

# microLink

## Smart Pickoff for Turbine Flow Meters

### Description

FTI's microLink pickoff may be the world's 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 without averaging
- 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

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



## Calibration / Programming Interface

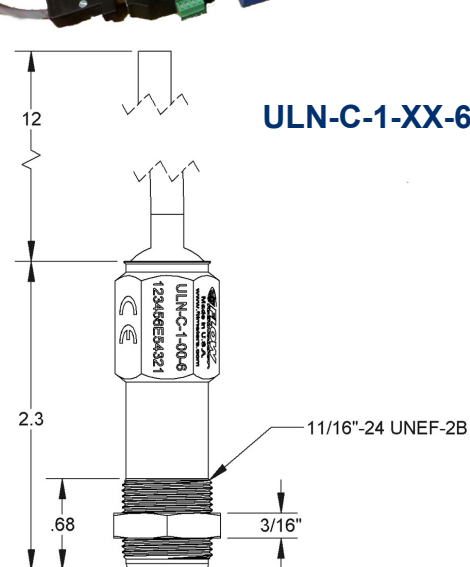
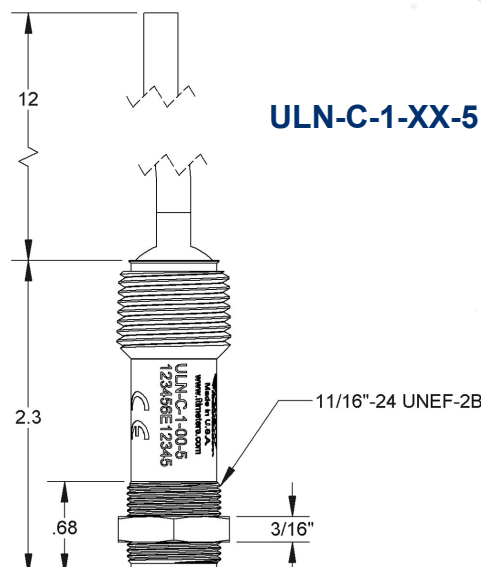
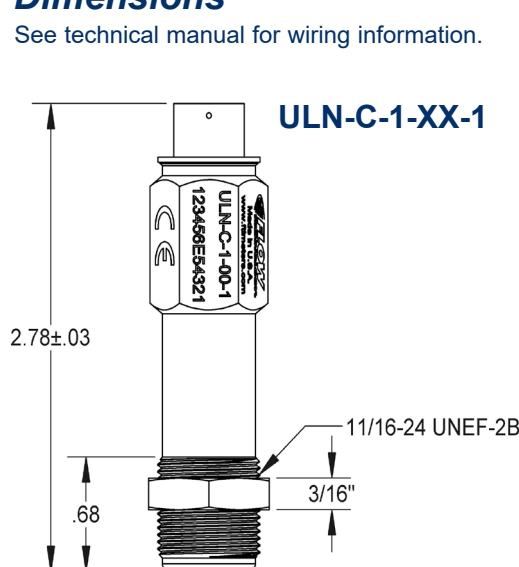
The Visual Link™ software, with its intuitive, user-friendly PC interface, functions as a powerful configuration tool which allows the user to enter calibration and fluid property data, as well as configure the input and output signals. The software uses a toolbar with icons arranged in logical sequence 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 flow meter's calibration electronic data file. The data may also be entered 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 viscosity/flow meter 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 flow meter.

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® 7 or 10 operating system. The microLink is programmed using Visual Link™. The CAN portal within Visual Link™ provides the ability to view CAN traffic and can be used to read and write objects in the microLink.

## Dimensions

See technical manual for wiring information.



## Connector

6-pin Mate w/ backshell  
6-pin w/ 6' cable to flying leads  
6-pin Mate only  
Backshell only

15-101048-101  
19-100753-103  
15-94965-01 (MS27473E8F35S)  
15-93357-01 (MS27506-A-8-2)

## Model Numbering

ULN	-	C	-	1	-		-	
Analog 0-20mA / Linearized Pulse								M0
Analog 4-20mA / Linearized Pulse								M4
Connector <sup>1</sup>								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 output on LN current pinout*	19-100753-107

\*These 'conversion' cables allow for seamless connection to existing wiring to the obsolete monobody LN product.

1 Designed to meet IP67

## Programming Cable



Specifications are for reference only and are subject to change without notice.



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