect the M8 connector from the power supply to the BarMaster.

Switch on the power supply. After a few seconds, the BarMaster will establish a connection to the bar and display the bars settings and status.

Available data will be displayed on the BarMaster screen. Example data format is shown below:

Model No	E.g. 924IPS
Software Version	XXXXXX
Frequency	1-20Hz
Balance	20%-80% Positive
Feedback	On/Off
Alarm	20%-90%
Ion Level	0%-99%
Reset Ion Ref	Calibration command.

Controls

The flashing cursor can be moved to the parameter to be adjusted.

- To scroll through the menu use the up down function.

- To adjust Frequency, Balance, Alarm levels or to reset the ion reference current use left and right function

- Please note the OK button in the centre of the toggle is redundant and has no function on the BarMaster.

Adjustments

Refer to Appendix 1 on page 10 for product details of settings (read-only and adjustable) that can be viewed on BarMaster. This section provides detail on commonly used settings.

Frequency

Your Hyperion bar is set to a default frequency that provides good performance across its operating range. Lower frequencies can assist long-range use. Higher frequencies give better results at short-range.

Balance

To get faster decay times, it is possible to adjust the output balance. Negative static charges will be neutralised faster if the bar is biased to a positive balance (>50 Pos).

Hi accuracy neutralisation can be required in applications involving electronic circuitry, E.g. RFID tag production. In the case the balance can be adjusted to give the most accurate neutralisation for the target distance.

Alarm

This is the level of performance (Ion Level) at which the Clean Pin Alert will be triggered. Typically set at 35% it can be set higher for more critical applications.

Ion Level

This is an instantaneous measure of the performance of the bar, compared to its performance when new and clean. A low percentage could indicate that the bar needs cleaning.

Reset Ion Ref.

This function is used to set reference performance level when the bar is clean. It is set by Meech during initial calibration. It should be reset after making changes to either the balance, the frequency or voltage parameters.

Make sure that the bar is clean before resetting the Ion Ref Current.

Disconnecting BarMaster

Warning: It is recommended to turn-off the 24V power supply to the BarMaster and wait a few seconds before disconnecting the power cable from the bar. Failure to do so will not damage the equipment, but may result in a small shock caused by the stored energy in the bar.

Reconnect the 24V supply cable to the bar and turn the power supply on. The bar will operate at the new settings.

Repairs And Warranty

The Meech BarMaster is warranted by Meech Static Eliminators Ltd. to the original purchaser against defects in material and workmanship for two years after shipment. Should any malfunction occur, please return the bar directly to Meech Static Eliminators Ltd. or your local Meech Distributor. All products returned to the factory MUST be accompanied by a return authorisation number and must be shipped prepaid. For prompt service, ship the unit to the factory with the return authorisation number shown clearly on the label. Be sure that it is well packed in a sturdy carton with shock absorbing material.

Include a note stating the nature of the problem as specifically as possible, and also include instructions for returning the bar to you. We will pay one-way return shipping costs on any repairs covered under the warranty.

CE Approval

A CE Declaration of Conformity for this product exists in respect of the Electromagnetic Compatibility Directive 2014/30/EU.

Line	Type	Description	314IPS	924IPS	924IPSV2	929IPS	936 Blower
Product Code	Data	Model No e.g. 314IPS	Read Only	Read Only	Read Only	Read Only	Read Only
Software Information	Data	Software version No e.g. XXXXXX	Read Only	Read Only	Read Only	Read Only	Read Only
Frequency	Parameter	Frequency of HV Output	Default = 20Hz Range 1 - 20	Default = 20Hz Range 1 - 20	Default = 54% Range 1 - 99	Default = 20Hz Range 1 - 20	Default = 20Hz Range 1–99Hz
Balance	Parameter	Adjustable from default. To get faster decay times, it is possible to adjust the output balance. Negative static charges will be neutralised faster if the bar is biased to a positive balance (>50 Pos).	Default = 54% Range 20 – 80%	Default = 54% Range 20 – 80%	Default = 54% Range 20 – 80%	Default = 54% Range 20 – 80%	Default = 54% Range 20 – 80%
Output Voltage	Parameter	Adjustable from default. To get faster decay times, it is possible to adjust the output balance. Negative static charges will be neutralised faster if the bar is biased to a positive balance (>50 Pos).	Default = 35% Range 1 – 7.5	Default = 35% Range 1 – 7.5	Default = 35% Range 1 – 7.5	Default = 10kV Range FIXED	Default = 30kV Range 4 – 30kV
Alarm %	Parameter	Adjustable from default. This is the level of performance (Ion Level) at which the Clean Pin Alert will be triggered. Typically set at 35% it can be set higher for more critical applications.	Default = 35% Range 20 – 90%	Default = 35% Range 20 – 90%	Default = 35% Range 20 – 90%	Default = 35% Range 20 – 90%	Default = 35% Range 20 – 90%
Ion Level %	Data	Read only e.g. 1-99%. This is an instantaneous measure of the performance of the bar, compared to its performance when new and clean. A low percentage could indicate that the bar needs cleaning.	Read Only	Read Only	Read Only	Read Only	Read Only
Reset Ion Ref	Command	Command for reset. Used to set reference performance level when the bar is clean. It is set by Meech during initial calibration. It should be reset after making changes to either balance, the frequency or voltage parameters of the output. Note: Make sure that the bar is clean before resetting the Ion Ref.	Command to reset	Command to reset	Command to reset	Command to reset	Command to reset
Alarm True (Hi or Lo)	Parameter	Command either Hi or Lo. For use when using remote alarm monitoring feature. Output can be set to Alarm True = Hi. Refer to individual product manual for details.	Command Hi or Lo (factory default)	Command Hi or Lo (factory default)	Command Hi or Lo (factory default)	Command Hi or Lo (factory default)	Command Hi or Lo (factory default)
Output Drive	Parameter	Command either NPN; PNP or N+P. There are 3 different output drive options which are designed to fulfil the vast majority of user requirements and to allow easy integration to PLC equipment.	Command either NPN; PNP or N+P	Command either NPN; PNP or N+P	Command either NPN; PNP or N+P	Command either NPN; PNP or N+P	Command either NPN; PNP or N+P

Line	Type	Description	960IPS	945IPS	971IPS-30	233v4	233v4HL5.5
Product Code	Data	Model No e.g. 960IPS	Read Only	Read Only	Read Only	Read Only	Read Only
Software Information	Data	Software version No e.g. XXXXXX	Read Only	Read Only	Read Only	Read Only	Read Only
Frequency	Parameter	Frequency of HV Output	Default = 5Hz Range 1-20	Default = 5Hz Range 1–20Hz	Default = 1Hz Range 0.5–9.5	Default = 20Hz Range 1 – 99Hz	Default = 20Hz Range 1 – 99Hz
Balance	Parameter	Adjustable from default. To get faster decay times, it is possible to adjust the output balance. Negative static charges will be neutralised faster if the bar is biased to a positive balance (>50 Pos).	Default = 52% Range 20 – 80%	Default = 52% Range 20 – 80%	Default = 60% Range 20 – 80%	Default = 54% Range 20 – 80%	Default = 54% Range 20 – 80%
Output Voltage	Parameter	Adjustable from default. To get faster decay times, it is possible to adjust the output balance. Negative static charges will be neutralised faster if the bar is biased to a positive balance (>50 Pos).	Default = 12.5kV Range 2 – 12.5	Default = 12.5kV Range 2 – 15kV	Default = 30kV Range 4 – 30kV	Default = 10kV Range 2 – 15kV	Default = 5.5kV Range 2 – 5.5kV
Alarm %	Parameter	Adjustable from default. This is the level of performance (Ion Level) at which the Clean Pin Alert will be triggered. Typically set at 35% it can be set higher for more critical applications.	Default = 35% Range 20 – 90%	Default = 35% Range 20 – 90%	Default = 35% Range 20 – 90%	Default = 35% Range 20 – 90%	Default = 35% Range 20 – 90%
Ion Level %	Data	Read only e.g. 1-99%. This is an instantaneous measure of the performance of the bar, compared to its performance when new and clean. A low percentage could indicate that the bar needs cleaning.	Read Only	Read Only	Read Only	Read Only	Read Only
Reset Ion Ref	Command	Command for reset. Used to set reference performance level when the bar is clean. It is set by Meech during initial calibration. It should be reset after making changes to either balance, the frequency or voltage parameters of the output. Note: Make sure that the bar is clean before resetting the Ion Ref.	Command to reset	Command to reset	Command to reset	Command to reset	Command to reset
Alarm True (Hi or Lo)	Parameter	Command either Hi or Lo. For use when using remote alarm monitoring feature. Output can be set to Alarm True = Hi. Refer to individual product manual for details.	Command Hi or Lo	Command Hi or Lo (factory default)	Command Hi or Lo (factory default)	Command Hi or Lo	Command Hi or Lo (factory default)
Output Drive	Parameter	Command either NPN; PNP or N+P. There are 3 different output drive options which are designed to fulfil the vast majority of user requirements and to allow easy integration to PLC equipment.	Command either NPN; PNP or N+P	Command either NPN; PNP or N+P	N/A	Command either NPN; PNP or N+P	Command either NPN; PNP or N+P
Pin 4 mode	Parameter	Ability to switch Pin 4 on 24V input port from default ‘Fault Output’ to ‘Standby’ function when grounded.	N/A	Command ‘Fault Output’ (default) or ‘Standby’	N/A	N/A	N/A

Line	Type	Description	233v4HL 9.0	PulseDrive Lite & Plus	PulseDrive Plus HL 5.5kV	PulseDrive Plus HL 9.0kV
Product Code	Data	Model No e.g. 233v4HL 9.0	Read Only	Read Only	Read Only	Read Only
Software Information	Data	Software version No e.g. XXXXXX	Read Only	Read Only	Read Only	Read Only
Frequency	Parameter	Frequency of HV Output	Default = 20Hz Range 1 – 99Hz	Default = 20Hz Range 1 – 20Hz	Default = 20Hz Range 1 – 20Hz	Default = 20Hz Range 1 – 20Hz
Balance	Parameter	Adjustable from default. To get faster decay times, it is possible to adjust the output balance. Negative static charges will be neutralised faster if the bar is biased to a positive balance (>50 Pos).	Default = 54% Range 20 – 80%	Default = 54% Range 20 – 80%	Default = 54% Range 20 – 80%	Default = 54% Range 20 – 80%
Output Voltage	Parameter	Adjustable from default. To get faster decay times, it is possible to adjust the output balance. Negative static charges will be neutralised faster if the bar is biased to a positive balance (>50 Pos).	Default = 9.5kV Range 2 – 9.5kV	Default = 10kV Range 2 – 15kV	Default = 5.5kV Range 2 – 5.5kV	Default = 9.0kV Range 2 – 9.0kV
Alarm %	Parameter	Adjustable from default. This is the level of performance (Ion Level) at which the Clean Pin Alert will be triggered. Typically set at 35% it can be set higher for more critical applications.	Default = 35% Range 20 – 90%	Default = 35% Range 20 – 90%	Default = 35% Range 20 – 90%	Default = 35% Range 20 – 90%
Ion Level %	Data	Read only e.g. 1-99%. This is an instantaneous measure of the performance of the bar, compared to its performance when new and clean. A low percentage could indicate that the bar needs cleaning.	Read Only	Read Only	Read Only	Read Only
Reset Ion Ref	Command	Command for reset. Used to set reference performance level when the bar is clean. It is set by Meech during initial calibration. It should be reset after making changes to either balance, the frequency or voltage parameters of the output. Note: Make sure that the bar is clean before resetting the Ion Ref.	Command to reset	Command to reset	Command to reset	Command to reset
Alarm True (Hi or Lo)	Parameter	Command either Hi or Lo. For use when using remote alarm monitoring feature. Output can be set to Alarm True = Hi. Refer to individual product manual for details.	Command Hi or Lo (factory default)	Command Hi or Lo	Command Hi or Lo (factory default)	Command Hi or Lo (factory default)
Output Drive	Parameter	Command either NPN; PNP or N+P. There are 3 different output drive options which are designed to fulfil the vast majority of user requirements and to allow easy integration to PLC equipment.	Command either NPN; PNP or N+P	Command either NPN; PNP or N+P	Command either NPN; PNP or N+P	Command either NPN; PNP or N+P
Pin 4 mode	Parameter	Ability to switch Pin 4 on 24V input port from default 'Fault Output' to 'Standby' function when grounded.	N/A	Command 'Fault Output' (default) or 'Standby'	Command 'Fault Output' (default) or 'Standby'	Command 'Fault Output' (default) or 'Standby'

Line	Type	Description	650QAC
Product Code	Data	650QAC	Read Only
Firmware Information	Data	FW Ver. XX.XX.XX	Read Only
Serial Number	Data	Product Serial Number, as per label e.g. Ser. No XXXXXXXX	Read Only
Pre-Set	Parameter	Which pre-set is currently selected (9=user defined) This can be modified on the 650QAC bar keypad	Pre-set Range 1-9 Default = 3
Frequency	Parameter	Output frequency of the selected pre-set (Editing will change pre-set to 9)	Default Range 5.0 - 25.0Hz Default = 15.0Hz
Voltage	Parameter	Output voltage of the selected pre-set (Editing will change pre-set to 9)	Default Range 2.5 - 7.5kV Default = 6.0kV
TICC set	Parameter	Target ionisation current. This can be modified on the bar keypad.	Default Range -1000 - +1000 Default = 0
TICC act.	Data	Actual ionisation current This is displayed on the bar keypad led display	Read Only
Alarm set	Parameter	If alarm act. Drops below this value for more than 10 minutes, the alarm output will trigger	Default Range 0-99% Default = 80%
Alarm act.	Data	How efficient the output is at achieving the target ionisation (default (90-99%)	Read Only
Alarm True	Parameter	Command either Hi or Lo. For use when using remote alarm monitoring feature. Output can be set to Alarm True = Lo which is factory default or Alarm True = Hi. Refer to individual product manual for details.	Hi or Lo Default = Lo
Output Drive	Parameter	Command either NPN; PNP or N+P. There are 3 different output drive options which are designed to fulfil the vast majority of user requirements and to allow easy integration to PLC equipment	NPN, PNP, N+P Default = NPN

Line	Type	Description	994CG
Product Code	Data	Model No e.g. 994CG	Read Only
Software Information	Data	Software version No e.g. XXXXXX	Read Only
Output Voltage	Parameter	Adjustable from default. To get faster decay times, it is possible to adjust the output balance. Negative static charges will be neutralised faster if the bar is biased to a positive balance (>50 Pos).	Default = 25kV Range 4 - 25
Alarm True (Hi or Lo)	Output Setting	Command either Hi or Lo. For use when using remote alarm monitoring feature output can be set to Alarm True = Lo (Normally Open) which is factory default or Alarm True = Hi (Normally Closed). Refer to individual product manual for details.	Command Hi or Lo (factory default)
Adjust Lock	Parameter	Command either On / Off. Default = On. On powering up, the Adjust Lock will be On. This prevents any adjustment to the parameters. To adjust the parameters, change Adjust Lock to off. After a 20 second period of inactivity, the Adjust Lock will automatically re-engage.	Default = on Select either on / off
Max Output	Input Setting	Adjustable from default. (Default = 25kV). If 4-20mA input is off, the output voltage is fixed at this value. If 4-20mA is on, the output voltage adjustment range is limited from 4kV up to the set Max Output value.	Default = 25kV Range 4kV - 25kV
HV ok o/p	Output setting	Command either Lo/Hi (Default = Hi). A 0V or 24V DC output signal if set to Lo, the output signal will be 0V to confirm that the HT output is OK and 24V when the unit is in standby or cannot attain the required output voltage. If set to Hi, the output signal will be 24V to confirm the HT output is OK and 0V when the unit is in standby or cannot attain the required output voltage. This is the default setting.	Command either Hi or Lo (Default = Hi)
HV on I/p	Input Setting	Command either Lo/Hi (Default = Hi). Input signal line (Black wire pin 4) internally pulled up to 24V by 10k pull-up resistor. If set to Lo, the HT output will turn on when the Black wire (pin 4) is grounded. If set to Hi, the HT output will turn off when the Black wire (pin 4) is grounded.	Command either Hi or Lo (Default = Hi)
4-20mA I/P	Input Setting	Command either on/off (Default = Off). *Input signal to set the output voltage.* If set to On, the output voltage will set by the 4-20mA (or 1-5VDC) input to the value set by the Max output setting.	Default = Off Select either on / off
Hours Run	Data	Read Only Total number of hours the 994CG has been powered (in Stand-by or with HT output on).	Read Only
Communication Timeout	Parameter	Command either on/off (Default = On). By default, communication with a BarMaster is enabled for 60 seconds after powering up. After which, the communications will be disabled, to protect the parameter settings of the unit from the effects of interference. The communications can be set permanently ON, by turning Communication Timeout to Off.	Default = On Select either on / off

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