



Speed Queen Alliance ACA (C2 Harness)

BluKey Pulse and Serial Protocol

## Installation Manual



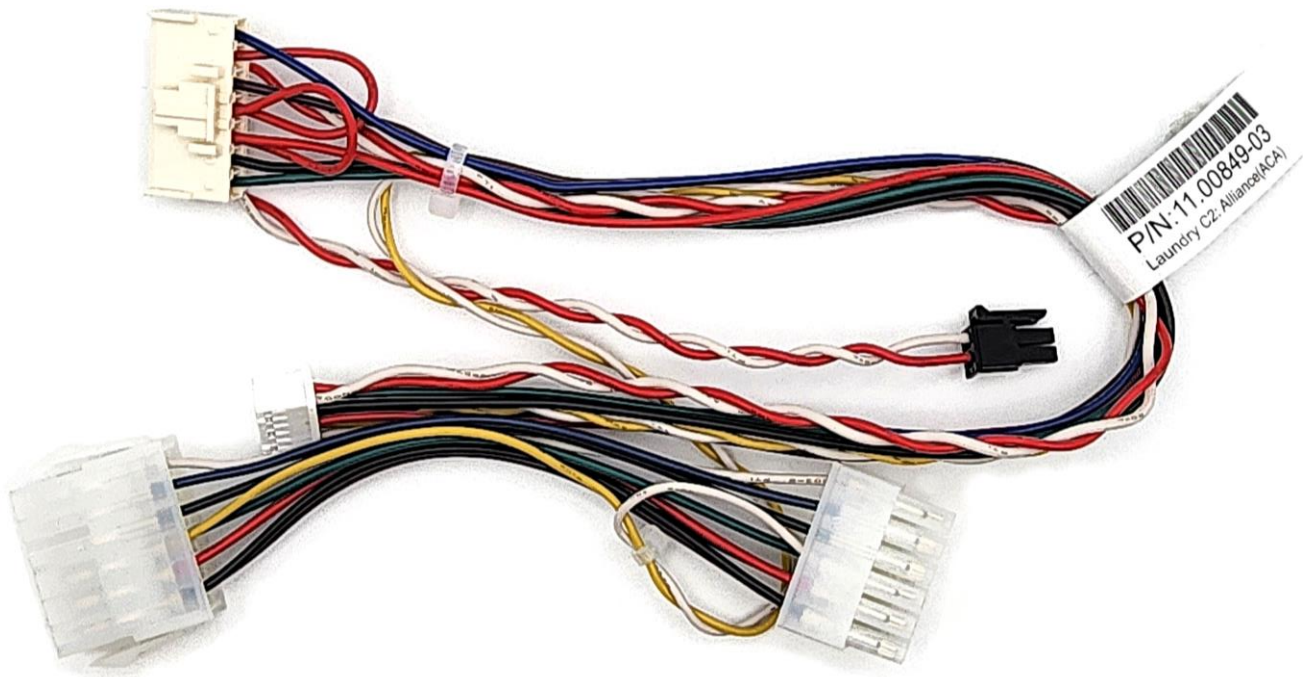
BluKey™ Pro Serial  
BluKey™ Pro Pulse



BluKey™ Pulse

## Preparing the Machine for Installation

- **Machine Power:** Ensure the laundry machine is disconnected from its power source.
- 
- **Installer Connectivity:** For BluKey registration, confirm your smartphone has a stable internet connection (Wi-Fi or cellular data) to use the PayRange App.
  - PayRange service requires data connection on a user's mobile device.
- **Required PayRange Hardware:** Ensure you have the correct harnesses and sufficient BluKey devices on hand to complete installations on all machines at the location.



**Figure 1**

## Machine Out of Order

- If the machine has **power**, register and connect to the BluKey and harness as usual.
- If the machine has **no power**, use another machine to power and register the BluKey. Use the Machine ID, position number, and harness type for the out-of-order machine.
- Leave the registered BluKey in the first machine. Once the broken machine is repaired or replaced, retrieve the device and install it in the correct machine.



**Figure 2**

## BluKey Configuration Steps

**Pulse Mode:** Use this mode when the machine is configured to accept coins or pulse signals from a coin mechanism. Pulse Mode installations are supported with either BluKey model: **BluKey Pro** or **BluKey Pulse**.

**Serial Mode:** Use this mode when the machine is configured to accept serial or card-based input. Serial Mode installations are supported only with the **BluKey Pro** model.

### BluKey Pro Model:

- Connect the **BluKey Pro** to the **C2 harness** as depicted in **Figure 3**.

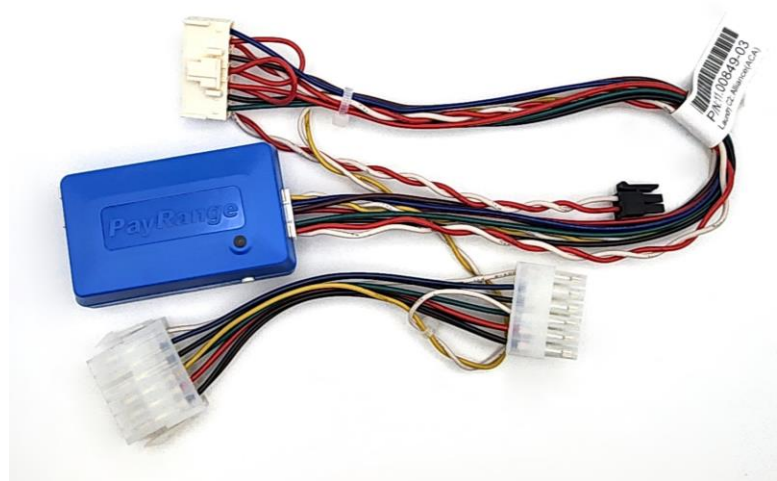


Figure 3

### BluKey Pulse Model:

- Connect the **BluKey Pulse** to the **Interface Module**.
- Connect the **C2 harness** to the other end of the **Interface Module** (See **Figure 4**)

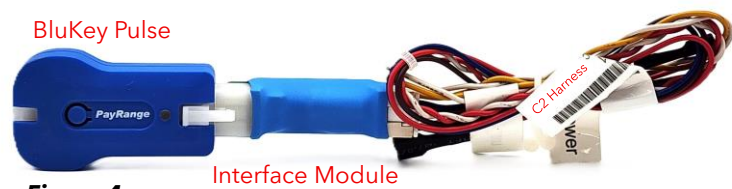


Figure 4

## Configure the Laundry Interface Module for BluKey Pulse Module Only:

**Important:** The interface module switches must be set to match the machine's settings and programming. Incorrect switch settings may cause the BluKey to be incompatible or behave unpredictably.

### Switch 1:

- **OFF**-BluKey's 12-pin coin connector will be used to audit coins.
- **ON**-Machine does not accept coins, or the coin audit function will not be used.

### Switch 2:

- **OFF**- Used for Washers. Payment will be disabled when the machine is in use.
- **ON**- Used for Dryers. Payment is always allowed for top-off transactions. Set to OFF to disable top off transactions

### Switch 3:

- Set to **ON** for all machines to accept BluKey Pulse.

### Switch 4:

- Unused

## Debit Port Installation

1. If not done so already, **disconnect** the machine from its **power** source.
  - a. Connect the BluKey to the harness.
2. **Open** the **control panel** to access the machine's control board.

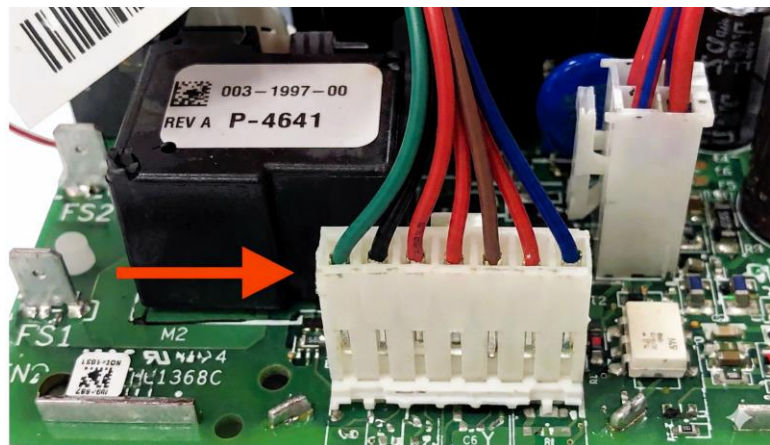


Figure 6

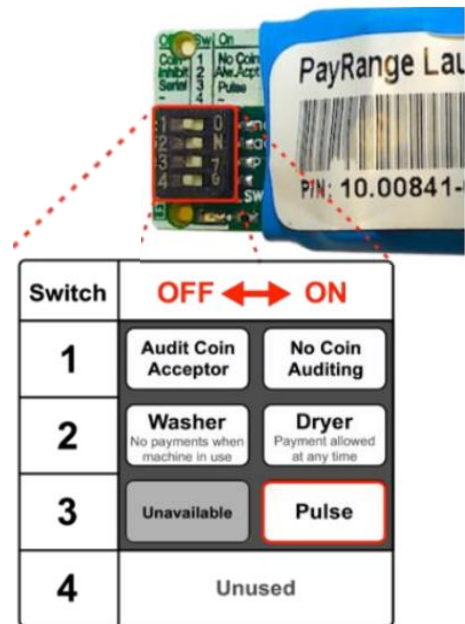


Figure 5

3. Plug the **7-pin** adapter from the C2 harness into the machine's **Debit Port** as seen in **Figure 6**.

## Control Board Variations (Pre-2021 vs. Post-2021)

Speed Queen Alliance machines using the ACA platform may contain one of two controller board versions, depending on the manufacturing year. The installation and configuration process for the C2 harness is similar for both versions; however, the method used to enable **Serial communication** differs.

### Pre-2021 Control Boards

These boards use physical **DIP switches** to configure machine communication settings.

Serial mode must be enabled by setting the appropriate DIP switch:

- **Switch 3 to ON** is located on the control board (**Figure 7**).

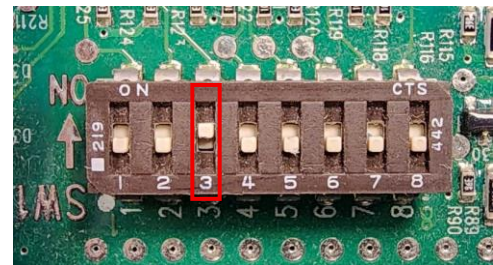


Figure 7

## Speed Queen-ACA Board-C2 Harness

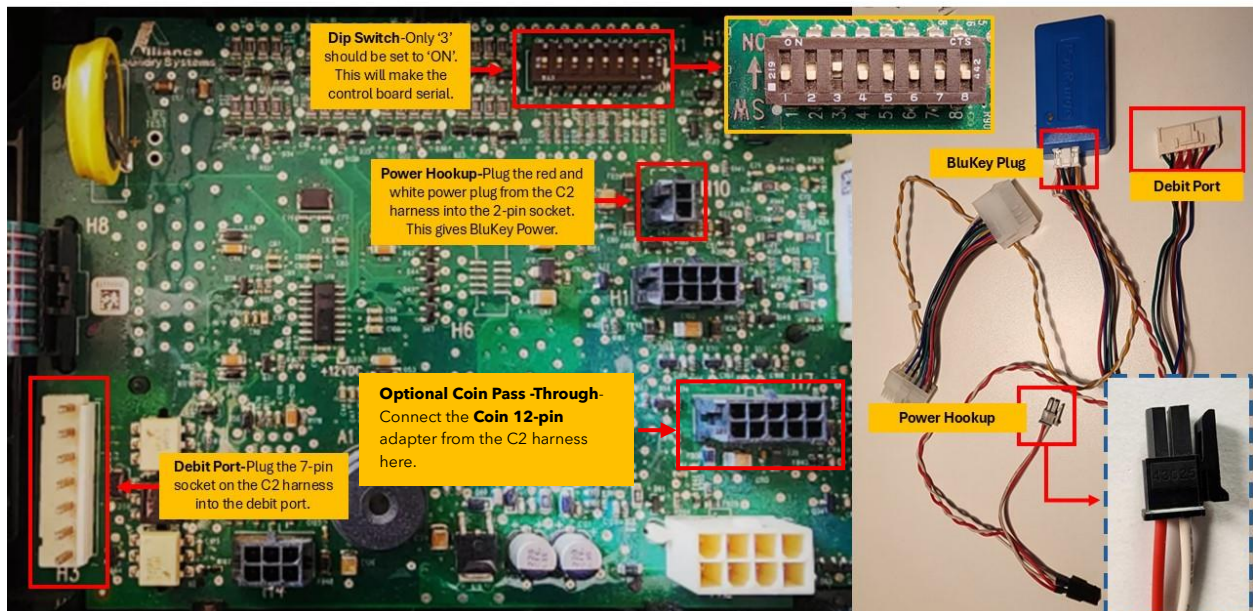


Figure 8

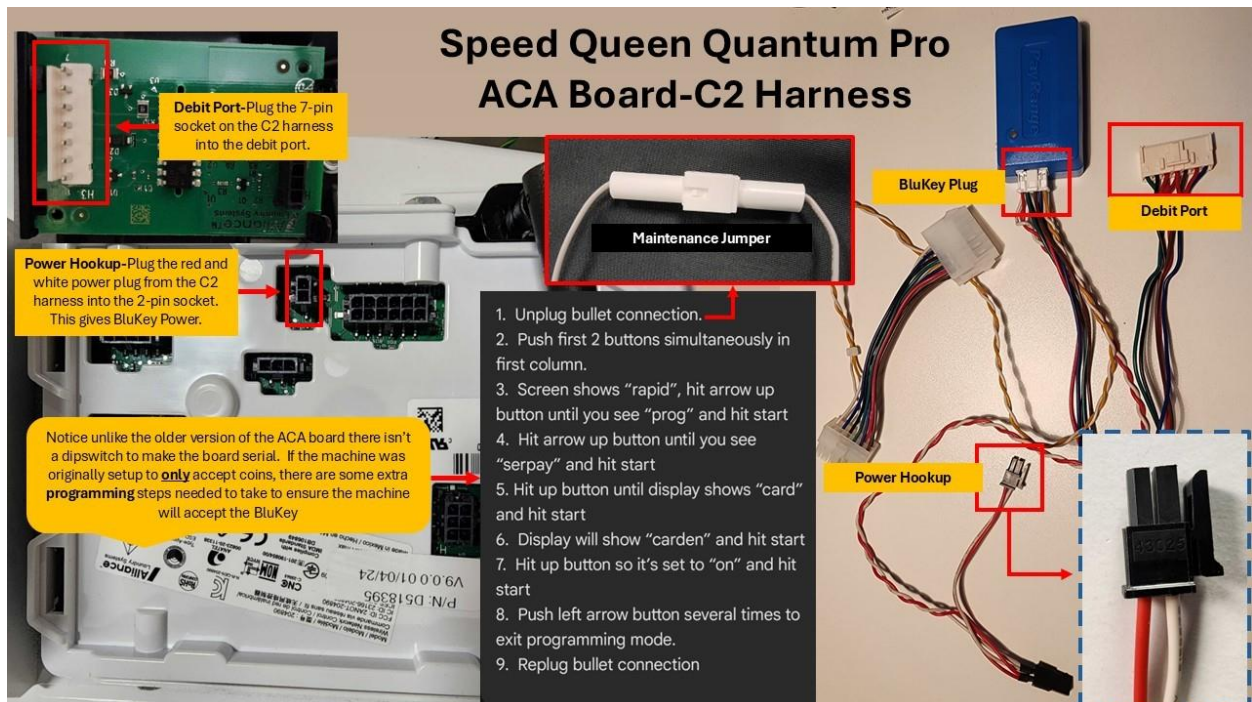
## Post-2021 Control Boards

For 2021 and later control boards, the C18 harness is the recommended harness for installation. The C2 harness may still be used; the optional coin auditing pass-through connector on the C2 harness is not compatible with 2021 or later controllers. If coin auditing is required, the C18 harness must be used. If coin auditing is not required, the C2 harness can still be installed normally.

Instead of using a DIP switch, **Serial mode must be enabled through the machine's internal programming menu.**

Installers must access the machine's **programming mode** to configure the controller to accept Serial communication from the BluKey device. **Figure 9** provides guidance on assessing the programming steps required to enable the Serial protocol. For additional assistance, refer to the **Speed Queen Programming Manual** or the machine's **service manual**.

Because of this hardware difference, installers should first **identify which controller board version is present** before configuring the machine. The **installation of the C2 harness remains the same**, but the method used to enable **Serial mode** will vary depending on the controller board type.



**Figure 9**

## Optional Coin Pass-Through

The coin pass-through connection is **used for coin auditing only** and is not required for PayRange operation.

**Important:** Do not connect the coin pass-through if the machine:

- Does not accept coins
- Uses dual coin acceptors
- Does not require cash reporting

### Pre-2021 Machine Control Boards

- I. Disconnect the 12-pin **machine coin/service harness** from the control board.
- II. Plug the **coin pass-through** connector from the **C2 harness** into the control board.
- III. Plug the 12-pin **machine coin/service harness** into the **coin pass-through** connector, as seen in **Figure 10**.



**Figure 10**

### Post-2021 Machine Control Boards

The coin pass-through connector on the C2 harness is **not compatible** with 2021 and later control boards.

**If coin auditing is required** on these machines, use the **C18 harness**, which is designed for compatibility with the updated control board.

**If coin auditing is not required**, the C2 harness may still be installed without connecting the coin pass-through.

## Power Adapter Installation

4. Locate the machine's **Power Hookup** on the machine control board. See the 2-pin ports from **Figures 8 & 9** for reference.
5. Connect the **Power adapter (Figure 11)** from the C2 harness into the machine's **Power Hookup**.
6. **Power on** the machine.



Figure 11

## Affixing Machine Decals

(Refer to the signage/decal placement reference guide for complete placement details)

- Number machines left-to-right and top-to-bottom to make it easier for customers to locate machines.

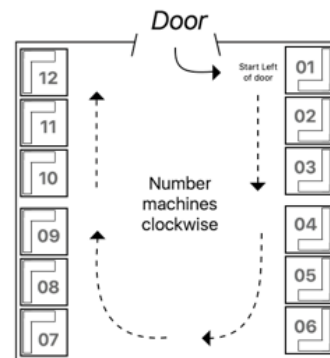


Figure 12

- For stacked machines that require two devices, top machine should be lower number.

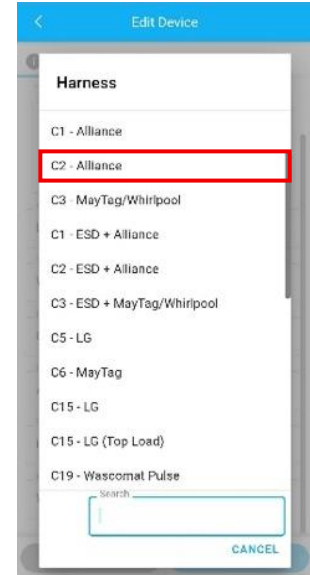


**Figure 13**

## Register BluKey with PayRange App

Refer to the “*Registering the PayRange BluKey*” reference guide for the complete steps for registration.

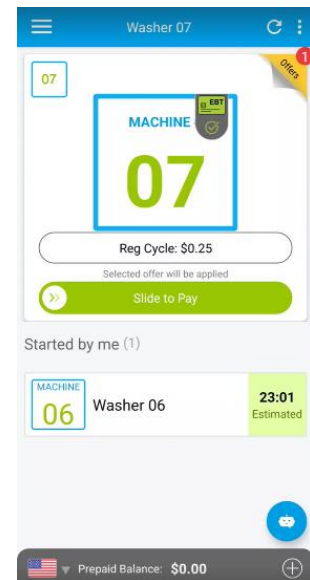
- Be sure to select the specific harness type during registration; in this case, select the **C2-Alliance** (see **Figure 14**).
- Under Protocol, select **Pulse or Serial** based on installation type.



**Figure 14**

## Test Transaction

1. On the main screen in the PayRange App, select the machine you wish to test payment.
2. Slide the **Green** arrow to the right to send a test transaction payment (**Figure 15**).
3. Verify the machine’s display shows the PayRange balance or value of free purchase code (**Figure 16**).
4. Press Start on the machine to begin the cycle or press the X in the PayRange App to cancel the transaction. The account will not be charged for a cancelled transaction.
  - If the test transaction is unsuccessful, refer to the “*PayRange Troubleshooting Guide*”.



**Figure 15**



**Figure 16**

**Repeat Steps for All Machines Requiring the C2 Harness.**