



WS-02-1



WS-02-2



### Description

- Electronic Module for Water Meter: WS-02-Series is a device used in conjunction with a water meter to count meter pulses.
- Can transmit pulse signals to the KM-24-L meter or other devices for display.
- Provides 2 outputs: counts pulses for forward flow and reverse flow.
- Supports real-time data viewing when connected to the KM-24-L, reducing the need for personnel to manually record water meter readings.

### Operation

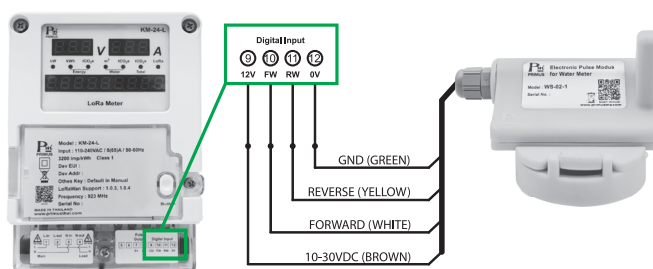
WS-02-Series is a device mounted on the face of a water meter. It reads pulse signals from the water meter for both incoming flow (Forward) and outgoing flow (Reverse), and transmits the pulses to the KM-24-L meter to display water consumption. The KM-24-L calculates the net total by subtracting the reverse flow from the forward flow:

$$\text{Total Count} = \text{Forward Count} - \text{Reverse Count}$$

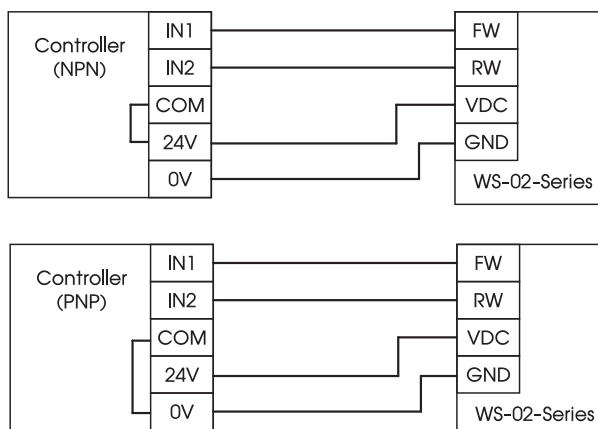
In addition, the KM-24-L can be connected to a computer via a LoRaWAN gateway to record and process water consumption data, as well as generate invoices and billing statements using software (Billsoft).

### Wiring Diagram

Example of connection with the KM-24-L meter.



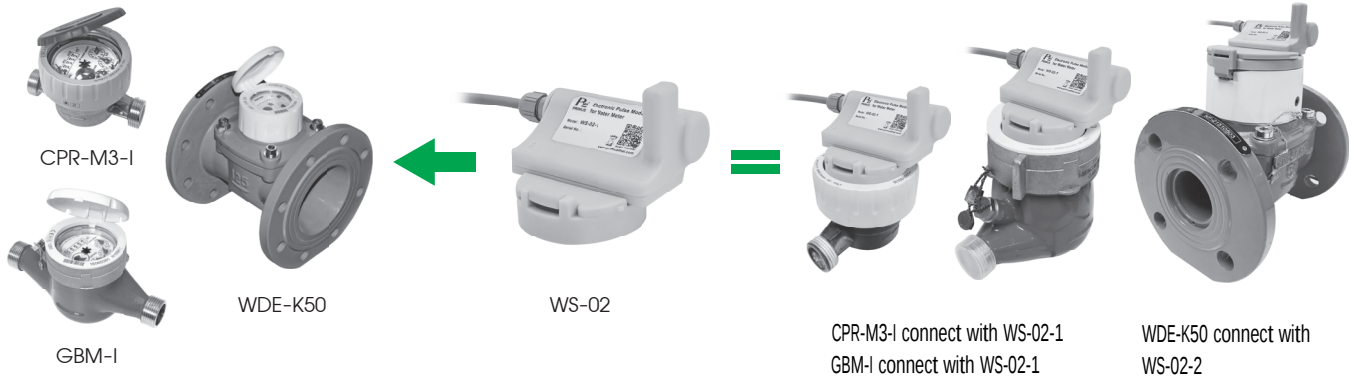
Example of connection with Controller.



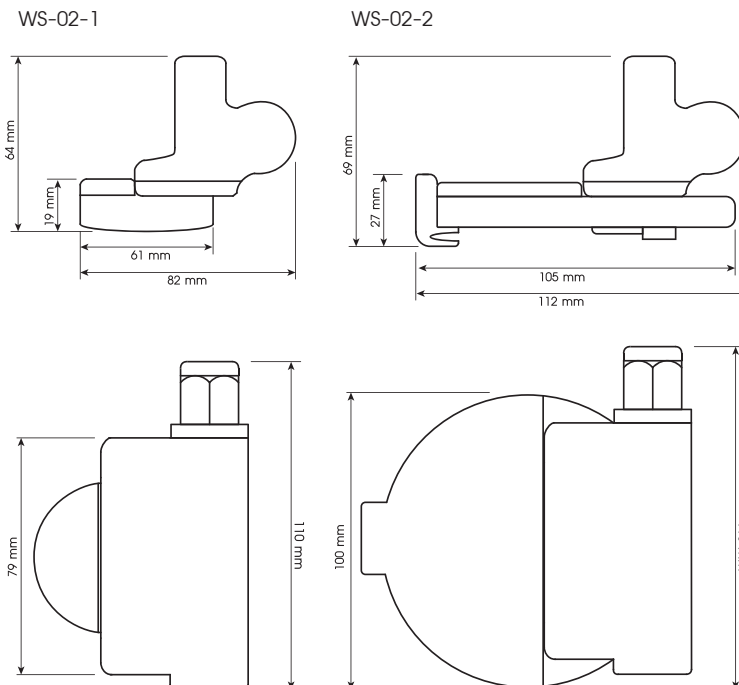
### Specification

| Model                                   |                          | WS-02-1                                        | WS-02-2                          |
|-----------------------------------------|--------------------------|------------------------------------------------|----------------------------------|
| Power supply                            |                          | 10-30VDC<br>(KM-24-L Include Supply for WS-02) |                                  |
| Current consumption                     |                          | < 100mA / 24VDC                                |                                  |
| 2 Pulse Outputs for Forward and Reverse | Electrical design        | Push Pull                                      |                                  |
|                                         | Function                 | NO                                             |                                  |
|                                         | Max voltage drop         | 1.5 + (0.04 x mA) VDC                          |                                  |
|                                         | Max output current       | 60mA                                           |                                  |
|                                         | Max switching frequency  | 2.2Hz                                          |                                  |
|                                         | Short circuit protection | Present                                        |                                  |
|                                         | Overload protection      | Present                                        |                                  |
| Cable                                   |                          | 1 m-PVC/PVC - 4 x 0.34 mm <sup>2</sup>         |                                  |
| Compatible water meter                  |                          | "B METERS" CPR-M3-I, GMB-I, (DIN 15-50)        | "B METERS" WDE-K-50 (DIN 50-200) |
| Pulse output value                      |                          | DIN 15-50<br>1 Liter / Pulse                   | DIN 50-200<br>10 Liter / Pulse   |
| Ambient Operation                       | Temperature              | 0°C to 50°C                                    |                                  |
|                                         | Humidity                 | 85% RH Non-Condensing                          |                                  |
| Ambient Storage                         | Temperature              | -20°C to 70°C                                  |                                  |
|                                         | Humidity                 | 85% RH Non-Condensing                          |                                  |
| IP rating                               |                          | IP 65                                          |                                  |
| Material                                |                          | ABS-V0                                         |                                  |
| Size (mm.)                              |                          | 110 x 82 x 64                                  | 115 x 112 x 69                   |
| Weight (kg.)                            |                          | 90 (Not include cable)                         | 120 (Not include cable)          |

## Installation



## Dimension



## Ordering Code

|         |                                                       |
|---------|-------------------------------------------------------|
| Size    |                                                       |
| WS-02 - |                                                       |
| 1       | Small Size : B METERS<br>CPR-M3-I, GMB-I, (DIN 15-50) |
| 2       | Big Size : B METERS<br>WDE-K-50, (DIN 50-200)         |