



Dexter (Relay Harness)

BluKey Pulse Protocol

Installation Manual



BluKey™ Pro Pulse



BluKey™ Pulse

Pre-Installation Requirements

- **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:** Verify you have the correct harnesses and sufficient BluKey devices on hand to complete installations on all machines at the location.
- **Required Tools:** Ensure you have a pair of pliers to properly crimp the Scotchlok™ tap connectors.



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** (Not included in harness kit).

Note: To be compatible with the PayRange **Relay Module**, the machine **must use** a pulse-type **coin acceptor**. The Relay Module cannot interface with serial or MDB coin acceptors.

BluKey Pro Model:

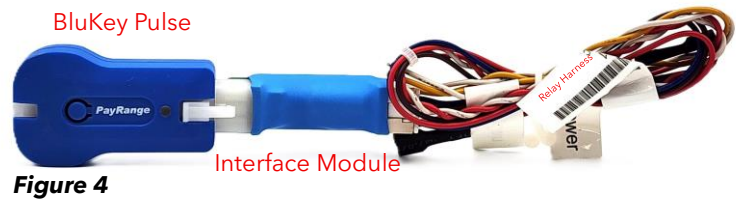
- Connect the BluKey Pro to the Relay harness (**Figure 3**).



Figure 3

BluKey Pulse Model:

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



Configuring the Interface Module (BluKey Pulse 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: Coin Audit

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

Switch 2: Machine Type

- **OFF (Washer Mode):** Payment is disabled when the machine is in use.
- **ON (Dryer Mode):** Payment is allowed at any time which enables top-off transactions.

- Note: To disable top off capability on a dryer, set this switch to **OFF**.

Switch 3: Pulse Protocol

- **ON:** Required for all machines using BluKey Pulse.

Switch 4: Unused

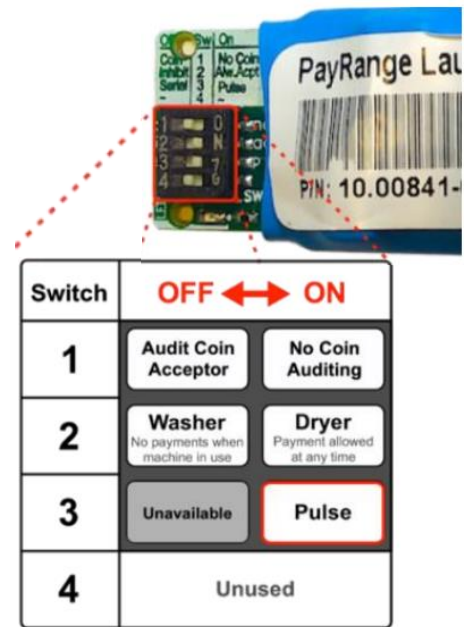


Figure 5

Prepare the Machine

1. If not done so already:
 - **Connect** the **BluKey** to the harness.
2. Use the service key(s) to **unlock** and access the control panel:
 - **Front-draw style panel:** Pull the panel forward to reveal the control board (**Figure 6**).
 - **Top-cover panel:**
 - Check for screws under the detergent bin cover and remove them if present.
 - Lift the top cover.



Figure 6

Instructions for Using 3M™ Scotchlok™ IDC Tap Connectors

Tap connectors allow a splice to be made at any point along a wire. Each connector contains a metal insulation-displacement contact (IDC) with two slots, one for the main wire and one for the tap wire. When crimped, the IDC pierces the wire insulation, allowing direct contact with the conductive strands and creating a secure electrical connection between the two wires.

1. Pull the metal brace partially out of the red plastic housing until there is enough clearance to fully insert the wires. Do not fully remove the metal brace, as reinserting it into the red plastic housing may be difficult.

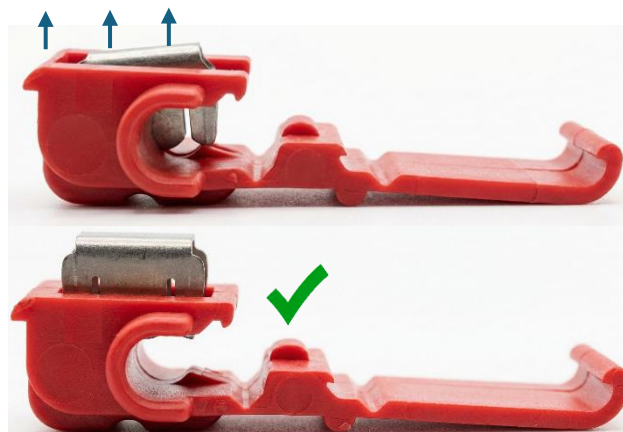


Figure 7

2. Insert the machine wire into the pass-through side of the connector.

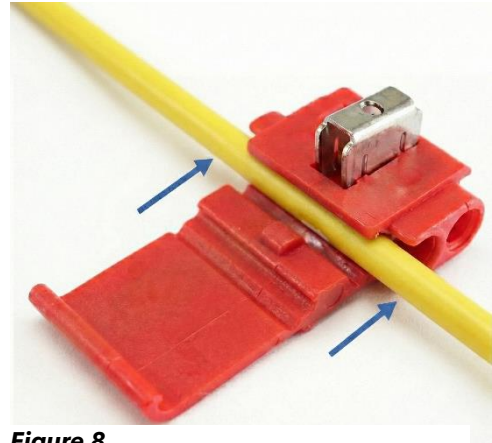


Figure 8

3. Fold the first tab section closed.



Figure 9

4. Insert one of the input wires from the Relay Harness kit based on the action being performed, either connecting to power or a coin acceptor. Refer to the sections below for specific instructions before proceeding.



Figure 10

5. Crimp the metal brace fully until it is flush against the plastic housing of the connector. Crimp from the center to ensure the brace seats straight and evenly.



Figure 11



Figure 12

6. Close the cover and apply firm pressure until it snaps securely into place.
7. Gently tug on the wires to verify they cannot be pulled out.



Figure 13

Connect Power to the Relay Module

The Relay Module includes a power adapter for either low or high voltage connection. Do not modify the power connector or use a non-PayRange power adapter. A label may be present on the machine's power transformer that can help identify the voltages present. The power transformer may have both low and high voltage sides, each with associated wiring. Always verify you are connecting to the correct wires by using a voltmeter before making any connections.

Supported Input Ranges:

1. Low Voltage: 20-36 VAC/VDC

2. High Voltage: 100-240 VAC



Figure 14

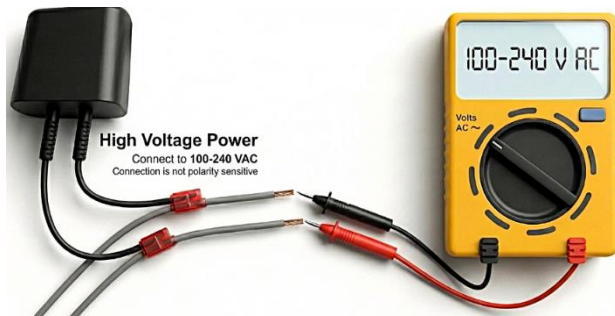


Figure 15

- Using the machine wiring diagram and voltmeter, locate a constant power source within the **Supported Input Ranges** depending on the power supply provided in the kit.

- Refer to **Figure 16** for an example of the high voltage power location. Please note that machine layouts may vary by model.

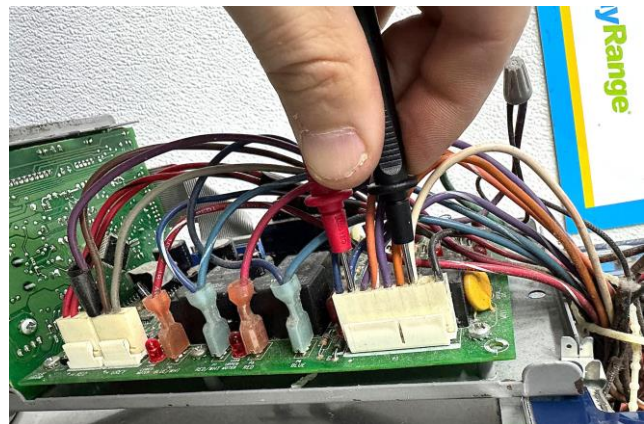


Figure 16

- Disconnect Machine Power:** Completely disconnect power by unplugging the unit or switching off the circuit breaker.
 - !WARNING: Electrical Safety.** The next steps in the installation involve splicing into existing electrical wiring. Failure to disconnect power may result in injury or equipment damage.

3. **Connect First Power Wire:** Using a red Scotchlok™ connector, splice one input wire from the PayRange power adapter to one of the machine's main power supply wires.
 - Refer to the "**Instructions for Using 3M™ Scotchlok™ IDC Tap Connectors**" section above for detailed crimping instructions.
4. **Connect Second Power Wire:** Using a second Scotchlok™ connector, splice the remaining input wire from the PayRange power adapter to the remaining machine power supply wire.
5. Plug the adapter into the RelayModule DC jack.



Figure 17



Figure 18



Figure 19

Identifying the Coin Acceptor & Connecting the Harness

There are four possible types of coin acceptors. Before proceeding, it is important to locate the coin mechanism and determine which type the machine is equipped with.

Optical Sensor: This mechanism accepts one coin at a time, which drops from the chute through an optical sensor opening. These units typically feature three or four wire leads, though some older models may use five.

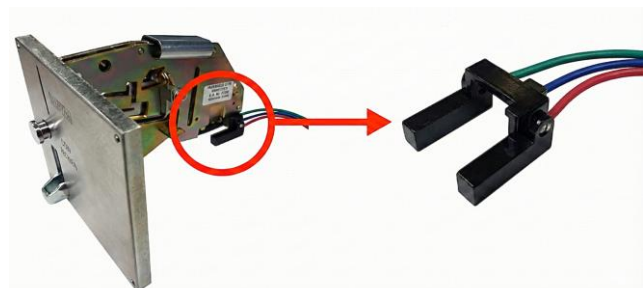


Figure 20

Dexter machines using an optical sensor mechanism will typically use three wire leads with the wire colors: **Red**, **Blue** and **Green**.

1. Use a Scotchlok to connect the yellow wire (pin 1) from the relay harness to either the **Blue** or **Green** coin mechanism wires.
2. Use a Scotchlok to connect the blue wire (pin 2) from the relay harness to the remaining-colored wire, **Blue** or **Green** from the coin mechanism wires.
3. Secure the unused white wire from the relay harness and **Red** wire from the machine to prevent it from touching any machine components.

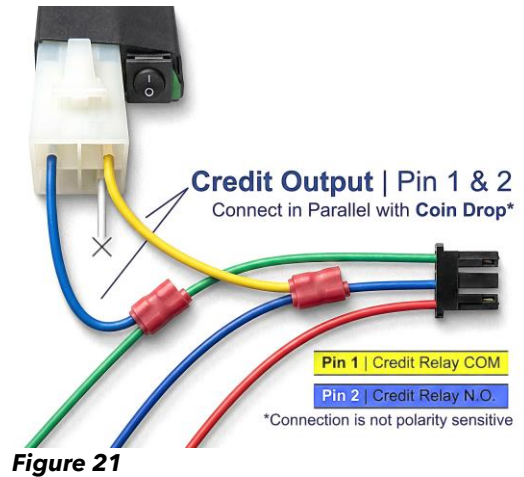


Figure 21

Microswitch: This mechanism accepts one coin at a time. As the coin drops through the chute, it physically strikes a wire lever or actuator to trigger the credit. While the switch has three connection terminals, only two wire leads are connected with no wire colors of significance.

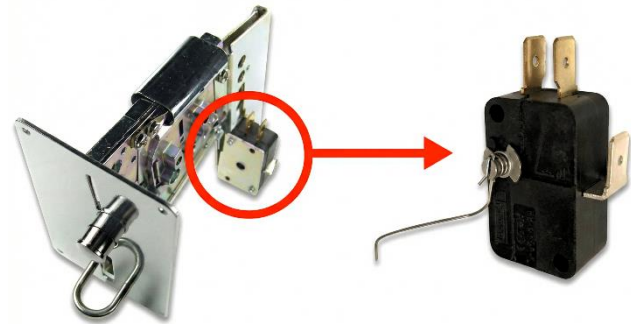


Figure 22

1. Connect the Yellow Wire (Pin 1) from the relay harness to either of the two microswitch wire leads using a Scotchlok connector (**Figure 23**).
 - **Tip:** You may temporarily disconnect the microswitch plugs to provide more slack while making the connection.
2. Connect the Blue Wire (Pin 2) from the relay harness to the remaining microswitch wire lead.
3. Secure the unused white wire from the relay harness to prevent it from touching any machine components.

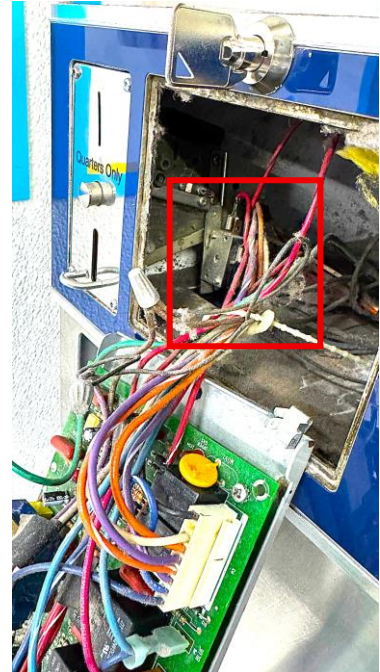


Figure 23

Coin Slide: This mechanism accepts multiple coins simultaneously. Coins are placed vertically into the slide tray, which must be pushed fully in to register payment.

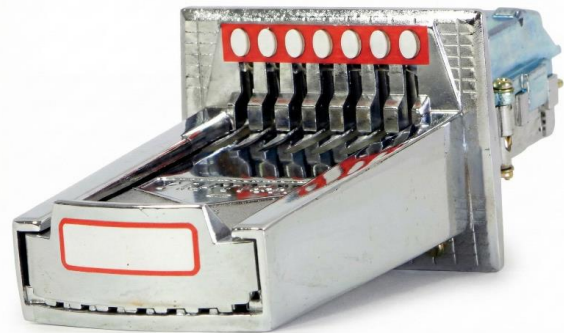


Figure 24

Mechanical timer coin slides are not compatible with the RelayModule harness. Timer type can be verified by looking under the service door.

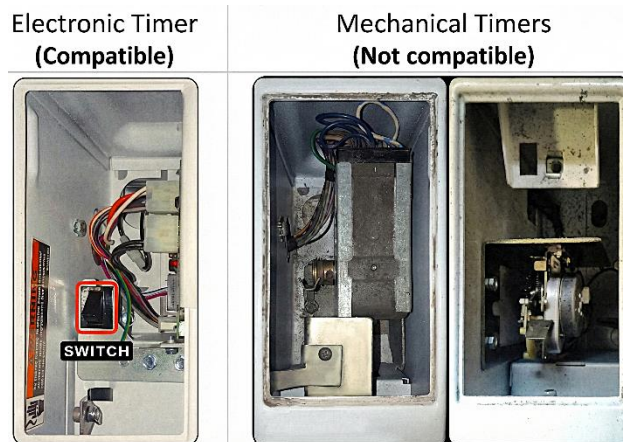


Figure 25



1. Open the coin slide service door to verify it has a compatible Electronic Timer as seen in **Figure 25**.
 - a. Electronic timers typically use a mechanical switch behind the slide; however, some models use an optical sensor.
2. Fish the wiring through the conduit so the PayRange hardware can be placed behind the control panel rather than under the service door, where it could obstruct coin slide movement.
3. Use a Scotchlok to connect the yellow wire (pin 1) from the relay harness to either of the two wire leads from the switch terminal.
 - To make it easier to connect the Scotchlok, you may temporarily disconnect the switch wire pin to give more leeway.
4. Use a Scotchlok to connect the blue wire (pin 2) from the relay harness to the remaining wire lead from the switch terminal.
5. Secure the unused white wire from the relay harness to prevent it from touching any machine components.

Third-Party: This category encompasses retrofit, aftermarket, and multiple-denomination coin mechanisms. It includes units from manufacturers such as Imonex, Setomatic, and Keltner Research. If you believe the Continental machine is using an aftermarket coin acceptor, please refer to the PayRange Relay Module Laundry Installation Guide For BluKey Pulse/Pro Pulse Devices.

Secure Wiring and Components

1. Ensure all splices are **secure**.
2. **Route** wiring away from moving parts.
3. **Mount** the RelayModule and BluKey safely inside the control area.
4. **Power on** the machine

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.

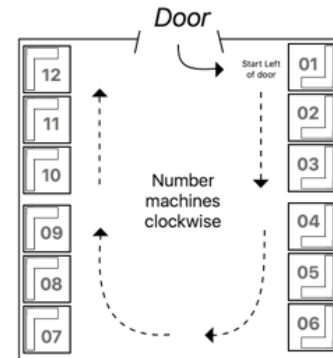


Figure 26

- Dexter stacked machines require only a single device because there is one control board per stack. Therefore, apply only **one decal number per stack**; this will result in skipping digits between machines. Refer to **Figure 27** for an example.



Figure 27

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 **K18-Relay Harness** (see **Figure 28**).
- Under Protocol, select **Pulse**.

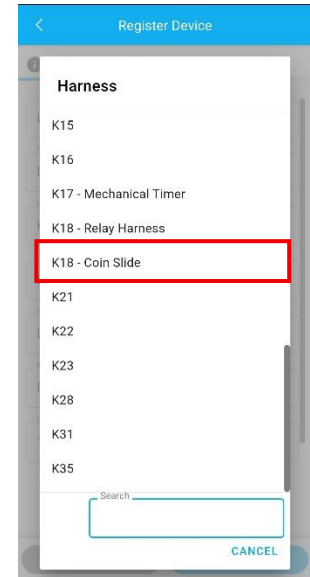


Figure 28

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 29**).
3. Verify the machine’s display shows the PayRange balance or value of free purchase code.
4. Depending on the machine type, the cycle may start automatically or may require you to press Start. If the machine does not start automatically, you may cancel the transaction by pressing the X in the PayRange app. Cancelled transactions are not charged to the account.
 - If the test transaction is unsuccessful, refer to the “*PayRange Troubleshooting Guide*”.

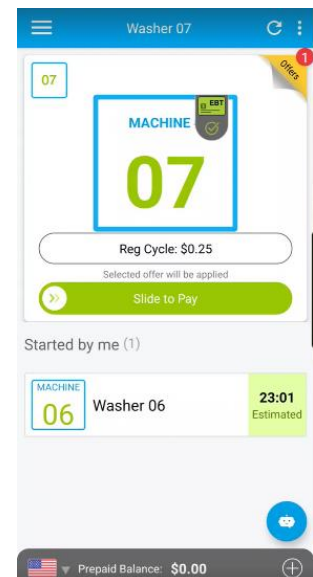


Figure 29

Repeat Steps for All Dexter Machines in the Room.