

LEVELWIZARD II

*Non-Contacting Ultrasonic
Measurement and Control*

iSOLV

Process Instrumentation



analytical

bulk flow

distance

flow

LEVEL

pressure

temperature

industrial
communication

FLOTECH

Process Automation & Instrumentation

LEVELWIZARD II ULTRASONIC LEVEL TRANSMITTER



iSOLV LEVELWIZARD II brings in a unique multi-function non-contact instrument for level monitoring, volume or open channel flow and provide advanced pump control in liquid and bulk solid applications using the time of flight, through air, ultrasound technique. It has a universal LCD display where at glance you may be able to view easily the level or flow measurement, a bar indication of percentage at maximum and relay status.

It offers the ability to dedicate the functionality of the unit to any of the three specific applications such as level or volume measurement, pump control, or flow measurement.

When coupled with the powerful, long range abilities of the dB transducer range, the LEVELWIZARD II provides cost-effective, extremely versatile and reliable level measurement performance in liquid, solid or slurry applications.

Key Features

- 5 control/alarm relays plus 4-20mA output
- Data logging option
- Easy installation, simple menu-driven setup
- RS232 standard with optional RS485 Modbus and Profibus
- DATEM Echo Processing
- AC or DC supply as standard
- No special interconnection cable
- Up to 1000m separation from transducer
- Use dB transducer family (3m to 25m)

Benefits

- Wide range of applications for all liquids and filling levels
- Measurements of distance, volume, levels, flow and totals
- Easy set-up and installation
- Illuminated graphic display with menu-driven operations
- Programming and Echo representation on a PC via RS232 with optional RS485 Modbus and Profibus
- Cost-effective pump control through built-in real time clock and intelligent pump management
- One or two channel control units with up to 5 relays and isolated mA-outputs
- Maintenance free I.S. ultrasonic sensors (optional)

Applications



Level Measurement

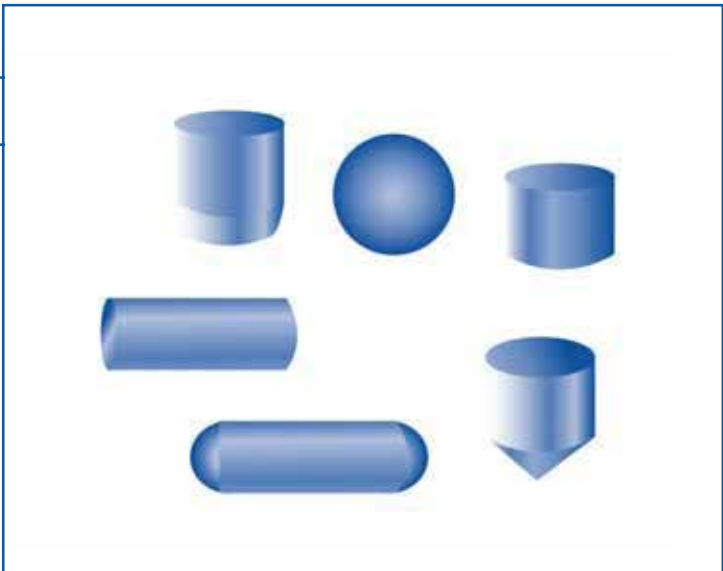
The LevelWizard II non-contact level measurement is designed for maintenance-free performance in applications found in food, chemical, petrochemical, pharmaceutical, power generation industries and municipal areas. Five user definable control relay setpoints ensure maximum control versatility.

Level Monitoring in Reservoir

Various types of Tank Shape

Volumetric Measurement

The LevelWizard II has a set of eight preprogrammed standard vessel configurations to automatically convert the level measurement into volume measurement. For a non-standard vessel, the LevelWizard II can also provide a custom linearisation configuration, if required.



Effective Pump Control

Its comprehensive suite of pump control routines for up to five pumps with standard numerous features such as set variation, extended pump down and flush valve control for cleaner pumping stations, wet wells and general sump applications. Standard automatic recording and logging of a set of parameters, including pump running hours and starts facilitating the scheduling of regular maintenance.

Wet Well Application

- Others,
- Storm Control
 - Basin Overflow Measurement
 - Quantity Measurement

Specifications

Physical

Weight Nominal	1 kg (2.2 lbs)
Transducer Cable	Three-core screened, can be extended with 2 or 3 core screened
Maximum Separation	500 m
Cable Entry Details	10 cable entries - 5 x M20, 1 x M16 underside, and 4 x 18mm at rear
Enclosure	240 x 184 x 118 mm, Polycarbonate, flame resistant to UL94-5V
IP Rating	IP 65
Min & Max. Temperature (electronics)	-20 °C to 55 °C

Performance

Accuracy	+/-0.25% of the measured range or 6 mm (whichever is greater)
Resolution	0.1% of the measured range or 2 mm (whichever is greater)
Maximum Range	6 meters (dB6 transducer), 10 meters (dB 10 transducer), 15 meters (dB 15 transducer), 25 meters (dB 25 transducer)
Minimum Range	Dependent on transducer
Reading Response	Fully adjustable

Echo Processing

Description	Patented DATEM (Digital Adaptive Tracking and ECHO Mapping)
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Outputs

Analog Output	Isolated output 4-20mA or 0-20mA into 500Ω (user programmable), 0.1% resolution
Digital Output	Full Duplex RS232 via RJ11 port
Optional	RS485 conn for Modbus with Profibus DP V0 or V1 options
Volt free contacts, number and rating	5 form 'C' (SPDT) rated at 5A at 115 Vac
Display	2 row LCD display showing programmed scale, plus bar graph with direction indicators, remote communicator identifier, program/run/test mode indicators and relay status

Programming

On-board Programming	Integral keypad
PC Programming	Via RS232 (RJ11 port) or RS485 (optional)
Programming Security	Via Password (User Selectable and Adjustable)
Programmed Data Security	Via non-volatile RAM, plus backup
Data Logging (Optional)	Via RJ11 port has 256kb giving 1 year at 15 min intervals (uses PC Suite software)

Supply

Power Supply	85 - 264Vac, 50/60Hz, 22-28Vdc
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Standard, Short and Medium Range dB Transducer

dB6 - Short Range Liquid Level Measurement

Range: 0.2 to 6 m
Nominal operating frequency: 50 kHz
Housing Material: Valox
PZT ceramic transducer element
Radiating face: 45 mm diameter
Beam angle: 10° @ -3 dB
Operating Temperature Range: -40°C to 95°C

dB10 - Liquid and Solid Level Measurement

Range: 0.3 to 10 m
Nominal operating frequency: 41 kHz
Housing Material: Valox
PZT ceramic transducer element
Radiating face: 45 mm diameter
Beam angle of 10° @ -3 dB
Operating Temperature Range: -40°C to 95°C

dB15 - Narrow Beam Transducer for Liquid and Solid Level Measurement

Range: 0.3 to 15 m
Nominal operating frequency: 41 kHz
Housing Material: Valox
Piezoflex™ homopolymer transducer element
Radiating face: 53 mm diameter
Beam angle of 5° @ -3 dB
Operating Temperature Range: -40°C to 95°C

dB25 - Narrow Beam, Mid-range Transducer for Solid and Liquid Level Measurement

Range: 0.4 to 25 m
Nominal operating frequency: 30 kHz
Housing Material: Valox
Piezoflex™ homopolymer transducer element
Radiating face: 145 mm diameter
Beam angle of 5° @ -3 dB
Operating Temperature Range: -40°C to 95°C

Innovative designs has led to the dB range of transducers being quite unlike anything seen in ultrasonic level measurement before.

Previously, there were high voltage, frequency dependent transducers, susceptible to electrical noise and requiring special, protected interconnection cables, or weak low voltage transducers designed with flammable atmosphere approval and not application performance in mind.

The innovative transducer design, combining low power, permitting optional certification to intrinsic safety standards and utilising standard screened cable, is capable of the power and range necessary to achieve industry's demands.

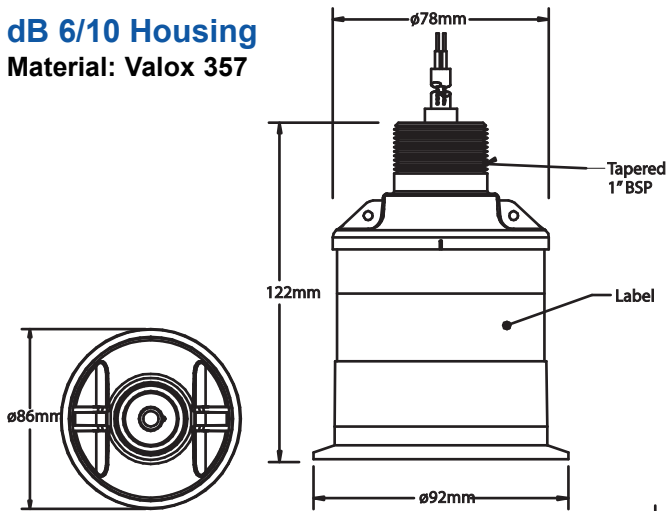
The iSOLV-Pulse range of dB transducers has, as standard:

- High resolution
- Integral temperature compensation
- Narrow beam angles
- Short blocking distances
- Robust, IP 68 construction

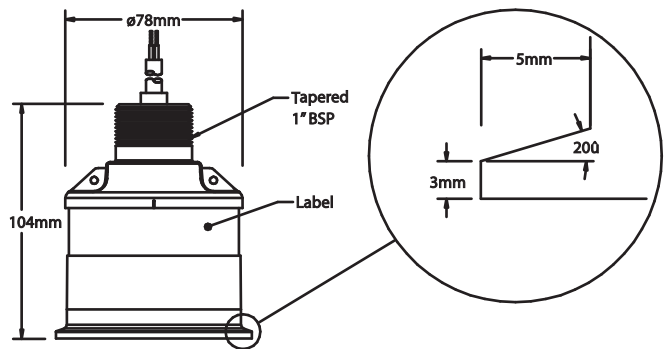


Dimensions (In mm)

dB 6/10 Housing Material: Valox 357

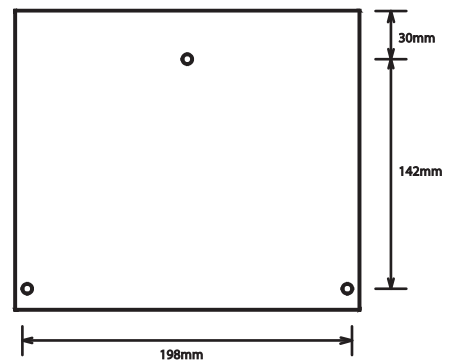
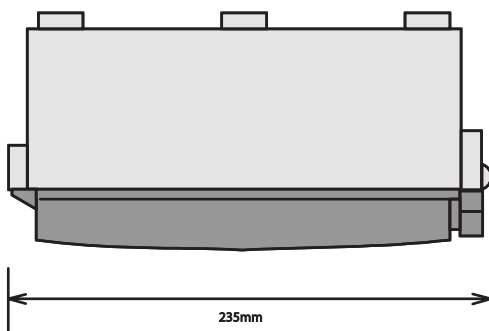
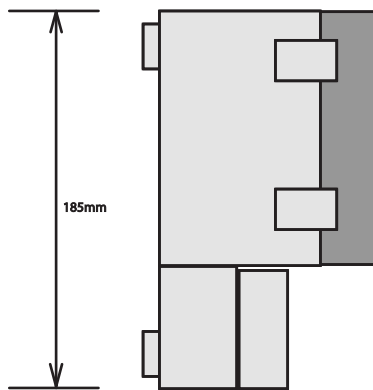
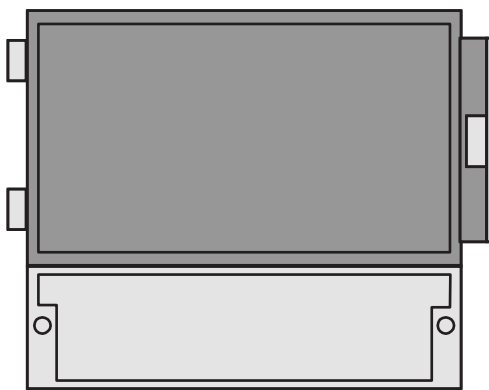


dB 15 Housing Material: Valox 357



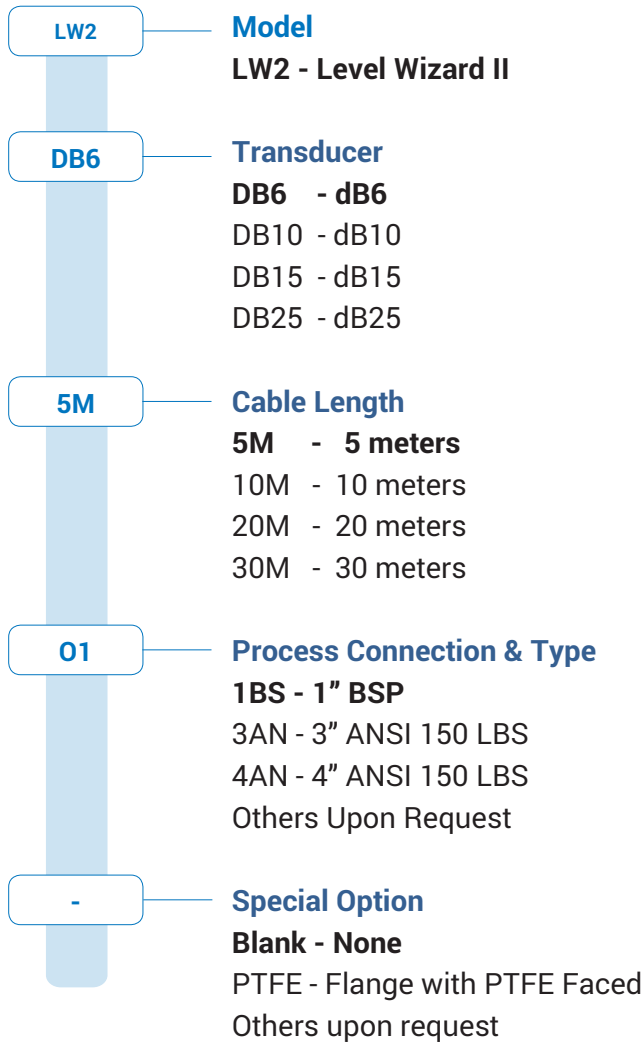
Cable Gland Knock-outs Bottom Face:

- 1 off 16 mm
- 5 off 20 mm
- Back face 4 off 18 mm



Ordering Information

(Example)



Ordering Code: (Example)

LW2	DB6	5M	01	-
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REGIONAL NETWORK

CHINA

FLOTECH CONTROLS (SHANGHAI) CO., LTD
B-C, Songhu Industrial Zone, No.3
Yanghebang Road, Songjiang High-tech Park,
Shanghai, P.R.C (201615)
Tel: (86) 21 64593908
Fax: (86) 21 64595018
Email: info@flotechshanghai.com

福德控制仪器（上海）有限公司
地址：上海松江高科技园区洋河浜路3号松沪工业
小区B区C栋
邮政编码：201615
电话：(86) 21 64593908
传真：(86) 21 64595018
电子邮件：info@flotechshanghai.com
网站：www.flotechshanghai.com

INDONESIA

PT FLOTECH CONTROLS INDONESIA
Komplek Rukan Artha Gading Niaga
Blok F/7, Jln. Boulevard Artha Gading
Jakarta 14240, Indonesia
Tel: (62) 21 4585 0778
Fax: (62) 21 4585 0779
Email: salesjkt@flotech.co.id

MALAYSIA

M - FLOTECH CONTROLS SDN BHD
No. 20, Jalan TP 7/6
Taman Perindustrian UEP Subang Jaya
40400 Shah Alam
Selangor Darul Ehsan
Malaysia
Tel: (60) 3 5192 5325
Fax: (60) 3 5192 5327
Email: sales@mflotech.com.my

SINGAPORE - HEAD OFFICE FLOTECH CONTROLS PTE LTD

438 Tagore Industrial Avenue
Singapore 787814
Tel: (65) 6553 0366
Fax: (65) 6553 0828
Email: info@flotech.com.sg
Website: www.flotech.com.sg
www.isolv.com.sg
Reg. No.198204457H



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Certificate SG13/04547



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