

SPS secondary process seal assemblies

Cl. I, Div. 1 & 2, Groups B, C, D NEMA 3, 4, 7BCD, 9
Cl. I, Zones 1 & 2, IIB + H₂
Cl. II, Div. 1 & 2, Groups E, F, G

Applications:

The secondary process seal assembly with rupture indication sensor is designed to prevent the passage of gases under pressure through conduit, cables and conductors, while providing immediate notification of a dangerous, potentially explosive seal rupture. These assemblies are ideal where volatile liquids or gases are stored, processed or transported under pressure. If the primary seal in an instrument should fail, the secondary process seal will prevent gases, vapors and liquids from migrating into the non-classified location through the electrical system.

Rupture indication sensor:

The secondary process seal features a rupture indication sensor that opens safely at 60 PSI minimum and activates a circuit to a control system or alarm, which immediately alerts maintenance personnel that the primary seal has ruptured. The location of the problem can be pinpointed so the problem can be quickly addressed.

Innovative, intelligent technology, combined with easy installation and low maintenance cost, provides a safe and reliable solution for detection of a process seal rupture within your facility.

Features:

Secondary process seal:

- CSA and CSAUs certified
- Meets or exceeds ANSI / ISA / CSA / CEC / NEC / API requirements for a secondary process seal and explosionproof conduit seal
- Sealed to 1500 PSI; operates in any position
- Simplified design allows for easier installation in new and existing applications
- Integrated packaging contains all necessary components for installation
- Explosionproof drain allows for the safe release of gas, vapor or liquid from the electrical system to meet required codes
- Explosionproof terminal box features a simple design to provide access for quick connection of circuits
- Assembly with drain provides local "make obvious" indication of primary seal failure

Rupture indication sensor:

- Rupture detection and indication at 60 PSI
- Provides remote, immediate notification of a seal rupture, allowing for maintenance to quickly address the problem and isolate safety concerns
- Stainless steel construction provides superior corrosion resistance and durability

Options:

Description	Suffix
• No terminal blocks.....	BLANK
• 2 terminal blocks	DIN12
• 4 terminal blocks	DIN14



Ordering information:

Description	Cat. # Assembly with vent / drain	Cat. # Assembly with rupture indication sensor and vent / drain
2-wire, 14 gauge	SPS214	SPS214R
2-wire, 16 gauge	SPS216	SPS216R
2-wire, 18 gauge	SPS218	SPS218R
2-wire, 22 gauge	SPS222	SPS222R
4-wire, 14 gauge	SPS414	SPS414R
4-wire, 16 gauge	SPS416	SPS416R
4-wire, 18 gauge	SPS418	SPS418R
4-wire, 22 gauge	SPS422	SPS422R

Note: For process seal rupture indication sensor replacement, order catalog number **PSRIS**.

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5F
5F

Ordering information:

Part number example
SPS414RUDIN14

SPS

Ultra high pressure seal

214	14G UHPS, 2 wire, 14 gauge
216	16G UHPS, 2 wire, 16 gauge
218	18G UHPS, 2 wire, 18 gauge
222	22G UHPS, 2 wire, 22 gauge
414	14G UHPS, 4 wire, 14 gauge
416	16G UHPS, 4 wire, 16 gauge
418	18G UHPS, 4 wire, 18 gauge
422	22G UHPS, 4 wire, 22 gauge

414

R

Optional primary seal rupture indication

R	Rupture indication (with PSRIS)
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U

Optional union

U	UNY105 union
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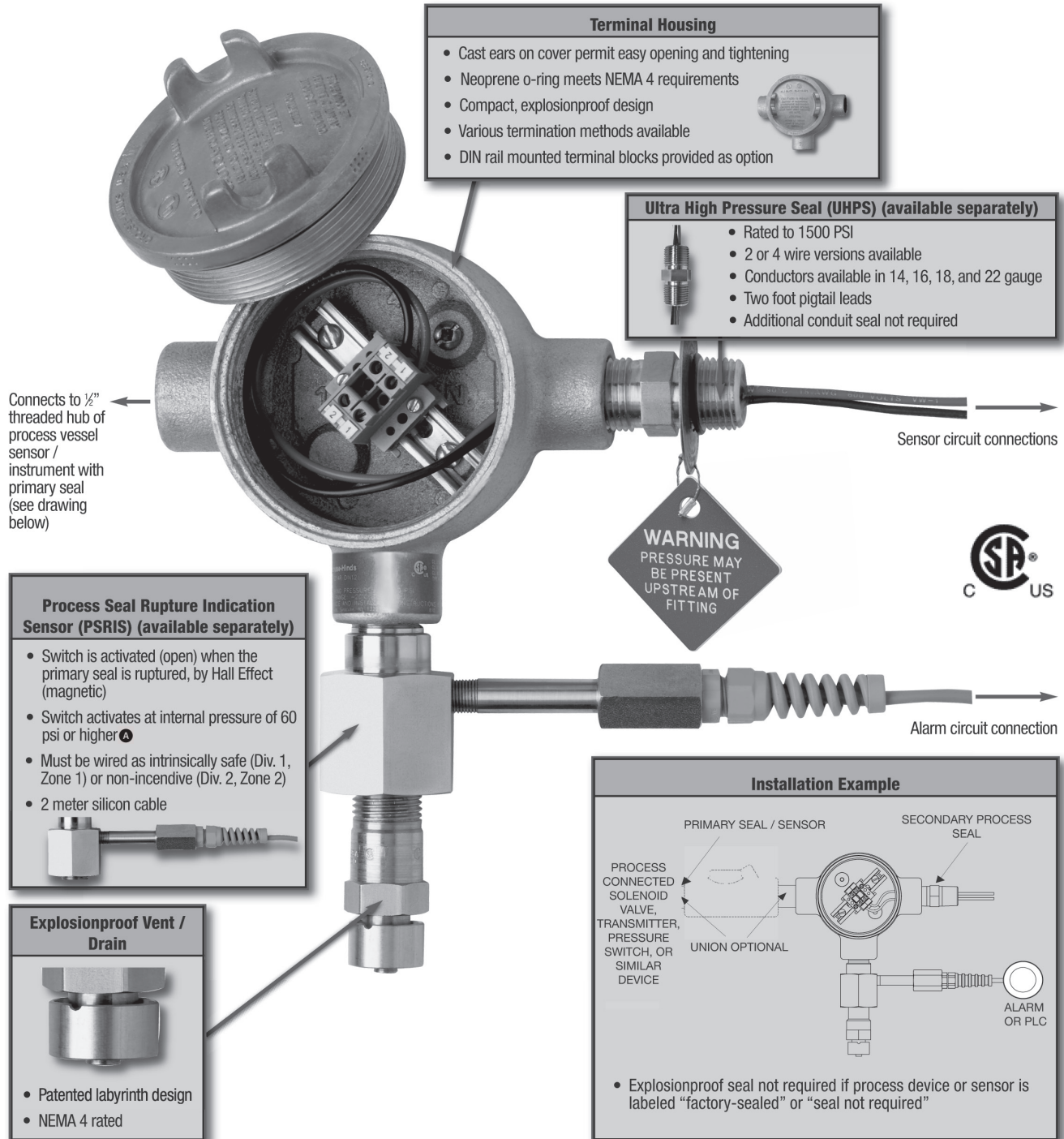
DIN14

Optional DIN rail mounted terminal strip

DIN12	DIN12 terminal strip (two DIN rail mounted terminals, 2 wire only)
DIN14	DIN14 terminal strip (four DIN rail mounted terminals, 4 wire only)

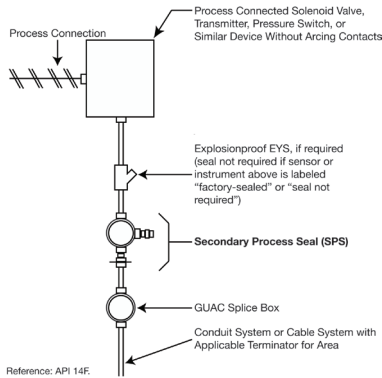
Assembly information:

(Assembly with process seal rupture indication sensor)

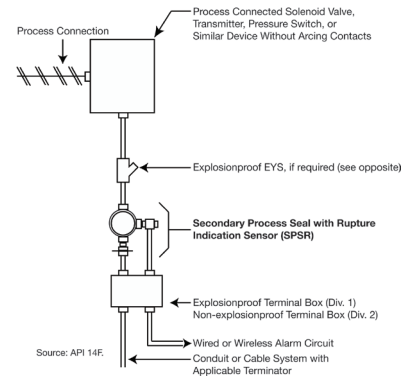


^A 60 PSI internal pressure rating at 25°C ambient. Activation pressure may vary +/- 10% depending on ambient variation.

Installation examples:



Secondary process seal with local “make obvious” indication using an ECD explosionproof drain



Secondary process seal with rupture indication sensor for remote indication, and ECD explosionproof drain for local “make obvious” indication

Technical data – assembly:

Product certification:

- The secondary process seal and assemblies are CSA certified (Canada, U.S.)

Operating pressure rating:

- Rupture protection to 1500 PSI
- Rupture indication at 60 PSI minimum

Operating temperature range:

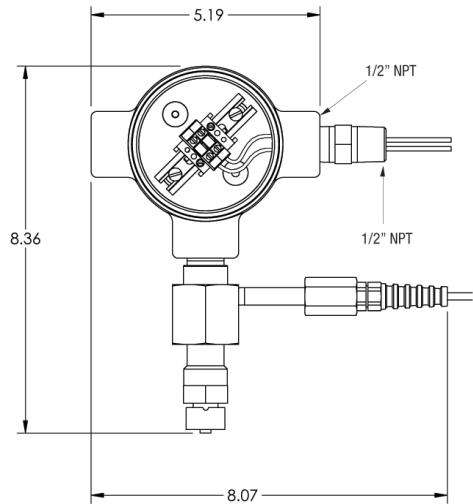
- 25°C to +50°C

Note: For application specific questions on operating pressure and temperature, please contact factory.

Technical data – components:

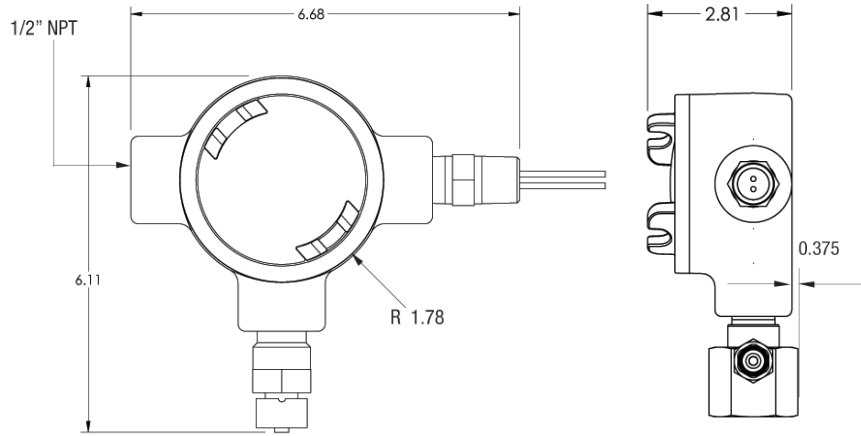
Components	Construction	Certifications and compliances	Rating	Area suitability
Process seal rupture indication sensor	Hub – 316 stainless steel	ANSI / ISA 12.27.01 - 2003 CEC 18 - 108, 158 NEC 501.15(F)(3)	–	Cl. I, Div. 1 & 2, Groups B, C, D Cl. II, Div. 1 & 2, Groups E, F, G Zones 1 & 2, IIB + H ₂ NEMA 3, 4, 7BCD, 9
	Switch assembly – hermetically sealed, nicked brass, with silicon cable	(Div. 1, Zone 1) Intrinsically Safe (Div. 2, Zone 2) Non-incendive Simple Apparatus (NEC 504.4)	174 mA 24 VDC T6 (Tamb ≤ 40°C) T5 (40°C < Tamb ≤ 55°C) T4 (55°C < Tamb ≤ 80°C)	
Ultra high pressure seal	Stainless steel	CSA 22.2 No. 30 - 03 CSA 22.2 No. 14 - 2005 ANSI / ISA 12.27.01 - 2003 CEC 18 - 108, 158 NEC 501.15(F)(3)	24 VDC; 120 VAC	
Terminal housing	Copper-free aluminum	UL1203 CSA C22.2 No. 30	–	
Drain/vent	Stainless steel	UL1203 CSA C22.2 No. 30	–	

Dimensions (in inches):



Assembly with rupture sensor and vent/drain

Note: Assemblies shown with DIN12 terminal blocks (optional).



Assembly with vent/drain