



HYDRO BIOSCIENCE®
Eco Driven Solutions®

**44QX-40V160-xx Series
85Vac–264Vac Universal Power Supply
Outdoor, Sealed Construction
User’s Manual**



General Product Specifications

Model Number	Nominal Input Rating	Output Channel-1, Channel-2, Channel-3
44Qx-40V160A65-01	85-264Vac, 50/60Hz	40Vdc 1.75A, 40Vdc 1.75A, 10Vdc 0.75A
44Qx-40V160B65-01	85-264Vac, 50/60Hz	40Vdc 1.75A, 40Vdc 1.75A, 10Vdc 0.75A

- ‘A’: Bluetooth Communications not installed
- ‘B’: Bluetooth Communications installed
- ‘x’: Power Plug Country Dependent Option – refer to Power Plug Chart

NOTE: UTILITY AND/OR PATENT PENDING APPLIED IN 2022/23



For direct access to the latest copy of this manual, please scan this QR Code or refer to the *Product Manuals* section at:
www.Hydro-Bioscience.com




Throughout this manual, look for this symbol. It means ‘BE ALERT – YOUR SAFETY IS INVOLVED’. If you do not follow these safety instructions, personal injury and/or property damage may occur.

USER SAFETY PRECATIONS

1. Do not operate the AC Power Supply if it has received a sharp blow, been dropped, or otherwise damaged in any manner. Refer to a qualified service agent.
2. A/C Power Supply contains no serviceable parts. If the power supply fails during its warranty period, contact Hydro Bioscience, LLC at 888-500-5011 or visit HBS’s website, www.hydro-bioscience.com for information concerning a warranty replacement or repair.
3. Before attempting any maintenance or cleaning, unplug AC Power Supply from wall receptacle. For external cleaning use a clean damp towel.
4. Have your distributor, dealer or other qualified service agent, repair or replace worn or damaged parts immediately. Repairs should not be attempted by people who are not qualified.
5. Whenever removing AC Plug from the receptacle, pull from the Plug Body, not from the cord.
6. Do not operate the AC Power or any component attached to it if it is malfunctioning. Personal injury or property damage could result.

AC POWER WARNINGS

1.  **WARNING: THIS PRODUCT MUST BE CONNECTED TO A CUSTOMER SUPPLIED GFCI PROTECTED AC RECEPTABLE.**
2. **IMPORTANT: SURGE SUPPRESSOR PROTECTION DEVICE MUST BE USED.** A/C-Line surges can be generated from nearby equipment and weather-related phenomena and can cause NON-WARRANTY failure of the Power Supply. User must supply and install a surge suppressor rated at 600J or greater. These devices are readily available from most any retail outlet. **DO NOT RELY ON AN UNINTERRUPTABLE POWER SUPPLY.**
3. Do not connect product to AC receptacles that share power with any other moderate to heavy loads such as air conditioners, pumps, motors and

other common appliances. Most appliances turn on/off at random and cause power surges and power drops that can severely affect the product connected to that same power circuit.

4. Location of Power Supply must be in a shaded location and must not be installed in direct sunlight. Derating of the output power may occur.
5. If installing underground electric utility power to a receptacle near a body of water such as a pond, lake, pool or reservoir, a customer supplied armored cable, run through conduit, must be used to minimize risk of damage and installed in accordance with Country, State and Local regulations.

SAFE GROUNDING WARNINGS

1. **WARNING: Risk of Electric Shock.** Install AC Power Supply only to a Class A customer supplied GFCI (EU/UK Earthed Power Supply Source) and in accordance with Country, State and Local regulations. Customer supplied GFCI Receptacle must have an enclosure that is weatherproof.
2. **Do not remove Ground Pin from AC Power Supply's AC Plug or connect to utility power via an adaptor that bypasses the product's ground pin connection. The product must be grounded at all times when connected to utility power.**

EXTENSION CORD REQUIREMENTS

1. The rating of the input AC Cord, if replaced by a certified technician, must not be less than 18Ga, 300V for 100Vac or 120Vac utilities and not less than 18Ga, 300V for 230Vac or 240Vac utility power. Cord must be hard usage SJTW type or better, UL/CSA approved.

RECOMMENDED MINIMUM AWG SIZE FOR EXTENSION CORDS FOR AC POWER SUPPLY






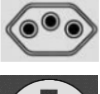


Length of cord (feet/m):	25/8	50/15	100/30	150/45
AWG size of cord:	18	18	18	18

2. Locate/route all cords where they will not be tripped over or damaged by vehicles or equipment with cutting blades such as lawn mowers and hedge clippers and away from vehicle traffic to prevent being driven over. If you

have water animals (beavers, minks, nutria, otters, muskrats, turtles, etc.) in your water system, additional cable protection is recommended such as a nylon or polyester braided sheath from the surface down to about 2 meters (6 feet) depth.

POWER PLUG CHART

Various power plugs are available and are country and region dependent. The Product Part Number stated on the first page, is completed by replacing the letter 'x' with the use of the International Plug Letter Code, below.

Connection Image	Letter Code	Power Plug Description
	B	5-15P PLUG (NORTH AMERICA)
	C	SCHUKO CEE7-7 PLUG (EUROPE)
	G	U.K. BS 1363 PLUG (U.K.)
	I	AS/NZS 3112 PLUG (AUSTRALIAN)
	M	SANS164-1 PLUG (SOUTH AFRICA)
	N	NBR 14136 (BRAZIL)
	P	NEMA 6-20P (US 230V)
	R	6-15P PLUG (NORTH AMERICA)

PRODUCT FEATURES AND OPERATION



1. Power On/Off Switch
 - a. It is a good and safe practice to Power Off when connecting or disconnecting devices from Channels 1, 2, or 3.
 - b. Power On after connecting or disconnecting devices by depressing and releasing the pushbutton.
2. Bluetooth Communications
 - a. The product contains a Bluetooth registered internal device that connects to smart phones. Refer to the MyQuattro™ App instruction manual found on www.hydro-bioscience.com.
 - b. App functions include on/off power scheduling to the sonic heads, pausing or resuming functions, stats display, and more.
 - c. At the time of print of this manual, communications work with Android Smartphones and Apps only
3. LCD 16x2 character display
 - a. Backlight flashes periodically to show that the unit is powered on.
 - b. Displays status of operation of each Sonic Head attached to Channels 1 and 2
4. Error LED
 - a. Flashes RED to annunciate a condition that may need your attention
5. 1.8m, 6ft AC Power Cord.

6. Channel-1 Sonic Head
 - a. Provides 40Vdc to power the first Sonic Head
 - b. Refer to the Channel-1 Connector pinout for circuit details
 - c. Output is protected from short circuits by the use of an internal resettable fuse. To reset this fuse, disconnect the Sonic Head for 2seconds and then reconnect. Ensure the source of the short is removed.

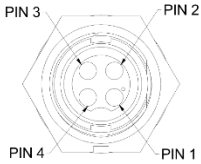
7. Channel-2 Sonic Head
 - a. Provides 40Vdc to power the second Sonic Head
 - b. Keep Dust Cover installed on Connector when not used
 - c. Refer to the Channel-1 Connector pinout for circuit details since it is the same pinout functionality.
 - d. Output is protected from short circuits by the use of an internal resettable fuse. To reset this fuse, disconnect the Sonic Head for 2seconds and then reconnect. Ensure the source of the short is removed.

8. Channel-3 Comm
 - a. This channel supplies RS-232 communication and 10Vdc power to an optionally purchased and installed remote modem. When used with the optional modem, data and alerts can be sent to the cloud to the H2Oinfo™ Application.
 - b. Other functions include remote re-flashing from a PC, Modbus communications to implement SCADA, direct connection to a SONDS water quality monitoring probe and more. Consult with your dealer or request more information via 'Contact Now' on our website www.hydro-bioscience.com.
 - c. Keep Dust Cover installed on Connector when not used
 - d. Output is protected from short circuits by the use of an internal resettable fuse. To reset this fuse, disconnect the load for 2seconds and then reconnect. Ensure the source of the short is removed.

CHANNEL CONNECTOR CIRCUIT DESCRIPTION

Channel 1 and Channel 2 Connector Pinout and Signals:

View from Front of the Connector:



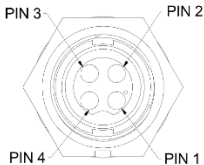
Pin-1:	+40Vdc Output
Pin-2:	Reserved/RS-485
Pin-3:	Sonic Head Heartbeat/RS-485
Pin-4:	Circuit Common

Connection Notes:

1. When using a voltmeter, connecting the probes to Positive(+) Pin-1 and Negative(-) Pin-4, the reading can be between 39Vdc to 50Vdc.
2. The connections are rated as IP-67. But the use of a very small amount of Food Grade Dielectric Grease on the face of the connector and very small 'spot' amounts in the sockets acts as an added layer of protection from humidity.

Channel 3 Connector Pinout and Signals:

View from Front of the Connector:



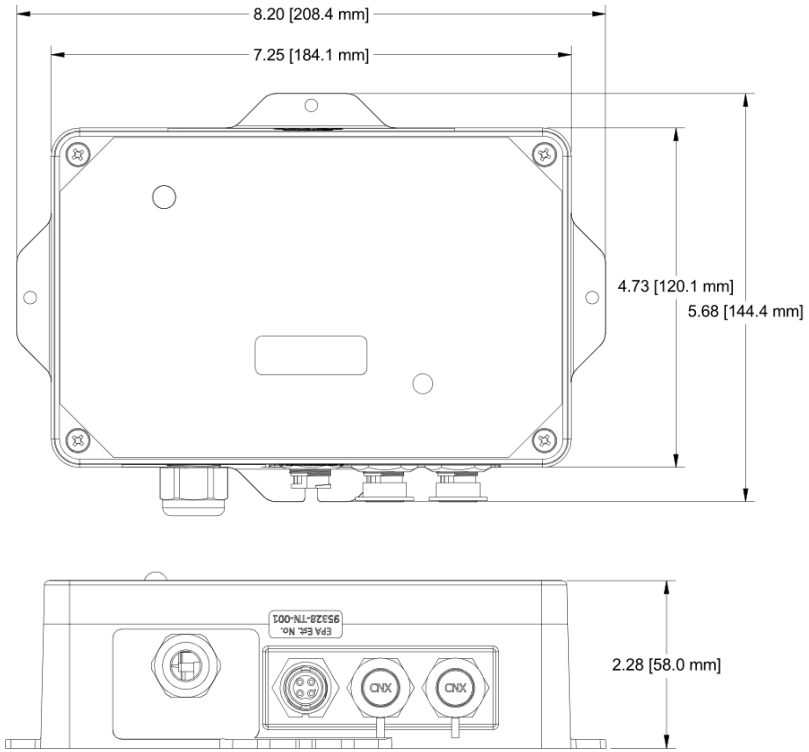
Pin-1:	+10Vdc Output
Pin-2:	RxD from external modem
Pin-3:	TxD to external modem
Pin-4:	Circuit Common

Connection Notes:

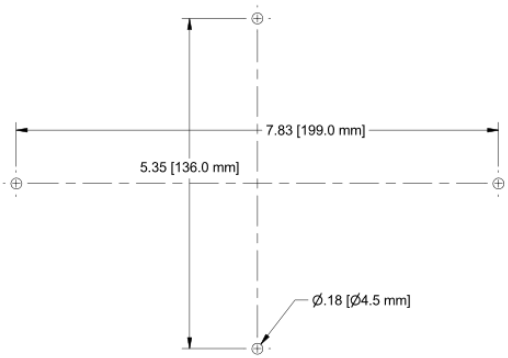
1. When using a voltmeter, connecting the probes to Positive(+) Pin-1 and Negative(-) Pin-2, the reading can be between 8Vdc to 12Vdc.
2. The connections are rated as IP-67. But, the use of a very small amount of Food Grade Dielectric Grease on the face of the connector and very small 'spot' amounts in the sockets acts as an added layer of protection from humidity.

If the cable-side connector needs replacing request KITS0233 from our website www.hydro-bioscience.com used on Channels 1, 2, and 3.

Product Package Dimensions



Mount Pattern And Mounting Hole Description:



Drill Hole:
#6 Drill Size, 0.204in, 5.2mm
#8-32 or equivalent screw

Use Stainless Steel 18-8 minimum
Hardware

Specifications

Parameter	Specification	Notes/Descriptions
Nominal Input Rating:	85Vac to 264Vac, 1.4Aac, 50/60Hz	
Channel-1 Output Rating:	40Vdc, 1.75A Continuous	
Channel-2 Output Rating:	40Vdc, 1.75A Continuous	
Channel-3 Output Rating:	10Vdc, 0.75A Continuous	
Bluetooth Range:	Approximately 60m to 100m	
Ingress Rating, Enclosure:	IP-67 minimum, IP-68 Typical based on 2weeks testing	
Ingress Rating, Connectors:	IP-67 minimum	
Dimensions, LxWxH mm, in:	208 x 144 x 58mm, 8.2 x 5.7 x 2.3in	
Weight, kg, lb:	0.98kg, 2.17 lb	
Storage Temperature:	-35°C to 60°C, -31°F to 140°F	
Operating Temperature:	-35°C to 55°C, -31°F to 131°F	

GENERAL WARRANTY

Hydro BioScience, LLC (HBS) warrants that the product will be free from defects in materials and workmanship for a period of 3 years (1 year for accessories) from the date of purchase of the product by the original purchaser from HBS. This warranty only applies to the original purchaser and is not transferable to the third party.

If the product proves defective during the warranty period, HBS either will repair the defective product without charge for parts and labor or will provide a replacement in exchange for the defective product. Parts, modules, and replacement products used by HBS for warranty work may be new or reconditioned like new performance. All replaced parts, modules and products become the property of HBS.

To obtain service under this warranty, customer must notify HBS of the defect before the expiration of the warranty period. Customer shall be responsible for packaging and shipping the defective product to the service center designated by HBS, and with a copy of customer proof of purchase. Customer must ensure that an RMA (Return Material Authorization) number has been received from HBS. This RMA number must be printed on outside of the return packaging.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. HBS shall not be obligated to furnish service under this warranty:

- a) to repair damage resulting from attempts by personnel other than HBS representatives to install, repair or service the product;
- b) to repair damage resulting from improper use or connection to incompatible equipment;
- c) to repair any damage or malfunction caused by the use of non-HBS supplies;
- d) to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

Please contact the nearest HBS's Sales and Service Offices for services. For better after-sales service, please visit www.hydro-bioscience.com and register the purchased product online. Warranty may also be requested on-line, along with obtaining an RMA, automatically.

Excepting the after-sales services provided in this summary or the applicable warranty statements, HBS will not offer any guarantee for maintenance declared or hinted, including but not limited to the implied guarantee for marketability and special-purpose acceptability. HBS should not take any responsibility for any indirect, special, or consequent damages.

For Customer Service, and to request an RMA or obtain Return Information, please call Hydro Bioscience, LLC at 888-500-5011.

For all returns, clearly mark the RMA # on the outside of the packaging and send to:

Hydro Bioscience, LLC
414 Century Court
Piney Flats, TN 37686
RMA Number: _____