

EIP

ENVIRO CONTROLS

An ISO 9001:2008 Certified Company



Level Measurement Solutions

for over

3 Decades

ULTRA COMPACT/REMOTE – UC SERIES

ULTRASONIC LEVEL INSTRUMENTS (Compact/Remote version)

DESCRIPTION

The ultrasonic impulses generated from transducers “antenna system”, which travel at the speed of sound, come reflected by the surface of medium and newly sent back to the transducer.

The period of time that passes between the emission of impulses and the reception of the same ones from the antenna, is proportional to the existing distance between the same antenna and the higher level of the medium to measure, therefore the principle of the ultrasonic measure can be illustrated with the following equation:

$S=CXT/2$, where S: distance, C: velocity of sound, T: time lapse

Because of the wideband impulses, the overlap between the emission and the reception of the same impulses increases in particular zones, extending itself from the transducer to the bottom, causing a wrong measurement of the level. This error zone is defined “blanking zones” and its dimension vary based on the various models of ultrasonic meters that are used.

The use of an advanced microprocessor and the technology “EchoDiscovery”, allows the user of the instrument also in critical zones with heavy jobs. The function “False echo storage” assures the device to identify the correct echo also in presence of false ECHO, supplying correct measures. The integrated temperature sensor puts into effect a temperature compensation in real time.



PRODUCTS OVERVIEW – TECHNICAL DETAILS

UC551



UC552



UC553



NOTE: Pictures are showing Aluminium Housings

DISPLAY

The instruments can be set up in 3 ways:

1. by display
2. by BMware software
3. by HART program

REMOTE UNIT – RU



ULTRA COMPACT/REMOTE

TECHNICAL DETAILS

UC551

Application:

Level measurement, suitable for highly corrosive media.

Flow measurement on open channel;

Range: 0.25...5m

Accuracy: 0.2 ... 0.5 % end scale

Process connection: G1½"A

Ultrasonic transducer: Compact

Material: sensor: PBT-GF / PVDF/PTFE
housing: plastic PBT-GF / Aluminium

Protection: IP67

Working temperature: -40 ÷ 70°C

Storage temperature: -40 ÷ 80°C

Relative umidity: <95%

Pressure of use: -0.2...1 bar

Resistance to vibrations: mechanical vibrations 10m/s², 10÷150Hz

Frequency: 46 KHz

Angle emission lobe: 5.5°

Interval of measure: ~2sec

Interval of updating: ~3sec

Resolution display: 1mm

Supply of 2 wires version:

- Input voltage: 15÷36Vdc

- Absorption: max. 22.5mA

- Ripple allowed: <100Hz, U_{ss}>1V; 100Hz÷100KHz, U_{ss}<10mV

Supply of 4 wires version:

- Standard input voltage: 24Vdc ±10%;

- Absorption: max. 4VA, 2.1W

Output signal: 2/4 wires 4-20 mA, HART

Resolution: 1,6µA

Fixed signal for anomaly: 20.5mA; 22mA; 3.8mA

Resistance 2 wires version: see following diagram

Resistance 4 wires version: max 500 ohm

Integration time: -----

Cables entry: 1x PG 13.5

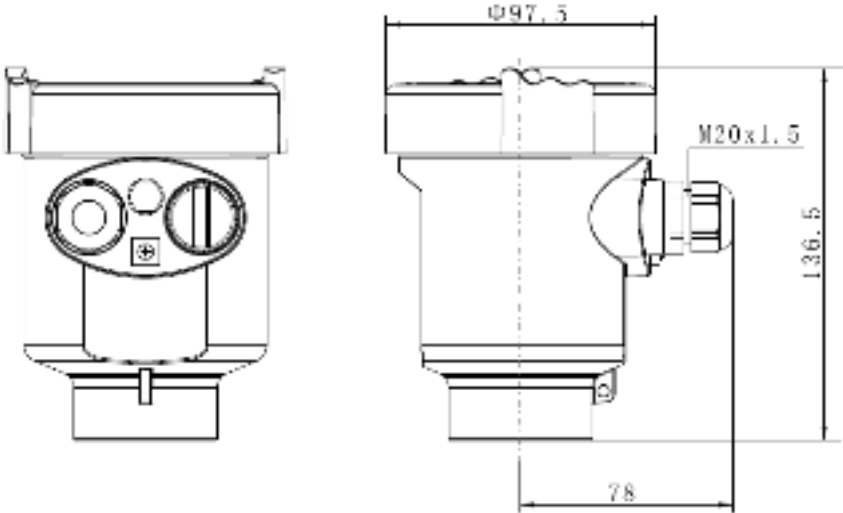
Weight: ~1.8...3 kgs



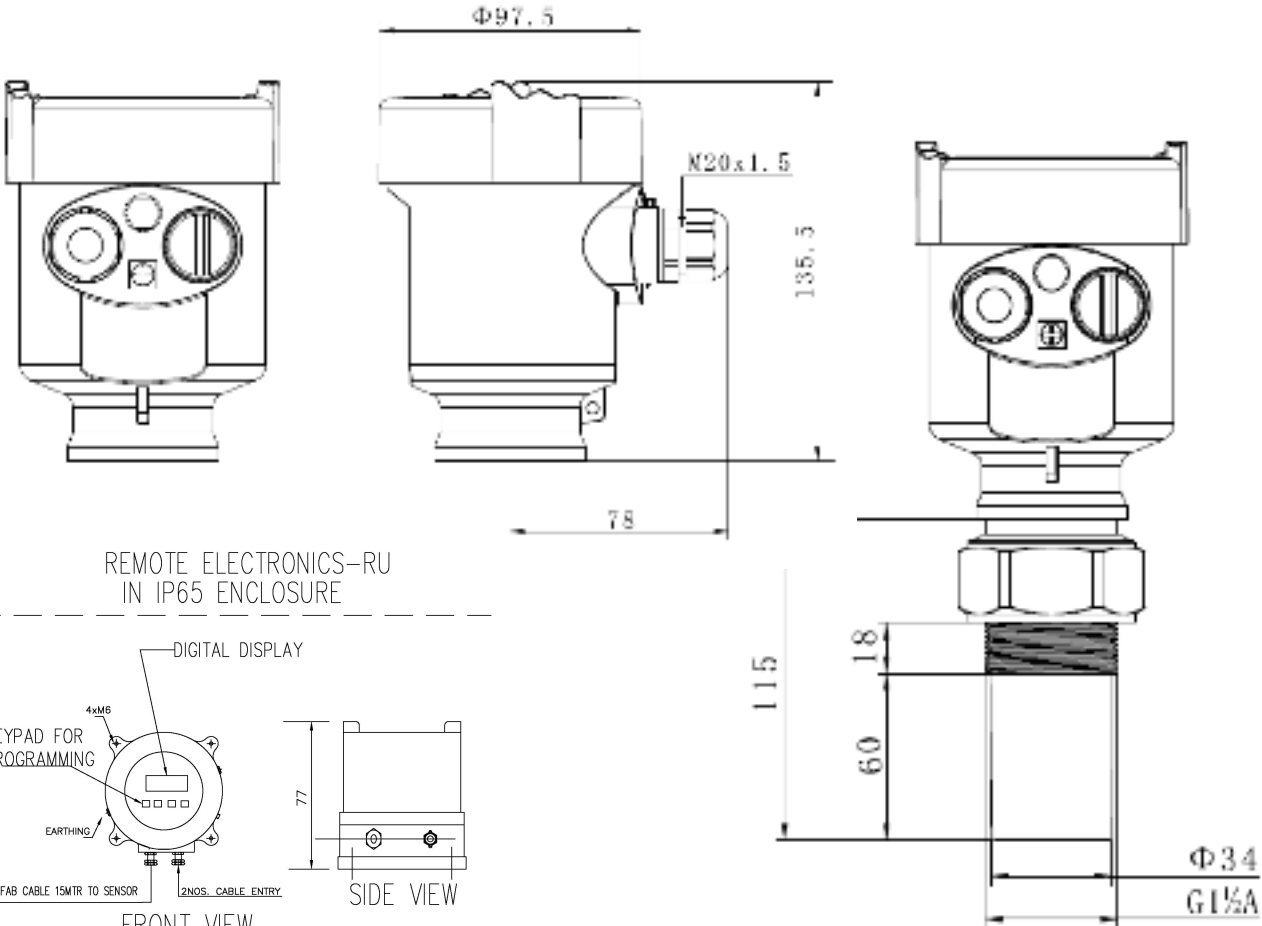
ULTRA COMPACT/REMOTE

DIMENSIONS UC51

Dimensions with AL frame



Dimensions with PBT-GF frame



ULTRA COMPACT/REMOTE

ORDERING CODE UC551

P Standard

RU Remote Electronics and Sensor

Material / Working temperature / Protection

- A PBT-GF / -40...70°C / IP66
- B PVDF / -40...70°C / IP67
- C PTFE

Electronic

- A 4...20 mA 2 wires
- B 4...20 mA / HART (2 wires)/Intrinsic Safe 'ia' (OPTIONAL)*
- C 4...20 mA / 22,8...26,4 VDC / HART (2 wires) / HART (4 wires)
- D 4...20 mA / 198...242 VAC / HART (4 wires)**

Material of Housing / Protection

- A Aluminium / IP67
- B Plastic / IP66
- D Aluminium 2 chambers / IP67/Explosion Proof Ex 'd' (OPTIONAL)*
- G Stainless Steel 316L / IP67

Wiring

- M M20x1.5
- N ½ NPT

Display / Programming

- A YES

* To be Specified during ordering

ULTRA COMPACT/REMOTE

TECHNICAL DETAILS

UC552

Applications:

Level measurement, suitable for highly corrosive media.

Flow measurement on open channel;

Range: 0.25...10m

Accuracy: 0.2 ... 0.5 % end scale

Process connection: G2" A

Ultrasonic transducer: Compact

Materials: sensor: PBT-GF / PVDF/PTFE
housing: plastic PBT-GF / Aluminium

Protection: IP67

Working temperature: -40 ÷ 70°C

Storage temperature: -40 ÷ 80°C

Relative umidity: <95%

Pressure of use: -0.2...1 bar

Resistance to vibrations: mechanical vibrations 10m/s², 10÷15

Frequency: 35 KHz

Angle emission lobe: 5.5°

Interval of measure: ~2sec

Interval of updating: ~3sec

Resolution display: 1mm

Supply 2 wires version:

- Input voltage: 15÷36Vdc
- Absorption: max. 22.5mA
- Ripple allowed: <100Hz, U_{ss}>1V; 100Hz÷100KHz, U:

Supply 4 wires version:

- Standard input voltage: 24Vdc ±10%;
- Absorption: max. 4VA, 2.1W

Output signal: 2/4 wires 4-20 mA, HART

Resolution: 1,6µA

Fixed signal for anomaly: 20.5mA; 22mA; 3.8mA

Resistance 2 wires version: see following diagram

Resistance 4 wires version: max 500 ohm

Integration time: -----

Cables entry: 1x PG 13.5

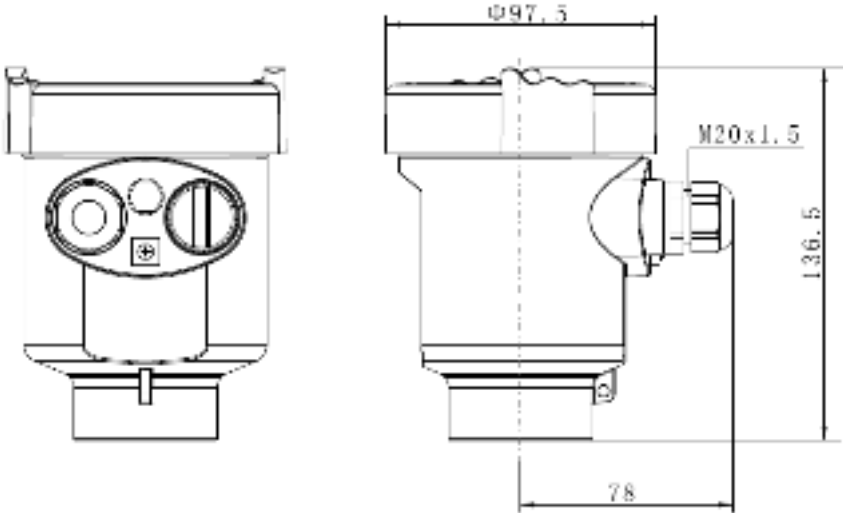
Weight: 1.8...3 kgs



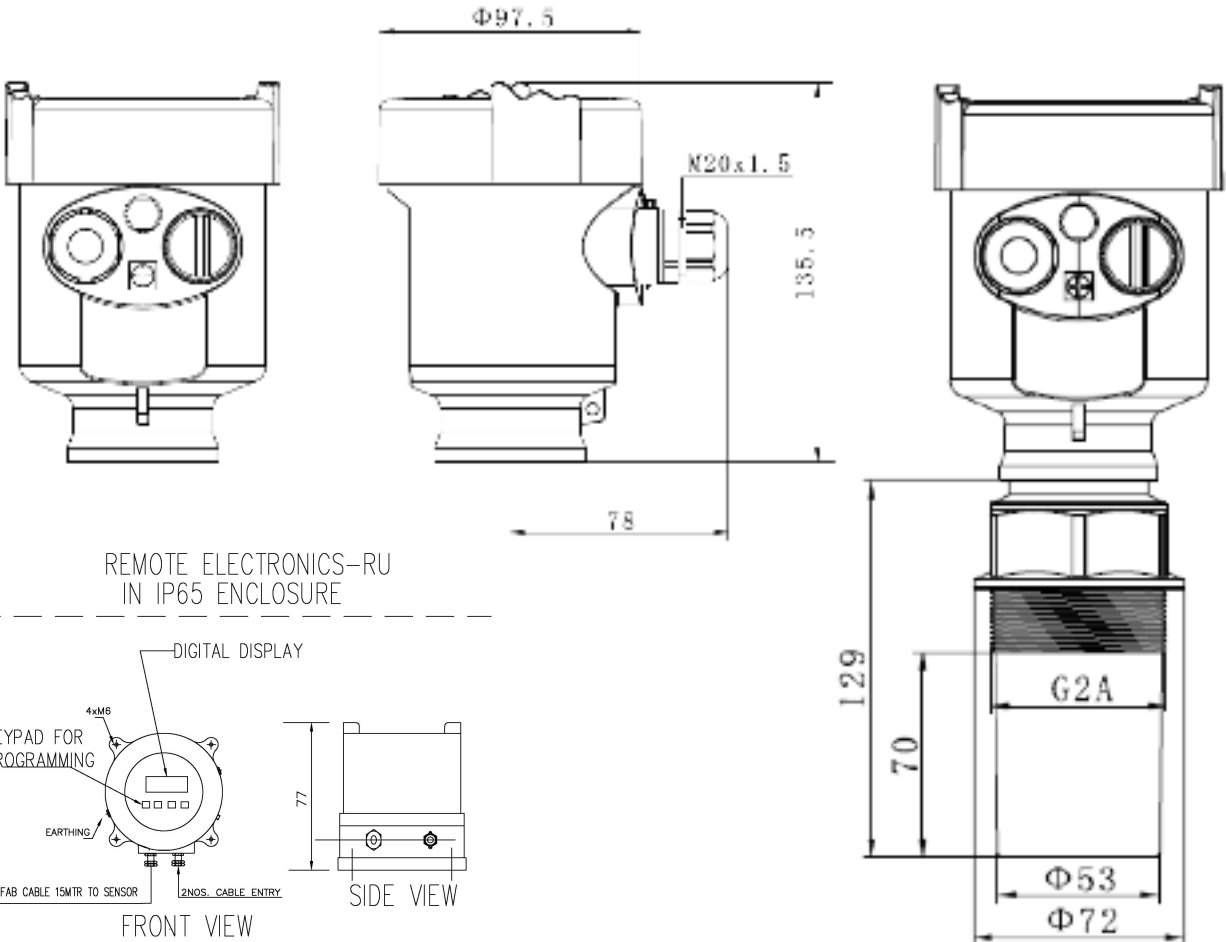
ULTRA COMPACT/REMOTE

DIMENSIONS UC552

Dimensions with AL frame



Dimensions with PBT-GF frame



ULTRA COMPACT/REMOTE

ORDERING CODE UC552

P Standard

RU Remote Electronics and Sensor

Material / Working temperature / Protection

- A PBT-GF / -40...70°C / IP66
- B PVDF / -40...70°C / IP67
- C PTFE

Electronic

- A 4...20 mA 2 wires
- B 4...20 mA / HART (2 wires)/Intrinsic Safe 'ia' (OPTIONAL)*
- C 4...20 mA / 22,8...26,4 VDC / HART (2 wires) / HART (4 wires)
- D 4...20 mA / 198...242 VAC / HART (4 wires)**

Material of Housing / Protection

- A Aluminium / IP67
- B Plastic / IP66
- D Aluminium 2 chambers / IP67/Explosion Proof Ex 'd' (OPTIONAL)*
- G Stainless Steel 316L / IP67

Wiring

- M M20x1.5
- N ½ NPT

Display / Programming

- A YES

* To be Specified during ordering

ULTRA COMPACT/REMOTE

TECHNICAL DETAILS

UC553

Applications:

Level measurement, suitable for highly corrosive media.

Flow measurement on open channel;

Range: 0.4...20m

Accuracy: 0.2 ... 0.5 % end scale

Process connection: G1 1/2" A

Ultrasonic transducer: Compact

Materials: sensor: PBT-GF
housing: plastic PBT-GF

Protection: IP67

Working temperature: -40 ÷ 70°C

Storage temperature: -40 ÷ 80°C

Relative umidity: <95%

Pressure of use: -0.2... 1 bar

Resistance to vibrations: mechanical vibrations 10m/s², 10÷150Hz

Frequency: 35 KHz

Angle emission lobe: 3°

Interval of measure: ~2sec

Interval of updating: ~3sec

Resolution display: 1mm

Supply 2 wires version:

- Input voltage: 15÷36Vdc
- Absorption: max. 22.5mA
- Ripple allowed: <100Hz, U_{ss}>1V; 100Hz÷100KHz, U_{ss}<10mV

Supply 4 wires version:

- Standard input voltage: 24Vdc ±10%;
- Absorption: max. 4VA, 2.1W

Output signal: 2/4 wires 4-20 mA, HART

Resolution: 1,6µA

Fixed signal for anomaly: 20.5mA; 22mA; 3.8mA

Resistance 2 wires version: to see following diagram

Resistance 4 wires version: max 500 ohm

Integration time: -----

Cables entry: 1x PG 13.5

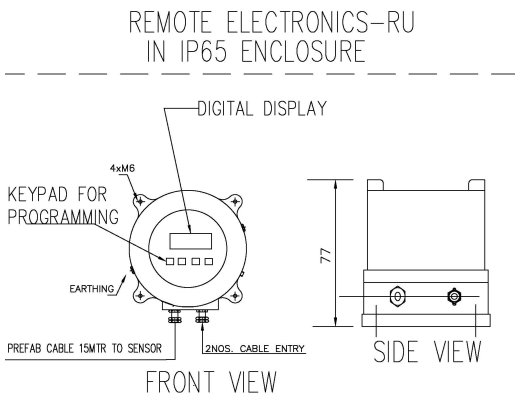
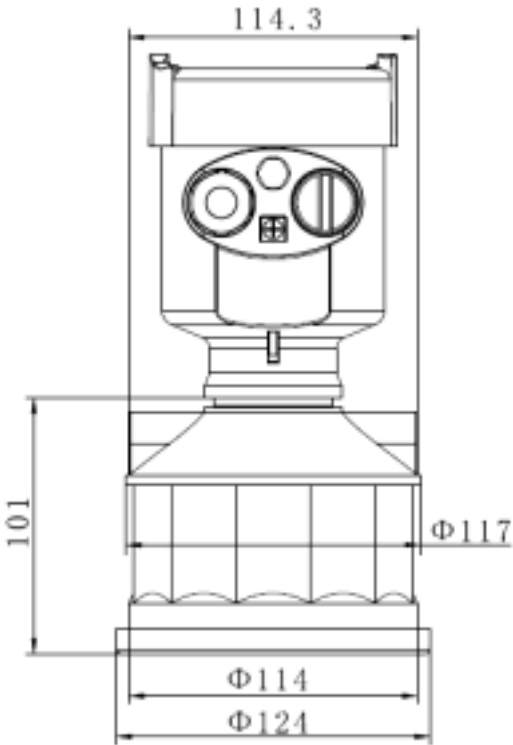
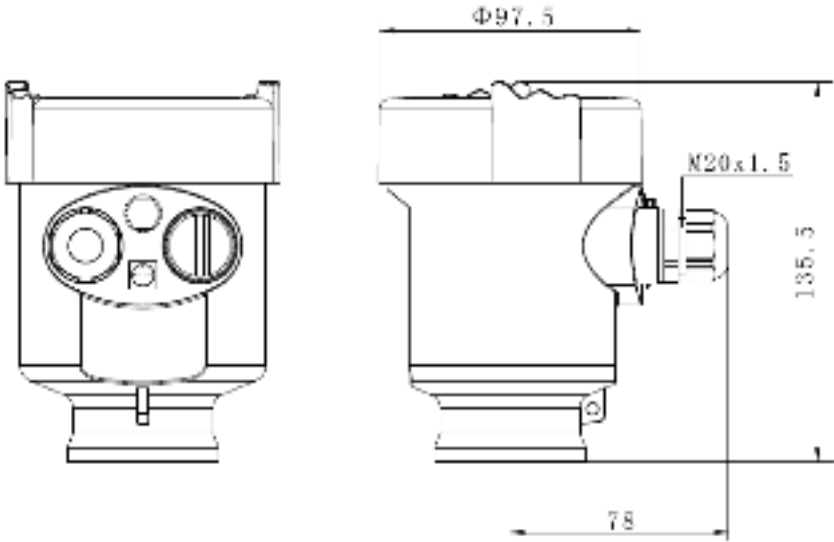
Weight: 2.7...5 kgs



ULTRA COMPACT/REMOTE

DIMENSIONS UC553

Dimensions with PBT-GF frame



ULTRA COMPACT/REMOTE

ORDERING CODE UC553

P Standard

RU Remote Electronics and Sensor

Material / Working temperature / Protection

A PTB-GF / -40...70°C / IP66

Process Connection

FL Flange

DJ Bracket

Electronic

A 4...20 mA 2 wires

B 4...20 mA / HART (2 wires)/Intrinsic Safe 'ia' (OPTIONAL)*

C 4...20 mA / 22,8...26,4 VDC / HART (2 wires) / HART (4 wires)

D 4...20 mA / 198...242 VAC / HART (4 wires)**

Material of Housing / Protection

A Aluminium / IP67

B Plastic / IP66

D Aluminium 2 chambers / IP67/Explosion Proof Ex 'd' (OPTIONAL)*

G Stainless Steel 316L / IP67

Wiring

M M20x1.5

N ½ NPT

Display / Programming

A YES

* To be Specified during ordering

ULTRA COMPACT/REMOTE

ORDERING CODE HLM SERIES REMOTE LEVEL TRANSMITTER

HLM series remote version ultrasonic level meter is fully functional, with optional multiple relays (6 pcs at most) and communication methods, multi-point measurement, which can also be customized according to customer demand the desired function. Can be equipped with easy to operate remote controller.

Model	HLM
Measuring range	(0~40m) based on different types of probes
Accuracy	0.2% Full span (In air)
Output Current :	DC4~20mA (HART optional)
Output Load :	0~500Ω
Output Resolution :	0.03% Full span
Mode of Indication :	Large screen LCD with graphical display
Display Resolution :	1mm/1cm
Switching Output:	2(high and low)(optional)
Relay Type:	5A 250VAC/30VDC
Relay No.	2 /4 /6 (optional)
Serial Communication :	RS485(optional)
Communication Protocol :	MODBUS/ PROFIBUS-DP)(optional)
Baud Rate :	19200/9600/4800
Power Supply :	DC21V~27V 0.1A AC85~265V,0.05A
Temperature compensation :	The whole range is automatic
Temperature Range :	-40 °C ~+75 °C
Measure Cycle :	1.5second
Parameter set up :	3 induction buttons
Cable Fix :	PG13.5/PG11/PG9
Crust Material :	ABS
Protect Grade :	IP67
Mode Installation :	Wall installation



ULTRA COMPACT/REMOTE

ORDERING CODE LA SERIES PROBES FOR HLM REMOTE LEVEL TRANSMITTER

LA series remote version probe has a number of patented technologies, a variety of ranges and materials to choose from. To meet the cold regions application the electric heating probes can be chosen. The probes can be applied to different application environments, and can be customized to customer special requirements of the install size. Probe cable can be customized up to 1000m, super anti-jamming capability.

Measuring range	(Liquid)	LA4:	4.00m (Dead Zone:0.20m)
		LA6:	6.00m (Dead Zone:0.25m)
		LA8:	8.00m (Dead Zone:0.30m)
		LA12:	12.00m (Dead Zone:0.50m)
		LA20:	20.00m (Dead Zone:0.80m)
		LA30:	30.00m (Dead Zone:1.20m)
		LA40:	40.00m (Dead Zone:1.50m)

Accuracy 0.2% Full span (In air)

Temperature compensation : The whole range is automatic
Temperature Range : -40 °C ~75 °C (LCD : -20 °C ~+70°C)
Pressure Range : ±0.1MP (press definitely)
Beam Angle : 8°(3db)
Measure Cycle : 1.5second (tunable)

Cable Fix : PG13.5/M20/ ½NPT
Cable : Ø 6-12mm
Sensor Material : ABS/PVC/PTFE
Protect Grade : IP68
Corrosion resistance Resistant to strong corrosion
Probe Cable Length 10m (can be extended to 1000m by order)
Installation in cold regions Probe lengthened or choose electric heating
Mode Installation : Whorl/Flange/Frame





ENVIRO CONTROLS

An ISO 9001:2008 Certified Company

About EIP

EIP was established about three decades ago, since then the company has been able to build its reputation in the field of Design / Manufacture Supply of accurate reliable POINT LEVEL AND INVENTORY CONTROL SYSTEMS which have proven to be in satisfactory operation under harsh environmental conditions. Apart from India EIP products have also been proven in other countries.

EIP aims to provide not only stable operating system but also to re-engineer equipments and systems as per the needs of the customers. This has been possible due to our wide experience in this field backed by constant technological development and absorption of new technologies developed world-wide.

EIP's strong endeavor to provide the best solution to its customers has gone a long way in introducing the most advanced level measurement technology from time to time.

Recent value addition to the Solutions provided by EIP is the Non Contact Ultrasonic Flow Meter which solves the problem of accurate flow measurement without any invasion into the pipeline, and the Solid Flow Detector which determines any choking or jamming of the pipelines in which ash or any other Solid material is flowing.

EIP has also diversified its portfolio to provide Zero leakage Non Corrosive Heavy Duty Knife Gate Valves, Butterfly Valves and Water Control Gate.

EIP ENVIRO LEVEL CONTROLS PVT. LTD.

B-45, SECTOR-8, NOIDA-201301, (INDIA)

Tel. No. : 91-120-2421831,2421832 & 4243333

Fax No.: 91-120-2421833

Email: rgoyal@eipenviroindia.com, rajat@eipenviroindia.com

Website : www.eipenviroindia.com



URS is a member of Registrar of Standards (RoS) Ltd