



DASTEC S.R.L.

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Non-intrusive Flow and Energy Metering With Wireless Solution



- **Located in Greater Boston Area. Wide connections to universities and high-tech companies**
- **Leader in design, development and production of flowmeters, water meters, BTU meters, AMR/AMI and wireless telemetry systems**

...A Global Leader in Flow & Energy Management Solutions...



ISO9001 Quality

- Spire Metering has complete ISO9001 certification
- All Spire CMs (Contract Manufacturers) have complete ISO9001 certification

Commitment to Total Quality!



CERTIFICATE

TUV USA Inc.

hereby certifies that

Spire Metering Technology LLC
14B Craig Road
Acton, MA 01720

has established and applies a quality system for the

Design, manufacture and sales of flow measurement technologies and instrumentation

Proof has been furnished that the requirements according to

ISO 9001:2008
are fulfilled.

Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2008 requirements may be obtained by consulting the organization.

Certificate Registration No.
10-1074

Effective: January 1, 2012

Expires: June 1, 2013



Jodi Espinal
Quality Systems Division
Sales, TUV USA Inc.

Date of Issue: August 30, 2011

218 Main Street, Suite 2, Salem, NH 03079



**We are proud to be the selected supplier
for:**

SIEMENS

Honeywell



Johnson
Controls



Schneider
Electric



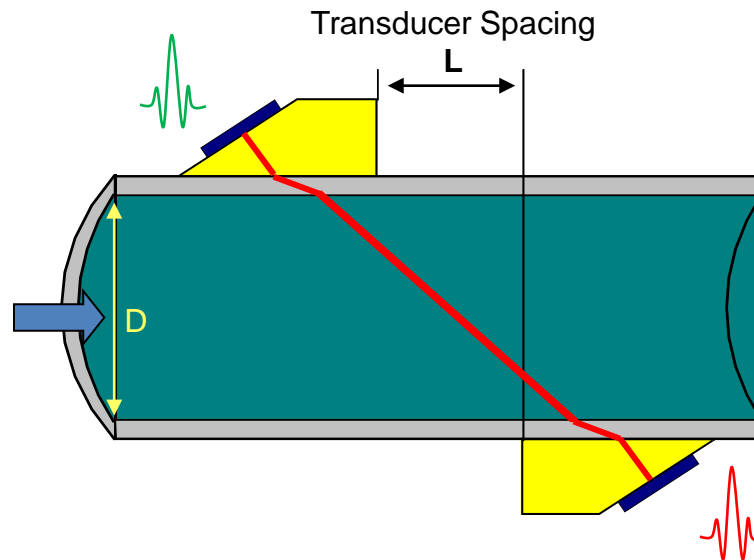
LARSEN & TOUBRO
It's all about Engineering

and more ...



Ultrasonic Flow Measurement

Transit-time Technology

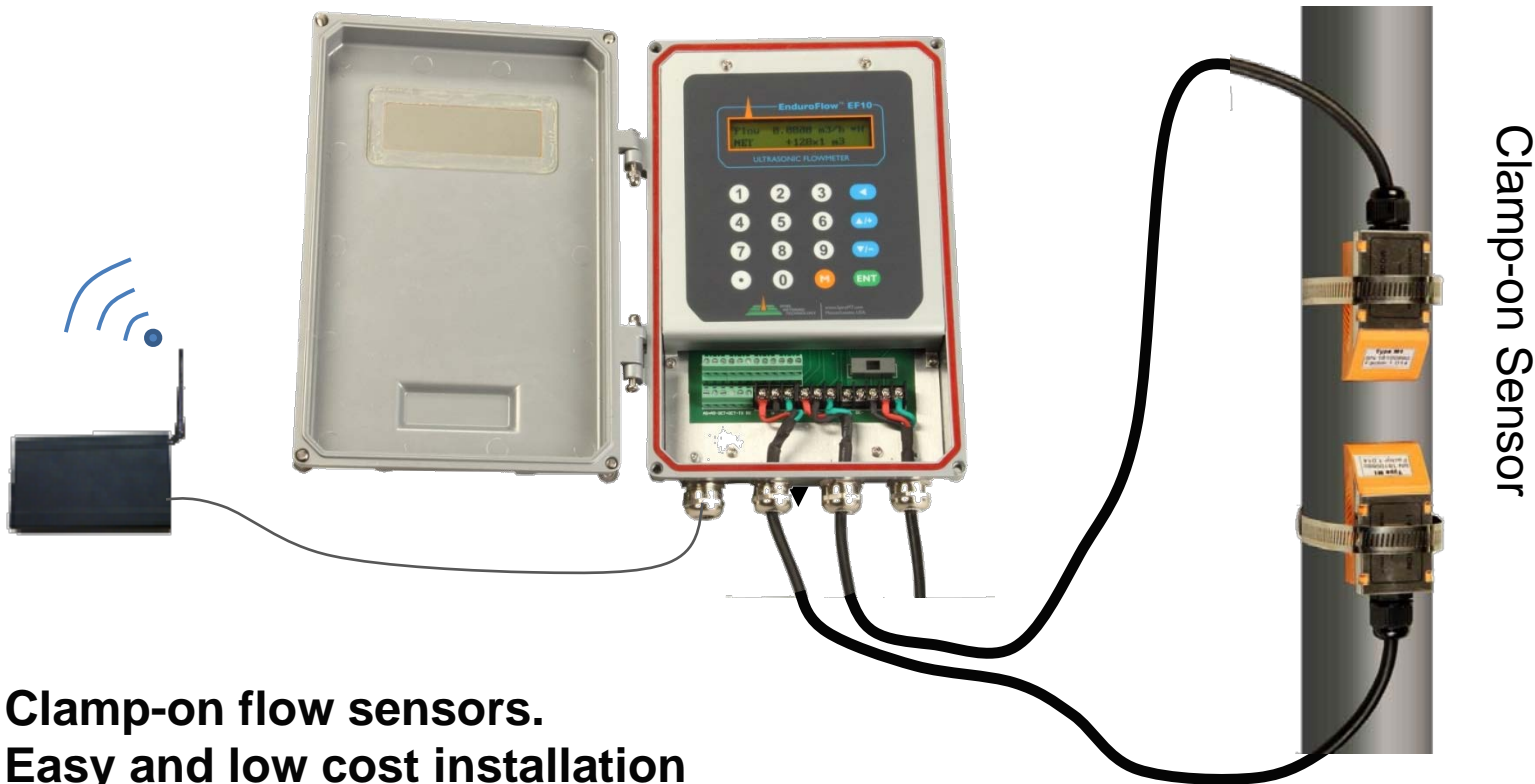


Each transducer sends a sound pulse towards another.

Sound pulse traveling along the flow is faster than the one traveling against the flow.

The transit-time difference of the two pulses are proportional to the flow rate.

Wireless Clamp-on Ultrasonic Flowmeter



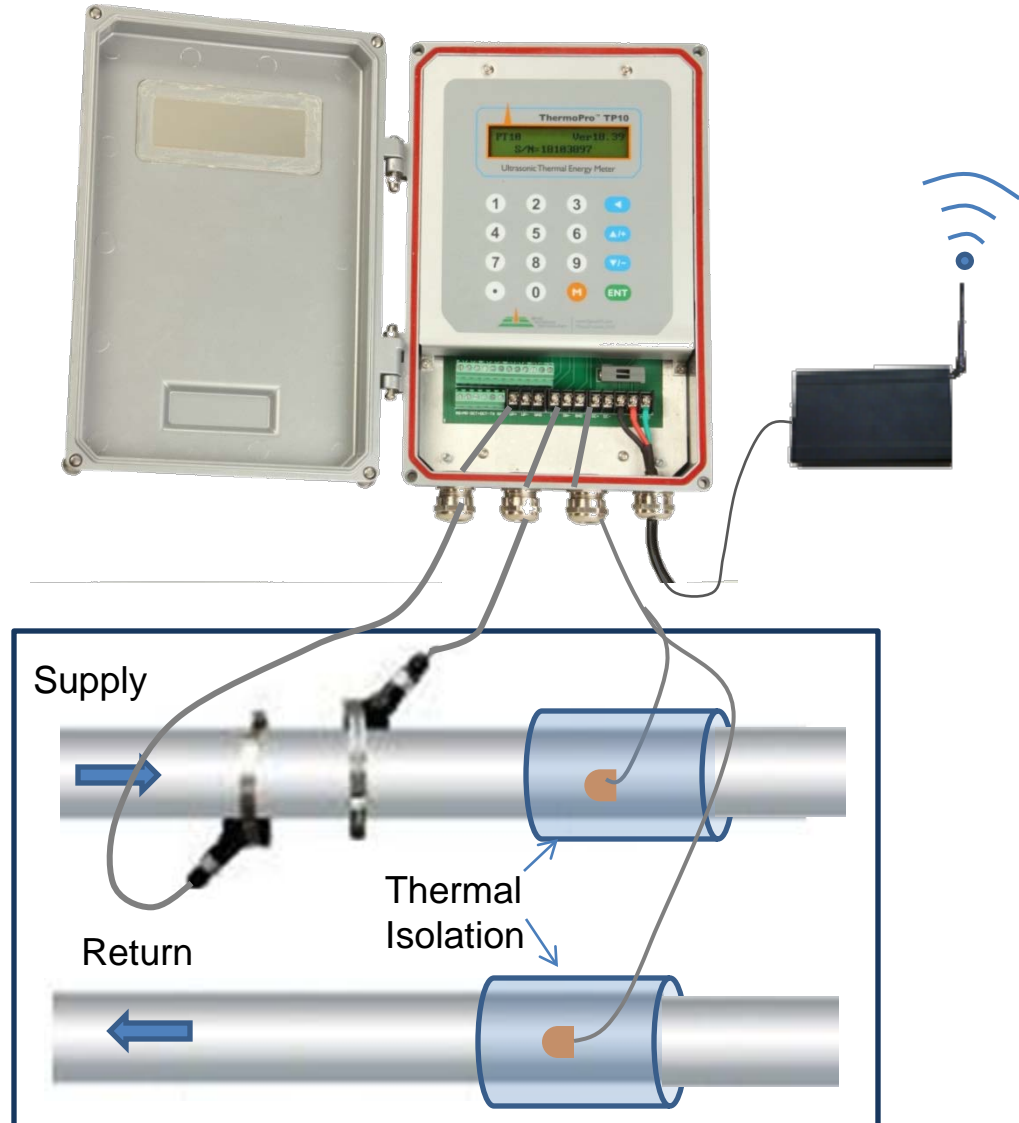
- **Clamp-on flow sensors.**
Easy and low cost installation
- **Maintenance-free**
- **High performance. 1% accuracy**
- **Wireless, either RF 433MHz or GSM/GPRS cellular**



ThermoPro™ Series – TP10

Wireless Clamp-on Ultrasonic BTU Meter

- **Clamp-on flow and temperature sensors. Easy and low cost installation**
- **Maintenance-free**
- **Measure thermal energy accurately**
- **Wireless,**
 - **RF 433MHz**
 - **GSM/GPRS cellular**





NIST Certified 1% Accuracy For Clamp-on Flowmeter

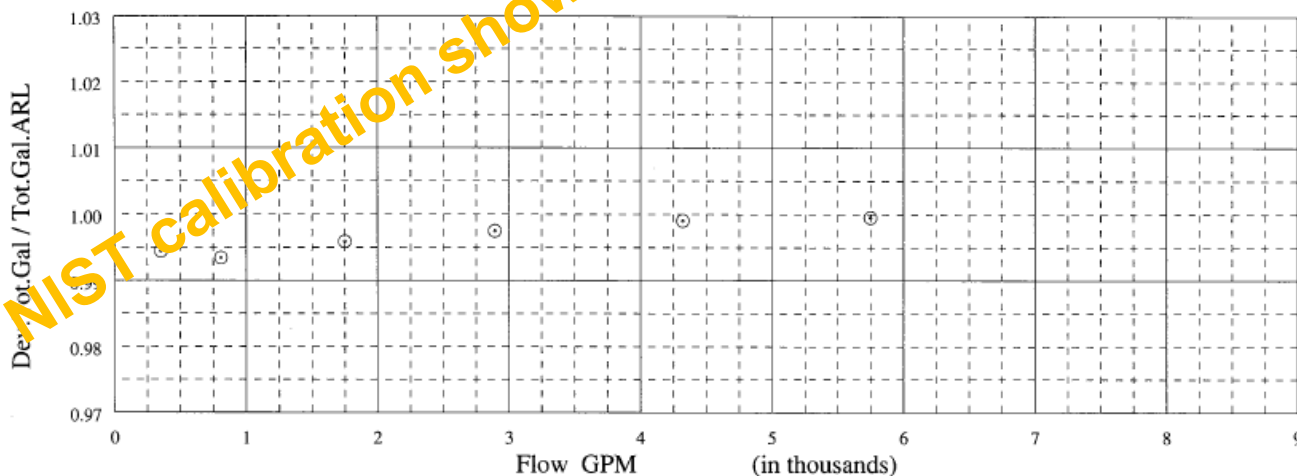
SHENITECH, LLC

Purchase Order Number: 123
SHENITECH STUF-300F ON 12" CS SCH 40 PIPE #12-141
UNIT S/N 12700113

CALIBRATION
DATE: September 4, 2008

AS LEFT, CALIBRATION FACTOR = 1.015

Run #	Line Temp Deg F	Net Weight lb.	Run Duration secs.	Flow GPM	Total Gallons ARL	Reading Device Gallons	Dev.Tot.Gal divided by Tot.Gal.ARL
9	70	44363	55.682	5745.	5332.	5330.	0.9995
10	70	12624	258.341	352.4	5317.	1509.	0.9944
11	70	24587	219.720	807.0	2955.	2936.	0.9935
12	69	45380	187.152	1748.	5454.	5432.	0.9959
13	69	44347	110.650	2890.	5330.	5317.	0.9975
14	69	44971	75.085	4919.	5405.	5400.	0.9990



The data reported on herein was obtained by measuring equipment the calibration of which is traceable to NIST, following the installation and test procedures referenced in this report, resulting in a flow measurement uncertainty of +/- 0.25% or less.

CALIBRATED BY: THL
Witnessed by a company representative

CERTIFIED BY:

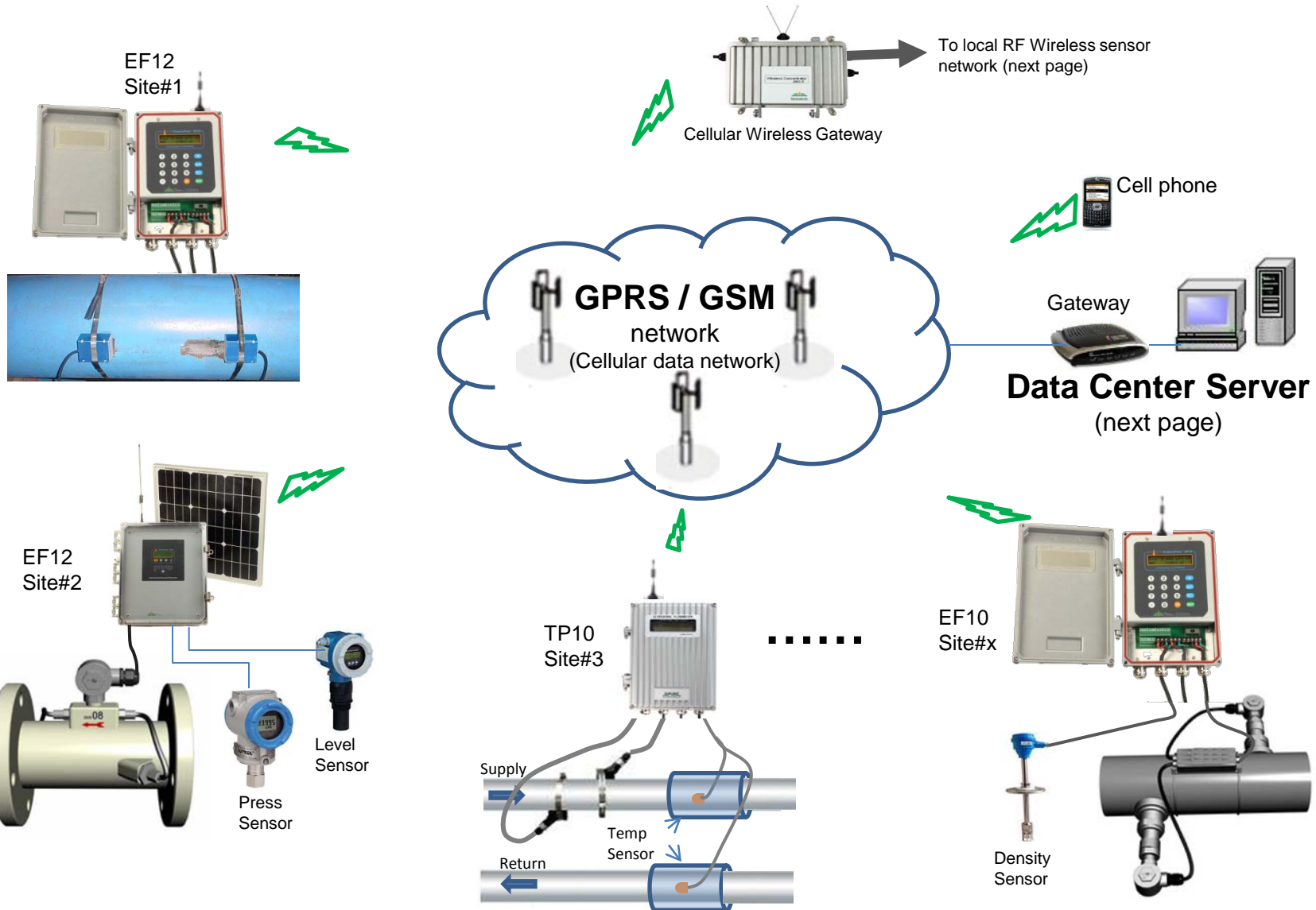




Spire Metering Product Advantages

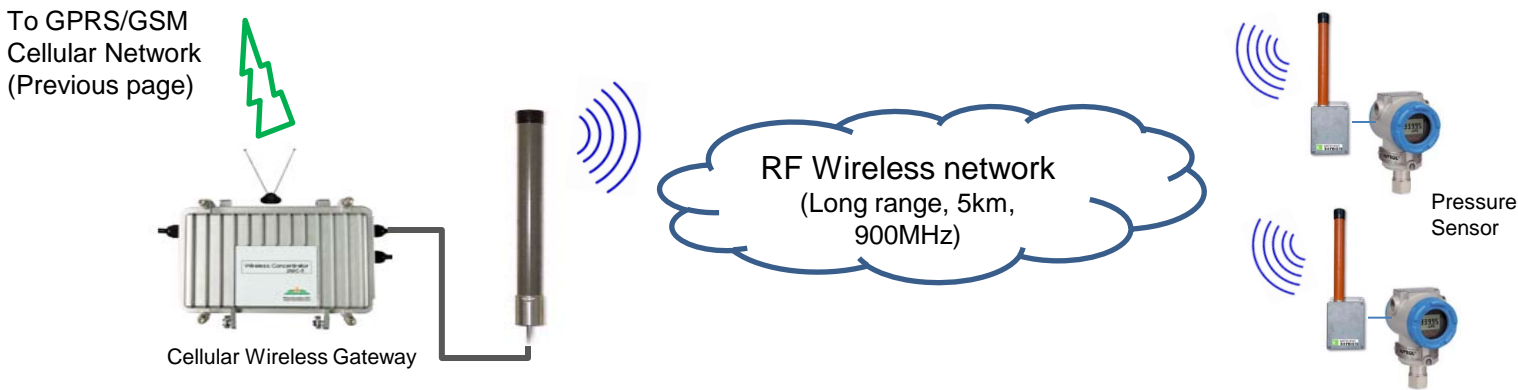
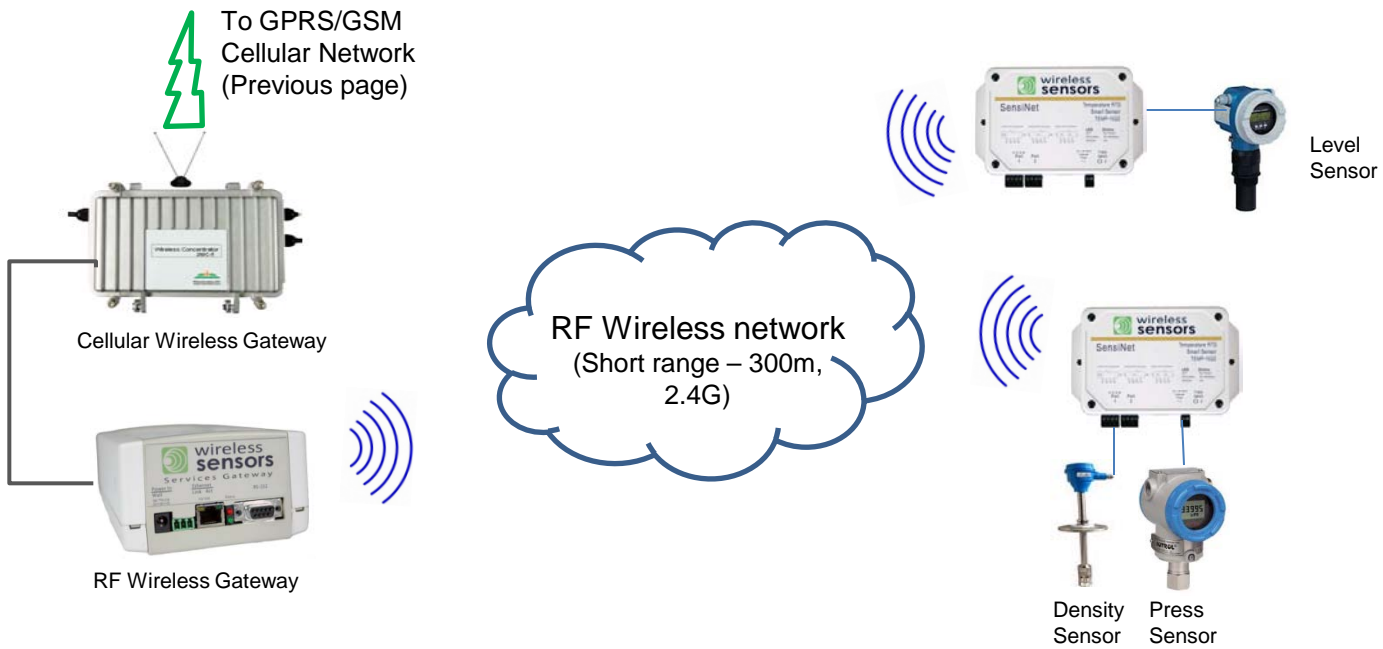
- Cost effective
- Simple to configure and easy to use
- Industry leading technologies, 50ps time resolution
- Increased robustness with patented signal processing technologies
- Transducer pairing for optimal performance
- Wet-calibration using NIST standard
- Strong technical support
- Industry's most comprehensive quality and extended 2 year satisfaction guarantee
- Proven record from more than 3,000 customers worldwide

uGalaxy™ Wireless Telemetry System





Local RF Wireless Sensor Network





HOW IT WORKS

- The telemetry system could consist a number of Spire Metering's wireless flow and BTU meters, such as EF10, TP10, 280W, 280T, and more.
- With EF10 and TP10 ultrasonic meters, you can measure the flow and BTU energy from outside of a pipe with high accuracy. EF10 and TP10 also provide 2 analog inputs so to manage additional transmitters such as pressure sensor and level sensor.
- The telemetry system can also include a number of local RF wireless sensor networks.
- Each local sensor network has a RF Wireless Gateway. The RF Wireless Gateway connects to a GPRS/GSM Cellular Wireless Gateway which brings all the sensors in the local sensor network to the large GPRS/GSM network.



HOW IT WORKS (continue)

- Each Flowmeter, BTU meter or Cellular wireless gateway has a GPRS/GSM modem already built in.
The GPRS/GSM modem should have a SIM card provided by local cellular phone company with valid GPRS or GSM data service
- The data center (next 3 slides) polls data from each flow meter, BTU meter or other wireless sensor at a pre-scheduled interval. The data center receives and validates the data and saves the data in its database.
- The data center then publishes the data on website or through a client software on local computer
- The data center should have a static IP address if GPRS data service is used.



uGalaxy™ Software Platform



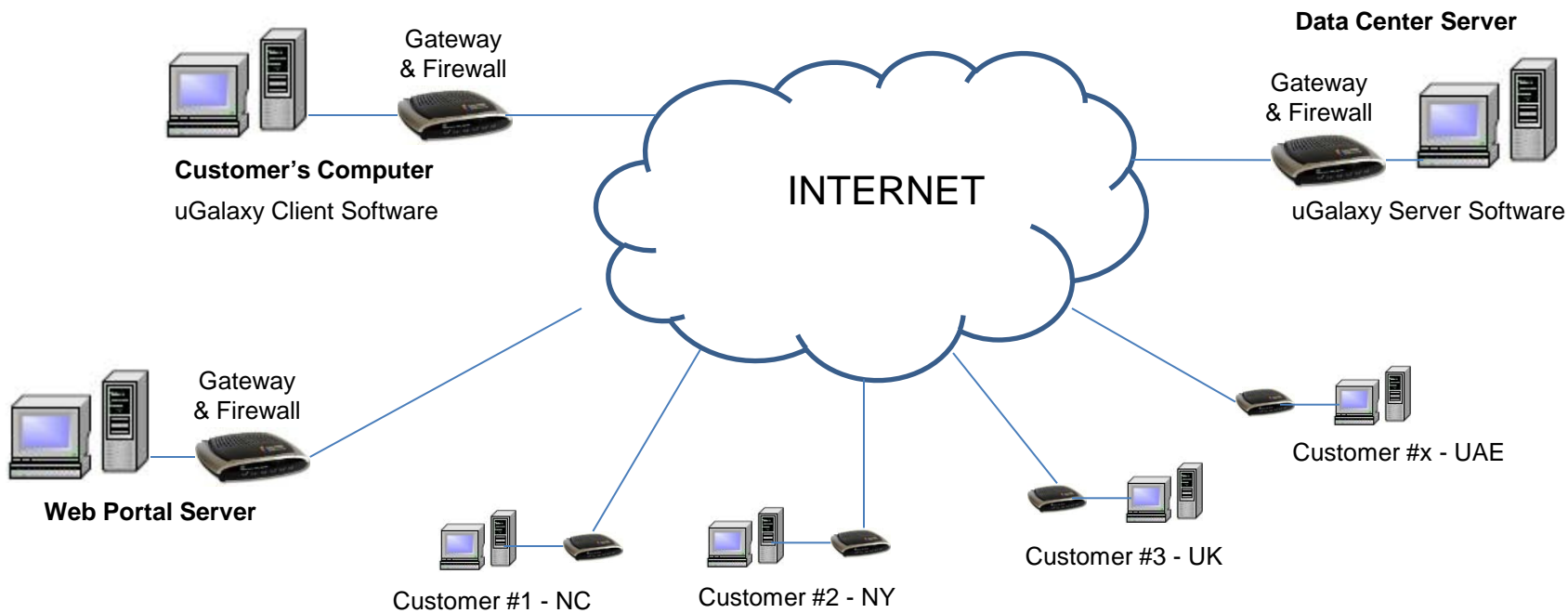
Complete telemetry management at your finger tips

- We can provide turnkey solution for data service. Customers can get data from website directly. No need for data center software
- We can also provide data center software package so customers have flexibility and more control on their data



Data Presentation

(for Turnkey Data Service only)



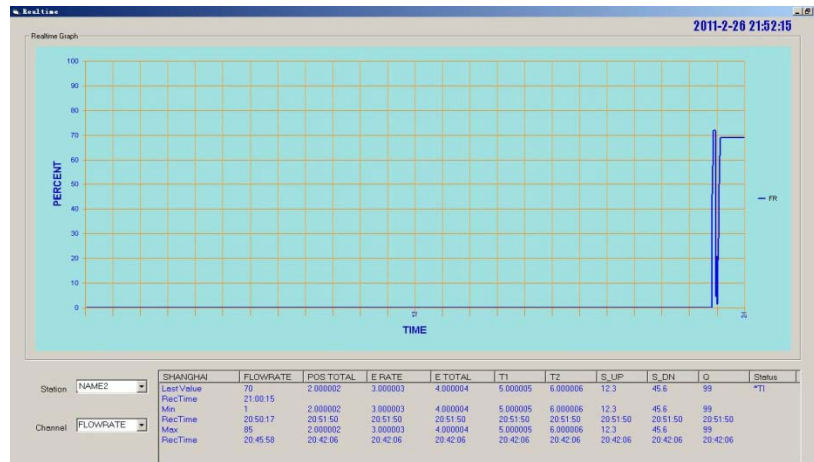
Access Sensor Data Anywhere, Anytime!
Turkey Solution for Data Service!



uGalaxy User Interface Software

uGalaxy Client software runs on the customer's computer. It communicates with the data center server through the Internet.

uGalaxy Client software fetches data from the data center server. It displays the data through the graphic interface, saves data to hard drive, prints the data, etc.



Web Portal

The data collected by the data center server will be presented on the web site.

Each registered customer can log into his/her own account using web browser. He/she can check the sensor data anytime and anywhere.

A simple web portal login form. It consists of a rectangular box with a light blue background and a white border. Inside the box, the text 'Enter Your Login Key' is displayed in a dark font. Below the text is a white rectangular input field for the user to enter their login key.

Success Stories



Installed in over 30 countries for more than 3,000 customers, in wide-ranging applications.

The following slides list a few of them.



ConocoPhillips Telemetry System

- Flow, temp & BTU energy monitoring for several large facilities
- More than 30 units of clamp-on wireless BTU meters
- Data sent to Spire server through GPRS wireless network
- Client views real-time data from website



Texas, USA



Chiller System Applications

- Large pharmaceutical facility
- 30 units of TP10 thermal energy systems installed
- Monitors and manages the efficiency of the heating and cooling production and distribution network



**Non-intrusive Thermal Energy Measurement System
Honeywell-Pfizer, PA, USA**



Fuel Efficiency Monitoring System

- Large furnace supplies heating for a landmark building
- Installs a high performance Spire Flowmeter system
- Measures accurately the inlet and outlet fuel flow rates
- Monitors the fuel efficiency



7th World Trade Center, New York, USA



Makkah Clock Tower Utility Management System

- \$2mil project
- 5000 tenants
- 5000 water meters
- 5000 BTU meters
- 5000 energy meters
- 150 concentrators
- High performance data center system
- AMR software platform
- Billing software platform



Makkah Tower – Bin Laden Group, KSA



Commercial Applications

Ultrasonic
BTU meters
have been
widely
installed in
commercial
buildings
such as
shopping
malls.



Modern Shopping Mall -Siemens, India



References



NASA – USA



Monroe South Bend Canal Association – Utah, USA



7th World Trade Center
New York, USA



BHP Billiton - Australia



BT Applied
Technology –
Saudi Arabia



India Institute of Technology
– Bombay, India



AI Gore's Green house
Tennessee, USA



Army National Guard –
New Hampshire, USA



GE Global Research

United States - India - China - Germany



Diplomat Engineering LLC - UAE



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