

Digital Vane Sensor



VN1015 Sensors

Magnetically activated digital vane sensor in a rugged, overmolded plastic housing with three pins or 3-wire flying leads

Description

The VN1015 sensors employ a Hall Effect digital vane sensor and a permanent magnet in two small towers, separated by a 3.4 mm (0.135") air gap. The output switches when a ferrous target passes between the towers. Typical targets are linear or rotary vanes using a square saw tooth or an open slot in a solid disk or band.

Features

- Mechanically interchangeable with typical slotted optical switches
- Robust, high speed sensing in dirty/dusty environments
- No mechanical contacts to wear out
- Open collector (sinking or NPN) output can be used with bipolar or CMOS logic circuits with suitable pull-up resistor
- RoHS compliant

Typical Applications

- Door/gate position control
- Exercise equipment
- Printers

Environmental Specifications

Operating Temperature (VN101501, VN101503)

-40 °C to 85 °C (-40 °F to 185 °F)

Operating Temperature (VN101502, VN101504)

-40 °C to 150 °C (-40 °F to 302 °F)

Storage Temperature (VN101501, VN101503)

-40 °C to 85 °C (-40 °F to 185 °F)

Storage Temperature (VN101502, VN101504)

-40 °C to 150 °C (-40 °F to 302 °F)

Electrical Specifications

Supply Voltage 3.8 to 24 VDC

Maximum Input Voltage 30 VDC

Maximum Reverse Voltage 30 VDC

Supply Current 4.1 mA typ., 7.5 mA max.

Output (Sink) Current 25 mA max.

Recommended Pull-Up Resistor See Chart

Mechanical Specifications

Housing Material Over-molded plastic

Sensor Orientation Sensitive; see drawing

Recommended Vane Parameters Low carbon material at least 1.016 mm (0.04") thick, should penetrate to a depth < 3.05 mm (0.12") from bottom of sensor slot

Part Number

VN101501

Termination

pins

VN101502*

pins

VN101503

24 AWG x 150 mm leads

VN101504*

24 AWG x 150 mm leads

*Not commonly stocked; please contact the factory or your distributor

Note: An external pull-up resistor is required, the value of which is dependent on the supply voltage. The resistor should be connected between the output and Vcc. Refer to the wiring diagram for lead colors or pin numbering as applicable.

Recommended External Pull-Up Resistor

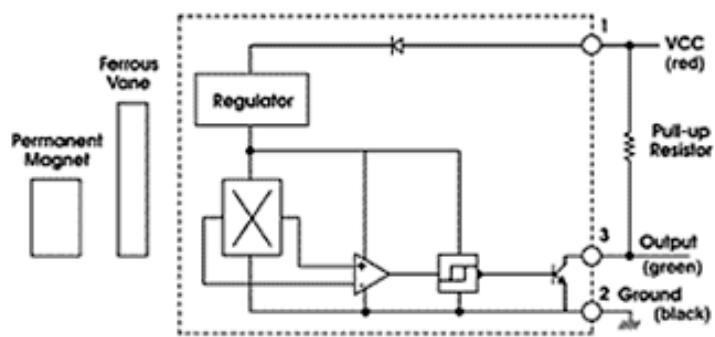
Volts DC	5	9	12	15	24
Ohms	1k	1.8k	2.4k	3k	3k

www.switches-sensors.zf.com

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Open Collector Sinking Block Diagram



Dimensions mm (inches)

