WATER SPECIALTIES™
PROPELLER METER

MODEL TR15

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

TOTALIZER

DESCRIPTION

MODEL TR15 TOTALIZER-TRANSMITTERS provide a totalization of flow volume and both a 4-20 mA current signal and a pulse rate output signal proportional to the rate of flow when mounted on our meters. The unit features a magnetically driven totalizer, and solid state construction.

INSTALLATION is normally made at the factory when the meter is assembled, but installation may be made in the field by removing the standard totalizer assembly, and attaching the totalizer-transmitter to the meter head. The unit is furnished complete with all screws and o-rings necessary for installation.

CONSTRUCTION of the totalizer-transmitter features an o-ring sealed housing conforming to NEMA 4X standards.

TOTALIZER is o-ring sealed and magnetically coupled with the driving mechanism, and features a six digit totalizer with a full 3" diameter, 100 division, center sweep dial that permits extremely accurate readings for timing purposes in determining flow rates. The totalizer dial can be furnished in gallons, cubic feet, acre feet, or any standard liquid measuring units. The bonnet, with padlock hasp, can be positioned in four different directions for the easiest possible reading when the meters are mounted in unusual positions.

TRANSMITTER utilizes an optic switch (open collector transistor output). The standard 4-20 mA current output gives 4 mA output at zero flow and 20 mA output at maximum scale range. The standard pulse rate output (open collector transistor output) is 150 pulses per minute at the maximum flow range of the instrument that the transmitter is controlling. Other pulse rates available upon request in 50 PPM increments. (600 PPM max.) A four-lead shielded cable, four feet long, is furnished with each transmitter equipped with pulse output. A two-lead shielded cable, four feet long, is furnished if 4-20 mA only is ordered. The pulse output wiring will be provided only if requested (see ordering info).

O-RING SEALS are used at all points where seals are required, making the totalizer-transmitter mechanism completely immune to any of the corrosive effects of atmospheric moisture or the liquids measured by the meter assembly.

SPECIFICATIONS

ACCURACY Current output: plus or minus .5% of full scale of the instrument the transmitter is controlling.
Pulse output: plus or minus 2.0% of actual flow within the range specified for each meter size.

TEMPERATURE RANGE 140° F Maximum. Consult factory for special construction for higher temperatures.

POWER SUPPLY 24 VDC (as supplied by our power supply Model IN-36-1, available separately) wired in series with mA output and instrument. The mA output must be powered in order to use the pulse output. Note: Max. current consumption of transmitter is 20 mA.

FLOW RANGE Acceptable for each transmitter unit is the same as that for the meter to which the unit mounts.

MATERIALS Used in construction are chosen for their durability and immunity to the corrosive effects of atmospheric moisture and the liquids measured by the meter assembly.

OUTPUT SIGNAL Current signal: 4-20 mA (with loop impedance of 175Ω to 1075Ω. See chart on back), true two wire with external power supply. Pulse rate: 150 PPM. Other pulse rates available upon request. (150 PPM min. to 600 PPM max. in 50 PPM increments. Consult factory for other pulse rates.) The maximum recommended distance for pulse output transmission is 5000 ft. Note: Unit utilizes an open collector transistor output. 35 VDC reverse voltage polarity protection. The pulse output wiring will be provided only if requested (see ordering info).
Pulse Output Ratings
Maximums are for signals between P2 and P1
Voltage: 18VDC
Current: 60 mA DC
Power dissipation: 100 mW

SHIPPING WEIGHT 4 pounds

OPTIONAL EQUIPMENT A non-reversing ratchet, special outputs (consult factory for special applications).

ORDERING INFO Must be specified by the customer and includes:
Serial number of meter unit is to be mounted
Maximum scale range required for current and pulse output
Change gears and type of dial on totalizer that is going to be replaced. Pulse output is available on all units, but will be wired only if requested to eliminate possible improper hookups or damage to the circuit card.

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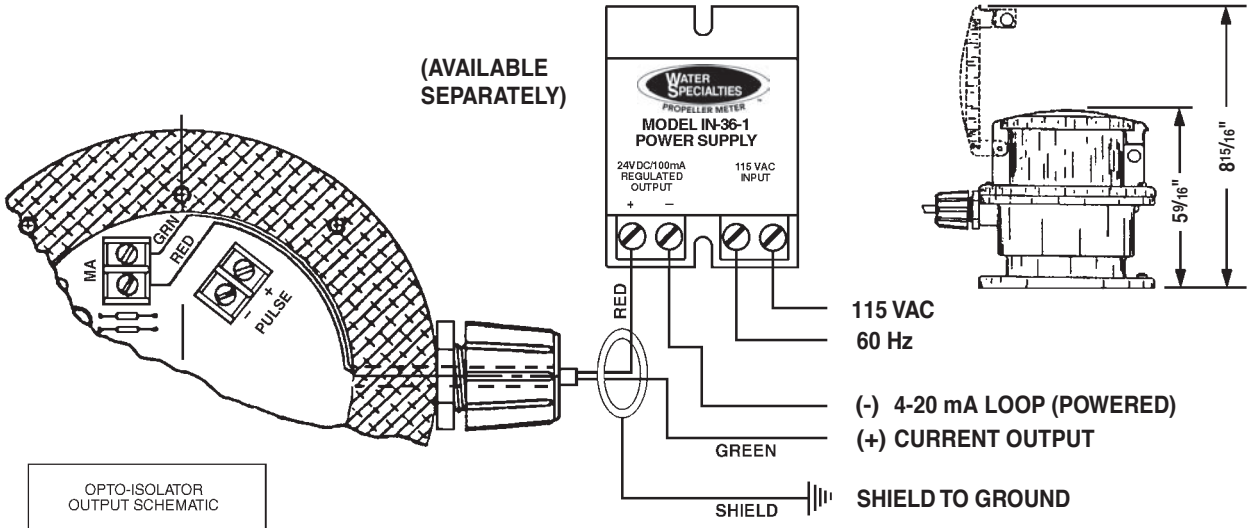
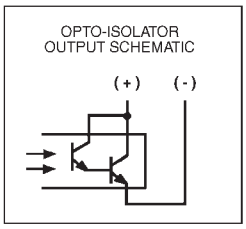
(TWO) 2-WIRE CIRCUITS

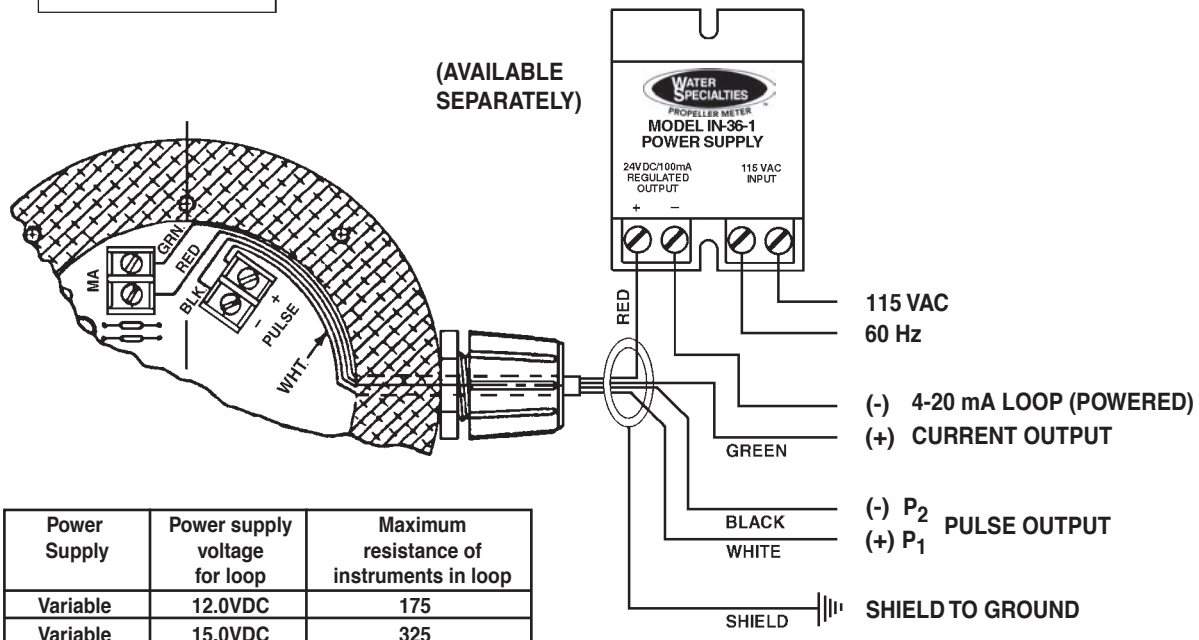
2 WIRE CIRCUIT CONNECTION
(STANDARD TRANSMITTER SUPPLIED WITHOUT PULSE OUTPUT)





NOTE: MAX. CURRENT CONSUMPTION OF TRANSMITTER IS 20 mA.

4 WIRE CIRCUIT CONNECTION (WITH PULSE OUTPUT)



Power Supply	Power supply voltage for loop	Maximum resistance of instruments in loop
Variable	12.0VDC	175
Variable	15.0VDC	325
Variable	18.0VDC	475
Variable	21.0VDC	675
IN36-1(24V)	24.0VDC	775
Variable	27.0VDC	925
Variable	30.0VDC	1075

NOTE: MAX. CURRENT CONSUMPTION OF TRANSMITTER IS 20 mA. UNITS WHICH ARE PROVIDED WITH ONLY 2 OUTPUT WIRES MAY BE REWIRED FOR 150 PPM PULSE OUTPUT BY STRIPPING BACK THE INSULATION ON BOTH ENDS OF THE OUTPUT CABLES AND WIRING AS SHOWN ABOVE.