PRISMA
Instruments
& Gauge Bourdon France

DUS-D

ULTRASOUND FLOWMETER WITH DOPPLER EFFECT

DUS-DF : FIXED

DUS-DP : Portable Pocket

DUS-DV : Portable in suitcase

CARACTERISTIQUES

For wastewater and two-phase liquids (emulsion)

Non-intrusive transducers

Pipes from DN40 to DN4000

Suitable for all types of pipes (uni-material) ÿ High temperature transducers -40 C° ~ 200 C° optional

Excellent ability to measure low flows (from 0.05m / s)

Easy installation & configuration ÿ

Outputs : 4-20mA, Totalizer relay and Alarm relay

Accuracy: 0.5% to 2.0%

APPLICATIONS

Wastewater

Two-phase liquids (emulsion)

Activated sludge

Groundwater

Paper mache paste

Chemical sludge

Drainage

Mining

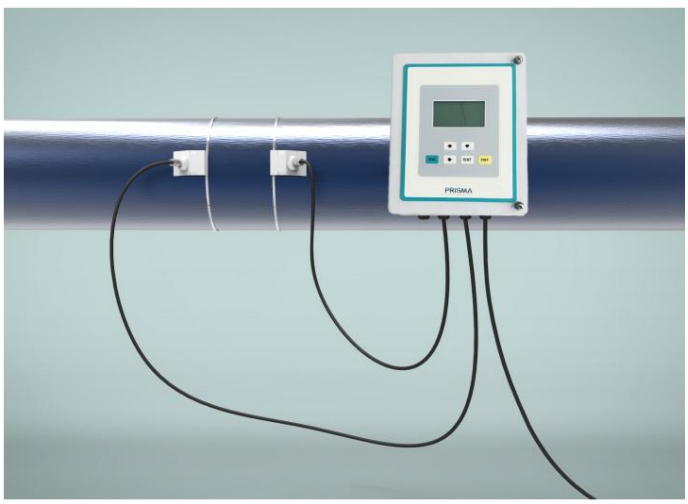
Flow Meter Models & Accessories

DESCRIPTION

The Prisma Instruments DUS-D Doppler Ultrasonic Flowmeter has been designed to measure flow volume of liquids laden with particles or air bubbles in suspension (minimum 100 µm and concentration greater than 75 ppm), as well as two-phase liquids causing an emulsion. The measurement is non-intrusive thanks to transducers that can measure in closed pipes ranging from DN40 to DN4000

The Doppler Ultrasonic Flow Meter displays flow and totalization measurements.

It can be equipped with 4-20mA, totalization or alarm relay outputs.



SPECIFICATIONS

DOPPLER	**Models**	FIXED - PORTABLE - POCKET - ATEX
	Feed	**Fixed :** Standard 100-240VAC 50/60Hz ±5%, 5VA max Option: 10 - 28 VDC, 2.5VA max **Portable :** Rechargeable lithium battery, 12VDC, 12Ah Autonomy 40 hours Charger: 110/220VAC, 50/60 Hz ±5%, Max. 5VA **Pocket:** AC: 85-265V - Autonomy 14 h
	Resolution	0.25mm/s
	Repeatability	0.2%
	Velocity	0.05m/s~12m/s
	Display	2 line × 8 character LCD
	Response time	Selectable: 0 ~ 99 seconds
	Exits	4~20mA, sum relay , alarm relay
	Precision	±0.5% ~ 2.0% FS
	Totalization	gallons, ft³, barrels, lbs, liters, m³, kg
	Temperature	-40 to + 70°C
	Dimensions and Weight	Fixed: 244*196*114 mm Weight: 2.5kg Atex: 310*226*127mm Weight: 7kg Laptop: 270*215*175mm Weight: 3kg Pocket: 237*125*42 mm Weight: 0.6Kg
	Standard	**Fixed:** NEMA 4X [IP65], cast aluminum **Portable:** NEMA 4X [IP65], ABS Case Pelican IP65 or IP67 optional
TRANSDUCTEURS	**Kind**	clamp-on
	pipe diameter	40 to 4000mm
	Measuring scale	0.05m/s~12m/s
	Types of liquid supported	Liquids containing 100 ppm of reflectors, of which at least 20% of the reflectors are larger than 100 microns.
	Liquid temperature	Temp. Standard: -40~121°C High temp.: -40~250°C
	Cable length	Std: 6m (20 feet) Option: Maximum: 300m (990 feet)
	Protection	Standard: IP65 according to EN60529 Option: IP68 (can work in immersion)

PRINCIPES DE MESURE

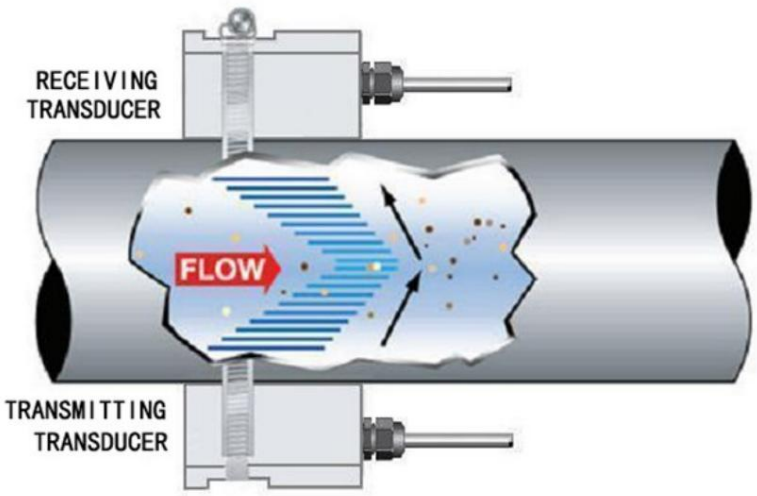
Prisma Instruments DUS-D Series Doppler Ultrasonic Flowmeter has been designed to measure the volumetric flow in closed pipes containing a certain amount of air or soot bubbles suspensions.

The transducers are 'clamp-on' or 'hot-tapped' insertion types. It is not necessary to close the pipes when installing transducers.

The flow meter works by emitting ultrasound from the transmitter transducer. The sound is reflected by sound reflectors suspended in the liquid and recorded by the receiving transducer.

If the sound reflectors move inside the sound transmission path, the sound waves are reflected at an offset frequency (Doppler frequency) from the transmitted frequency.

The change in frequency is directly related to the speed of the moving particle or bubble. This change in frequency is interpreted by the instrument and then converted into units of measurement according to the choice of the user.



The presence of large enough particles in the liquid is necessary to generate a longitudinal reflection. The particle size must be greater than 100 microns.

When installing the transducers, the length of straight pipe should be sufficient upstream and downstream (generally, 10D upstream and 5D downstream are needed, where D represents the diameter of the pipe.

IDENTIFICATION

DOPPLER TRANSMITTERS

Fixed Version

Pelican handheld version

Pocket version

Explosion proof (ATEX)

TRANSDUCERS

standard transducer

High temperature transducer

Stainless steel transducer

Ex-transducer

ACCESSORIES

Stainless steel bracelet

FORMULAIRE DE COMMANDE

Model reference: ***DUS-D*** **XXX / Transducers**

Model

F - Fixed

V - Portable in pelican case IP65 or IP67 optional

P - Pocket Notebook

Ex Fixed ATEX (Ex II 2G Ex d IIB T6)

Power (Fixed only)

A - 110VAC

B -220VAC

E -24VDC

S - Solar powered (including solar powered card)

Output selection

1 - 4-20mA

2 - Relay for totalizer

3 - Relay for alarm

Transducer type

1- Standard clamp-on - 40 - 4000 mm

Transducer material

N-Standard

SS-Stainless

Liquid temperature

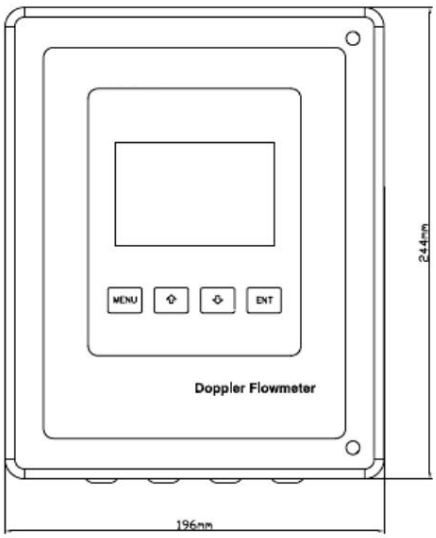
N- -35 ÿ85°C (up to 120°C for short periods)

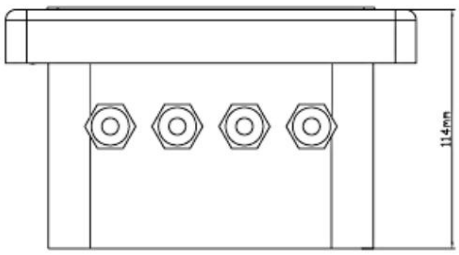
H- -35 ÿ200°C (up to 250°C for short periods)

Transducer cable

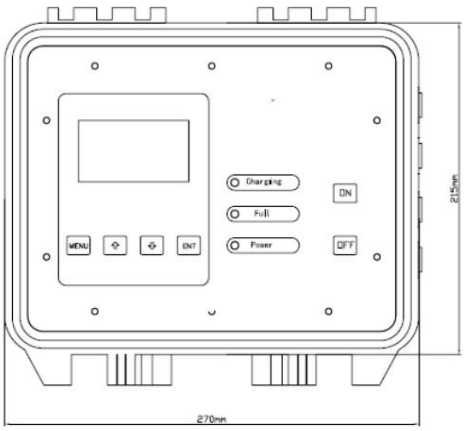
XXXm (standard 6m, max 300m)

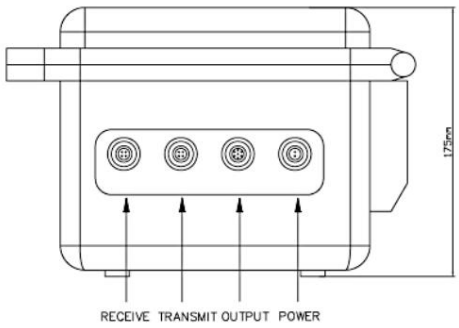
DIMENSIONS



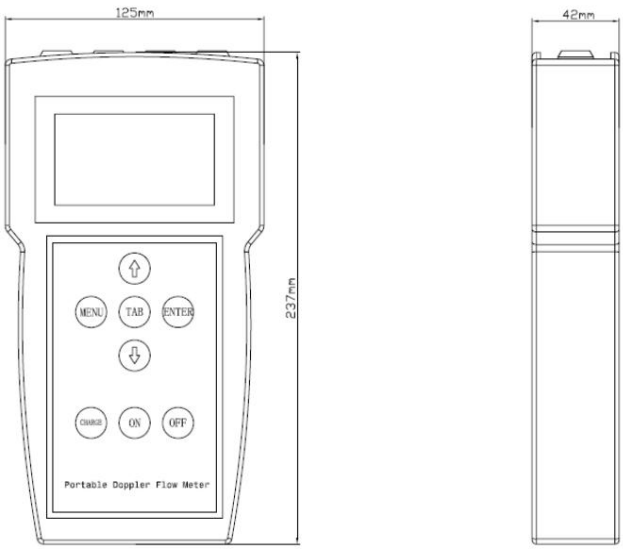


Fixed Transmitter





Handheld transmitter



Handheld transmitter