



INTRODUCTION TO 3D RADAR LEVEL TRANSMITTERS FOR LEVEL, VOLUME, MASS AND 3D PROFILE OF SILOS AND BUNKERS

Our **3D Radar Level Transmitter Model ULM 3D-5 (5 Beam Radar - The first and only 3D Radar Level Transmitter in the World)**. The Radar ULM 3D-5 has an operating frequency of **140 GHz (World's Highest Operating Frequency)** with **5 beams** covering different parts of silo to provide you with **Accurate Level, Volume, Mass and Real Time 3D Profile of material inside the Silo**. Additionally, the offered Radar Level Transmitter **does not require any air purge** for cleaning, as being a very high frequency and high power the Radar Beam is able to penetrate the dust and works even if some material sticks to the antenna of the 3D Radar.

We would further like to inform you that the Solids/ Iron Ore Fines pose 3 unique challenges for Level Measurement

1. Uneven profile due to angle of repose
2. Heavy Dust
3. Maintenance

The **3D RADAR LEVEL TRANSMITTER** with 5 beams

- **Covers the Silo Surface Area** at 5 different points to show the **Level, Volume, and 3D Profile of material inside the Silo**
- The 3D Radar Level Transmitter **works well with the Dusty environment**
- The 3D Radar Level Transmitter is maintenance free and does not require any air purge

The above innovative 3D Technology already in service world-wide for various applications.

Please find enclosed herewith few details on the 3D Radar Level Transmitter with 5 beams.

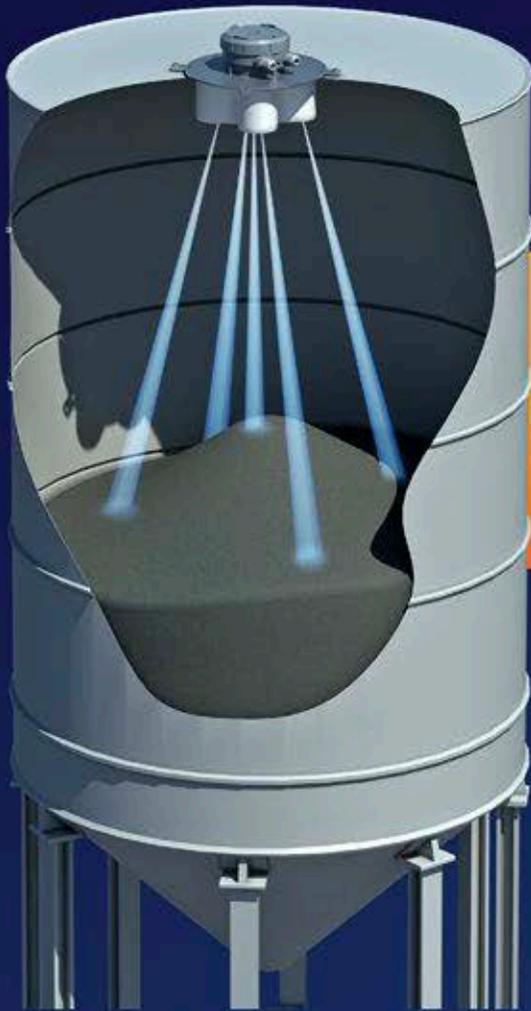
We shall be grateful if you kindly consider the same for your various applications. Thanking you in anticipation of above assuring you of our best services at all times.

Yours faithfully,
Team EIP



RADAR LEVEL TRANSMITTER

ULM-3D-5



THE ONLY RADAR LEVEL TRANSMITTER IN THE WORLD WITH MULTIPOINT LEVEL MEASUREMENT!!!

Main technical characteristics

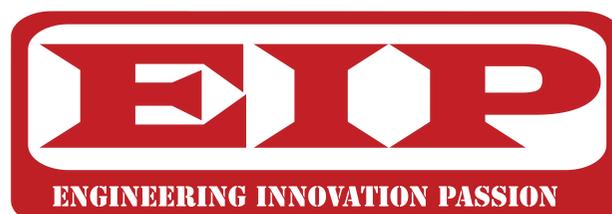
- accuracy of level measurement ± 3 mm
- operational frequency 120-140 GHz
- beam width 2°
- measurement range 0,6-50 m
- Bluetooth
- HART
- RS485

SIGNIFICANT INCREASE IN ACCURACY OF MEASUREMENT OF VOLUME OF THE BULK WHICH IS IN A SILO THANKS DUE TO MULTIPOINT CONTACTLESS RADAR TECHNOLOGY OF MEASUREMENT OF LEVEL.

ULM-3D-5 IS THE BEST TOOL FOR ACCOUNTING OF THE STORED BULK – CEMENT, ORE, CRUSHED STONE, GRAIN, FLOUR, ETC.

Radar level transmitter ULM-3D-5 – operational frequency of 120-140 GHz, forms several rays with angular pattern 2° . It allows to increase by several times the accuracy of volume measurement of loose material and provide maximum stability of measurements! It provide the guaranteed measurements of level, unlike the acoustic technology applied in other level gauges with the multipoint principle!

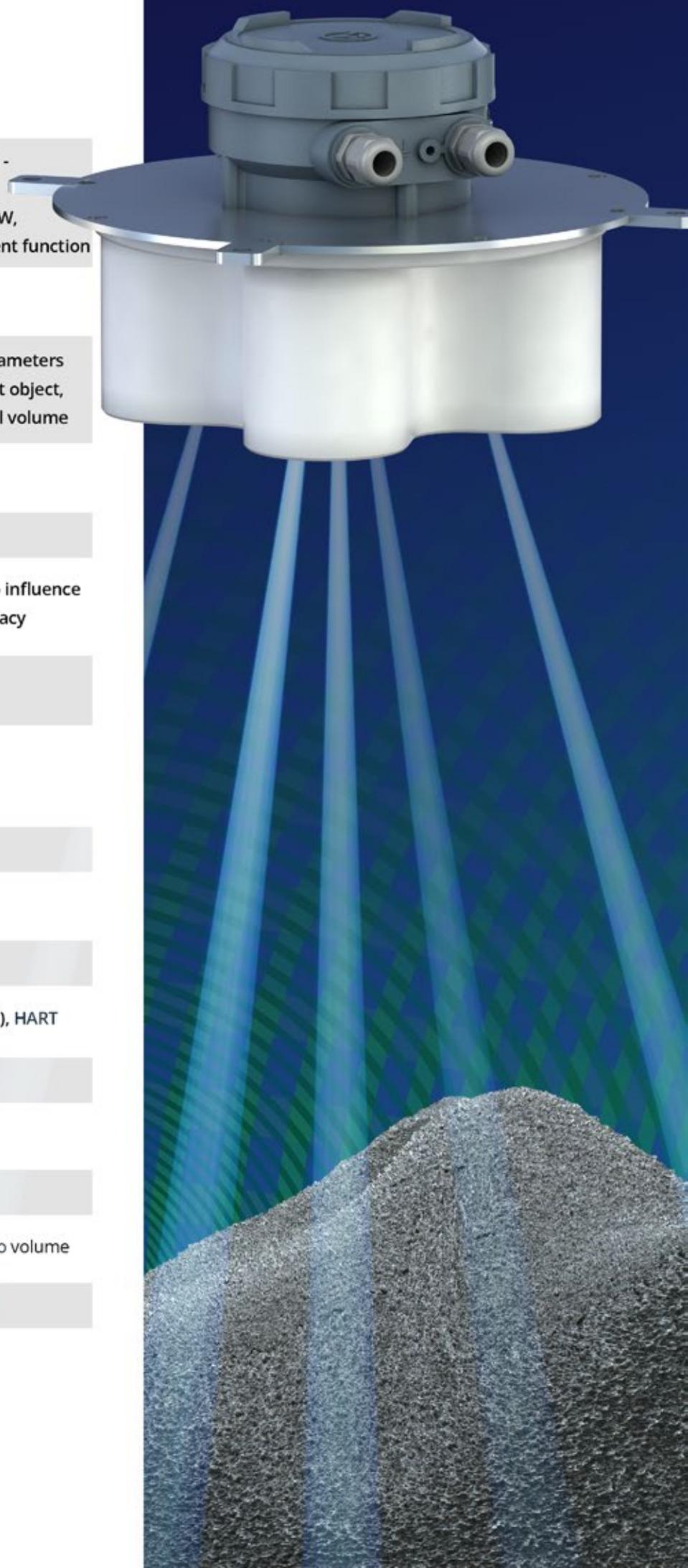
Radar level gauge ULM-3D-5 supports the same standard interfaces as ULM-31A1, has the same electric diagram and the same adjustment methods. It is very easy to master and to integrate this in SCADA system!

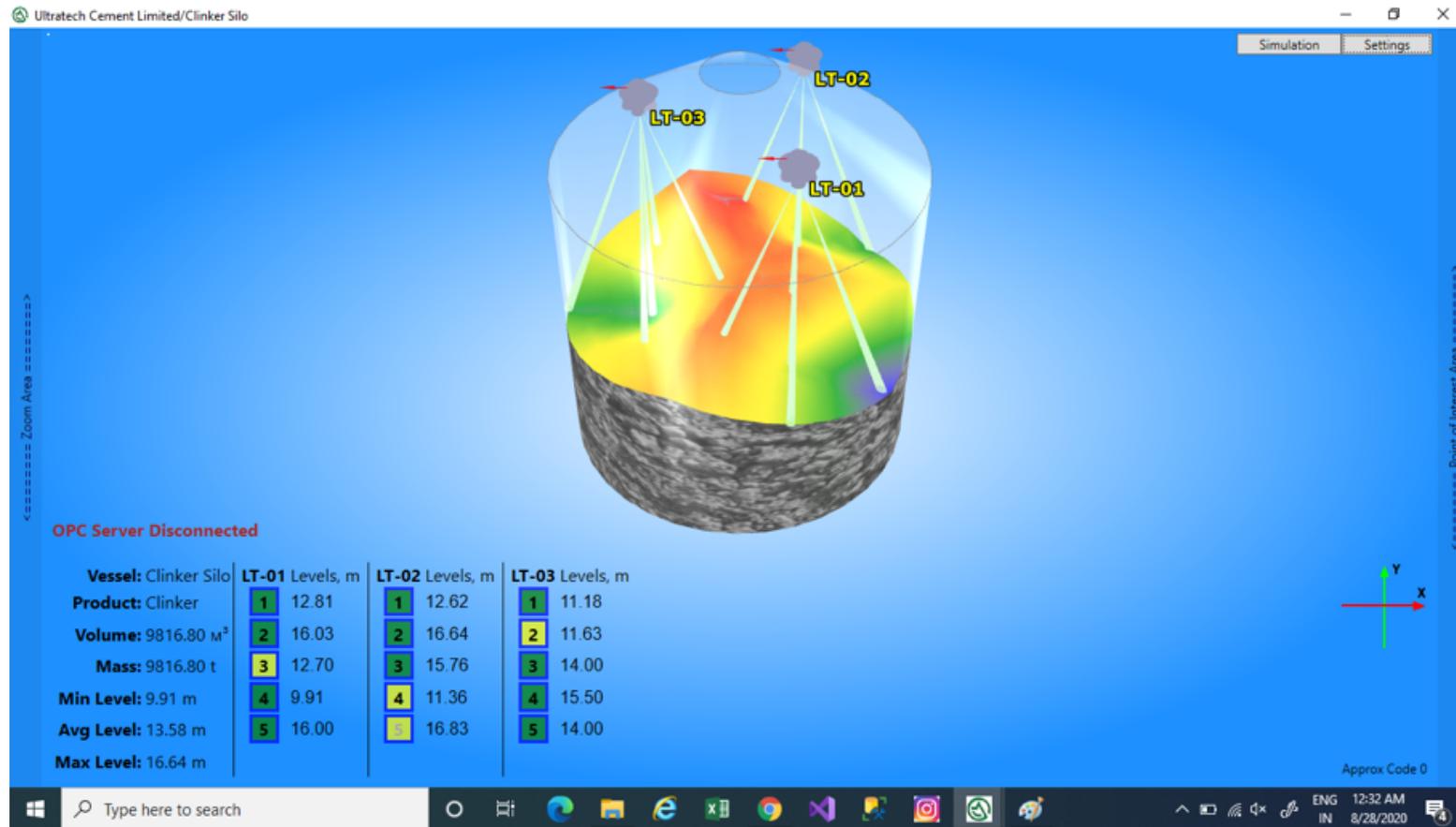


ULM-3D-5

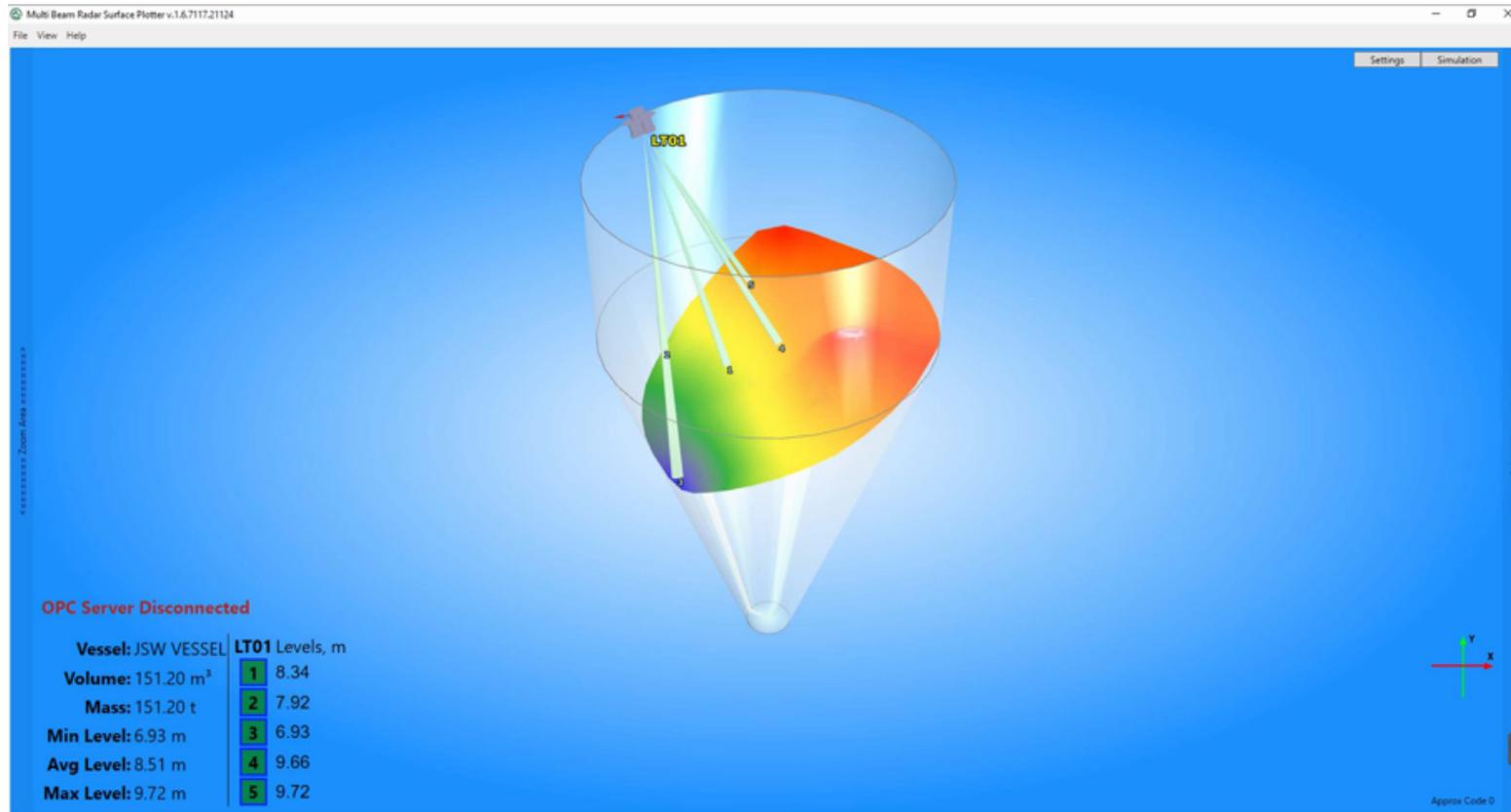
technical characteristics

Principle of measurement	Non-contact RADAR - multipoint measurement, FMCW, volume measurement function
Level measuring accuracy	±3 mm
Range of level measuring	depends on the parameters of the measurement object, up to 5% of the total volume
Environmental temperature	from -40 to +50° C
Additional thermal error	not detected
Temperature of measured medium	temperature has no influence on measuring accuracy
Measurements` dependence on dust level	not detected
Measurements` dependence on evaporation	not detected
Embodiment	IP65
Power supply	24 VDC
Output analog interface	4-20 mA
Output digital interface	RS485 (Modbus RTU), HART
Wireless interface	Bluetooth
Built in real time clock	
Keeping of debugging records in non-volatile memory	
Storage of calibration tables and recalculating of level into volume	
Weight	6 kg





Some Installation Images : Big Silos



Some Installation Images : Silo