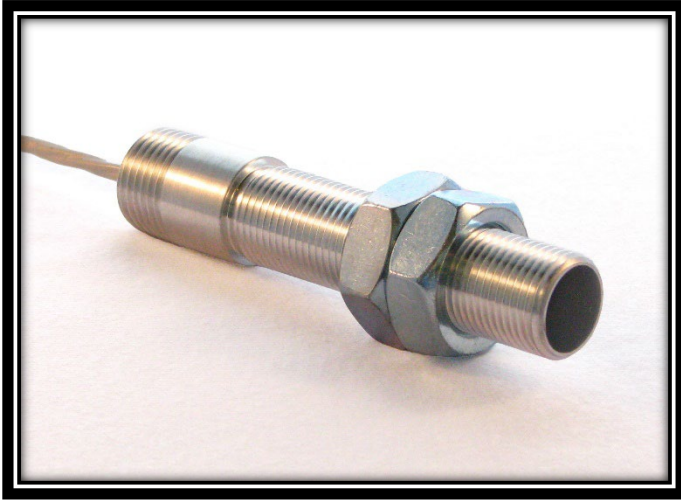


User Manual



Series S04 and HTS04 Hall Effect Sensor



Phares Sensors & Automation

P.O. Box 67251

St. Petersburg, Florida 33736

Telephone: 727-351-2505

Online: PharesSensors.com

Table of Contents

Description	1
Installation	1-2
Disclaimer	2
Specifications	3-4
Warranty	5
Returns	5
Contact Information	6

Description

The Phares Digital Output Hall Effect Sensor switches logic low ("0") when the magnetic field strength at the sensor face exceeds the hall effect operate point threshold, and switches logic high ("1") when the magnetic field strength falls below release point threshold. The difference in the magnetic operate and release points is the hysteresis of the Hall Effect Sensor. This built-in hysteresis allows clean, fast switching of the output, even in the presence of external mechanical vibration and electrical noise. The omnipolar operation allows activation with either a north or a south polarity field of sufficient strength. In the absence of a magnetic field, the NPN output is off.

Installation

Phares Digital Output Hall Effect Sensors can be secured via ½" conduit fitting, bracket, or both depending on sensor housing length. Various sensor housing lengths allow greater flexibility regarding mounting and bracket location. Use our Terminal Strip Assembly (TSA) Box for quick mounting and termination, and applications which require long cable runs. When using a bracket do not over tighten jam nuts. If vibration is an issue, use removable thread lock to keep jam nuts secure.

Phares S04 Series Digital Output Hall Effect Sensors are not polarity sensitive. This means that if power is reversed on the red and black wires (black '+' and red '-'), the Sensor will still operate normally. Phares Hall Effect Sensors have NPN output standard. PNP output is available upon request.

The Sensors do not contain a pull-up resistor. Most frequency input devices already contain a pull-up resistor and do not require an external one within a sensor.

When using the Hall Effect Sensors with a PLC input, a pull-up resistor may be needed to activate the logic input. Place a 2.2K resistor between the red (+) wire and the white (signal) wire.

An internal pull-up resistor can be installed at the factory upon request.

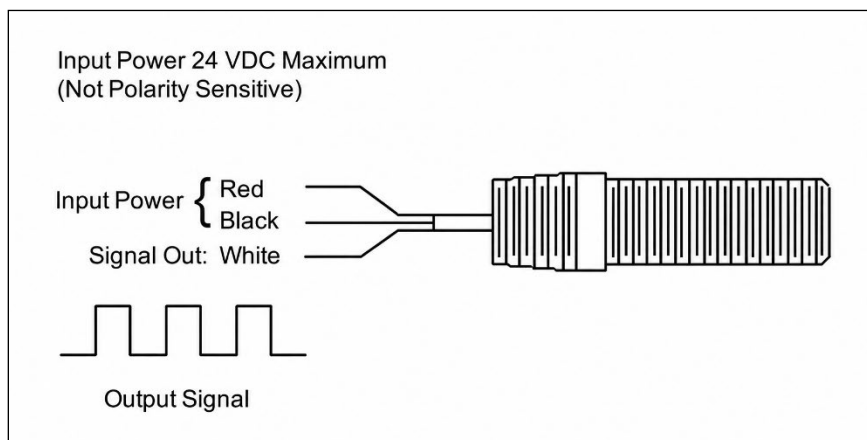
Installation (continued)

Figure 1. Digital Output Hall Effect Sensor Wiring

Disclaimer

The Hall Effect Sensors are not intended for safety critical applications. Users of this Phares Sensors product in such applications assume all risks of such use and shall indemnify Phares Sensors against all damages, including attorney's fees and costs, resulting from such use.

Specifications

Digital Output Hall Effect Sensor Type

3 wire, sinking signal (NPN)

Supply Voltage Range

3-24 VDC

Supply Current

6 mA

Output Voltage

3-24 VDC (Corresponds with Supply Voltage used)

Output Current

Output capable of sinking 20 mA

Magnetic Pole Detect

North and South

(Positive and Negative field)

Sensing Distance to Target (Gap):

Sold Separately:

1/8" to 3/8" using Phares HD Magnetic Disk.

3/4" Maximum using Phares Standard Magnetic Disk.

3/4" maximum using Magnet Part No. SM-100

1-1/4" maximum using Magnet Part No. RM-100

Frequency

25 kHz Maximum

Sensor Housing Material

Aluminum

Operating Temperature

-40° to 140° F for the S04 Series (ambient temperature)

-40° to 300° F for the HTS04 Series (high temperature)

Specifications (continued)

Conforms to the following standards:

CAN/CSA C22.2 No. 61010-1:2012

UL 61010-1:2012

EN 61010-1:2012

IP68

Part Number Chart

Series-X-Y

Sample Part Number: HTS0404-06

Series	Operating Temperature	X – Barrel Length	Y - Cable Length
S04	-40° to 140° F	1, 1.5, 2, 3, or 4 Inches	Example 1, 6, 10 Feet, or custom length
HTS04	-40° to 300° F	1, 1.5, 2, 3, or 4 Inches	Example 1, 6, 10 Feet, or custom length

Options

- Custom Cable Length
- Custom Barrel Length
- Sourcing (PNP) available
- Internal pull-up resistor

Warranty

All products are thoroughly tested before shipping. If a product is found to be defective within 60 days from the date of purchase, not the date of installation, we will repair or replace the unit. The defective unit must be received and tested at Phares Sensors before a replacement is shipped. If a replacement is needed before the defective unit arrives at Phares Sensors, the replacement will be charged to your credit card, or invoiced to your Net30 Account. A credit will be issued once the unit is received at Phares Sensors and deemed defective upon inspection and testing. Please call us for return shipping instructions.

The warranty is void if the unit is physically damaged from abuse or misuse, or if the unit shows evidence of excessive current, heat, moisture, vibration, or operating conditions outside of design limits or unauthorized modification.

The above constitutes the sole and exclusive warranty provided by Phares Sensors. In no event shall Phares Sensors, or its agents, be liable for any damages, whether direct, indirect, consequential, punitive or otherwise, arising out of any product or service provided or arranged by Phares Sensors.

Returns

Returns are accepted within 30 days from date of sale. Please call us for return shipping instructions. Returned items must be in resalable condition. A credit will be issued after the item is received by Phares Sensors and deemed resalable after inspection and testing.

Contact Information

Telephone: (727) 351-2505

Online: PharesSensors.com

Mailing Address:

Phares Sensors & Automation

P.O. Box 67251

St. Petersburg, FL 33736

USA

Last revised October 7, 2026
© Phares Sensors & Automation