

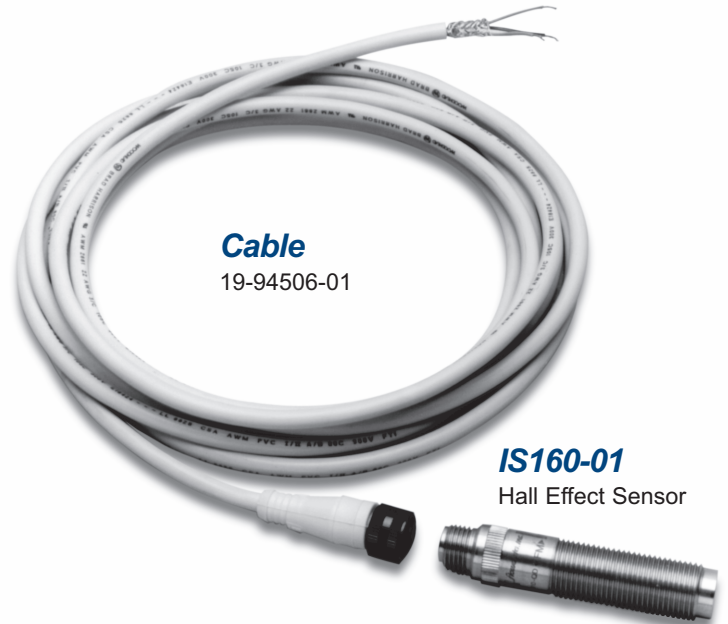
# Hall Effect Sensor

## Description

The Hall Effect Sensor serves as a simple, but versatile sensor for Flow Technology positive displacement flowmeters. It is an integrated circuit device activated by magnetic field reversals. The magnets in the impellers of a positive displacement flowmeter trigger the latching circuit in the sensor, which in turn transmits a square-wave pulse to any connected signal conditioner, monitoring device, or controller. The sensor can handle a broad range of input frequencies and operating conditions. The IS160-01 combines the sensitivity of a Hall Effect Sensor with the durability and easy installation of a Micro-C connector. The quick-disconnect fitting makes installation and maintenance quick and effortless. Simply screw the sensor body into a Flow Technology positive displacement flowmeter, plug in the cable, and lock firmly in place with a few twists of the connector coupling nut.

## Application

Hall Effect Sensors are recommended when the desired output signal is a square-wave pulse and the requisite power is available. All Flow Technology electronic flow controllers designed to interface with the Hall Effect Sensors have DC sensor excitation capability when they are AC-powered. For frequencies above 10 Hz, either Hall Effect Sensors or magnetic pick-up sensors are applicable. Hall Effect Sensors are recommended when the output frequency from the meter over any part of the application flow range is 10 Hz or less. This frequency typically occurs at approximately the 10 to 1 turndown point for Flow Technology positive displacement flowmeters. If the desired output is an analog signal and the liquid to be measured has a low viscosity with variable flow rates, the Hall Effect Sensor may be used with linearizing frequency to analog transmitters. Contact Flow Technology for information on our full range of transmitters for use with this sensor.



## Features

- Digital logic instrument compatible
- Easy installation
- NEMA 4 rating
- -40° F to +257° F (-40° C to +125° C) operating temperatures
- 5–30 VDC operation
- Non-intrusive
- Micro-C connections
- Stainless steel construction
- FM-approved intrinsically safe
- CE certified

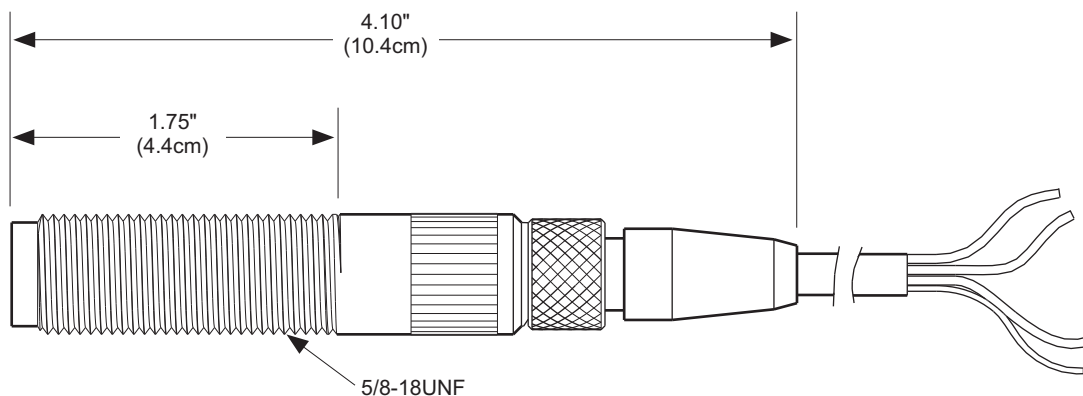


# Hall Effect Sensor

## Specifications

Supply Voltage	5–30 VDC	Approvals	
Supply Current	≤ 15mA	FM	Intrinsically safe (when used with intrinsic safety barriers)
Operating Frequency	0–20 KHz		Class I, II, III, Division 1
Output			Groups A, B, C, D, E, F & G
Type	NPN open collector with 2.2 K ohm resistor for pull-up to supply (straight open collector version available)		Class I, Zone 0. AEx ia IIC
Rise Time		CE	Control drawing: 85047
<i>Typical:</i>	0.04 μS		EN55011, EN50022-2
<i>Maximum:</i>	2.0 μS	Maximum Transmitting Distance	1500 feet (457.2 meters) to monitoring instrumentation
Fall Time		Sensor Body	303 stainless steel
<i>Typical:</i>	0.18 μS		Threaded 5/8-18UNF
<i>Maximum:</i>	2.0 μS	Cable	PVC insulation and jacket
Temperature Range		Micro-C Quick Disconnect	
Sensor	-40° F to +257° F (-40° C to +125° C)	Plug Shell and Coupling Nut	Anodized aluminum
Cable	-76° F to +221° F (-60° C to +105° C)	Receptacle Body	304 stainless steel
		Insert Material	UL-recognized plastic

## Dimensions



## Installation

<b>IS160-01</b>	Red/Black	+5 to +30 VDC Supply
	Green	DC Common
	Red/White	Square-Wave Signal
	Bare Shield	RFI Shield

Caution: Finger-tighten sensor into meter body.

## Ordering

Sensor	
IS160-01	Pulse output equal to supply voltage
IS160-02	Open collector output
Cable	
19-94506-01	12 ft. (3.66 m) cable
19-94506-03	50 ft. (15.24 m) cable
19-94506-05	100 ft. (30.48 m) cable



Specifications are for reference only and are subject to change without notice.



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