Remote Volume Pulser (RVP)

Technical Bulletin

RVP-FI

Designed for use on diaphragm meters with front-mounting indexes and rotary meters.

General Information

The RVP-FI uses a normally open (form "A") reed switch to supply accurate pulse outputs directly from the index drive for a wide range of diaphragm meters. The pulser's magnetic reed switch provides a dry-contact closure that protects the integrity of the electrical circuit. The output of the switch is available through an integral, 12-foot cable. The cable includes access to a loop for floating tamper detection circuits as well as a connection to the common when needed for tamper detection. Rigorous life and environmental testing has been performed on the RVP-FI to ensure dependable performance.

Applications

The RVP-FI is intended for low-voltage/low-current applications such as:

- Transmitting data to AMR/AMI devices
- Sending data to remote counters
- Logging flow data
- Operating flow control loops

Compatibility

The RVP-FI can be installed on:

- Diaphragm meters manufactured by Elster American Meter that use front-mounting indexes. This includes but is not limited to AL-175, AT-210, AT-250, AM-250, AC-250, AL-425 and AC-630 meters.
- ANSI class 250 and 400 diaphragm meters manufactured by Invensys/Equimeter/Rockwell and Actaris/Schlumberger/Sprague.
- All rotary meters manufactured by Elster American Meter

Installation

The RVP-FI mounts to the meter by utilizing the four screw holes typically used to install the index box. Instead of being attached directly to the meter, the index and index box are mounted to the pulser.

The RVP-FI is driven by a wriggler that engages with the meter's index drive. The wriggler is compatible with 1ft^3, 2ft^3 and 0.05m^3 drives.

RVP-FI Specifications

- One Form A, SPST-NO Switch
- One pulse per revolution of index drive
- Operating time: 0.3 milliseconds
- Bounce time: 0.3 milliseconds
- Initial contact resistance: 100Ω
- Maximum switching voltage: 24 VAC, 24 VDC
- Maximum switching current: 100 mA
- Power source: external
- Operating temp. -40°C to +70°C

Note: Also verify the operating range of the meter which might have a tighter operating range.
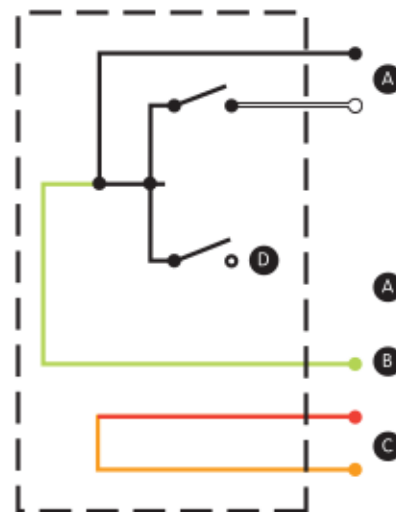
Ordering Information

The RVP-FI can either be installed on new meters in the factory or purchased as a kit for retrofitting. Each kit includes mounting hardware, security seals and a 12-foot cable. The kits do not include an index.

RVP-FI	Meter Brand
52870K161*	Elster American Meter
52870K261	Invensys/Equimeter/Rockwell
52870K361	Actaris/Schlumberger/Sprague

* This pulser can also be used on the RPM Rotary meters. Note installation will also require a separate mounting kit part # 93179K007.

RVP-FI Pulser Schematic

- **A** Pulse Output
- **B** Tamper Common
- **C** Floating Tamper
- **D** Spare

RVP-VI

Designed for use on diaphragm and turbine meters with vertical-mounting indexes.

General Information

The RVP-VI uses a normally open (form "A") reed switch to supply accurate pulse outputs directly from the index for a wide range of meters. The pulser's magnetic reed switch provides a dry-contact closure that protects the integrity of the electrical circuit. As a backup feature, a spare reed switch is included on the PCB to increase overall reliability. The output of the switch is available through an integral, 10-foot cable. Rigorous life and environmental testing has been performed on the RVP-VI to insure dependable performance.

Applications

The RVP-VI is intended for low-voltage/low-current applications such as:

- Transmitting data to AMR/AMI devices
- Sending data to remote counters
- Logging flow data
- Operating flow control loops

Compatibility

The RVP-VI can be installed on meters manufactured by Elster American Meter that use vertical-mounting indexes. This includes AL-800, AL-1000, AL-1400, AL-2300, AL-5000 and all turbine meters.

Options

- Available with or without an index. A brass or plastic index can be used with kits that do not include an index. Only plastic indexes are offered in pre-assembled kits.

- Detachable cable. An optional connector is available that allows the 10-foot cable to be disconnected from the index box.

- 10ft^3 per pulse for 5ft^3 indexes. Pulsers with 5ft^3 indexes can either be configured to send a signal every 5ft^3 or every 10ft^3. All other RVP-VI assemblies send one pulse per revolution of the index proving hand.

RVP-VI Specifications

- One Form A, SPST-NO Switch
- Operating time: 0.6 milliseconds
- Release time: 0.2 milliseconds

- Initial Contact resistance: 100Ω
- Maximum switching voltage: 24 VDC
- Maximum switching current: 100 mA
- Power source: external
- Operating temp. -40°C to +125°C

Note: Also verify the operating range of the meter which might have a tighter operating range.

Installation

If the RVP-VI is ordered with a pre-installed index. The old index box simply needs to be removed and the new RVP-VI index box installed. Installation is more complex if the RVP-VI is ordered without an index. Complete step-by-step instructions will be included with each kit to help guide the installation process.

RVP-VI Pulser Schematic
for vertical-index meters

Proving Circle Gear
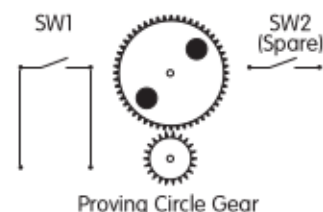
Ordering Information

The RVP-VI can either be installed on new meters in the factory or purchased as a kit for retrofitting. Each kit includes an index box, index box gasket, PCB, 10-foot cable, mounting hardware, security seals and 3 cable connectors. The kits may include an index.

RVP-VI w/ Connector	RVP-VI w/ Strain Relief	Index Included	Index Description	Volume Per Pulse
52981K111	52981K085	52934G001	5 Ft.³, 5 Circle Pointer	10 Ft³
52981K112	52981K086	52934G001	5 Ft.³, 5 Circle Pointer	5 Ft³
52981K113	52981K087	52934G002	5 Ft.³, 5 Circle Pointer, Temp. Comp.	10 Ft³
52981K114	52981K088	52934G002	5 Ft.³, 5 Circle Pointer, Temp. Comp.	5 Ft³
52981K115	52981K089	52274G001	5 Ft.³, 6 Digit Odometer	10 Ft³
52981K116	52981K090	52274G001	5 Ft.³, 6 Digit Odometer	5 Ft³
52981K117	52981K091	52274G002	5 Ft.³, 6 Digit Odometer, Temp. Comp.	10 Ft³
52981K118	52981K092	52274G002	5 Ft.³, 6 Digit Odometer, Temp. Comp.	5 Ft³
52981K119	52981K093	52319G001	5 Ft.³, 5 Digit Odometer	10 Ft³
52981K120	52981K094	52319G001	5 Ft.³, 5 Digit Odometer	5 Ft³
52981K121	52981K095	52319G002	5 Ft.³, 5 Digit Odometer, Temp. Comp.	10 Ft³
52981K122	52981K096	52319G002	5 Ft.³, 5 Digit Odometer, Temp. Comp.	5 Ft³
52981K123	52981K097	52935G001	10 Ft.³, 5 Circle Pointer	10 Ft³
52981K124	52981K098	52935G002	10 Ft.³, 5 Circle Pointer, Temp. Comp.	10 Ft³
52981K125	52981K099	52210G002	10 Ft.³, 6 Digit Odometer	10 Ft³
52981K126	52981K100	52210G011	10 Ft.³, 6 Digit Odometer, Temp. Comp.	10 Ft³
52981K127	52981K101	52320G001	10 Ft.³, 5 Digit Odometer	10 Ft³
52981K128	52981K102	52320G002	10 Ft.³, 5 Digit Odometer, Temp. Comp.	10 Ft³
52981K130	52981K104	52970G001	100 Ft.³, 6 Circle Pointer	100 Ft³
52981K131	52981K105	52211G002	100 Ft.³, 6 Digit Odometer	100 Ft³
52981K142	52981K141	52211G002*	100 Ft.³, 6 Digit Odometer, Temp. Comp.	100 Ft³
52981K135	52981K109	52971G001	1,000 Ft.³, 6 Circle Pointer	1000 Ft³
52981K136	52981K110	52212G002	1,000 Ft.³, 6 Digit Odometer	1000 Ft³
52981K129	52981K103	52170G002	0.1 m³, 6 Digit Odometer	0.1 m³
52981K133	52981K107	52171G002	1.0 m³, 6 Digit Odometer	1.0 m³
52981K134	52981K108	52178G002	10 m³, 6 Digit Odometer	10 m³
52981K139	52981K137	None[1]	None	
52981K140	52981K138	None[2]	None	

* Includes TC Label

[1] Includes 1 magnet per board - Pulse output will equal (twice) the drive rate.

[2] Includes 2 magnets per board - Pulse output will equal the drive rate.