



**MODEL TR28-2**  
 INDICATOR - TOTALIZER - TRANSMITTER  
 SOLID STATE CONSTRUCTION  
 CURRENT OUTPUT  
 ONE PULSE PER TOTALIZER COUNT  
 DIGITAL DISPLAYS

## SPECIFICATIONS

**TRANSMITTER** shall be encased in a sealed housing conforming to NEMA standards. It shall provide a solid state powered current outlet and an isolated scaled pulse equal to one totalizer count. The unit shall be a **WATER SPECIALTIES MODEL TR28-2** transmitter with a 4-20 mA DC output at a maximum instrument scale of \_\_\_\_\_. The enclosure shall be made from injection molded 20% glass filled engineered grade of thermoplastic. It shall have the ability to attach directly to the meter head with screws having holes for seal wires and be protected with an o-ring seal, or remotely mounted up to a maximum of 50 feet via special mounting adaptors sold separately.

**OUTPUT** shall be in direct proportion to the flow through the meter at the above current output. The signal shall be produced by a solid state printed circuit card and sensor output. The unit shall be encapsulated to protect it from moisture, and installed in an o-ring sealed bonnet with padlock hasp. The unit shall be powered by an external 12-32 VDC power supply wired in series with the current output.

The Transmitter must also meet the following requirements:

Accuracy:	True two wire current output, $\pm 0.25\%$ maximum, depending on range.
Operation temperature:	32° to 160° F
External power supply:	24 VDC Water Specialties Instrument ET424-20 or ET424-30 (cased) recommended.

Output signals: Combination 4-20mA Output and Isolated Scaled Pulse Output:  
 Standard 2 wire loop powered.

16 bits resolution.

Operating Voltage 12 to 32 VDC.

Power Switch Automatic Battery Override.

Scaled Pulse Output:

Open Collector MOS transistor.

Pulse width 32 milliseconds.

Maximum Rating 1 to 32 V.

**DIGITAL INDICATOR-TOTALIZER** shall be electronically driven by a sensor output directly from and proportional to the rotation of the propeller. The unit shall have a non-volatile EEPROM memory so total flow will not be lost during battery change or failure. The unit shall be equipped with a 2-year (when used with the display timeout into sleep mode feature) lithium battery backup system with a low battery indicator warning 6 months prior to failure. The lithium battery serves as stand-by power for the indicator-totalizer should the 24 VDC be interrupted. (The battery will power the display unit but not the 4-20 output.) The five digit indicator shall have .35" high numbers and a range of 0 to \_\_\_\_\_ (specify indicator range and units) and eight digit totalizer with .20" high numbers reading in units of \_\_\_\_\_ (specify totalizer units) and is accurate and linear within  $\pm 0.25\%$ , of reading, at all points on the scale when operated between 32° and 160° F. The totalizer shall be resettable from the panel or disabled permanently. The unit shall be encapsulated to protect it from moisture, and installed in an o-ring sealed bonnet with padlock hasp. Adapters shall be available to locate the digital indicator-totalizer-transmitter at remote locations up to 50 feet away.

**PARTS & SERVICE:** Supplier must have test facilities, spare parts, personnel to maintain, instruct, train or whatever is necessary to assure transmitters will be maintained throughout the guarantee period. Facilities must be located within \_\_\_\_\_ miles of the location of the meter.