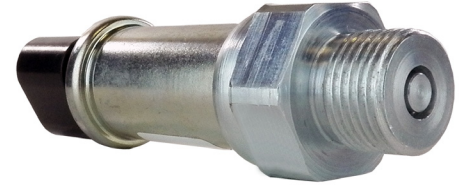


Honeywell Pressure Switch High Pressure Premium HPS Series



150 psi to 4500 psi

DESCRIPTION

The Honeywell Pressure Switches, High Pressure Premium, HPS Series is a portfolio of durable, reliable electromechanical gauge pressure on/off switches that are available with either single pole single throw (SPST) normally open or normally closed circuitry, or single pole double throw (SPDT) circuitry. The HPS Series' IP67 environmental sealing and high proof pressure and burst pressure ratings allow for use in a variety of rugged applications that require the making or breaking of an electrical connection in response to a pressure change of the system media.

The media (gas or liquid) pressure is applied via the port of the switch. The media pushes against a piston. There is a pre-

tensioned spring on the other side of the piston. If the force resulting from the pressure is greater than the tension on the spring, then the piston will move the electrical contacts within the switch. If the contacts are normally open when no pressure is applied, they close on increasing pressure when the set point is reached. On decreasing pressure, the contacts will open again at a pressure somewhat less than the set switching point. The difference between the activation point on increasing pressure and the deactivation point on decreasing pressure is called hysteresis. The set point pressure for the switch can be configured such that the switch will actuate on increasing or decreasing system pressure.

FEATURES AND BENEFITS

(★ = competitive differentiator)

- ★ **Up to 2 million life cycle rating:** Provides long life in the application
- ★ **IP67 sealing rating:** Ensures media ingress will not create switch failure; allows for use in harsh applications where the switch experiences fluid splashes or temporary immersion, enhancing reliability and durability
- ★ **Wide selection of pressure ports and electrical terminations:** Allows customers the ability to configure the pressure switch to meet their specific application needs; configurability of electrical terminations allows global customers that have unique regional and platform need to develop a comprehensive portfolio of products
- **High proof (10000 psi [689 bar]) and burst pressure (20000 psi [1379 bar]) ratings:** Reduces field failures; allows for use in a wide range of applications, thereby allowing customer to consolidate suppliers
- **Global supply chain:** The cycle and product development time is reduced allowing for quick availability of product samples
- **Global support:** Honeywell's global presence offers customers immediate product and application support throughout the development cycle, from design to global manufacturing
- **Cost effective:** The HPS Series' configurability can reduce design and implementation costs of the end product for the customer; additionally, this building block approach allows Honeywell to meet each customers' unique product requirements without the need for incremental tooling charges, helping to reduce the customers' costs

- **Durable:** Can operate in a variety of tough environments due to compatibility with a wide variety of media [petroleum-based hydraulic fluids (engine oil, gasoline, diesel, transmission fluid, etc.), pressurized air, water, mineral oil-based brake fluid, and more]
- **Pressure switching point range (150 psi to 4500 psi [10.34 bar to 310.26 bar]):** Allows for potential use in a wide range of applications
- **Up to ±2% switching point accuracy:** Provides efficient operation of equipment
- **-40 °C to 120 °C [-40 °F to 248 °F] operating temperature range:** Allows for use in rugged outdoor applications
- **5 mA to 5 A switching capability:** Allows for potential use in a wide range of applications, from heavy loads to those connected to an electronic control unit
- **Hysteresis option:** Helps improve system operation

POTENTIAL APPLICATIONS

Transportation

- Heavy duty construction machinery
- Agricultural machinery
- Material handling machinery

Industrial

- CNC machines
- Fracking equipment
- Presses and punches
- Trash compactors
- Any industrial machinery that uses high pressure hydraulic fluids
- Compressors/boilers
- Mud pumps
- Pressure washers
- Water jet cutting machines

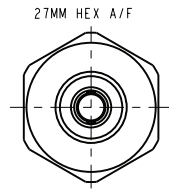
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PERFORMANCE SPECIFICATIONS

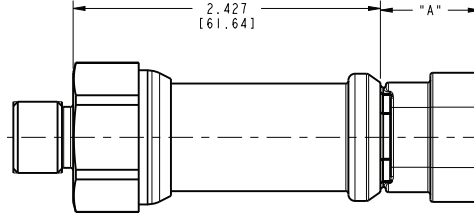
Characteristic	Parameter
Output types	NO, NC, SPDT (NO/NC)
Contacts	Gold-plated
Contact ratings	5 mA to 5 A
Sealing	IP67
System operating pressure (max.)	5000 psi [345 bar]
Proof pressure	10000 psi [689 bar]
Burst pressure	20000 psi [1379 bar]
Set point (factory set)	150 psi to 4500 psi [10.34 bar to 310.26 bar]
Set point accuracy	up to ± 2 %
Pressure ports	M14 x 1.5, 9/16-18 UNF, 3/4-16 UNF, 1/2-20 UNF
Termination	<ul style="list-style-type: none"> • Spade terminals • Screw terminals • Cable • Deutsch DT04-3P • AMP Superseal 1.5 • Cable with Deutsch DT04-3P • Cable with Deutsch DT04-2P • Cable with AMP Superseal 1.5 • Cable with Packard Metripak 150 • Cable with DIN 4365D-C • Cable with M12 x 1 • 150 mm cable with Packard weatherpack male terminal
Spike damping	Achieved via a snubber mechanism
Diameter	27 mm [1.06 in]
Length without mating connector	80,21 mm [3.16 in]
Operating temperature range	-40 °C to 120 °C [-40 °F to 248 °F]
Vibration - swept sine	10 Hz to 2000 Hz @ 15 g, 20 min/sweep
Weight	~4.7 oz [~133 g]
Dimensions	See dimensional diagram on page 3 for specific configuration dimensions

DIMENSIONS

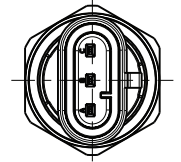
Connector Type	Female Connector Part Number (included)	Male Mating Connector (customer provided)	Dimension "A" (max.)	IP Rating
Amp Superseal 1.5	C-282105	C-282087	20,02 mm [0.788 in]	IP67
Deutsch	DT04-3P	DT06-3S	21,16 mm [0.833 in]	IP67
Spade terminal	-	-	14,43 mm [0.568 in]	-
Screw terminal	-	-	12,65 mm [0.498 in]	-
Cable	-	-	19,51 mm [0.768 in]	IP67



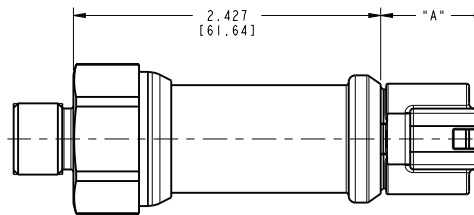
All variants (top view)



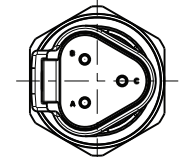
AMP Superseal 1.5



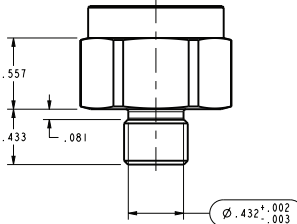
AMP Superseal 1.5 (bottom view)



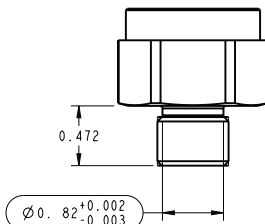
Deutsch



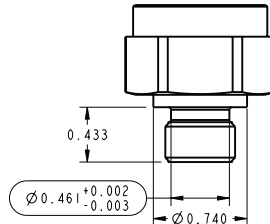
Deutsch (bottom view)



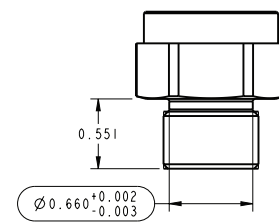
Port: 1/2-20 UNF



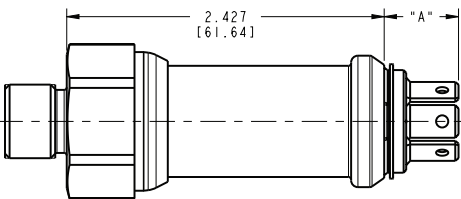
Port: 9/16-18 UNF



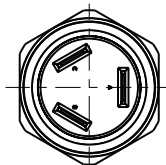
Port: M14 x 1.5



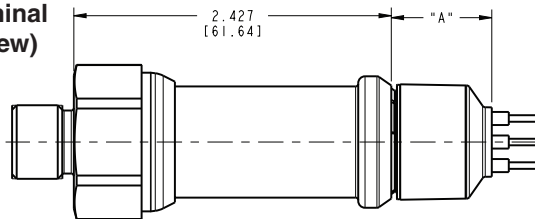
Port: 3/4-16 UNF



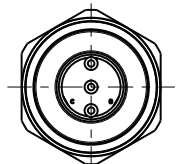
Spade Terminal



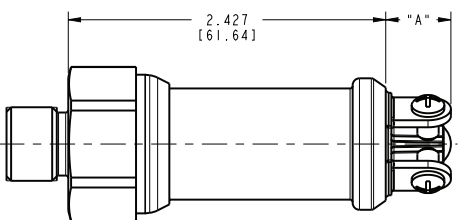
Spade Terminal (bottom view)



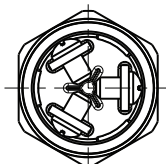
Cable



Cable (bottom view)



Screw Terminal



Screw Terminal (bottom view)

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PRODUCT NOMENCLATURE

For example, a **HPR09500PFNSPHAA** part number would define a High Pressure Premium HPS Series pressure switch with a rising 950 psi set point, M14x1.5 port, normally open, gold-plated contacts, standard differential, for use with glycol-based fluids (EPDM), cable with Metri-pak 150 connector, standard switch

HP	R	09500	P	F	N	S	P	G	AA
Series	Set Point	Pressure Set Point	Pressure Unit	Port Type	Output	Differential	Actuation/ Application	Connector Type	Options
HP Series High Pressure Premium Switch	R Rising	10.34 bar to 310.26 bar [150 psi to 4500 psi] NOTE: Pressure set point is always five digits. For bar, the set point value will be multiplied by 100 and entered in the listing. For example, 15.45 Bar is noted as 01545. This allows for 2 decimal places. For psi, the set point value will be multiplied by 10 and entered in the listing. For example, 245.5 psi is noted as 02455. This allows for 1 decimal place.	P psig	C 1/2-20 UNF*	N NO, gold plated contacts	S Standard	N Petroleum-based hydraulic fluid (Nitrile)	A Spade terminals	AA Standard switch
	F Falling		B bar	F M14 x 1.5** G 9/16-18 UNF** H 3/4-16 UNF	C NC, gold plated contacts D NO/NC, gold plated contacts	E Extended	P Glycol-based fluid (EPDM)	B Screw terminals C Deutsch DT04-3P D AMP Superseal 1.5 E Cable F Cable w/ Deutsch DT04-3P G Cable with AMP Superseal 1.5 H Cable with Metripak 150 J Cable with DIN4365D-C K Cable with M12 x 1 L 150 mm cable w/ Packard weatherpack male terminal M Cable with Deutsch DT04-2P	AB Customized switch

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Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

Find out more

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office.

To learn more about Honeywell's sensing and control products, call **+1-815-235-6847/**

1-800-537-6945, visit **sensing.honeywell.com**, or e-mail inquiries to **info.sc@honeywell.com**

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WARNING

MISUSE OF DOCUMENTATION

- The information presented in this datasheet is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

WARNING

Honeywell does not recommend using devices for critical control applications where there is, or may be, a single point of failure or where single points of failure may result in an unsafe condition. It is up to the end-user to weigh the risks and benefits to determine if the products are appropriate for the application based on security, safety and performance. Additionally, it is up to the end-user to ensure that the control strategy results in a safe operating condition if any crucial segment of the control solution fails. Honeywell customers assume full responsibility for learning and meeting the required Declaration of Conformity, Regulations, Guidelines, etc. for each country in their distribution market.

Honeywell