Because it's all about

control.

APEX

Practical Multipurpose Utility Pump (PMUP)
User Guide

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PMUP – INTRODUCTION

The PMUP is a 24VDC fixed-speed submersible multipurpose pump that can be used for many different tasks on your aquarium. The PMUP directly connects to the DC24 accessory ports on either the 1LINK module -OR- the DC24 ACC ports on the new Energy Bar 832. Its most popular uses will be:

- Automatic Top-Off (ATO)
- Carbon reactors
- GFO reactors
- Biopellet reactors
- Many other salt or freshwater uses

The specifications of the PMUP are:
- 24VDC
- 17 watts power consumption
- 100GPH @ 0 head
- 14 feet maximum head
- Dimensions – 4.58" x 2.24"
- Power cable length: 6.5′ / 2m

The PMUP is intended as an accessory for use with any Apex aquarium controller equipped with either an Energy Bar 832 or a 1LINK module. An Apex and an EB832 -or- an Apex and 1LINK module are required.

An optional 10′ / 3m extension cable is available; the Neptune Systems part number is CBL-DC24-EXT.

PLUMBING YOUR PMUP

The output tube of the PMUP is 3/8″ in diameter, and may be used with 3/8″ quick disconnect fittings or 3/8″ ID flexible tubing. Tubing and quick-disconnects are not included with the PMUP.

Neptune Systems recommends the use of quick-disconnect fittings (3/8″-3/8″ female-female or 3/8″-1/4″ female-female) and polyethylene tubing (commonly called RO/DI tubing in the hobby) or polyurethane tubing as illustrated here:

PMUP with 3/8–3/8″ quick-disconnect & 3/8″ tubing   *PMUP with 3/8–1/4″ quick-disconnect & 1/4″ tubing*

If 3/8″ ID tubing is used, it is recommended that silicone tubing be used versus vinyl or polyethylene tubing. Silicone tubing will grip the PMUP's output tube securely without the need for a clamp.
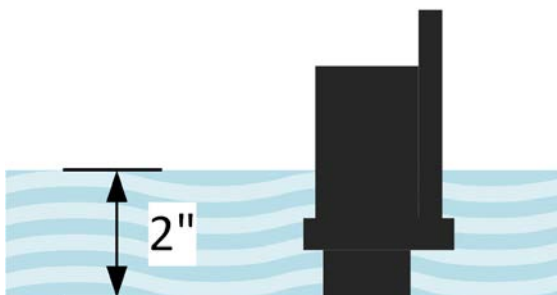

PMUP with 3/8″ ID silicone tubing

Optionally, an inline valve may be used to reduce flow, such as may be desirable when used for feeding some reactors.

PHYSICAL INSTALLATION

WARNING: The PMUP must be submerged in water during operation. <u>It must not be run dry.</u> If oriented vertically, the water depth must be at least 2″. If oriented horizontally, the water depth must be at least 2.5″.

CAUTION: The PMUP is intended for use in relatively clean water. It must not be used in an area where sand or other debris could be drawn into the PMUP. If sand or other hard debris enters the pump, it may fail; this will not be covered under warranty.

The PMUP is intended for submerged use at the bottom of a water vessel such as a sump chamber, an ATO reservoir, a 5-gallon jug, or in a barrel. The PMUP will fit through the bung hole of most barrels & drums, and through the opening in many wide-mouth water jugs.
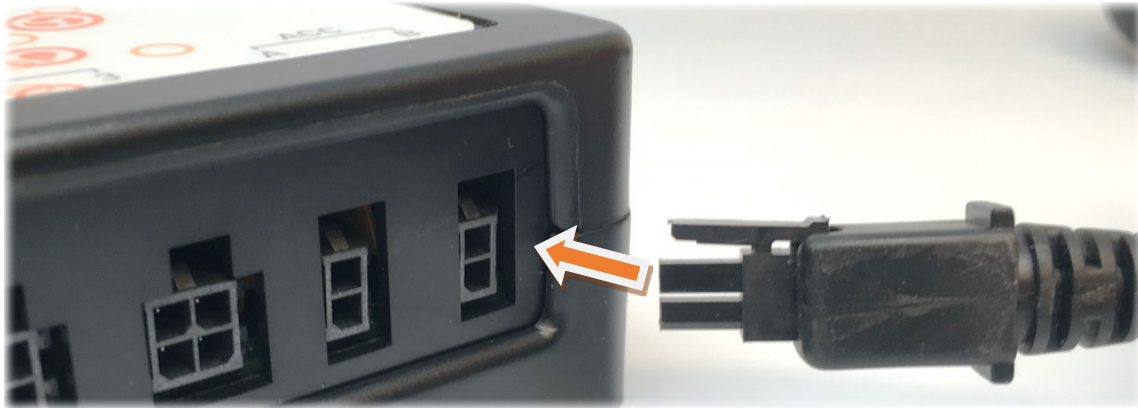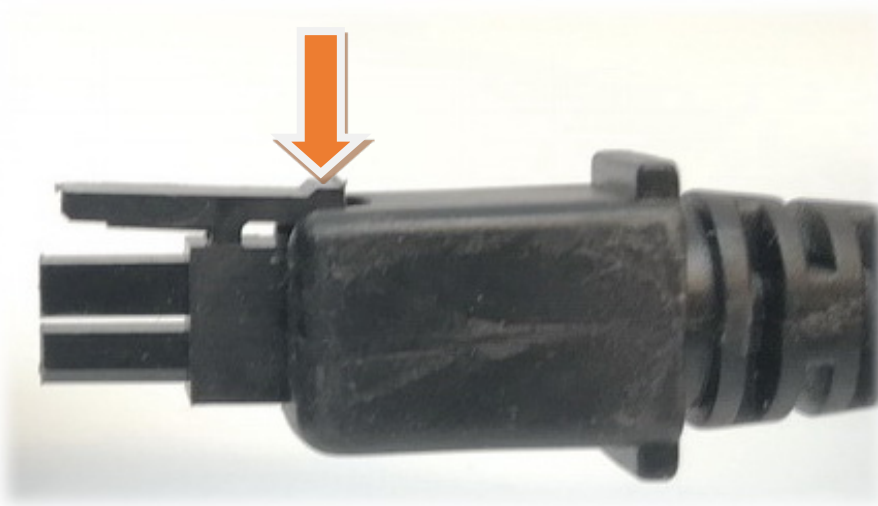

POWER CONNECTION

Connect the PMUP power cable to either one of the DC24/ACC ports on an Energy Bar 832 or a 1LINK module.

The plug is keyed and will only fit in the DC24 port one way. The plug has a locking tab; this tab must point in the same direction as the face of the EB832 or 1LINK module. Insert the plug as shown:
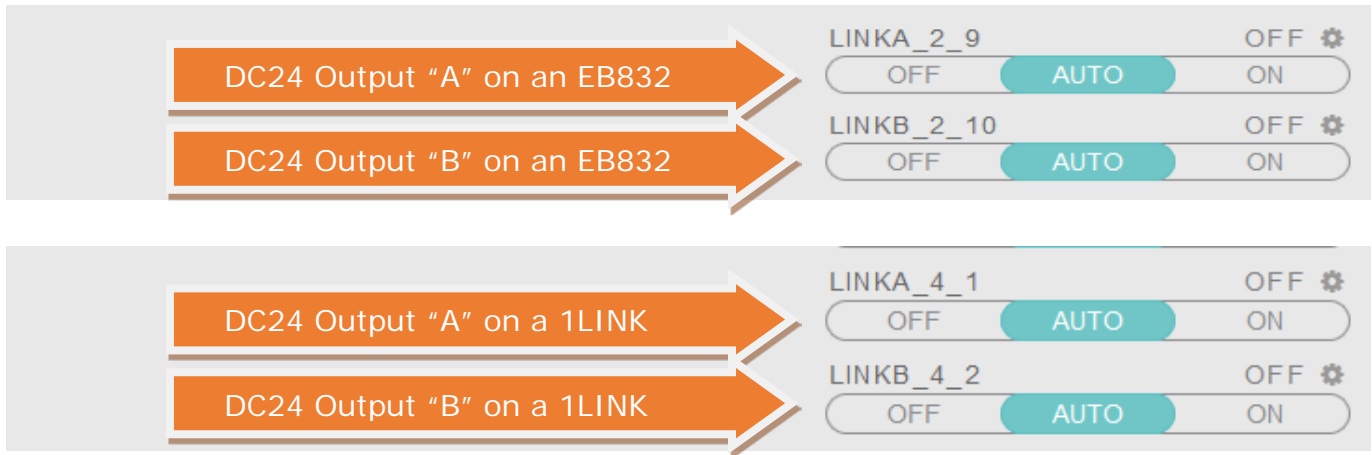

To remove the plug from the DC24 port, press down on the back of the locking tab, then pull it out.

CONTROLLING THE PMUP

The PMUP is controlled by the programming of the EB832 or 1LINK output to which it is connected. The tiles for these outputs appear in APEX Fusion like this:

DC24 Output "A" on an EB832 → LINKA_2_9   OFF ⚙   [OFF | AUTO | ON]

DC24 Output "B" on an EB832 → LINKB_2_10   OFF ⚙   [OFF | AUTO | ON]

DC24 Output "A" on a 1LINK → LINKA_4_1   OFF ⚙   [OFF | AUTO | ON]

DC24 Output "B" on a 1LINK → LINKB_4_2   OFF ⚙   [OFF | AUTO | ON]

The above images show the default names of the DC24 "A" and "B" outputs. The middle number indicates the AquaBus address of the EB832 or 1LINK, and will vary from system to system.

The output must be programmed to operate the PMUP as necessary for your particular application. Because the PMUP may be utilized in so many different ways, no programming examples are provided herein. Refer to other Apex documentation for general programming guidance.

NEPTUNE SYSTEMS LIMITED WARRANTY

Neptune Systems warrants this product to be free from defects in material and workmanship for a period of 1 year from the date of purchase. If repair or adjustment is necessary and has not been the result of abuse, Neptune Systems warrants this product to be free from defects in material and workmanship for a period of 1 year from the date of purchase. If repair or adjustment is necessary and has not been the result of abuse, misuse, or accidental damage, within the 1-year period, please return the product with proof of purchase, and correction of the defect will be made without charge.

For your protection, items being returned must be carefully packed to prevent damage in shipment and insured against possible damage or loss. Neptune Systems will not be responsible for damage resulting from careless or insufficient packaging. Before returning please obtain a return authorization (RMA) number from Neptune Systems. Returned merchandise will not be accepted without a RMA number. To obtain assistance with your Neptune Systems product, contact Neptune Systems technical support by phone or via the Technical Support Contact Web Page at https://www.neptunesystems.com.

Except for the warranty set forth above, Neptune Systems is not responsible for any damages including, but not limited to, consequential damage occurring out of or relating to the delivery, use or performance of Neptune Systems' products. Buyer's remedies for breach of warranty shall be limited to repair, or replacement and full or partial adjustment to purchase price.

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The symbols to the right mean that according to local laws and regulations your product should be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. Some collection points accept products for free. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.