

# SRP Series

## Surface Reference Pickoff

### Description

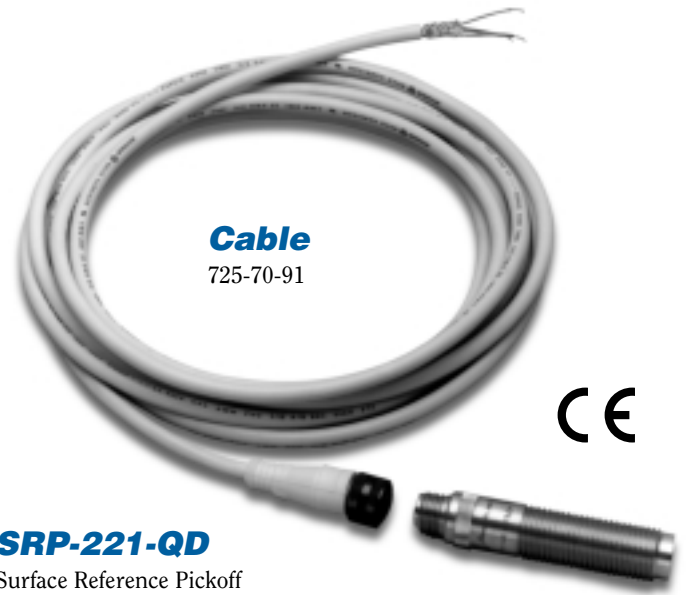
The Surface Reference Pickoff serves as a simple, but versatile sensor for Flow Technology metal gear positive displacement flowmeters. Internally, an oscillating circuit produces a carrier frequency in the pickoff coil. The ferrous gear teeth of a PD flowmeter modulate the amplitude of the carrier. The modulated signal is then filtered and amplified to produce a square-wave pulse. Because there are no magnets to impart drag on the impellers, the PD meter may operate over a wider range and with better linearity than that offered by a traditional magnetic pickoff. The quick-disconnect fitting makes installation and maintenance quick and effortless. Simply screw the sensor body into a Flow Technology PD flowmeter, plug in the cable, and lock firmly in place with a few twists of the connector coupling nut.

### Application

Surface Reference Pickoffs are recommended when the desired output signal is a square-wave pulse and a DC supply voltage is available. It is intended for use with VECTOR™, TrickleMeter®, and BL Series (size 00) PD flowmeters. In applications with low viscosity and variable flow rates, the pulse output can be fed to an external linearizer. The pulse can be converted to analog voltage or current signals by an external display, transmitter, or flow computer. When AC-powered, the remote electronics can provide the excitation required for the pickoff. 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
- Up to 450° F (232° C) operating temperatures\*
- 7–30 VDC operation
- Non-intrusive
- Micro-C® connections
- Stainless steel construction
- FM-approved intrinsically safe\*\* version available
- CE certified



**Cable**

725-70-91



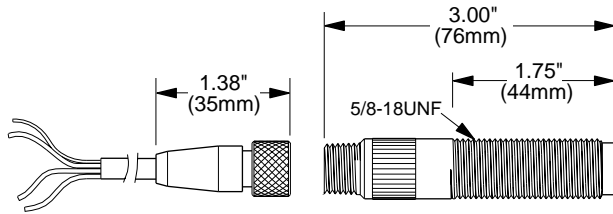
### SRP-221-QD

Surface Reference Pickoff

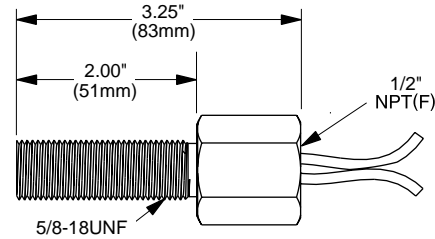
### Specifications

<b>Supply Voltage</b>	7–30 VDC
<b>Supply Current</b>	10 mA
<b>Operating Frequency</b>	0.5–5 KHz
<b>Output</b>	
Type	NPN pulse with internal pull-up resistor 0–10 VDC out, reverse polarity protected $V_o = V_s$ (Supply Tracking) when $V_s \leq 10$ VDC
Rise Time	
Typical:	0.04 $\mu$ S
Maximum:	2.0 $\mu$ S
Fall Time	
Typical:	0.18 $\mu$ S
Maximum:	2.0 $\mu$ S
<b>Temperature Range</b>	
Sensor	-22° F to +176° F (-30° C to +80° C) up to 450° F available
Cable	-76° F to +221° F (-60° C to +105° C)
<b>Approvals</b>	
FM**	IS100-05 only: Intrinsically safe (when used with intrinsic safety barriers); consult factory for control drawing.
CE	Marked compliant with EMC directive 89/336/EEC (1989) Light Industrial Class 1
<b>Maximum Transmitting Distance</b>	1,500 feet (457.2 meters) to monitoring instrumentation
<b>Sensor Body</b>	303 stainless steel Threaded 5/8-18UNF
<b>Cable</b>	PVC insulation and jacket
<b>Micro-C® Quick Disconnect</b>	
Plug Shell and Coupling Nut	Brass alloy
Receptacle Body	304 stainless steel
Insert Material	UL recognized plastic

## Dimensions



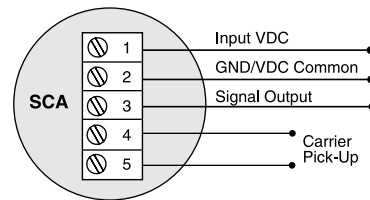
**SRP-221-QD**  
**IS100-05**



**SRP-HT-12-01**

## Installation

<b>SRP-221-QD</b> <b>IS100-05</b>	Red/Black	+7 to +30 VDC Supply
	Green	DC Common
	Red/White	Square-Wave Signal
	Bare Shield	RFI Shield



<b>SRP-221-36-01</b>	Red	+7 to +30 VDC Supply
	Black	DC Common
	Green	Square-Wave Signal
	Bare Shield	RFI Shield

Caution: Finger-tighten sensor into meter body

## Ordering

### Pickoff

SRP-221-QD	Surface Reference Pickoff w/built-in amplifier
SRP-221-36-01	Surface Reference Pickoff w/built-in amplifier w/1/2" NPT (F) conduit connection and w/36" leads
SRP-HT-MS*†	High temp (450° F) SRP (no Amp)
SRP-HT-12-01*†	High temp (450° F) SRP w/12" leads (no Amp)
SCA-P-0-C*	Pre-amplifier and signal conditioner
IS100-05	FM-approved intrinsically safe surface reference pickoff with built-in amplifier

### Cable

725-70-91	12 ft. (3.66 meters) cable
725-70-92	50 ft. (15.24 meters) cable
725-70-93	100 ft. (30.48 meters) cable

## Key

†	Requires SCA-P-0-C amplifier
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Specifications are for reference only and are subject to change without notice.

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