



The New Probe LU & LR





SITRANS Probe LU

SITRANS Probe LR

New and extremely experienced



Your Application Decides the Technology

Overview

Application Success

Features & Benefits

Product Definition

Principle of
Operation

Product Verification

Applications

System Integration

Analyse the application

- Material, temperature, pressure, range, atmosphere

Recommend preferred technology

- LU or LR

Determine correct model

- Process connection, approval



SITRANS Probe LU – When and Why?

Ideal in simple storage vessels:

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Water/
wastewater



Acids



Food
Oils



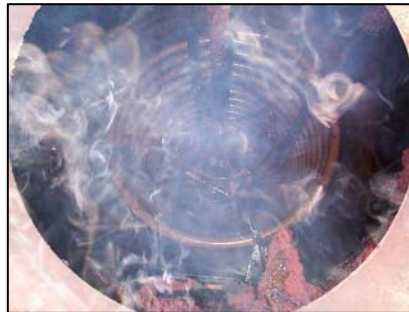
Juices



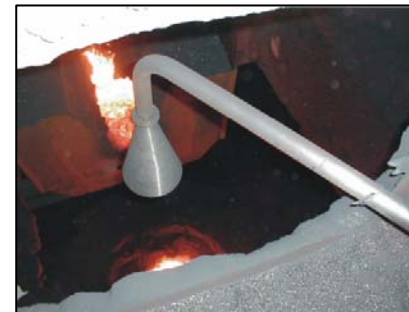
SITRANS Probe LR – When and Why?

Microwaves are virtually unaffected by atmospheres with:

Vapor
Volatiles



Extreme
Temperatures



Pressure
Extremes
or
Vacuum



Dust



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SITRANS Probe Application Matrix

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Application Requirement	LU	LR
Range 0.25 m to 3 m	✓✓	✓
Range 0.3 m to 12 m	✓	✓
Range to 20 m	✗	✓
Narrow shot with obstructions	✓✓	✓
Steel stilling well	✓	✓✓
Accuracy	0.15%	0.1%
Temperature gradients in airspace?	✗	✓
Pressure	Ambient	V AC- 3 bar
Vapors present (solvent, hydrocarbons)	✗	✓
Foam present	?	?
CO ₂ Gas present	✗	✓



Preferred



Acceptable



Not recommended

? – LU or LR normally OK for wet / dense foam

For dry / light foams, performance is not predictable

Specifications at a Glance



	Specification	Probe LU Ultrasonic	Probe LR Radar
The Probe Legacy	Range	6m (20ft) or 12m * (40ft)	20m (65ft)
	Accuracy:	0.15% *	0.1%
SITRANS Probe Introduction	Repeatability:	3mm	5mm
Features & Benefits	Power:	24Vdc nom. 30Vdc max.	24Vdc nom. 30Vdc max.
	Dielectric Constant:	N/A	> 1.6 (< 3.0 use stilling well)
General Theory	Update time:	< 5 sec.	1 sec.
	Process Temperature:	-40C to 85C *	-40C to 80C
Application Selection	Ambient Temperature:	-40C to 80C *	-40C to 80C
	Pressure:	Atmosphere	Vacuum to 3 bar
System Integration	Sensor Process Connection:	2" NPT, G, or BSP ETFE or PVDF	1-1/2" NPT, G, or BSP Polypropylene
	Enclosure:	Plastic - PBT with PEI lid	Plastic - PBT with PEI lid
Product Verification	Ingress Protection:	Type 4x, Nema 4x, Nema 6, IP67, IP68 (2 m) *	Type 4x, Nema 4x, Nema 6, IP67, IP68
	Safety Approvals:	ATEX 1 G [ia], CSA/FM Class I, Div. 1 [ia] With suitable barrier	ATEX 1 G [ia], CSA/FM Class I, Div. 1 [ia] With suitable barrier
Competition	Radio Approvals:	N/A	Industry Canada, FCC, R&TTE
Sales Tools			

Mounting Details

The Probe Legacy

SITRANS Probe
Introduction

Features & Benefits

General Theory

Application
Selection

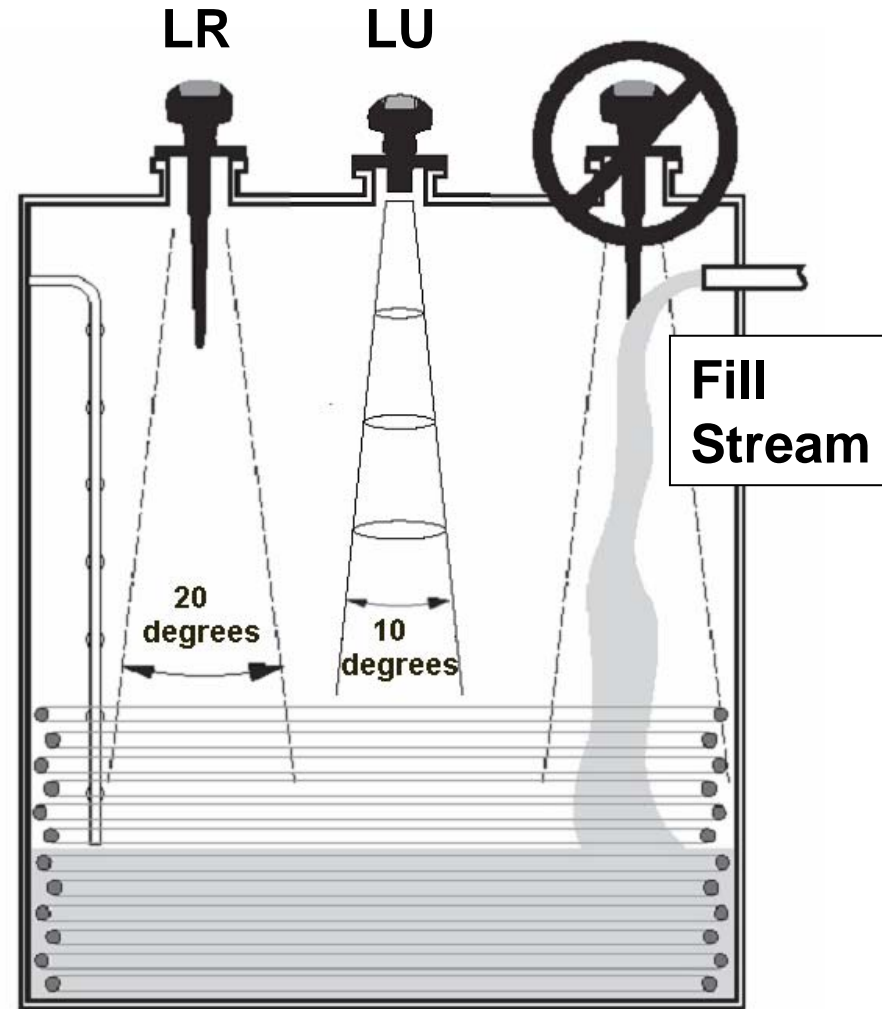
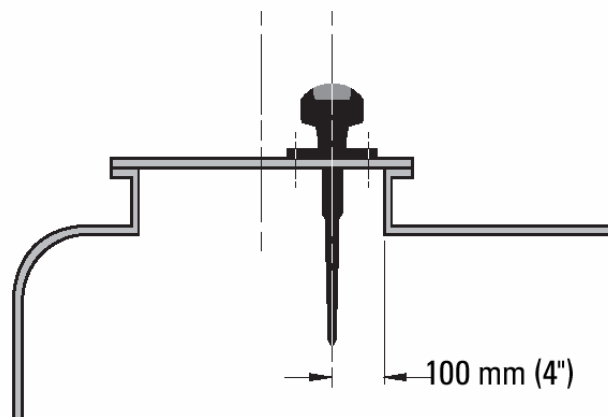
System Integration

Product Verification

Competition

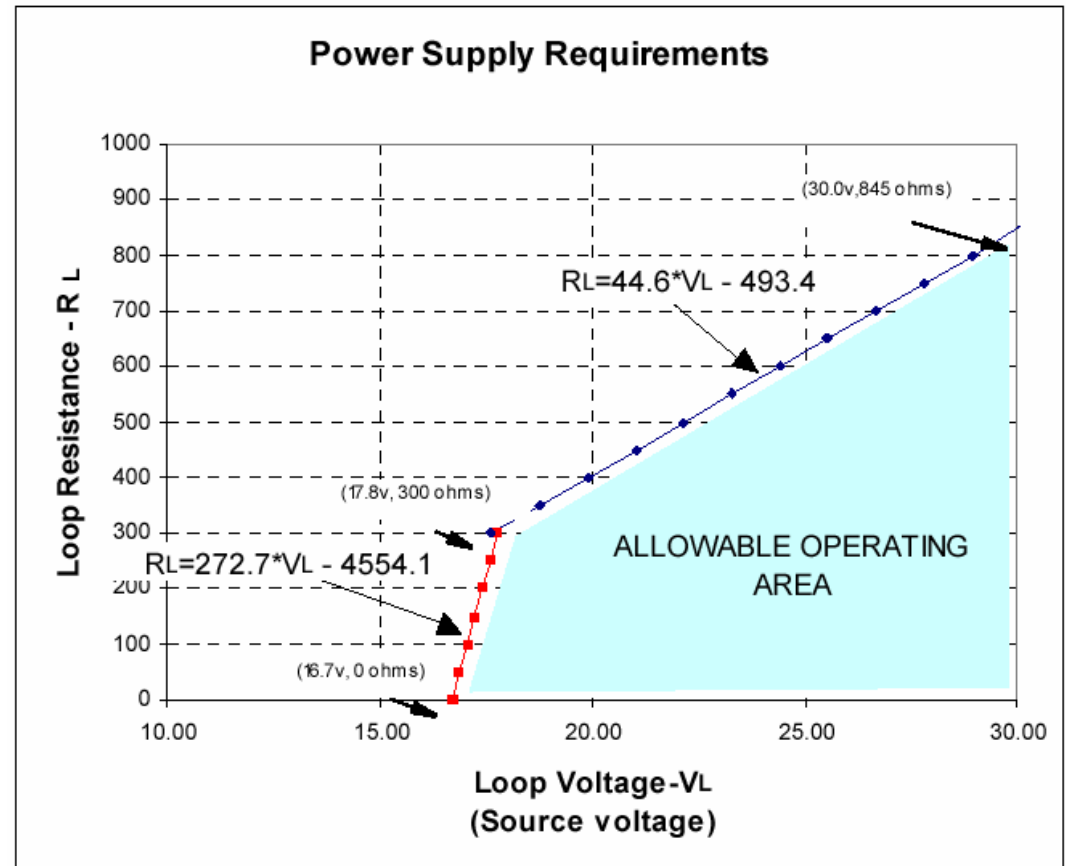
Sales Tools

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SITRANS LR Probe Loop load specification

- Typical loads are:
 - Remote displays
 - Barrier
 - HART resistor
 - PLC input
 - etc.



- For example:
 - If supply voltage is 24VDC, then maximum loop resistance allowable is 550 ohms.

Overview

Theory

SITRANS LR Family

Product definition
and Specs

Features & Benefits

System Integration

Antenna Selection

Application
Considerations

Competition

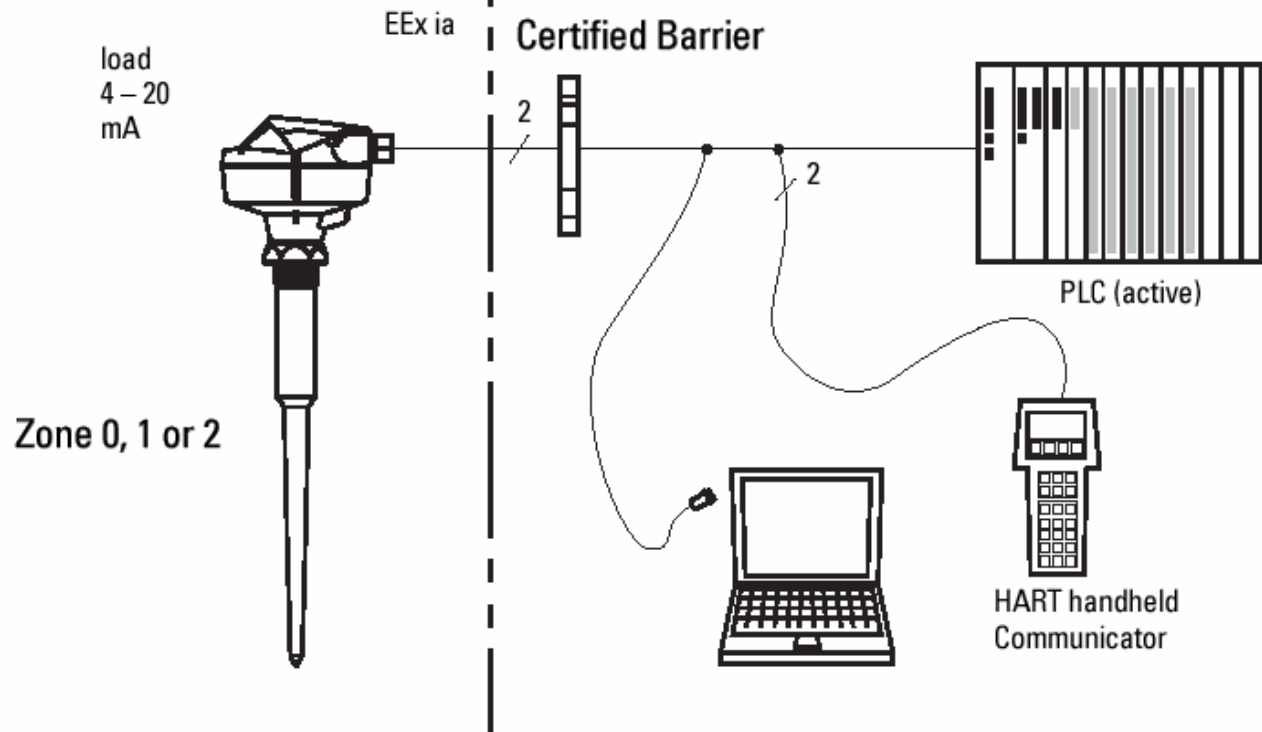
Sales Tools

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Intrinsically Safe Installations

Hazardous Area

Non-hazardous Area



- Probe LR shown
- Identical for Probe LU

The Probe Legacy

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