microLinK

Smart Pickoff for Turbine Flowmeters

Description

FTI's microLinK pickoff may be the worlds smallest & most compact temperature/viscosity/density compensated linearized CANbus turbine pickoff: It may be ***micro*** but it has mega capabilities! The microLinK includes a configurable linearized flow pulse output (mass or volume), a CANbus output providing access to all process variables & totalizers and a 0/4-20mA linearized flow output. Up to three fluid density/viscosity profiles can be stored in microLinK enabling the user to seamlessly switch between fluids on the fly using CANbus communications. The microLinK is easily configured using and all data is available using Windows®-based Visual LinK™ programming software.

Features

- ***micro*** packaging - weighs only 65 grams
- Wide operating temperature -40°C to 125°C standard
- Enhanced RF amplifier design
- Advanced averaging capabilities
- Viscosity/density compensated linearized pulse and analog output
- 3 user configurable fluid viscosity/density tables
- Solid state temperature sensor with direct digital output
- 0 to 5000 Hz user-defined frequency output
- Fast response time < 20mS plus period of input pulse on corrected volume/mass output
- Analog output, 4-20 mA or 0-20 mA for mass or volume flow rate
- 2 volume and 2 mass totals
- PDO information available over CANbus at output rate up to 25mS (mass & volume rate, temperature, frequency)
- Visual Link™ compatible including diagnostic portal

Diagnostic Capabilities

- Error register & history
- Set linearized frequency to known value
- Fault temperature setting
- Poll intermediate results such as f/v, Roshko correction factor, Strouhal Correction Factor, initial k-factor, corrected k-factor, Linearized frequency
- View real-time flow information using Visual LinK™CAN portal

Specifications

Input Freq. Range	5 to 2500 Hz typical
Input Power	9 to 30VDC, 60mA max, 600mW@24VDC plus analog
Temperature	-40 to 125 °C
Humidity	0 to 85% RH non-condensing
Accuracy	
Linearized Freq.	0.1% of reading typical
Linearized Analog	0.1% FS or better
Temperature	+/-0.2 °C, typical in process
Linearization	
Latency	< 20ms + period of input pulse
Flow meter K-factor	2 to 30 pts, linear interpolation
Viscosity	2 to 20 pts per fluid, Linear interpolation, Correlation by ASTM D341-93, Andrade's equation or user defined
Density	2 to 20 pts per fluid, linear interpolation
Outputs	
Frequency linearized	0-5 VDC pulse (0 to 5000 Hz)
Analog	4-20 mA or 0-20 mA
Communications	
Interface	CAN 2.0A, 11-bit identifiers CANopen i.a.w. CiA 301, v4.0.2
Bit Rate	20, 50, 125, 250, 500, 800 or 1000 kbits/sec
Approvals	
CE	Directive 2004/108/EC
RoHS	Directive 2011/65/EU
DO160F	Tested to Section 8.7.2, Zone 5, Type 2, Category R

FTI FLOW TECHNOLOGY™

Calibration / Programming Interface

The Visual Link™ software, with its intuitive, user-friendly PC interface, functions as a powerful configuration tool which allows the user to enter calibration and fluid property data, as well as configure the input and output signals. The software uses a toolbar with icons arranged in logical sequence to simplify the configuration of the microLinK pickoff. Calibration and configuration data is stored in the microLinK and can be recalled and viewed with the Visual LinK™ software, allowing the user to have a record of the previous calibration along with a history of the instrument.

The microLinK is typically factory configured by loading in calibration and fluid property data from the flowmeters calibration electronic data file, or entering the data manually. Data for kinematic viscosity and fluid density for the liquid being measured can be selected from a library file or entered manually. Visual LinK™ utilizes either an Andrade or an ASTM correlation to perform viscosity calculation. Multiple flowmeter calibration files can be read and displayed simultaneously to assist with editing a Universal Viscosity Curve. The data can then be displayed on a graph in real-time for verification, or edited as needed for optimum characterization of the flowmeter.

Visual LinK™ is a configuration tool which also provides fluid viscosity and density profiles, unit conversion for volume, viscosity and temperature, as well as other useful functions which support flow measurement. The software is designed to operate on a Windows® XP or 7 operating system. The microLinK is programmed using the Visual Link™ CAN portal.

Model Numbering

ULN	-	C	-	1	-		-	

Analog 0-20mA / Linearized Pulse	M0
Analog 4-20mA / Linearized Pulse	M4

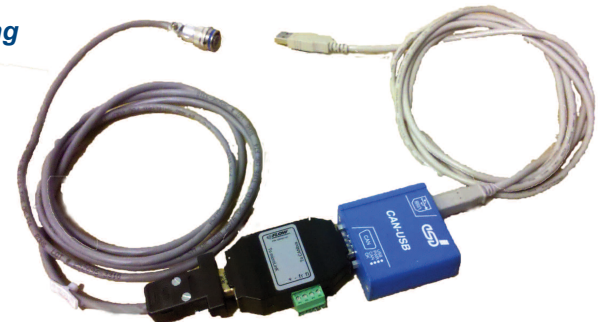
Connector	1
Flying leads with 1/2” NPT	5
Flying leads without NPT	6

Cable Kits

Programming Cables	
Connector version (-1)	01-100754-101
Flying leads version (-5, -6)	01-100754-102
‘Conversion’ Cables (for use with -1)	
Flying leads, 500 ohm resistor for 0-10 or 2-10 VDC out	19-100753-108
Flying leads, 250 ohm resistor for 0-5 or 1-5 VDC out	19-100753-109
LN...V1-1 config: 500 ohm resistor for voltage out*	19-100753-106
LN...MA-1: config: current ouput on LN current pinout*	19-100753-107

*These ‘conversion’ cables allow for seemless conection to existing wiring to the obsolete monobody LN product.

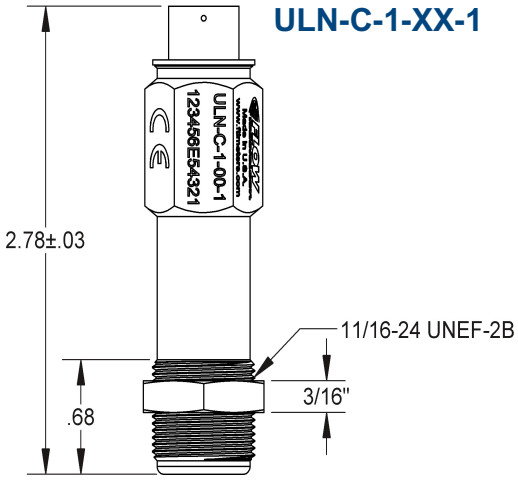
Programming Cable



Dimensions

See technical manual for wiring information.

ULN-C-1-XX-1



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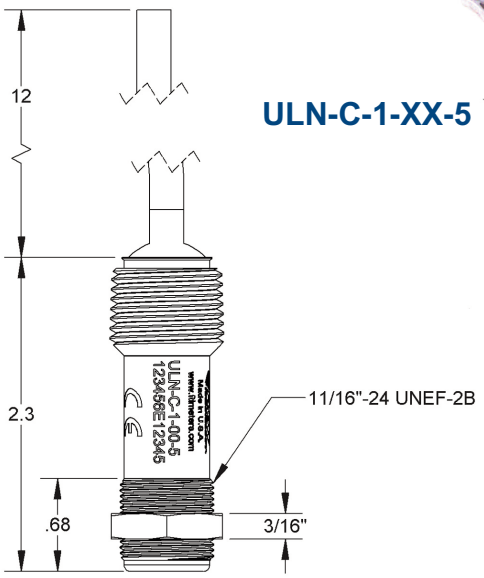

ULN-C-1-XX-6