BPC INSTRUMENTS

Motor and System Configuration Guide for BPC Agitation Systems

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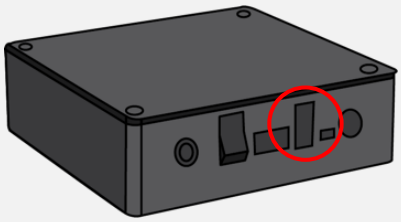
Overview of BPC Agitation Systems

The BPC Agitation systems are designed to provide multifunctional agitation capabilities for sample incubation units. These systems are essential for ensuring uniform mixing and consistent conditions throughout the incubation process. Key components of the agitation system include motors, a signal cable, and a Motor Controller Unit (MCU). Each of these components is available in various versions to accommodate the diverse configurations of BPC systems, ensuring compatibility with a wide range of applications.

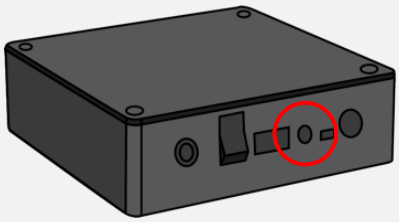
Motor Controller Unit (MCU)

The Motor Controller Unit (MCU) serves as the central control hub for the BPC Agitation system, managing motor speed, direction, and power. The MCU interprets the speed signal sent from the gas volume measuring device and transmits the necessary power to the motors to ensure proper operation.

MCUs are available in different software versions, ranging from v2.3 to v3.1, which can be differentiated through a sticker on the base of the MCU. Version v3.1, which is the most recent, comes with a choice of either an Aux input or a Molex input, depending on the system configuration. The main difference between the versions is compatibility: the newer MCU versions (v3.1 and above) are designed to work with both the older and newer motor generations, providing greater flexibility for system upgrades. Previous versions of the MCU (v2.3 and below) are compatible only with the older motor versions and do not offer the newer input options.



MCU with Molex input
(v3.1 and below)

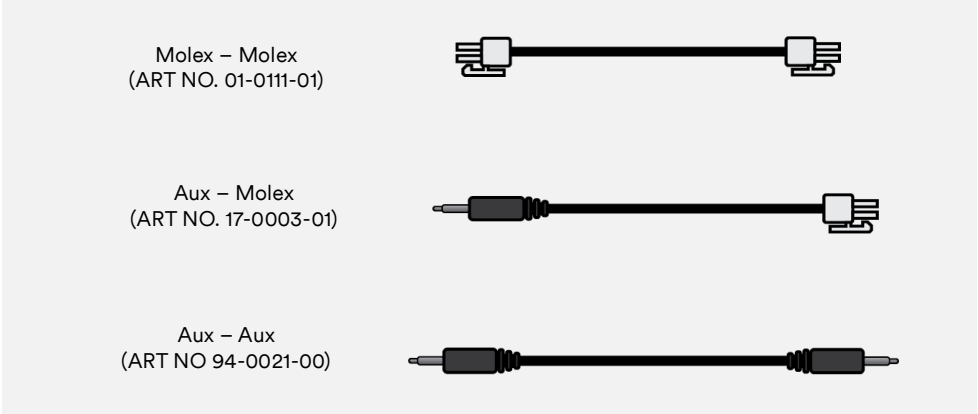


MCU with Aux input
(v3.1 and above)

The choice between an Aux or Molex input on the MCU is primarily based on the generation of motor and system you're working with, ensuring compatibility with the specific configuration of the BPC system.

Signal Cable Configurations

The signal cable is a critical component in connecting the MCU to the main system, enabling the transfer of control signals between the two. To accommodate various system designs, the signal cable is available in three different configurations:

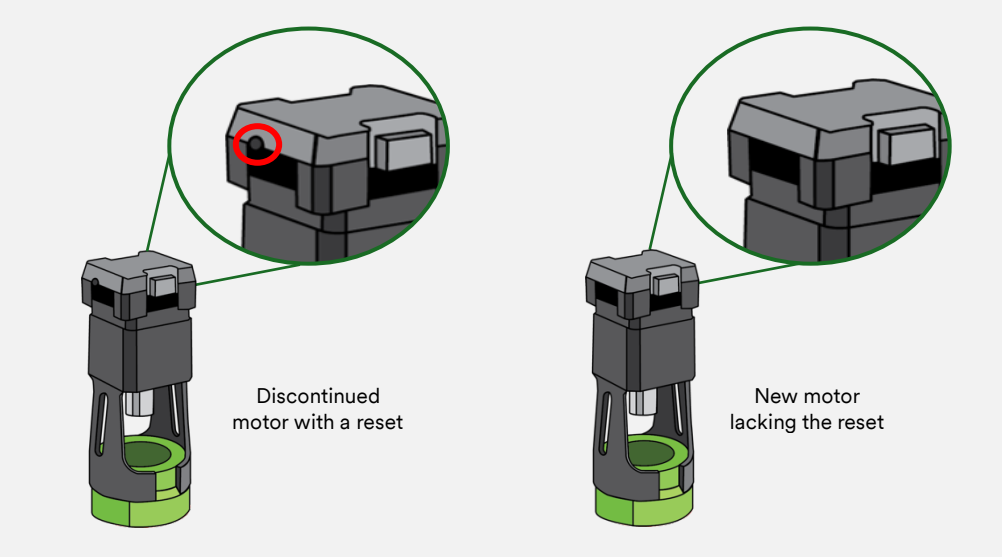


These different cable configurations allow the user to select the appropriate option based on the specific system being used. The choice of configuration is largely determined by the type of connection required for the gas volume measuring device or the motor controller.

Important Note: The AMPTS III and other third-generation systems feature an Aux input on their measurement units, making them compatible with the Aux cable configurations. On the other hand, older models, such as the AMPTS II, rely on the Molex connections. Therefore, it's important to ensure compatibility between the cable configuration and the system version when setting up the agitation system.

Motor Versions

There are two primary motor versions used in the BPC Agitation system. The older motor version, which was equipped with a reset button, was phased out in the summer of 2024. The newer motor version does not have the reset button. One key consideration is that these newer motors can only be controlled by an MCU version v3.1 or higher.

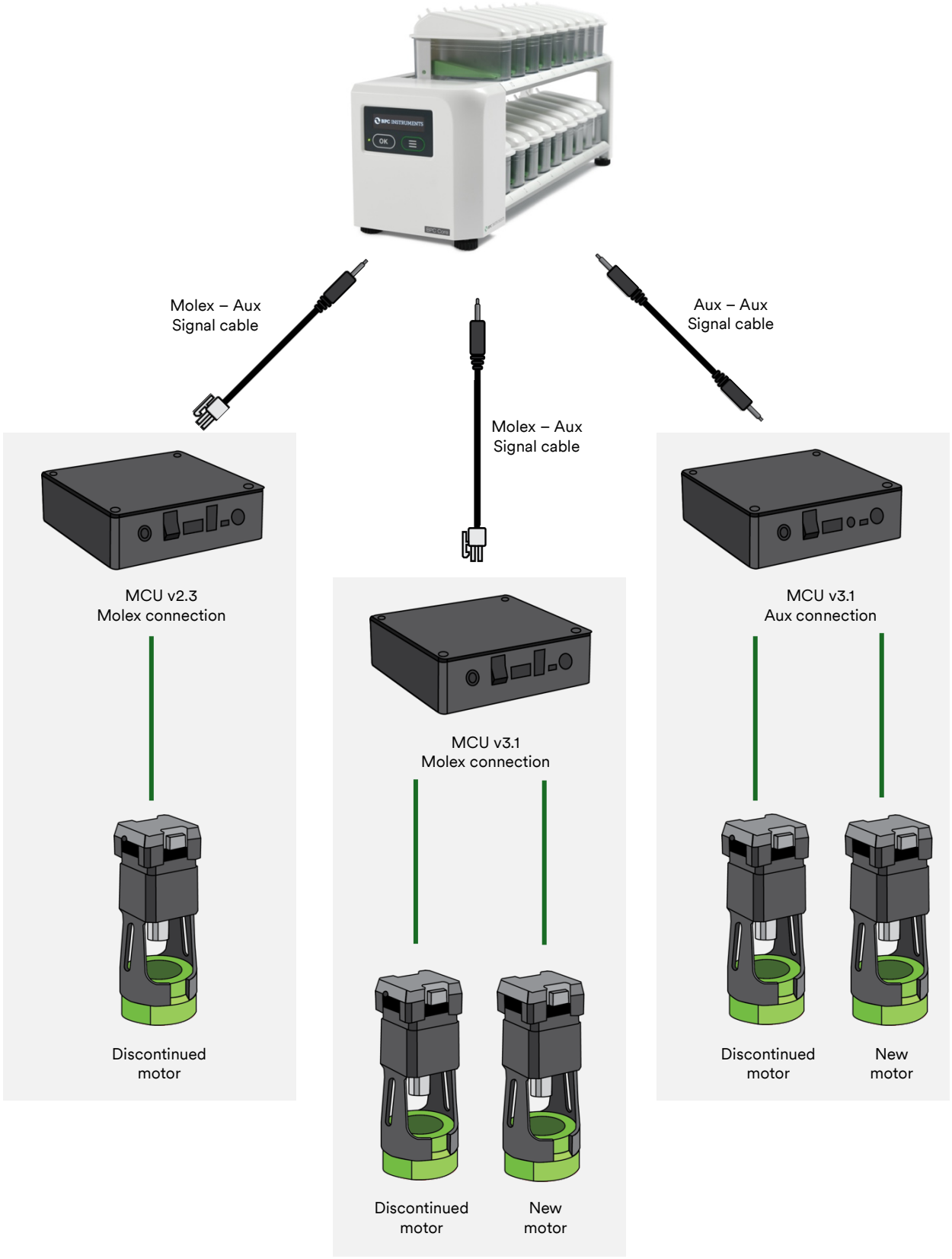


Despite this, the latest MCUs (v3.1 and above) are backward compatible and can control both the older and newer motor versions, providing flexibility for systems that are transitioning from older components to the newer. This compatibility ensures that users can upgrade their systems without needing to replace all components at once.

Important Note: The older and newer motor versions share identical plastic caps, with both caps featuring a cutout and raised text indicating where the reset button would be located. To differentiate between the two, it is important to check whether the reset button is visible or if only the cutout and text are present. The presence of the button indicates the motor is the discontinued version, while the absence of the button confirms it is the newer version.

BPC Agitation System Configurations for AMPTS III

This graphic shows the compatible MCU versions, motor types, and signal cable configurations specifically for AMPTS III systems.



BPC Agitation System Configurations for AMPTS II

This graphic illustrates the compatible MCU versions, motor types, and signal cable configurations for AMPTS II systems.