



TECHNICAL

LFM³ 50 Specifications

Application	
Model Selection	Material Attenuation Moisture Content Bed Depth Accuracy
LFM ³ 50 H	Low Dry Shallow Very high
LFM ³ 50 S	Normal Normal Normal Normal
LFM ³ 50 D	High High High Standard
LFM ³ 50 E	Very high Very high Very deep Low
Operational	
Conveyor width	Up to 1600 mm from mounting point to centre as standard
Conveyor speed	No Limit
Conveyor bed depth	Generally 50-900 mm but this is material, moisture range and application dependant
Material top size	Nominal 300 mm
Moisture range	Typically 1-20wt% but this depends on bed depth and material microporosity
Measurement time	Instantaneous, output as a rolling average updated at 1-10 second intervals
Performance	
Transmitted power	< 20 x 10 ⁻⁹ Watts
Attenuation	Resolution of microwave attenuation to 50 dB
Phase shift	Resolution of 3 deg of phase shift at 40 dB attenuation
Accuracy	For "S" antenna, typical accuracy is +/- 0.3wt% but this is application dependent. Accuracy is determined on wet basis at 1 standard deviation typical. These figures exclude the manual sampling precision of +/-0.1% typical
Display	
Type	Alphanumeric LCD 4 x 40 characters
Information	Time / Date Instantaneous moisture content Status
Outputs	
Standard Plant interface	4-20 mA MODbus RTU (Serial RS232) or TCP (Ethernet) Profibus DP and other protocols available on request
Error signal to Plant	Available over Serial or Ethernet interface
Watchdog Timer	Advises Plant if LFM is operational
Inputs	
Belt weigher	4-20 mA from beltweigher Linear mass or tonnes per hour compensation
Calibration switching	Available over Serial or Ethernet interface



LFM³ 50 Specifications

...continued

Remote Communications	
Cellular Networks	GSM or 3G (WCDMA)
Landlines	PSTN
Internet	Customer LAN with VPN connection Any one of the above used for downloading data and uploading calibrations. Allows ongoing remote support and software upgrade programs.
Electrical	
Power	110V (2A) or 240V (1A), single phase supply
Environment	
Operating temperature range	0-55° C with protection from direct sun (see sunshades in optional accessories below)
Humidity	0-95% relative humidity (non condensing)
Physical	
Low profile antennae	340 x 320 x 10 mm "S" receiver: 165 x 165 x 10 mm "H" transmitter & receiver: 210 x 210 x 10 mm All antennae are 304 stainless steel and Lexan®
Electronics enclosure	IP66 306 Stainless steel 600 x 600 x 260 mm with standard heat-shield and 600 x 600 x 220 mm without heat-shield
Enclosure with sunshade	316 Stainless steel with heavy duty rubber flap – 650 x 790 x 265 mm
Packaging	740 x 700 x 560 mm in sturdy wooden crate
Shipping weight	Approx 70 kg
Calibration	
Time-stamped sample data provided by plant	Recommend sampling to ISO standards. Where sampling is difficult Intalysis can provide mixed static and dynamic sampling methodologies.
Optical Accessories	
Without sunshade	Available if installed indoors
Peaked sunshade	Recommended if installed in dusty environment
Calibrations switching using 4-20mA	Used if calibrations switching is required but serial or Ethernet communications is not available
Fibre optic interfacing solutions	To plant or remote communications interface
Long haul data connections	e.g. RS422, RS485 for MODbus RTU
High gain cellular antennas	In areas where cellular coverage is poor
Software and Electronics	
Software and Electronics	Industry standard QNX operating system Moistmeas software TPX Digital circuitry for microwave measurements