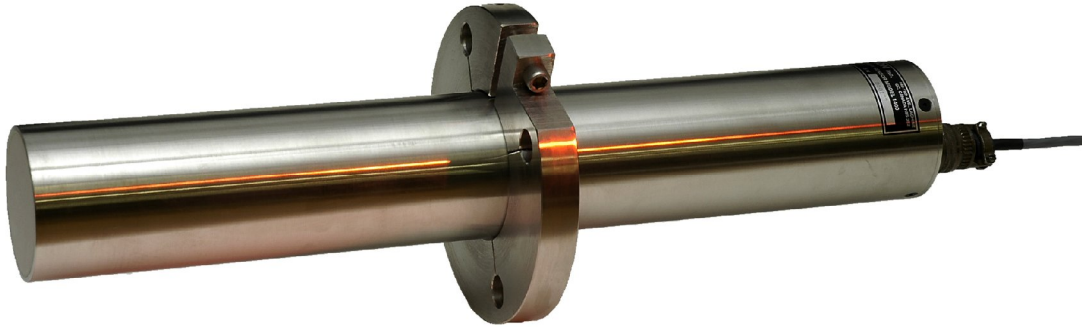


RadarTron 2250 D

DIGITAL MICROWAVE MOISTURE SENSOR



RadarTron 2250D accurately measures the moisture of fine aggregates such as sand and crushed stone. RadarTron's microwave technology eliminates all errors associated with resistance and capacitance methods, guaranteeing an accurate reading every time. RadarTron 2250D adds digital technology to make it even easier to calibrate than before, as well as adding several important new features. It is easily installed in any bin wall and is suitable for digital display as well as direct connection to almost all batching controllers.

THE IMPORTANCE OF ACCURATE MOISTURE MEASUREMENT

In concrete production, the mix design is based on the aggregates, cement and water being present in the correct proportions. If the sand moisture decreases by 2% without being noticed (which can often happen in practice), the batching system will weigh up 2% more sand than required and will add noticeably less water than is required, resulting in a dry batch. If the operator corrects this by adding more water, the water/cement ratio will increase, reducing the strength of the product. If the moisture had been measured accurately, the proportions would all have been correct and there would be no need to add more water.

NEW FEATURES

- ✓ Digital RS232 and RS485 outputs.

- ✓ Direct calibration from external palm pilot, computer or batching controller.
- ✓ Low bin level warning output.
- ✓ Temperature sensing.
- ✓ Multiple material calibration settings.
- ✓ Sealed, waterproof construction.

PRODUCTION QUALITY IMPROVEMENT

RadarTron 2250D guarantees: consistent yield; consistent color/texture; consistent workability; consistent strength and durability.

There is no mystery in obtaining accurate moisture measurements. The RadarTron sensor is scientifically designed to ensure control of the following factors:

MATERIAL COMPACTION

No moisture sensor can give accurate readings unless the material is compacted uniformly when the reading is taken. RadarTron's sensing head packs the material precisely during the flow period.

MATERIAL FLOW

Unless the whole sensing element is in the material flow region, which extends vertically above the discharge gate, readings will be affected by the static material in the bin sides. RadarTron adjusts to accommodate all bin shapes.

AVERAGING OVER THE FEED PERIOD

Sensors measure only a few cubic inches of material at a time. As the material flows, the sensor will detect wetter and dryer regions. RadarTron averages these variations to obtain the best reading on every batch.

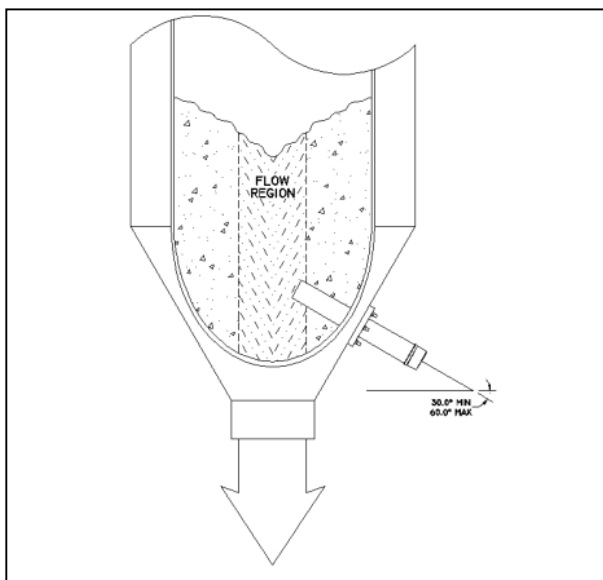
MATERIAL TEMPERATURE

Some sensing methods are very sensitive to the material temperature and must be compensated to obtain even moderately accurate results. RadarTron 2250D's measurement method is not sensitive to temperature. The slight remaining variation in the dielectric constant of the water being measured is compensated by an internal temperature sensor to give the highest accuracy of any sensor available.

FEATURES

- 1/10 to ¼ % accuracy, depending on type of material; generally better accuracy than oven-dry tests.
- Analog 4-20mA and 0-10V outputs as well as digital RS232.
- Calibration via RS232/RS485 connections.
- Multiple material calibrations allow different materials to be used in the same bin with same sensor.
- Thick, tough ceramic faceplate and stainless steel body are guaranteed for 5 years, last a lifetime.
- Waterproof, sealed body requires no access for adjustments.
- Length of body allows correct installation without extra fixtures or welding. Simple on-hole mount.
- Pre-calibrated approximately for your chosen material, to allow immediate use with fair results in most cases. Note that calibration is always required for best results, since all natural materials differ from place to place.
- Safe – meets all applicable regulations.
- Software ignores erratic readings from loose material during flow and averages readings during flow period, eliminating errors due to dry or wet spots, for use on either current or following batch with good results.
- For continuous feed, can give running average.
- Gradual update when no batching occurs, to adapt to changing moisture prior to next batch.
- Empty bin detection holds previous reading and gives output signal for alarm etc.
- Three display possibilities: separate digital display, via RS232, or via RS485 to computer or PDA.

TYPICAL BIN INSTALLATION



SPECIFICATIONS

Digital version:	RadarTron 2250D
Measuring range:	0 – 20% moisture, calibrated for sand. Other ranges and materials on request. Can be calibrated for surface or total moisture, “wet” or “dry” calculation basis.
Material limits:	From powder to ¼” granule size. Readings become more erratic as size increases.
Analog output:	0 – 20 or 4 – 20 mA. 0 – 10 volt etc. by use of external resistor. Non-isolated from DC power.
Digital RS232 and RS485 connections:	Bidirectional, 9600 Baud, industry standard protocol and command structure.
RS232/RS485 direct display and calibration method:	Automatically formatted for use with terminal emulator software such as ProComm.
Power:	24 volts DC ± 15%, 100 mA max.
Averaging start/stop input:	Dry contact input or relay from feed gate signal
Bin low output:	Open collector transistor to drive relay or PLC input
Temperature range for accurate measurement:	0 – 50 °C, 32 – 120 °F
Maximum safe temperature range:	0 – 80 °C, 32 – 175 °F
Material:	304 stainless steel with super hard alumina faceplate
Size:	3 ½” (89mm) diameter, 20” (508mm) long with 7 ½” (190mm) adjustable flange for correct positioning.
Shipping weight:	33 lb (15 kg)
Optional digital display:	Model 1278. Waterproof, powered by analog signal.
Optional Cables	Model 2256, 10, 20 or 50 ft.
Optional junction boxes	Model 2266 with sampling relay Model 2267 with sampling and bin level relays Model 2257 without relays
Optional power supply:	Model R2316, 24 volt 1.5 A
Optional converters/isolators	For USB etc. See price list for full details

SCALE-TRON
Perfecting the Art of Concrete Production

www.scaletron.com, scaletron@scaletron.com

440 – 19th Avenue, Lachine QC, H8S 3S2, Canada

Phone: +1 514 634 7083, 1 800 632 7083

1014 Ohio Avenue, Palm Harbor, FL 34683

Phone: +1 727 559 2336, 1 800 921 7559

