



A PRODUCT SHEET OF NEPTUNE TECHNOLOGY GROUP

# Tricon/E<sup>®</sup>3 Transmitter

An electronic digital pulse output with the 4–20mA analog option is available for customers requiring both digital and analog outputs. Reverse flow indication is available with the high frequency forward/reverse pulse output option.

The TRICON/E<sup>®</sup>3 transmitter mounts between the meter maincase and the register. The bayonet-type mount allows the TRICON/E3 to be easily retrofitted to many existing Neptune<sup>®</sup> meters without interruption. Contact Neptune regarding compatibility.

The TRICON/E3 with the 4–20mA analog option provides an analog signal that is proportional to the flow. Together, the digital pulse signal and the 4–20mA analog output provide information on total consumption and flow rate for close monitoring of water usage.

The TRICON/E3 with the high frequency forward/reverse pulse output option can be used in applications where directional flow monitoring is required in addition to total consumption and flow information.

Every Neptune meter meets or exceeds the latest AWWA standards ensuring accurate, dependable performance.

Neptune TRICON/E3 units are ideally suited for monitoring/controlling total flow rate data such as:

- Instantaneous readout of customer consumption via remote instrumentation or computer
- Batch or continuous process
- Water softening regeneration
- Demineralization
- Reverse osmosis
- Chemical treatment/injection
- Filtration
- Boiler feed water make-up
- Cooling tower water make-up
- Irrigation
- High or low rate alarming
- Reverse flow alarming

Dual optical switches allow the TRICON/E3 to distinguish between forward and reverse rotation, eliminating false pulse generation under low or no flow conditions.



## KEY FEATURES

Electronic pulse output proportional to the meter's rate of flow

Electronic pulse output available with 4–20mA analog output or high frequency forward/reverse pulse output

Mounts between the meter and register – Direct Read, ProRead™, E-CODER<sup>®</sup>, E-CODER<sup>®</sup>R900i™, or E-CODER<sup>®</sup>R450i™

Utilizes dual optical switch type design which is more accurate and reliable than the older single optical switch designs

Stainless steel ball bearings minimize torque

Tamperproof seal pin to prevent unauthorized access

In-line adaptability allows installation or service without interrupting the meter service

## Warranty

- Neptune provides a limited warranty with respect to its TRICON/E3 transmitters for performance, materials, and workmanship.

## Performance Data

Meter Type & Size	Pulses/ US Gallons	Flow Rate @ 4 mA Output (US GPM)	Flow Rate Value @ 20 mA Output (US GPM)
<b>T-10®</b>			
5/8"	578.1	0	20
3/4"	322.6	0	30
1"	150.8	0	50
1 1/2"	67.57	0	100
2"	37.3	0	160
<b>TRU/FLO® Compound (turbine Side) and HP TRU/FLO (Turbine Side)</b>			
2" HP	6.095	0	200
3"	2.890	0	450
4"	1.590	0	1,000
6"	0.464	0	2,000
<b>HP Turbine</b>			
1 1/2"	6.095	0	160
2"	6.095	0	200
3"	11.20	0	450
4"	7.556	0	1,200
6"	0.727	0	3,000
8"	0.756	0	4,000
10"	0.756	0	6,500
12"	0.756	0	8,000
16"	0.076	0	13,500
20"	0.076	0	22,000
<b>HP PROTECTUS® III</b>			
4"	7.556	0	1,200
6"	0.756	0	2,888
8"	0.610	0	4,959
10"	0.533	0	9,209

## Electrical Characteristics (Over 0-70°C Operating Temperature)

Parameter	Description	Min	Max	Units
<b>HF and UP/DN Digital Pulse Model Measured with RL = 2.4 Kohms, CL = 50 pF</b>				
VCC	Supply Voltage (DC)	11.5	26.5	Volts
Is	Supply Current	0.020	0.05	Amps
Vol	Low Output Voltage	0	0.4	Volts
Voh	High Output Voltage	8.5	12	Volts
Iol	Current at Vol		.010	Amps
Ioh	Current at Voh		.010	Amps
tr I-h	Output Rise Time		2*	µsec
tf h-l	Output Fall Time		2*	µsec
<b>4-20 mA Model Note: initial calibration is 1% total</b>				
VCC	Supply Voltage (DC)	22.5	26.5	Volts
Is	Supply Current		0.1	Amps
RL	Loop Resistance	0	600	Ohms
Gain	Scaling Accuracy		0.5	%FS
Zero	Offset Accuracy		0.2	%FS
<b>Both Models (unless otherwise specified)</b>				
	Operating Temperature	0	70	Degrees C
	Storage Temperature	-40	85	Degrees C
	Supply Voltage	-30	30	Volts
	Output Load (Pulse Output)	1,200		Ohms
	Output Current (Pulse Output)		0.01	Amps

## Specifications

### Sizes

- T-10® (5/8"–2")
- HP Turbine (1 1/2"–20")
- TRU/FLO® Compound (2"–6" x 8")
- HP Fire Service Turbine (3"–10")
- HP PROTECTUS® III (4"–10")

### Register Compatibility:

- Direct Read
- ProRead™
- E-CODER®
- E-CODER®)R900i™
- E-CODER®)R450i™

### Connection Wire:

- Distances up to 1000 feet – AWG
- 22 twisted pair cable

\* Recommended installation: register and TRICON/E should be in an upright position. Not recommended for pit applications.

