Aquatrac Instruments Application Note

Toroidal – Non-Contact Conductivity Sensors AN010-11

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1. OBJECTIVE

Details adding a third party, Great Lake Instruments, toroidal, non-contact conductivity sensor to an existing Flex or 'AS' series controller.

2. REQUIRED PARTS

Great Lakes parts: www.gliint.com

- 1. Polypropylene sensor, Part# 3725E2T
- 2. CPVC, 2" 'T' fitting with union adapter, Part# MH538N3NZ
- 3. Two wire transmitter Part# Model 697E3(Obsolete) OR Part# PRO-E3A1N

DigiKey Part# T521-ND

24VDC, 400mA wall mount power cube.

If you do not have space in the existing controller enclosures for the 5"x5" nominal transmitter and the 2 1/2" cubed, power cube, then install these parts in an enclosure adjacent to the sensor or controller enclosure.

3. INSTALLATION

Generic installation for any unused analog input 'G' to 'N' in a Flex series controller or 'G' to 'I' in an 'AS' series controller.

Typical wiring for controller input 'G'

- 1. Supply 120VAC to the 24VDC power cube.
- 2. Wire the power cube DC '+' to 697E3 '+' 4-20mA Terminal TB1.
- 3. Wire the power cube DC '-' to the controller **G-** terminal.
- 4. Wire the 697E3 '-' 4-20mA Terminal TB1 to the controller G+ terminal.

Option: Aquatrac can install and pre-wire the transmitter and power cube in the controller enclosure, prior to shipping to the end user site.

4. SET-UP

- 1. Set the 697E3 transmitter temperature coefficient and range. See user manual
- 2. Immerse the sensor.
- 3. Using Trackster, enable 'G' then use Terminal mode to issue the PAG,,1 command.
- 4. Using Trackster, Set the 'G' units to upper case 'US'
- 5. Use Trackster do a theoretical 4-20mA calibration on the conductivity on 'G'

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