In-Line Industrial NIR Series

CONTINUOUS MANUFACTURING QUALITY ASSURANCE SENSORS



MCT560
multi constituent

NIR-7000
single constituent

Continuous Monitoring of Moisture, Oil, and Other Parameters for Process and Quality Control

OVERVIEW

The KPM In-Line Industrial NIR Series (KPM NIR Series), comprised of the MCT560 and NIR-7000, offers rapid, continuous analysis for manufacturing operators to monitor incoming raw materials or process control on the production line. The in-line, non-contact sensors accurately measure moisture, coat weight, silicone, temperature and other parameters. With this analysis, operators can maintain consistent product quality, increase yield, and minimize waste.

The KPM NIR Series sensors are capable of a closed loop control of dryers, belt speed, re-moisturizers, and other monitoring. The KPM NIR Series can also be easily integrated into existing control systems, adding data to maximize efficiency.

Tens of thousands of KPM NIR Series sensors have been installed at many of the largest industrial manufacturing plants in the world. They help operators control moisture to within one tenth of a percent to meet product specs every time. Each sensor is built NIR technology that is widely used and accepted in a wide range of industries for moisture, or other in-line measurements.

EASY IMPLEMENTATION IN INDUSTRIAL ENVIRONMENTS

For many applications, the KPM NIR Series can be delivered pre-calibrated based on our extensive database of calibrations for almost turn-key operation. The KPM NIR Series can be situated in a variety of ways, such as over a conveyor belt, looking into an auger/screw conveyor, or looking through a sight glass window of a bin or chute.

APPLICATIONS FOR THE INDUSTRIAL IN-LINE NIR SERIES

- Chemicals and Chemical Powders
- Hot Melts
- Pressure Sensitive Adhesives
- Extruded Plastics
- Gypsum Powder
- Bricks
- PVB Films
- Textiles
- Crumb Rubber
- Polymer Pellets
- Glass Cullet
- Sands and Aggregates
- PVC Powders
- Ceramics
- Fertilizers
- Pulp Sheets
- Paper
- Detergents and Soaps
- Mineral or Metallic Ore
- Gun Powder
- Biofuels
- Tobacco
- Wood
- Corrugated Materials
- Food Packaging and Containers
- Panel and Particle Board
- Roof Shingles

INDUSTRIAL IN-LINE NIR SERIES FEATURES

- High-speed measurement allows capturing up to 100 readings per second for (MCT560 only)
- Simple to operate, integrate and standardize across multiple lines and locations
- Rugged enclosure withstands harsh conditions
- IP67- and NEMA 4X-rated 7-inch local display (sold separately for the NIR-7000) for protection in challenging operating environments
- Fully modular with all components easily replaceable in the field
- Easy to troubleshoot with advanced on board diagnostics
- User-friendly SensorVu™ software simplifies system setup and data analysis

In-Line Industrial NIR Series

The KPM NIR Series sensors provide rapid and continuous analysis for manufacturing operators to continuously monitor incoming raw materials or process control on the production line. With this analysis, operators can maintain consistent product quality, increase yield, and minimize waste.





MCT560

The MCT560 provides high-speed measurement capabilities (up to 100 readings per second).

- Multiple constituent in-line analysis (moisture, coat weight, temperature, and others).
- IP67-rated (NEMA 4X) user interface for operating in challenging environments.
- Stores up to 200 product calibrations.
- More advanced user features (lamp life and motor life monitoring, vibration alarm).

NIR-7000

The NIR-7000 is KPM's single constituent (moisture, coat weight, silicone, etc.) NIR analyzer that delivers reliable non-contact moisture measurements for high-throughput industrial applications.

- Single constituent analyzer
- IP65 rated housing

INSTALLATIONS

Belt Conveyor Installations: KPM NIR Series sensors are mounted 200-450 mm (8-18 in) above the conveyor, ideally with continuous product.

Augers & Screw Conveyors: Installing the KPM NIR Series on top of Augers and Screw conveyors allows for a measurement of the flow of material being conveyed by the flights of a screw. The KPM NIR Series is installed offset to the side of the central shaft while the influence of the flights passing the unit are eliminated by the instrument's software.

Bins and Chutes: Sight Glass Windows either Glass (Industrial applications) or Sapphire (Food applications) can be used for continuous flow of products against the window. To avoid specular reflection KPM NIR Series sensors are angled relative to the window.



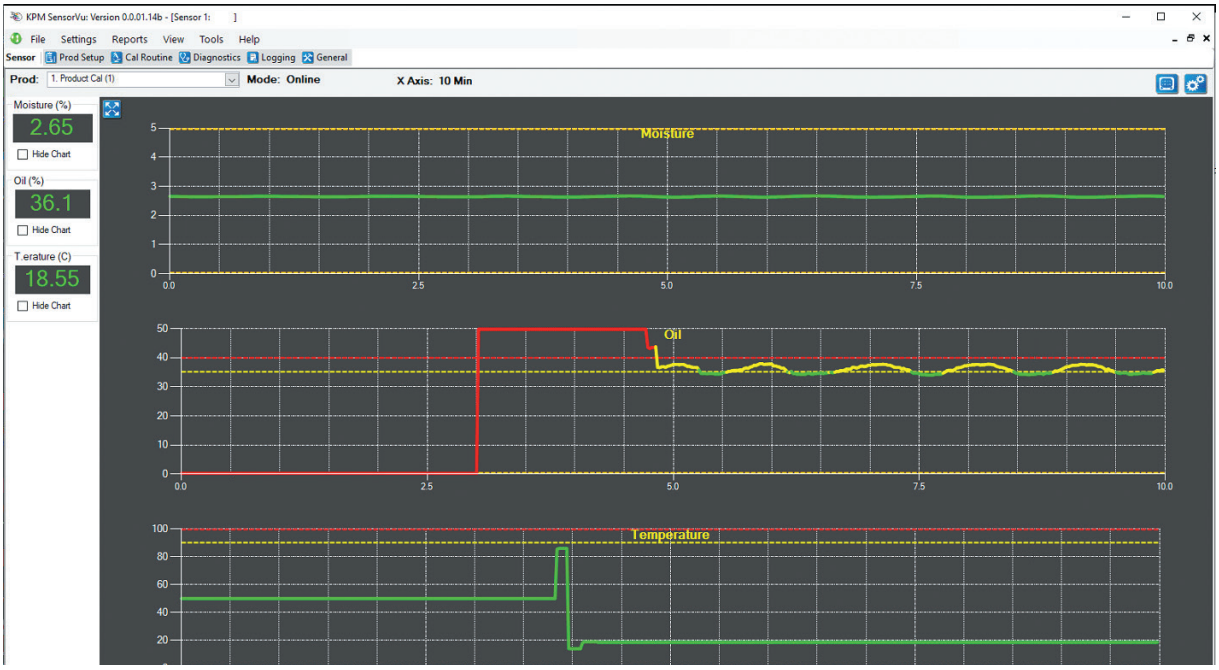




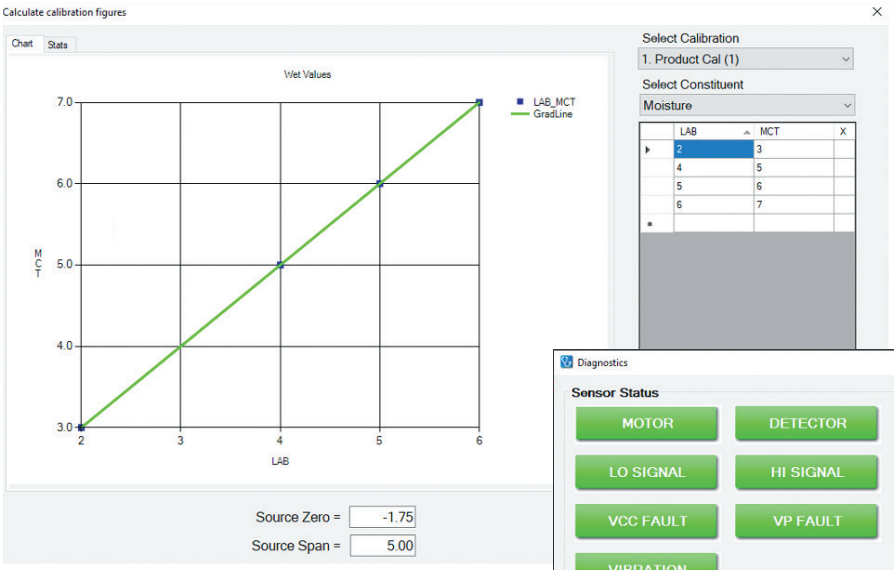
SensorVu™

PROPRIETARY SOFTWARE PLATFORM

The KPM NIR Series uses SensorVu™ Windows® - based PC software, allowing operators to insert set-up parameters, perform or adjust calibrations, select product codes, examine internal diagnostic values and remotely view moisture and temperature trends.



Trend screen with logging capability displays process reading changes in real time.



Simple, graphical calibration routine for quick setup of new products.



Easy diagnostics page for troubleshooting the KPM NIR Series.

ORDERING INFORMATION

Part Number	Description
560-100-PA-FBX	MCT560 sensor assembly with display
NIR-7000	Single-constituent analyzer for industrial applications

ACCESSORIES



IR Temp Sensor
Part# 240-021A-560

Enables simultaneous product temperature measurement.



Snorkel Sampler
Part# 250-000A-SC4

Designed to measure free falling powders/granules in chutes.



Air Cooling
Part# 240-010A

Vortex cooler attached to the sensor for high-temp applications.



Cal Check Standard
Part# 230-000A-S

Used to verify sensor stability over time and transfer calibrations between sensors.

SPECIFICATIONS

	MCT560	NIR-7000
Measured NIR constituents	1, 2, or 3 simultaneously	1; Moisture, coat weight, or silicone only
Sensor enclosure	Powder coated cast aluminum	Powder coated sheet metal
Ambient operating temperature	0-50°C (32-120°F) with water or air cooling up to 80°C (160°F)	0 °C to 55 °C (32 °F to 131°F). Down to -20 °C with heating option, up to 85 °C with cooling option
Reading speed	Up to 100 readings/second	Up to 33 readings/second
High speed gating	Yes	No
Advanced features	Lamp life monitoring, motor life monitoring, vibration alarm	None
Product calibrations	200	100
Operator interface	178 mm (7 in) touch screen (IP67)	178 mm (7 in) touch screen (IP67) - sold separately
Communication options	USB, Ethernet TCP/IP, Ethernet IP, EtherCAT, ProfiNet, ProfiBus, Modbus TCP, DeviceNet, OPC-DDE Server	Ethernet TCP/IP (default). Optional: Ethernet IP, EtherCAT, ProfiNet, ProfiBus, Modbus TCP, DeviceNet, OPC-DDE Server
Moisture accuracy	+/- 0.1% (subject to application)	
Wet basis moisture range	Min. 0.1% Max. 90%	
Dry basis moisture range	Min. 0.1% Max. 400%	
Resins/wax range	0.5% - 15%	
Coat weight wet/dry end GSM range	0.1 to 120 GSM (gram per square meters)	
Silicone coat weight on paper GSM range	0.1 to 3 GSM (gram per square meters)	
Transmitter/product distance	200-450 mm (8-18 in)	
Power inputs	Voltage: 100-240 VAC - 50/60Hz — Power: 25 Watts; 24VDC upon request	
Outputs	4-20mA, 0-10V (isolated), RS-232 & RS485 upon request	
Languages	English plus 10+ selectable languages	
ATEX22 available?	Yes (optional)	
Cable	3 m (10 ft) standard	
Compliance	CE Certified (FCC CFR 47: Part 15: B: 2015, Industry Canada Interference-Causing Equipment Standard ICES-003: 2021)	
Sensor weight	8.6 kg (19 lbs)	9.5 kg (21 lbs)
Warranty	Two years limited warranty	

KPM Analytics
8 Technology Drive | Westborough, MA 01581 USA
Phone: +1 774.399.0500
www.kpmanalytics.com | sales@kpmanalytics.com

Protected by KPM Care
kpmanalytics.com/KPMCare

©Copyright 2026. All rights reserved. 04.005.0466.EN.v2