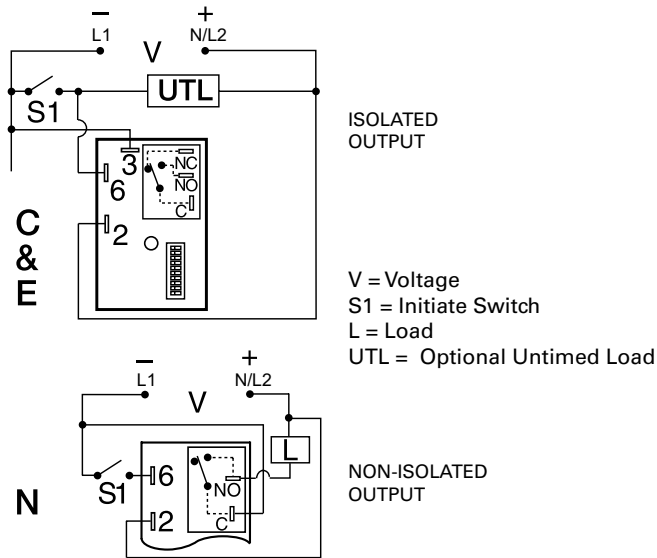


## HRV SERIES

### Coin Counter



### Wiring Diagram



### Ordering Information

| MODEL   | INPUT VOLTAGE | VEND TIME     | MODE OF OPERATION | OUTPUT FORM & RATING        |
|---------|---------------|---------------|-------------------|-----------------------------|
| HRV11SC | 12VDC         | 1 - 127s      | Coin totalizer    | 30A SPDT, NO (isolated)     |
| HRV24AC | 24VAC         | 0.25 - 31.75m | Accumulating      | 30A SPDT, NO (isolated)     |
| HRV41AE | 120VAC        | 1 - 127s      | Accumulating      | 30A SPDT, NO (isolated)     |
| HRV41SE | 120VAC        | 1 - 127s      | Coin totalizer    | 30A SPDT, NO (isolated)     |
| HRV42SE | 120VAC        | 5 - 635s      | Coin totalizer    | 30A SPDT, NO (isolated)     |
| HRV43AE | 120VAC        | 0.1 - 12.7m   | Accumulating      | 30A SPDT, NO (isolated)     |
| HRV43AN | 120VAC        | 0.1 - 12.7m   | Accumulating      | 30A SPDT, NO (non-isolated) |
| HRV43SE | 120VAC        | 0.1 - 12.7m   | Coin totalizer    | 30A SPDT, NO (isolated)     |

If you don't find the part you need, call us for a custom product 800-843-8848



### Description

The HRV combines the accuracy of microcontroller based circuitry with an electromechanical relay output. The HRV's switching capacity allows direct control of loads like compressors, pumps, motors, heaters, and lighting. The HRV "S" version provides a vend time after the selected number of initiate switch closures to start is reached. The HRV "A" version includes all of the "S" features and allows the total vend time to be extended for each additional initiate switch closure. The HRV is ideal for cost sensitive single coin or token vending machines. The electronic circuitry is encapsulated to protect against humidity and vibration.

#### Operation

##### Coin Totalizer & Vending Timer ("S" Version):

Input voltage must be applied prior to & during operation. When the total number of S1 initiate switch closures equals the number to start set on the lower 3 DIP switches, the load energizes and the vending time set on the upper 7 DIP switches begins. At the end of the vending time, the load de-energizes and the vending time is reset. Closing the initiate switch during vend timing will have no affect on vend time delay.

##### Accumulating Vending Timer ("A" Version):

Input voltage must be applied prior to and during operation. When the total number of S1 initiate switch closures equals the number to start set on the lower 3 DIP switches, the load energizes and the vending time starts. For every initiate switch closure, the HRV unit adds one time per coin period, as set on the upper 7 DIP switches, to the total vending time.

Operation Note: If S1 is closed when input voltage is applied, the output remains de-energized and the S1 counter remains at zero closures. At least one "vend time" and one "closures to start" DIP switch must be in the "ON" position for proper operation.

**Reset:** Removing input voltage resets the vend time delay, the S1 closure counter, and de-energizes the output relay.

### Features & Benefits

| FEATURES                                               | BENEFITS                                                                                           |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Microcontroller based</b>                           | Repeat accuracy + / - 0.1%,<br>Setting accuracy 0 - 2%, or 50ms                                    |
| <b>Encapsulated</b>                                    | Protects against shock, vibration, and humidity                                                    |
| <b>30A , 1Hp at 125VAC,<br/>normally open contacts</b> | Allows direct control of loads like compressors,<br>pumps, motors, and heaters without a contactor |
| <b>Switch selectable<br/>coin start</b>                | Allows user flexibility to select the number of coins<br>to start vending cycle                    |
| <b>Coin switch can be<br/>connected to a counter</b>   | Provides user with accurate count of total number of<br>coins collected                            |

## HRV SERIES

### Accessories



#### P1023-6 Mounting bracket

The 90° orientation of mounting slots makes installation/removal of modules quick and easy.



#### P1015-13 (AWG 10/12), P1015-64 (AWG 14/16) Female Quick Connect

These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.



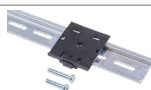
#### P1015-18 Quick Connect to Screw Adapter

Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.



#### C103PM (AL) DIN Rail

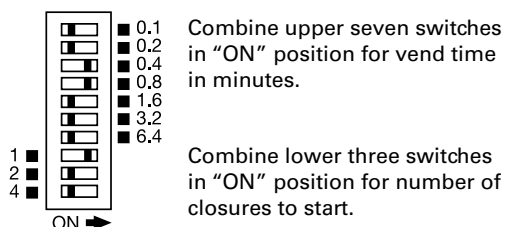
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



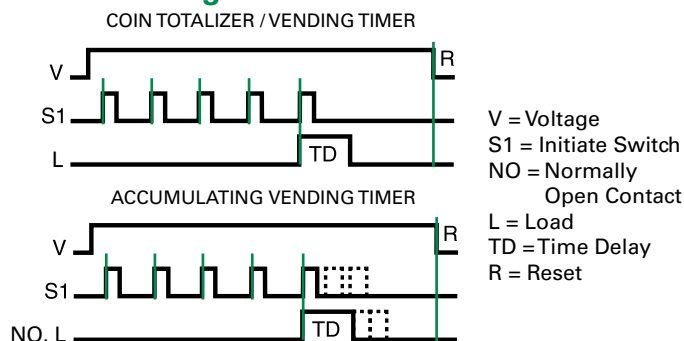
#### P1023-20 DIN Rail Adapter

Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

### Switch Adjustment



### Function Diagram



### Specifications

#### Count Functions/

#### Switch Type

Mechanical (counts on switch closure)

#### Minimum Switch

#### Closure Time

≥ 20ms

#### Minimum Switch Open (between closures) Time

≥ 20ms

#### Count Range to Start

1 - 7 counts

#### Maximum Counts

250

#### ("A" Version)

#### Time Delay/Range \*\*\*

Adjustable 1s - 31.75m in 4 ranges

#### Adjustment

7 of a 10 position DIP switch

#### Setting Accuracy

0% to +2% or 50ms, whichever is greater

#### Repeat Accuracy

±0.1% or 20ms, whichever is greater

#### Reset Time

≤ 150ms

#### Time Delay vs Temp.

≤ ±2%

#### & Voltage

#### Input

#### Voltage

12 or 24VDC; 24, 120, or 230VAC

#### Tolerance

#### 12VDC & 24VDC/AC

-15% - 20%

#### 120 & 230 VAC

-20% - 10%

#### AC Line Frequency/DC Ripple

50/60 Hz / ≤ 10%

#### Power Consumption

AC ≤ 4VA; DC ≤ 2W

#### Output

#### Type

Electromechanical relay

#### Form

Isolated, SPDT or non-isolated, SPDT

#### Ratings

#### SPDT-NO

#### SPDT-NC

#### General Purpose

30A

15A

#### 125/240VAC

#### Resistive

30A

15A

#### 125/240VAC

#### 28VDC

20A

10A

#### Motor Load

#### 125VAC

1 hp\*

1/4 hp\*\*

#### 240VAC

2 hp\*\*

1 hp\*\*

#### Life

Mechanical - 1 x 10<sup>6</sup>;

Electrical - 1 x 10<sup>5</sup>, \*3 x 10<sup>4</sup>, \*\* 6,000

#### Protection

#### Surge

IEEE C62.41-1991 Level A

#### Circuitry

Encapsulated

#### Dielectric Breakdown

≥ 1500V RMS input to output on isolated units

#### Insulation Resistance

≥ 100 MΩ

#### Mechanical

#### Mounting

Surface mount with one #10 (M5 x 0.8) screw

#### Dimensions

H 76.7 mm (3"); W 50.8 mm (2");

D 38.1 mm (1.5")

0.25 in. (6.35 mm) male quick connect terminals

#### Termination

#### Environmental

#### Operating/Storage

#### Temperature

-40° to 70°C / -40° to 85°C

#### Humidity

95% relative, non-condensing

#### Weight

≈ 3.9 oz (111 g)

\*\*\*For CE approved applications, voltage must be removed when a switch position is changed.