Endress+Hauser
People for Process Automation

Nivector® FTI26 Capacitance Level Sensors

Part No. FTI26-CA7MWDG

Part No. FTI26-CA7MWDJ

Part No. FTI26-CA4VWDG

Overview

The Endress+Hauser Nivector FTI26 is a capacitance point level switch for detection of powders or fine-grained bulk solids. The versatile design of the Nivector makes it an ideal level switch for detecting the full, empty, refill, or point level status in silos, hoppers, and bins containing plastic granules, detergent, grain, sugar, spices, milk powder, animal feed, and other similar materials. The compact polycarbonate or stainless-steel housing with integral G 1" male thread process connection allows for easy installation in a variety of threaded adapters or through a bore hole using the optional lock nut accessory. The optional sensor protective cover accessory protects the sensor from abrasive or coarse product and can also be used to convert the G 1" sensor threads to 1-1/2" male NPT. Depending on the model, outputs include DC-PNP switches and IO-Link communication via an M12 quick disconnect or DIN style valve plug electrical connector. Factory configured to meet most applications; user specific adjustments are possible using the provided test magnet or IO-Link on equipped models. Color signal LEDs are provided for user specific adjustments and function verification (not on hazardous location rated versions), and hazardous location versions require M12 cable with LEDs for this function. Stainless-steel housing versions are FDA compliant and marked with the 3-A symbol for use in food industry hygienic applications when installed using appropriate hygienic fittings. Models are also available for use in Hazardous Locations with certifications to both US and Canadian standards.

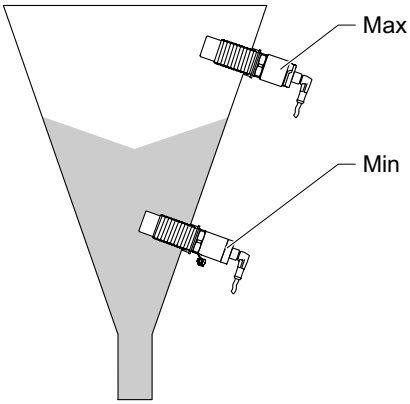
Features

- Capacitance point level switch for detection of powders or fine-grained bulk solids such as plastic granules, detergent, grain, sugar, spices, milk powder, animal feed, and other similar materials
- Full, empty, refill, or point level status in silos, hoppers, and bins
- Factory configured to meet most applications with user specific adjustments possible
- Compact polycarbonate or stainless-steel housing with integral G 1" male thread process connection allows for easy installation
- Available outputs include DC-PNP switches and IO-Link communication
- M12 quick disconnect or DIN style valve plug electrical connector
- Color signal LEDs are provided for user specific adjustments and function verification (not on hazardous location rated versions), and hazardous location versions require M12 cable with LEDs for this function
- Stainless-steel housing versions are FDA compliant and marked with the 3-A symbol for food industry hygienic applications
- Models available for use in Hazardous Locations
- Ability to set each output to detect different media (IO-Link models only)

Operation

The Endress+Hauser Nivector FTI26 capacitance point level switch is commonly used to detect the full or empty status in silos, hoppers, and bins containing powders or fine-grained bulk solids. When used as an empty status switch, it is typically mounted at an angled position near the bottom of the storage vessel to initiate refilling or turn off equipment for dry-running protection. When used as a full status switch, it is mounted near the top of the storage vessel to limit refilling or for overfill protection.

The sensor surface of the Nivector evaluates the different dielectric values of air and bulk solids. When the bulk solids come into contact with the sensor surface, the electronics change the switch status. An internal guard electrode eliminates interference factors due to the vessel wall or possible buildup of the medium.



There are two modes of operation:

- Maximum point level detection (MAX): e.g. Overfill protection. The Nivector keeps the electrical switch closed as long as the sensor is not yet covered by medium.
- Minimum point level detection (MIN): e.g. Dry running protection. The Nivector keeps the electrical switch closed as long as the sensor is covered by medium.

Choosing the MAX or MIN mode of operation ensures that the Nivector switches in a safety-oriented manner even in an alarm condition. The electronic switch opens if the point level is reached, if a fault occurs, or if the power fails.

Endress+Hauser
People for Process Automation

Nivector® FTI26 Capacitance Level Sensors

Configuration

The Nivector FTI26 is preconfigured at the factory to work with most applications without the need for an adjustment. The electrical switch point of the device is factory-set for medium with a particle size < 10mm and a relative dielectric constant ≥ 1.6 when installed in a metal tank using lock nuts, with or without the optional sensor protective cover accessory. For other types of installations, such as in plastic tanks, weld-in or tri-clamp adapters, medium with a dielectric constant <1.6, or processes with large temperature variations, measurement performance can be improved with user-specific empty and full adjustments using IO-Link on equipped models or the provided test magnet and signal LEDs, and hazardous location versions require M12 cable with LED's for this function. The test magnet can also be used to reset the Nivector to factory settings or carry out a functional test while in operation.

Click on the thumbnail or go to https://www.automationdirect.com/VID-LE-0018 for a short video on Endress+Hauser Nivector Capacitance Level Sensors

Approvals

- 3-A (Certain Models)
- CSA (General Purpose or Hazardous Location depending on model)
- CE

Nivector FTI26 Capacitance Level Sensor Selection

Model	Description	Housing/ Protection	Wetted Parts	Process Connection	Operating Voltage	Output	Connection	IO-Link	Approval	Price	Weight (lbs)
FTI26-CA7MWDG	Nivector capacitance bulk solids level switch	Polycarbonate IP65 IP67 (NEMA 4X)	Polycarbonate	G1 male thread	18 to 30 VDC	switch PNP, 3 or 4 wire, 2 PNP freely configurable outputs with IO-Link	4-pin M12 quick-disconnect	Yes	CSA	$;05x_[:	1.24
FTI26-CA7MWDJ		316L stainless steel IP65 IP67 (NEMA 4X)	316L stainless steel and ECTFE (ethylene chlorotrifluoroethylene)						CSA 3-A	$05x_q:	1.11
FTI26-CA4MWDG		Polycarbonate IP65 IP67 (NEMA 4X)	Polycarbonate		12 to 30 VDC	switch PNP, 3-wire, N.O./N.C. complementary		N/A	CSA	$05x_s:	0.78
FTI26-CA4MWDJ		316L stainless steel IP65 IP67 (NEMA 4X)	316L stainless steel and ECTFE (ethylene chlorotrifluoroethylene)						CSA 3-A	$;05x_t:	1.28
FTI26-CA4VWDG		Polycarbonate IP65 (NEMA 4x)	Polycarbonate			switch PNP, N.O. or N.C.	EN 175301-803-A connector		CSA	$05x_u:	0.88
FTI26-CA4VWDJ		316L stainless steel IP65 (NEMA 4x)	316L stainless steel and ECTFE (ethylene chlorotrifluoroethylene)						CSA 3-A	$05x_v:	1.25
FTI26-CO7NWDJ		316L stainless steel IP66 IP68 IP69 (NEMA 4X/6P)			18 to 30 VDC	switch PNP, 3 or 4 wire, 2 PNP freely configurable outputs with IO-Link	4-pin M12 quick-disconnect	Yes	CSA Hazardous Location 3-A	$05x_?:	1.61
FTI26-CO4NWDJ		316L stainless steel IP66 IP68 IP69 (NEMA 4X/6P)			12 to 30 VDC	switch PNP, 3-wire, N.O./N.C. complementary		N/A	CSA Hazardous Location 3-A	$;05x_:	1.43

Note: For Wiring and Installation information refer to the additional Vendor Specs and Operating Information PDFs.

Endress+Hauser
People for Process Automation

Nivector® FTI26 Capacitance Level Sensor Accessories

Nivector FTI26 Capacitance Level Sensor Resources				
Model	***Drawing Link***	***Vendor Technical Specifications***	***Vendor Operating Manual***	***IO-Link Quick Start Guide***
FTI26-CA7MWDG	PDF	PDF	PDF	PDF
FTI26-CA7MWDJ	PDF	PDF	PDF	PDF
FTI26-CA4MWDG	PDF	PDF	PDF	N/A
FTI26-CA4MWDJ	PDF	PDF	PDF	N/A
FTI26-CA4VWDG	PDF	PDF	PDF	N/A
FTI26-CA4VWDJ	PDF	PDF	PDF	N/A
FTI26-CO7NWDJ	PDF	PDF	PDF	PDF
FTI26-CO4NWDJ	PDF	PDF	PDF	N/A

Note: For Wiring and Installation information refer to the additional Vendor Specs and Operating Information PDFs.

Part No. 71416936

Part No. 71395801

Part No. 71395803

Nivector FTI26 Capacitance Level Sensor Accessories				
Model	***Description***	***Price***	***Weight (lbs)***	***Drawing Link***
71416936	Endress+Hauser sensor protective cover, 1-1/2in male NPT. For use with Endress+Hauser Nivector FTI26 capacitance bulk solids level switch.	$5x__:	1.98	PDF
71395801	Endress+Hauser lock nut, for use with Endress+Hauser Nivector FTI26 capacitance bulk solids level switch.	$5x_#:	0.05	PDF
71395803	Endress+Hauser plug protective cover, for use with Endress+Hauser Nivector FTI26 capacitance bulk solids level switch.	$;5x_!:	0.08	PDF