

**MODEL TR-15**

TOTALIZER – TRANSMITTER
 SOLID STATE CONSTRUCTION
 CURRENT OUTPUT - SCALED PULSE RATE OUTPUT
 (TWO) 2 WIRE CIRCUITS

SPECIFICATIONS

TRANSMITTER shall be encased in a sealed housing conforming to NEMA standards. It shall provide a solid state, optically coupled pulse output and a loop powered current output to drive the associated instrument(s). The unit shall be a **WATER SPECIALTIES MODEL TR-15** transmitter with a 4-20 mA DC output at a maximum instrument scale of _____. Also available, if desired, is a pulse output of _____. The enclosure shall be made from injection molded 20% glass filled engineered grade of thermoplastic. It shall attach directly to the propeller meter head with screws having holes for seal wires and be protected with an o-ring seal.

OUTPUT shall be in direct proportion to the flow through the meter at the above pulse rate and current output. The signal shall be produced by a solid state printed circuit card and optic switch. The P/C card shall be protected with a dip application of clear sealer and run through an ultra violet light procedure to verify no voids occurred in the coating. The unit shall be powered by an external 12-30 VDC power supply wired in a loop with the current output. The 4-20 mA DC output shall not change or require any field adjustments with the varying voltage of the power supply.

The TR-15 must also meet the following requirements:

Accuracy:	True two wire current output, $\pm 0.5\%$ of full scale. Two wire isolated pulse output, $\pm 2.0\%$ of actual flow.
Temperature:	30° to 140° F
Polarity protection:	External power supply: 12-30 VDC 35 VDC pulse output reverse voltage.
Output load:	MA output non-polarized, current is rectified internally. pulse rate, 60 MA @ 18 V maximum. current output, 900 ohms or less.

TOTALIZER shall be a six digit, straight reading type with a 3" diameter, 100 division dial and center sweep test hand to permit timing for an accurate determination of flow rate. The totalizer shall read in units of _____ (specify totalizer units) and shall be magnetically driven and equipped with change gears to facilitate easy change of registration without removing pressure from the line. The totalizer shall be encased by an o-ring sealed bonnet made from injection molded 20% glass filled engineered grade of thermoplastic. The bonnet shall be attached to the transmitter by screws with seal wire holes and have a hinged lid with a padlock hasp. The bonnet mounting screws shall have holes for seal wires. Instantaneous indicator-totalizer is not desired and will not be accepted.

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.