



# ABB LEVEL MEASUREMENT



## LST300 - Ultrasonic Level Transmitter

### Features

- 2-wire instrument with HART digital communication
- Wide temperature range of -40 to 85°C
- Accuracy of  $\pm 2\text{mm}$  or 0.2% of full span
- Beam angle as low as  $5^\circ$  with false echo filtering for narrow spaces
- Easy installation with graphic echo display, advanced diagnostic and easy setup menu
- IP66/67 and NEMA 4X (can submerge to 1m depth for 30 minutes)
- ATEX, IEC & FM Intrinsic safe and non sparking approved

The ABB LST300 is a high performance ultrasonic level transmitter that accurately measures level, distance and open channel flow in ranges up to 10m. While using intelligent compact transmitters has always been attractive, certain limitations prevented their use in many applications.

LST300 removes those old obstacles. Whether you have the risk of flooding or corrosive materials in the process, LST300 survive these conditions easily. With metal at the top and PVDF at the bottom, LST300 is the first compact ultrasonic to be resistant to corrosion on the entire instrument.



## LLT100 - The new standard in Industrial Laser Level Transmitters

### Features

- Suitable for high pressure and high temperature applications
- Available in aluminium or stainless steel body
- No calibration necessary
- Dust and fog penetration capabilities
- Explosion-proof class 1, division 1 (zone 1)
- Precise measurement of any solid or liquid surface

The ABB LLT100 is a high performance laser transmitter that accurately measures level, distance and position over short and long ranges. It is a non-contact level measuring instrument designed for industrial applications and harsh environments.

ABB brings laser level transmitters to the next level of non-contact measurements by packaging laser ranging technology with the required features for industrial applications. Using a pulsed laser for performing time of flight measurement, LLT100 provides accurate distance measurements while being powered from the 4 to 20mA loop.



## VM3D - Volumetric Laser Scanner

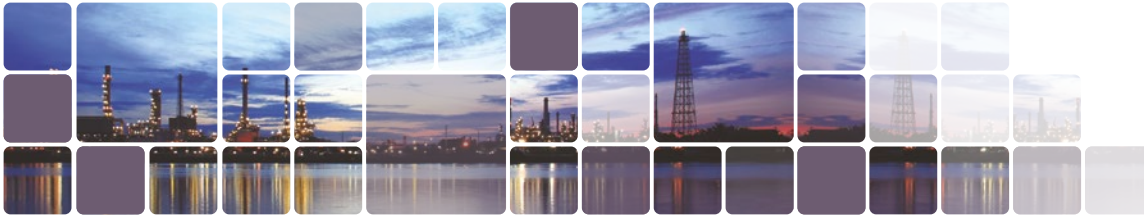
### Features

- On-demand measurement or scheduled measurement
- Maintenance free, non-contact laser scanner
- Regularly scheduled surface mapping for granular solid material stockpiles
- Remote access (via cloud) or local stand alone systems
- Auto-ranging to measure points from 0.5m to 93m
- Works in all types of storage buildings including silos, tanks, bunkers, sheds and domes
- Measures all clearly visible surfaces irrespective of texture, granularity, slope and/or colour

The VM3D scanners are unlike single point level transmitters; they take into account the shape of the surface, accurately calculating the effects of "cone-up", "cone-down" or irregularities on the material volume.

This 3D volumetric scanner system measures the volume of material stockpiles stored out in the open or in large structures like silos, bunkers, domes and sheds. By integrating laser technology and scanning, complex surfaces can be mapped accurately.





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## AT600 - Compact Magnetostrictive Level Transmitter

### Features

- High resolution 4-20mA output
- Simple mounting and installation
- No process piping or valve required
- Stainless steel enclosure
- Designed to mount externally to the KM26 or other magnetic level gauge
- Suitable for high temperature applications
- Calibrates without opening enclosure
- Superior piezo ceramic sensor
- Very compact design

The AT600 is based upon the magnetostrictive principle. The sensing tube contains a wire which is pulsed at fixed time intervals. The interaction of the current pulse with the magnetic field created by the magnetic float causes a torsional stress wave to be induced in the wire. This torsion propagates along the wire at a known velocity, from the position of the magnetic float and toward both ends of the wire.

A patented piezo-magnetic sensing element placed in the transmitter assembly converts the received mechanical torsion into an electrical return pulse. The microprocessor-based electronics measures the elapsed time between the start and return pulses and converts it into a 4-20mA output which is proportional to the level being measured.



## KM26 - Magnetic Level Gauge

### Features

- Lowest installation, maintenance and engineering cost
- High visibility
- 5 year warranty on chamber, float and indication assembly
- Custom engineered floats ensure accurate indication and reliability
- All magnetic level gauges are designed to ASME or PED standards
- Optional magnetostrictive transmitters provide continuous level transmission

ABB's patented magnetostrictive level transmitters are the only level transmitters in the world to be IEC 61508 certified for operation in SIL2 and SIL3 environments. A hermetically sealed float with an internal magnetic ring is housed in a non-magnetic float chamber. The float will move up and down in the chamber as level rises or falls in the vessel on which it is attached.

ABB floats are designed and weighted so that the center of the magnet assembly is at the true fluid level for absolute accuracy. Coating, plating, fouling, fugitive emissions and leaks of hazardous material problems are eliminated.



## TX - Thermal Dispersion Switch

### Features

- For liquids, gases and small granular solids
- One switch for gas or liquid flow, liquid level, interface level or temperature
- 316L SS all welded construction standard
- Explosion proof, no moving parts
- Temperature range: -46 to 177°C standard
- Pressure to 4000 psig / 275 bar standard

ABB's standard level switches are the most durable instruments available.

They are ideally suited for detecting the increase or decrease in flow or level of virtually all liquids, gases and slurries.



## RS85 - Vibrating Fork Level Switch

### Features

- Direct replacement for ultrasonic gap switches, RF capacitance switches and float switches
- Immune to coating or build-up on sensor
- Robust sensing element
- 3/4" and 1" (NPT, BSPT) process connections
- Temp. range: -40 to 177°C with HT6 high temp ext.
- Pressure to 2000 psig / 138 bar

The resonant frequency is continuously monitored for changes created by a wet or dry sensor and an alarm is provided via relay.

The RS85 should be used when the application requires optional process connections, exotic materials of construction, coatings, finishes or adjustable time delay and density set point.

