Installation Instructions for the
Honeywell Pressure Switches

## MECHANICAL REQUIREMENTS

## Installation Requirement

The Honeywell Pressure Switches, High Pressure, Medium Pressure, and Low Pressure, are capable of being mounted in any orientation via a threaded port. A 27 mm hexagonal wrench should be used to install the pressure switch. Installation torque should be based on the information in Table 1. Installation of the pressure switch shall permit usage of maximum 27 mm hex box spanner, modified socket wrench, and open-ended wrench.

## INSTALLATION

## CAUTION

## PRODUCT DAMAGE

- Use a hex wrench for installation. DO NOT exceed a torque level based on the information in Table 1. Never apply torque to the connector housing or the body of the pressure switch.
- Do not subject the pressure switch to high temperatures from soldering, brazing, or welding of the system plumbing or operating environments above the specified maximum temperature.
Failure to comply with these instructions could result in death or serious injury.

Ensure the power supply is off while wiring.

Table 1. Installation Torque

| Thread | Torque ( Nm ) | Standard |
| :---: | :---: | :---: |
| $\mathrm{M1O} \times 1.0$ | 15 | ISO 6149-3 |
| $\mathrm{M} 12 \times 1.5$ | 25 | ISO 6149-3 |
| $\mathrm{M} 14 \times 1.5$ | 35 | ISO 6149-3 |
| $\mathrm{M} 18 \times 1.5$ | 45 | ISO 6149-3 |
| 1/2-20 UNF | 25 | SAE J1926-3 |
| 9/16-18 UNF | 30 | SAE J1926-3 |
| 7/16-20 UNF | 18 | SAE J1926-3 |
| 3/4-16 UNF | 50 | SAE J1926-3 |
| 7/8-14 UNF | 60 | SAE J1926-3 |
| G1/8 BSPP | 25 | ISO 1179-3 |
| G1/4 BSPP | 50 | ISO 1179-3 |
| 1/4-18 NPT | 1-Screw in until handtight | ASME B 1.20.1 |
| 1/8-27 NPT |  |  |
| 1/8-27 PTF |  |  |
| R1/8 BSPT | 2-Then tighten the product by two to three threads using wrench |  |
| R1/2-14 BSPT |  |  |
| R1/2 BSPT |  |  |
| R1/4 BSPT |  |  |

The pressure switch can withstand a side load (acting perpendicular to the mounted axis) of 100 Newton at the end of the integral connector in its mounted orientation. This load requirement is for any incidental physical abuse during installation or intended use.

## OVERPRESSURE

## CAUTION <br> PRODUCT DAMAGE <br> - Do not exceed the operating pressure. <br> Failure to comply with these instructions could result in death or serious injury.

If the operating pressure is exceeded, the life of the Honeywell pressure switch may be reduced and electrical failure may occur. Both static and dynamic over-pressuring must be considered, particularly in hydraulic system applications. Hydraulic pressure fluctuations can have very high and rapid pressure spikes, as in a water hammer effect. The high pressure versions (HP Series, HE Series) have a snubber feature built-in to reduce the peak pressure applied to the pressure switch. The medium and low pressure versions (ME Series, LP Series, LE Series) do not employ this feature.
If system pressure pulses are expected, choose a pressure switch with a proof pressure rating high enough to allow operation at the highest expected pressure spikes.

## MEDIA COMPATIBILITY

## CAUTION

PRODUCT DAMAGE

- Use non-abrasive, chemically compatible media to prevent damage to the pressure switch.
Failure to comply with these instructions could result in death or serious injury.

The pressure switch's fluid path is an assembly of zincplated steel, stainless steel, DuPont ${ }^{\text {TM }}$ Teflon ${ }^{\circ}$-coated Kapton ${ }^{\text {T, }}$ and nitrite. The Series is compatible with a wide variety of petroleum-based fluids, air, water, and mineral oil-based brake fluid. Please confirm your media compatibility or speak with a Honeywell Application Engineer.

## WIRING INSTRUCTIONS

## NOTICE

To ensure proper environmental sealing and electrical connections when using a connector, follow the connector manufacturer's installation guidelines. All terminal cavities must be sealed using the correct wire gauge and seal combination. If only two leads are used, any additional terminal cavities should be sealed per the connector manufacturer's installation guide. Honeywell recommends using a crimping tool for crimping wires to the connector terminals. Contact the individual connector manufacturer for connector wiring.

## FUNCTIONAL TEST

Connect the pressure switch to the pressure source (off). Based on the pressure switch's specified normally open (NO) or normally closed (NC) output, connect the electrical termination to a dc voltage supply. With no pressure on the pressure switch, turn on the power supply and ensure that the pressure switch is in the correct NO or NC position. Apply the appropriate set point pressure to ensure that the NO or NC contact position of the switch will switch over.

Table 1. Specifications

| Characteristic | HP Series | HE Series | ME Series | MH Series | LP Series | LE Series |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Product length (various terminations) | see pages 5 and 6 | see page 5 | see page 8 | see page 7 | see page 9 | see page 9 |
| Product length (blade) | see pages 5 and 6 | see page 5 | see page 8 | see page 7 | see page 9 | see page 9 |
| Product length (\#832 screws) | see pages 5 and 6 | see page 5 | see page 8 | see page 7 | see page 9 | see page 9 |
| Product length (Metripack) | see pages 5 and 6 | see page 5 | see page 8 | see page 7 | see page 9 | see page 9 |
| Hexsize | 27 mm | 27 mm | 27 mm | 27 mm | 27 mm | 27 mm |
| Ease of installation | box spanner | box spanner | box spanner | box spanner | box spanner | box spanner |
| Snap-action switch | yes | yes | no | no | yes | no |
| Set point ${ }^{1}$ range | 100 psi to 4500 psi | 150 psi to 4500 psi | 25 psi to 350 psi | 40 psi to 500 psi | 3.5 psit to 150 psi | 3.5 psi to 150 psi |
| Set point ranges | 6 (Base Style A) <br> 7 (Base Style B) | 6 | 4 | 4 | 4 | 4 |
| Set point accuracy@ $25^{\circ} \mathrm{C}$ (before test) | 100 psi to 150 psi ( $\pm 10 \%)$; <br> 150 psi to 500 psi ( $\pm 6 \%$ ); <br> 501 psi to 4000 psi ( $\pm 3.5 \%$ ); <br> 4000 psi to 4500 psi ( $\pm 2 \%$ ) | $\begin{aligned} & 150 \text { psi to } 1000 \text { psi } \\ & ( \pm 14 \%) ; \\ & 1000 \text { psi to } \\ & 2000 \text { psi } \\ & ( \pm 12 \%) ; \\ & 2000 \text { psi to } \\ & 4000 \text { psi } \\ & ( \pm 11 \%) ; \\ & >4000 \text { psi }( \pm 10 \%) \end{aligned}$ | 25 psito 50 psi ( $\pm 3$ psi); <br> $>50$ psi to 100 psi ( $\pm 7$ psi); <br> $>100$ psito 150 psi ( $\pm 10 \mathrm{psi}$ ); <br> $>150$ psi to 250 psi ( $\pm 13 \mathrm{psi}$ ); <br> $>250$ psi to 350 psi ( $\pm 16 \mathrm{psi}$ ) | $\begin{gathered} 40 \text { psi to } 70 \text { psi } \\ ( \pm 7 \text { psi); } \\ >70 \text { psi to } 130 \text { psi }( \pm 10 \\ \text { psi); } \\ >130 \text { psi to } 200 \text { psi } \\ ( \pm 15 \text { psi); } \\ >200 \text { psi to } 280 \text { psi } \\ ( \pm 20 \text { psi); } \\ >280 \text { psi to } 350 \text { psi } \\ ( \pm 30 \text { psi); } \\ >350 \text { psi to } 500 \text { psi } \\ ( \pm 40 \text { psi) } \end{gathered}$ | 3.5 psi to 1 <br> $>10$ psito 5 <br> $>50$ psi to 10 <br> $>100$ psi to 150 | $\begin{aligned} & \text { si ( } \pm 1 \text { psi); } \\ & \text { si }( \pm 3 \mathrm{psi}) ; \\ & \mathrm{osi}( \pm 7 \mathrm{psi}) ; \\ & \text { psi }( \pm 10 \mathrm{psi}) \end{aligned}$ |
| Average deadband max. | n/a | n/a | 25 psito 50 psi (20 psi); <br> $>50$ psi to 100 psi (30 psi); <br> $>100$ psito 150 psi (40 psi); <br> $>150$ psi to 250 psi (50 psi); <br> $>250$ psi to 350 psi (60 psi) | $\begin{aligned} & 40 \text { psi to } 70 \text { psi } \\ & \text { ( } \pm 6 \text { psi); } \\ & >70 \text { psi to } 130 \text { psi }( \pm 10 \\ & \text { psi); } \\ & >130 \text { psi to } 200 \text { psi }( \pm 15 \\ & \text { psi); } \\ & >200 \text { psi to } 280 \text { psi }( \pm 20 \\ & \text { psi); } \\ & >280 \text { psi to } 350 \text { psi }( \pm 30 \\ & \text { psi); } \\ & >350 \text { psi to } 500 \text { psi }( \pm 40 \\ & \text { psi) } \end{aligned}$ | n/a | $\begin{gathered} 3.5 \text { psi to } 10 \mathrm{psi} \\ \quad( \pm 2.8 \mathrm{psi}) ; \\ >10 \text { psi to } 50 \mathrm{psi} \\ \quad( \pm 14 \text { psi); } \\ >50 \mathrm{psi} \text { to } 100 \mathrm{psi} \\ \quad( \pm 38 \mathrm{psi}) ; \\ > \\ >100 \mathrm{psi} \text { to } 150 \mathrm{psi} \\ ( \pm 40 \mathrm{psi}) \end{gathered}$ |
| Operating pressure ${ }^{2}$ | 5,000 psi max. | 5,000 psi max. | 500 psimax. | 600 psi max. | 250 psimax. | 250 psi max. |
| Proof pressure ${ }^{3}$ | 10,000 psi (Base Style A) <br> 6,500 psi (Base Style B) | 10,000 psi | 4,000 psi | 6,000 psi | 500 psi | 500 psi |
| Hysteresis | $\begin{aligned} & 5 \% \text { to } 55 \text { \% } \\ & \text { (based on set point range) } \end{aligned}$ | $\begin{aligned} & 3 \% \text { to } 65 \% \\ & \text { (based on set point range) } \end{aligned}$ | n/a | n/a | $\begin{aligned} & 5 \% \text { to } 55 \text { \% } \\ & \text { (based on set point range) } \end{aligned}$ | n/a |
| Burst pressure ${ }^{4}$ | 20,000 psi (Base Style A); 9,000 psi (Base Style B) | 20,000 psi | 8,000 psi | 9,000 psi | 1250 psi | 1250 psi |
| Current rating (resistive) | 5 A at 250 Vac 5 A at 24 Vdc | 3 A at 250 Vac 3 A at 24 Vdc | 7.5 mA to 3 A , 24 Vdc and 250 Vac | 100 mA to 3 A max. | 7.5 mA to 5 A , 24 Vdc and 250 Vac | 7.5 mA to 3 A , 24 Vdc and 250 Vac |
| Current rating (inductive) | $\begin{gathered} 5 \mathrm{~A} \text { at } 115 \mathrm{Vac}(\mathrm{SX} \text { rating); } \\ 3 \mathrm{~A} \text { at } 28 \mathrm{Vdc} \end{gathered}$ | n/a | n/a | n/a | 1 A at 28 Vdc | n/a |
| Rated thermal current | 5 A | 3 A | 3 A | n/a | 5 A | 3 A |
| Rated insulation voltage | 28 V | 28 V | 28 V | n/a | 28 V | 28 V |
| Short-circuit protective device ctype max. rating | Class J fuse ( $10 \mathrm{~A}, 600 \mathrm{~V}$ ) |  |  | n/a | Class J fuse (10 A, 600 V ) |  |

${ }^{8}$ Port Style C: Switches less than 975 psi will use Base Style B; switches greater than 975 psi will use Base Style A.
Port Styles F and G: Switches less than 350 psi will use Base Style B; switches greater than 350 psi will use Base Style A.
Port Styles A, B, E, M, P, T, and Y will use Base Style B
Switches less than 150 psi will only use Base Style B.

Table 1. Specifications (continued)

| Characteristic | HP Series | HE Series | ME Series | MH Series | LP Series | LE Series |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conditional short circuit current | 1000 A |  |  | n/a | 1000 A | 1000 A |
| Pollution degree | 3 (macro environment) |  |  | n/a | 3 (macro environment) |  |
| Temperature rating | $\begin{gathered} -40^{\circ} \mathrm{C} \text { to } 120^{\circ} \mathrm{C} \\ {\left[-40^{\circ} \mathrm{F} \text { to } 2488^{\circ} \mathrm{F}\right]} \end{gathered}$ | $\begin{gathered} -40^{\circ} \mathrm{C} \text { to } 85^{\circ} \mathrm{C} \\ {\left[-40^{\circ} \mathrm{F} \text { to } 185^{\circ} \mathrm{F}\right]} \end{gathered}$ | $-40^{\circ} \mathrm{C}$ to $120^{\circ} \mathrm{C}\left[-40^{\circ} \mathrm{F}\right.$ to $\left.248{ }^{\circ} \mathrm{F}\right]$ |  |  |  |
| Media connection | multiple ports available | multiple ports available | multiple ports available |  |  |  |
| Pressure ports | Refer to product nomenclature for pressure port types. | $\begin{aligned} & C=1 / 2-20 \text { UNF } \\ & F=M 14 \times 1.5 \\ & G=9 / 16-18 \text { UNF } \\ & H=3 / 4-16 \text { UNF } \\ & K=M 18 \times 1.5 \\ & N=7 / 8-14 \text { UNF } \end{aligned}$ | $\begin{aligned} & A=1 / 4-18 \mathrm{NPT} \\ & B=1 / 8-27 \mathrm{NPT} \\ & \mathrm{C}=1 / 2-20 \mathrm{UNF} \\ & \mathrm{D}=1 / 8-27 \mathrm{PTF} \\ & E=M 12 \times 1.5 \\ & \mathrm{~F}=\mathrm{M} 14 \times 1.5 \\ & \mathrm{G}=9 / 16-18 \mathrm{UNF} \\ & \mathrm{H}=3 / 4-16 \mathrm{UNF} \\ & \mathrm{~J}=\mathrm{G} 1 / 8 \mathrm{BSPP} \\ & \mathrm{M}=7 / 16-20 \mathrm{UNF} \\ & \mathrm{R}=\mathrm{R} 1 / 8 \mathrm{BSPT} \\ & \mathrm{~T}=\mathrm{M} 10 \times 1.0 \\ & \mathrm{~V}=\mathrm{R} 1 / 2 \mathrm{BSPT} \\ & \mathrm{Y}=\mathrm{G} 1 / 4 \mathrm{BSPP} \\ & Z=R 1 / 4 \mathrm{BSPT} \end{aligned}$ | $\begin{aligned} & \mathrm{A}=1 / 4-18 \mathrm{NPT} \\ & \mathrm{~B}=1 / 8-27 \mathrm{NPT} \\ & \mathrm{C}=1 / 2-20 \mathrm{UNF} \\ & \mathrm{D}=1 / 8-27 \mathrm{PTF} \\ & \mathrm{E}=\mathrm{M} 12 \times 1.5 \\ & \mathrm{~F}=\mathrm{M} 14 \times 1.5 \\ & \mathrm{G}=9 / 16-18 \mathrm{UNF} \\ & \mathrm{H}=3 / 4-16 \mathrm{UNF} \\ & \mathrm{~J}=\mathrm{G} 1 / 8 \mathrm{BSPP} \\ & \mathrm{~L}=3 / 8-24 \mathrm{UNF} \\ & \mathrm{M}=7 / 16-20 \mathrm{UNF} \\ & \mathrm{P}=1 / 2-14 \mathrm{NPT} \\ & \mathrm{R}=\mathrm{R1} 18 \mathrm{BSPT} \\ & \mathrm{~T}=\mathrm{M} 10 \times 1.0 \\ & \mathrm{~V}=\mathrm{R} 1 / 2 \mathrm{BSPT} \\ & \mathrm{Y}=\mathrm{G} 1 / 4 \mathrm{BSPP} \\ & Z=R 1 / 4 \mathrm{BSPT} \end{aligned}$ | $\begin{aligned} & A=1 / 4-18 \mathrm{NPT} \\ & B=1 / 8-27 \mathrm{NPT} \\ & C=1 / 2-20 \mathrm{UNF} \\ & D=1 / 8-27 \mathrm{PTF} \\ & E=M 12 \times 1.5 \\ & F=M 14 \times 1.5 \\ & \mathrm{G}=9 / 16-18 \mathrm{UNF} \\ & \mathrm{H}=3 / 4-16 \mathrm{UNF} \\ & \mathrm{~J}=\mathrm{G} 1 / 8 \mathrm{BSPP} \\ & \mathrm{M}=7 / 16-20 \mathrm{UNF} \\ & \mathrm{R}=\mathrm{R} 1 / 8 \mathrm{BSPT} \\ & \mathrm{~T}=\mathrm{M} 10 \times 1.0 \\ & \mathrm{~V}=\mathrm{R} 1 / 2 \mathrm{BSPT} \\ & \mathrm{Y}=\mathrm{G} 1 / 4 \mathrm{BSPP} \\ & Z=R 1 / 4 \mathrm{BSPT} \end{aligned}$ | $\begin{aligned} & A=1 / 4-18 \mathrm{NPT} \\ & B=1 / 8-27 \mathrm{NPT} \\ & C=1 / 2-20 \mathrm{UNF} \\ & D=1 / 8-27 \mathrm{PTF} \\ & E=M 12 \times 1.5 \\ & F=M 14 \times 1.5 \\ & \mathrm{G}=9 / 16-18 \mathrm{UNF} \\ & \mathrm{H}=3 / 4-16 \mathrm{UNF} \\ & \mathrm{~J}=\mathrm{G} 1 / 8 \mathrm{BSPP} \\ & \mathrm{M}=7 / 16-20 \mathrm{UNF} \\ & \mathrm{R}=\mathrm{R} 1 / 8 \mathrm{BSPT} \\ & \mathrm{~T}=\mathrm{M} 10 \times 1.0 \\ & \mathrm{~V}=\mathrm{R} 1 / 2 \mathrm{BSPT} \\ & \mathrm{Y}=\mathrm{G} 1 / 4 \mathrm{BSPP} \\ & Z=R 1 / 4 \mathrm{BSPT} \end{aligned}$ |
| Circuit forms ${ }^{5}$ | SPDT, SPST - NO/NC |  | SPDT, SPST - NO/NC | SPST - NO/NC | SPDT, SPST - NO/NC | SPDT, SPST - NO/NC |
| Smart pressure | single- or dual-resistor topology available |  |  | - | single- or dual-resistor topology available |  |
| Life | $\begin{aligned} & 2 \text { million (Base A) } \\ & 1 \text { million (Base B) } \end{aligned}$ | 1 million | 1 million | 1 million | 2 million | 1 million |
| Agency approvals (special use switches) | - | - | - | - | - | - |
| Agency approvals (other) | CE | CE | CE | CE | CE | CE |
| Field adjustability ${ }^{6}$ | no | no | yes | yes | yes | yes |
| Spike dampening | yes | yes | no | no | no | no |
| Ingress protection ${ }^{7}$ | IP67 (connecetors) IP67 (wire/Base A) IP69K (wire/Base B) IP00 (blade/screw) | IP67 (connectors) IP00 (blade/screw) | $\begin{aligned} & \text { IP67 (connectors) } \\ & \text { IP67 (wire out) } \\ & \text { IP00 (blade/screw) } \end{aligned}$ | IP67 (connectors) IP00 (blade/screw) | IP67 (connectors) IP67 (wire out) IP00 (blade/screw) | IP67 (connectors) IP67 (wire out) IP00 (blade/screw) |
| Vibration resistance | swept sine: 10 Hz to 2000 Hz at $15 \mathrm{~g}, 20 \mathrm{~min} /$ sweep; 8 hours in each axis random: 5 Hz to $2000 \mathrm{~Hz}, 8$ hours/axis; $14,88 \mathrm{~g}$-RMS, each axis |  |  |  |  |  |
| Shock resistance | $500 \mathrm{~m} / \mathrm{sec}^{2}, 11 \mathrm{mSEC}, 100$ shocks / axis |  | $500 \mathrm{~m} / \mathrm{sec}^{2}, 11 \mathrm{mSEC}$ |  |  |  |
| Wetted part (diaphragm) | n/a |  | Kapton ${ }^{\circ}$ (Teflon coated) | Nitrile/EPDM/LTNB | Kapton (Teflon coated) | Tefzel ${ }^{\circ}$ |
| Wetted part (piston) | nitrile o-ring, steel piston |  | nitrile or EPDM o-ring | nitrile or EPDM o-ring | nitrile or EPDM o-ring | nitrile or EPDM o-ring |
| Weight | 133 g [4.7 oz] (Base Style A) <br> 178 g [6.28 oz] (Base Style B) |  | 53 g [1.9 oz] | 53 g [1.9 oz] | 58 g [2.0 oz] | 53 g [1.9 oz] |
| Contacts | silver / gold inlay | silver | gold plated | gold plated | gold plated | gold plated |
| Product finish | zinc plating | zinc plating | zinc plating | zinc plating | zinc plating | zinc plating |

[^0]Table 2. Terminations

| Series | Available Terminations |
| :---: | :---: |
| $\begin{aligned} & \text { HP, HE, ME, } \\ & \text { LP, LE } \end{aligned}$ | AA $=$ Spade Terminals <br> BA $=$ Screw Terminals <br> CA = Deutsch DT04-3P-E005 (3-Pin Connector) <br> DA = Amp Super Seal 1.5-282105-1 (3-Pin Connector) <br> $E A=10$-inch Cable, 18 AWG (Wire Out, No Connector) <br> FA $=10$-inch Cable w/Deutsch DT04-3P-E005 (3-Pin Connector) (16 AWG)* <br> GA = 10-inch Cable w/Amp Super Seal 1.5-282105-1 (3-Pin Connector) (18 AWG)* <br> HA = 10-inch Cable w/Metripack 280 Delphi 15300002 (2-Pin Connector) (18 AWG)* <br> $J A=10-$ inch Cable w/Din43650-C (3-Pin Connector) (18 AWG)* <br> KA = 10-inch Cable w/M12×1 (Brad Harrison Micro) - 21032121306 Harting P/N (3-Pin Connector) (18 AWG)* <br> LA = 10-inch Cable w/Packard Weatherpack Male Terminal - 12020827 (3-Pin Connector) (18 AWG)* <br> MA $=10$-inch Cable w/Deutsch DT04-2P-E005 (2-Pin Connector) (18 AWG) <br> NA = 3-inch Cable w/Packard 2P Tower Connector - 12015792 (2-Pin Connector) (18 AWG) <br> PA $=2.75$-inch Cable w/Packard 2P Shroud Connector - 12010973 (2-Pin Connector) (18 AWG) <br> RA = 4-inch Cable w/Packard 2P Shroud Connector - 12010973 (2-Pin Connector) (16 AWG) <br> SA = 5.5-inch Cable w/ITT Cannon 2P Sure-Seal Circular Connector - SS2R-120-1804-000 (2-Pin Connector) (18 AWG) <br> TA $=8.5$-inch Cable w/ITT Cannon 3P Sure-Seal Circular Connector - SS3R-120-8551-001 (3-Pin Connector) (16 AWG)* <br> UA = 10-inch Cable - Vacuum Impregnated w/Deutsch DT06-3S-EPO6 (3-Socket Connector) (16 AWG)* <br> VA $=10$-inch Cable - Vacuum Impregnated w/Deutsch DTO4-3P-E005 (3-Pin Connector) (16 AWG)* <br> WA $=4.5$-inch Cable w/Blade Terminals $6,3 \mathrm{~mm} \times 0,8 \mathrm{~mm}(16$ AWG)* <br> XA = 10-inch Cable w/ Metripack 2-Pin Shroud Connector 153000027 (18 AWG) <br> YA = 6-inch Cable w/Amp Super Seal 1.5-282104-1 (2-Pin Connector) (18 AWG)* <br> ZA = 10-inch Cable w/Deutsch DT06-2S-CE06 (2-Socket Connector) (18 AWG) <br> AB = Deutsch DTO4-2P-E005 (2-Pin Connector) <br> BB = 10-inch Cable w/Metripack 150 Delphi 12129615 (3-Pin Connector) (18 AWG)* <br> CB $=6$-inch Cable w/ AMP Super Seal 1.5-282080-1 (2-Pin Connector) (18 AWG) <br> DB $=10$-inch Cable w/AMP 2,5 mm System Series Connector 1-967402-1 (18 AWG)* <br> EB $=4.5$-inch Cable w/Packard Shroud Connector 12015792 (2-Pin Connector) (18 AWG) <br> FB $=10$-inch Cable w/Metripack 150 Delphi 12052641 (2-Pin Connector) (18 AWG) <br> GB = 8.5-inch Cable w/Deutsch Plug HD 16-3 96S (3-Pin Connector) (16 AWG) |
| MH | ```AA = Spade Terminals BA = Screw Terminals DA = Amp Super Seal 1.5-282105-1 (3-Pin Connector) EA = 10-inch Cable, 18 AWG (Wire Out, No Connector) HA = 10-inch Cable w/Metripack 280 Delphi 15300002 (2-Pin Connector)(18 AWG)* MA = 10-inch Cable w/Deutsch DT04-2P-E005 (2-Pin Connector) (18 AWG) NA = 3-inch Cable w/Packard 2P Tower Connector - 12015792 (2-Pin Connector) (18 AWG) PA = 2.75-inch Cable w/Packard 2P Shroud Connector - 12010973 (2-Pin Connector) (18 AWG) RA = 4-inch Cable w/Packard 2P Shroud Connector - 12010973 (2-Pin Connector) (16 AWG) SA = 5.5-inch Cable w/ITT Cannon 2P Sure-Seal Circular Connector - SS2R-120-1804-000 (2-Pin Connector) (18 AWG) WA = 4.5-inch Cable w/Blade Terminals 6,3 mm x 0,8 mm (16 AWG)* XA = 10-inch Cable w/ Metripack 2-Pin Shroud Connector 153000027 (18 AWG) YA = 6-inch Cable w/Amp Super Seal 1.5-282104-1 (2-Pin Connector) (18 AWG)* ZA = 10-inch Cable w/Deutsch DT06-2S-CEO6 (2-Socket Connector) (18 AWG) AB = Deutsch DT04-2P-E005 (2-Pin Connector) CB = 6-inch Cable w/ AMP Super Seal 1.5-282080-1 (2-Pin Connector) (18 AWG) DB = 10-inch Cable w/AMP 2,5 mm System Series Connector 1-967402-1 (18 AWG)* EB=4.5-inch Cable w/Packard Shroud Connector 12015792 (2-Pin Connector) (18 AWG) FB =10-inch Cable w/Metripack 150 Delphi 12052641 (2-Pin Connector)(18 AWG)``` |

*These connectors are designed for dual circuit (SPDT) by default. They can be used for single-circuit applications (SPNC/SPNO) by making suitable connections. Refer to wiring diagram.

DIMENSIONS - HIGH PRESSURE: HP SERIES (BASE STYLE A), HE SERIES
Base Style A key specifications •Life: 2 million (HP), 1 million (HE); Burst pressure: 20,000 psi
Figure 1. AMP Superseal 1.5

(top view)
Female Connector Part Number (included): C-282105 Male Mating Connector (customer provided): C-282087 IP Rating: IP67

Figure 2. Deutsch


Female Connector Part Number (included): DT04-3P Male Mating Connector (customer provided): DT06-3S IP Rating: IP67

Figure 3. Spade Terminal


Figure 4. Screw Terminal


Figure 5. Cable


DIMENSIONS - HIGH PRESSURE: HP SERIES (BASE STYLE B)
Base Style B key specifications • Life: 1 million; Burst pressure: 9,000 psi
Figure 6. HP Series Smaller Port


Figure 7. HP Series Pressure Port Dimensions


Table 3. HP/HE Series Pressure Port Diameters and Heights

| Nomenclature Code | Thread | Height "A" | Diameter "ØD" | Diameter "ØС" | Height "H" |
| :---: | :---: | :---: | :---: | :---: | :---: |
| M | 7/16-20 UNF | - | $9,25 \mathrm{~mm}$ [0.364 in] | - | 11 mm [0.433 in] |
| $\mathrm{C}^{1}$ | 1/2-20 UNF | - | $10,85 \mathrm{~mm}$ [0.427 in] | - | 11 mm [0.433 in] |
| $\mathrm{G}^{2}$ | 9/16-18 UNF | - | $12,24 \mathrm{~mm}$ [0.482 in] | - | 12 mm [0.472 in] |
| H | 3/4-16 UNF | - | $16,74 \mathrm{~mm}$ [0.66 in] | - | 14 mm [0.551 in] |
| N | 7/8-14 UNF | - | $19,6 \mathrm{~mm}$ [0.773 in] | - | 16 mm [0.630 in] |
| T | $\mathrm{M} 10 \times 1.0$ | $1,60 \mathrm{~mm}$ [0.063 in] | $9,25 \mathrm{~mm}$ [0.364 in] | $13,79 \mathrm{~mm}$ [0.543 in] | 11 mm [0.433 in] |
| E | $\mathrm{M} 12 \times 1.5$ | $2,48 \mathrm{~mm}$ [0.098 in] | $10,85 \mathrm{~mm}$ [0.427 in] | $16,79 \mathrm{~mm}$ [0.661 in] | 11 mm [0.433 in] |
| $\mathrm{F}^{2}$ | $\mathrm{M} 14 \times 1.5$ | $2,48 \mathrm{~mm}$ [0.098 in] | $12,24 \mathrm{~mm}$ [0.482 in] | $18,8 \mathrm{~mm}$ [0.74 in] | 12 mm [0.472 in] |
| K | $\mathrm{M} 18 \times 1.5$ | $2,48 \mathrm{~mm}$ [0.098 in] | $16,74 \mathrm{~mm}$ [0.66 in] | $23,8 \mathrm{~mm}$ [0.937 in] | 14 mm [0.551 in] |
| B | 1/8-27 NPT | - | $10,29 \mathrm{~mm}$ [0.405 in] | - | $12,497 \mathrm{~mm}$ [0.492 in] |
| A | 1/4-18 NPT | - | $13,72 \mathrm{~mm}$ [0.540 in] | - | $17,63 \mathrm{~mm}$ [0.694 in] |

[^1]DIMENSIONS - MEDIUM PRESSURE: MH SERIES

Figure 8. AMP Superseal 1.5


Figure 9. Deutsch 3-pin


Figure 10. Wire out


Figure 11. Blade terminal


Figure 12. Screw terminal


Figure 13. MH Series Pressure Port Dimensions


Table 4. MH Series Pressure Port Diameters and Heights

| Port | Diameter "ØD" |  | Height "H" |  |
| :---: | :---: | :---: | :---: | :---: |
| R 1/2 BSPT | $21,34 \mathrm{~mm}$ [0.840 in] |  | $17,09 \mathrm{~mm}$ [0.673 in] |  |
| R 1/4 BSPT | $13,46 \mathrm{~mm}$ [0.530 in] |  | $13,74 \mathrm{~mm}[0.541 \mathrm{in}]$ |  |
| R 1/8 BSPT | $9,96 \mathrm{~mm}$ [0.392 in] |  | $10,24 \mathrm{~mm}$ [0.403 in] |  |
| 1/8-27 PTF | $10,34 \mathrm{~mm}$ [0.407 in] |  | 9,24 mm [0.364 in] |  |
| 1/4-18 NPT | $13,72 \mathrm{~mm}$ [0.540 in] |  | $17,63 \mathrm{~mm}$ [0.694 in] |  |
| 1/8-27 NPT | $10,29 \mathrm{~mm}$ [0.405 in] |  | $12,497 \mathrm{~mm}$ [0.492 in] |  |
| G 1/4 BSPP | $11,1 \mathrm{~mm}$ [0.437 in] |  | $11,20 \mathrm{~mm}$ [0.441 in] |  |
| G 1/8 BSPP | $8,28 \mathrm{~mm}$ [0.326 in] |  | $7,59 \mathrm{~mm}$ [0.299 in] |  |
| 3/4-16 UNF | $16,74 \mathrm{~mm}$ [0.659 in] |  | 11.1 mm [0.437 in] |  |
| 7/16-20 UNF | F $\quad 9,25 \mathrm{~mm}[0.364 \mathrm{in}]$ |  | $9,09 \mathrm{~mm}[0.358 \mathrm{in}]$ |  |
| 9/16-18 UNF | * $12,24 \mathrm{~mm}[0.482 \mathrm{in}]$ |  | $10,00 \mathrm{~mm}[0.394 \mathrm{in}]$ |  |
| 1/2-20 UNF | $10,85 \mathrm{~mm}$ [0.427 in] |  | 9,09 mm [0.358 in] |  |
| Port | Height "A" | Diameter "ØС" | Diameter "ØD" | Height "H" |
| M14 $\times 1.5$ | $\begin{gathered} 2,49 \mathrm{~mm} \\ {[0.098 \mathrm{in}]} \end{gathered}$ | $\begin{aligned} & 18,8 \mathrm{~mm} \\ & {[0.74 \mathrm{in}]} \end{aligned}$ | $\begin{aligned} & 11,71 \mathrm{~mm} \\ & {[0.461 \mathrm{in}]} \end{aligned}$ | $\begin{gathered} 10,998 \mathrm{~mm} \\ {[0.433 \mathrm{in}]} \end{gathered}$ |
| $\mathrm{M} 12 \times 1.5$ | $\begin{gathered} 2,49 \mathrm{~mm} \\ {[0.098 \mathrm{in}]} \end{gathered}$ | $\begin{aligned} & 16,79 \mathrm{~mm} \\ & {[0.661 \mathrm{in}]} \end{aligned}$ | $\begin{gathered} 9,70 \mathrm{~mm} \\ {[0.382 \mathrm{in}]} \end{gathered}$ | $\begin{gathered} 10,998 \mathrm{~mm} \\ {[0.433 \mathrm{in}]} \end{gathered}$ |
| $\mathrm{M} 10 \times 1.0$ | $\begin{gathered} 1,6 \mathrm{~mm} \\ {[0.063 \mathrm{in}]} \end{gathered}$ | $\begin{aligned} & 13,79 \mathrm{~mm} \\ & {[0.543 \mathrm{in}]} \end{aligned}$ | $\begin{gathered} 8,41 \mathrm{~mm} \\ {[0.331 \mathrm{in}]} \end{gathered}$ | $\begin{gathered} 8,51 \mathrm{~mm} \\ {[0.335 \mathrm{in}]} \end{gathered}$ |

Figure 14. AMP Superseal 1.5


Female connector part number (included): C-282105 Male mating connector (customer provided): C-282087 IP rating: IP67

Figure 15. Deutsch 3-pin


Female connector part number (included): DT04-3P
Male mating connector (customer provided): DT06-3S IP rating: IP67

Figure 16. Deutsch 2-pin


Figure 17. Wire out


Figure 18. Blade terminal


Figure 19. Screw terminal


Figure 20. ME Series Pressure Port Dimensions


Table 5. ME Series Pressure Port Diameters and Heights

| Port | Diameter "ØD" |  | Height "H" |  |
| :---: | :---: | :---: | :---: | :---: |
| R 1/2 BSPT | $21,34 \mathrm{~mm}$ [0.840 in] |  | $17,09 \mathrm{~mm}$ [0.673 in] |  |
| R 1/4 BSPT | $13,46 \mathrm{~mm}$ [0.530 in] |  | $13,74 \mathrm{~mm}$ [0.541 in] |  |
| R 1/8 BSPT | 9,96 mm [0.392 in] |  | $10,24 \mathrm{~mm}$ [0.403 in] |  |
| 1/8-27 PTF | $10,34 \mathrm{~mm}$ [0.407 in] |  | 9,24 mm [0.364 in] |  |
| 1/4-18 NPT | $13,72 \mathrm{~mm}$ [0.540 in] |  | $17,63 \mathrm{~mm}$ [0.694 in] |  |
| 1/8-27 NPT | $10,29 \mathrm{~mm}$ [0.405 in] |  | $12,497 \mathrm{~mm}$ [0.492 in] |  |
| G 1/4 BSPP | $11,1 \mathrm{~mm}$ [0.437 in] |  | $11,20 \mathrm{~mm}$ [0.441 in] |  |
| G 1/8 BSPP | $8,28 \mathrm{~mm}$ [0.326 in] |  | $7,59 \mathrm{~mm}$ [0.299 in] |  |
| 3/4-16 UNF | $16,74 \mathrm{~mm}$ [0.659 in] |  | $11,1 \mathrm{~mm}$ [0.437 in] |  |
| 7/16-20 UNF | F $\quad 9,25 \mathrm{~mm}[0.364 \mathrm{in}]$ |  | 9,09 mm [0.358 in] |  |
| 9/16-18 UNF | F $12,24 \mathrm{~mm}[0.482 \mathrm{in}]$ |  | $10,00 \mathrm{~mm}[0.394 \mathrm{in}]$ |  |
| 1/2-20 UNF | $10,85 \mathrm{~mm}$ [0.427 in] |  | 9,09 mm [0.358 in] |  |
| Port | Height "A" | $\begin{gathered} \text { Diameter } \\ \text { "ØC" } \end{gathered}$ | $\begin{aligned} & \text { Diameter } \\ & \text { "ØD" } \end{aligned}$ | Height "H" |
| M14 $\times 1.5$ | $\begin{gathered} 2,49 \mathrm{~mm} \\ {[0.098 \mathrm{in}]} \end{gathered}$ | $\begin{aligned} & 18,8 \mathrm{~mm} \\ & {[0.74 \mathrm{in}]} \end{aligned}$ | $\begin{aligned} & 11,71 \mathrm{~mm} \\ & {[0.461 \mathrm{in}]} \end{aligned}$ | $\begin{gathered} 10,998 \mathrm{~mm} \\ {[0.433 \mathrm{in}]} \end{gathered}$ |
| $\mathrm{M} 12 \times 1.5$ | $\begin{gathered} 2,49 \mathrm{~mm} \\ {[0.098 \mathrm{in}]} \end{gathered}$ | $\begin{aligned} & 16,79 \mathrm{~mm} \\ & {[0.661 \mathrm{in}]} \end{aligned}$ | $\begin{gathered} 9,70 \mathrm{~mm} \\ {[0.382 \mathrm{in}]} \end{gathered}$ | $\begin{gathered} 10,998 \mathrm{~mm} \\ {[0.433 \mathrm{in}]} \end{gathered}$ |
| $\mathrm{M} 10 \times 1.0$ | $\begin{gathered} 1,6 \mathrm{~mm} \\ {[0.063 \mathrm{in}]} \end{gathered}$ | $\begin{aligned} & 13,79 \mathrm{~mm} \\ & {[0.543 \mathrm{in}]} \end{aligned}$ | $\begin{gathered} 8,41 \mathrm{~mm} \\ {[0.331 \mathrm{in}]} \end{gathered}$ | $\begin{gathered} 8,51 \mathrm{~mm} \\ {[0.335 \mathrm{in}]} \end{gathered}$ |



DIMENSIONS - LOW PRESSURE: LP SERIES, LE SERIES
Figure 21. AMP Superseal 1.5

(bottom view)


Figure 22. Deutsch 3-pin


Figure 23. Deutsch 2-pin


Figure 24. Wire out


Figure 25. Spade terminal


Figure 26. Screw terminal


Figure 27. LP/LE Series Pressure Port Dimensions


Table 5. LP/LE Series Pressure Port Diameters and Heights

| Port | Diameter "ØD" |  | Height "H" |  |
| :---: | :---: | :---: | :---: | :---: |
| R 1/2 BSPT | $21,34 \mathrm{~mm}$ [0.840 in] |  | $17,09 \mathrm{~mm}$ [0.673 in] |  |
| R 1/4 BSPT | $13,46 \mathrm{~mm}$ [0.530 in] |  | $13,74 \mathrm{~mm}$ [0.541 in] |  |
| R 1/8 BSPT | $9,96 \mathrm{~mm}$ [0.392 in] |  | $10,24 \mathrm{~mm}$ [0.403 in] |  |
| 1/8-27 PTF | $10,34 \mathrm{~mm}$ [0.407 in] |  | $9,24 \mathrm{~mm}$ [0.364 in] |  |
| 1/4-18 NPT | $13,72 \mathrm{~mm}$ [0.540 in] |  | $17,63 \mathrm{~mm}$ [0.694 in] |  |
| 1/8-27 NPT | $10,29 \mathrm{~mm}$ [0.405 in] |  | $12,497 \mathrm{~mm}$ [0.492 in] |  |
| G 1/4 BSPP | $11,1 \mathrm{~mm}$ [0.437 in] |  | $11,20 \mathrm{~mm}$ [0.441 in] |  |
| G 1/8 BSPP | $8,28 \mathrm{~mm}$ [0.326 in] |  | $7,59 \mathrm{~mm}$ [0.299 in] |  |
| 3/4-16 UNF | $16,74 \mathrm{~mm}$ [0.659 in] |  | $11,1 \mathrm{~mm}$ [0.437 in] |  |
| 7/16-20 UNF | $9,25 \mathrm{~mm}$ [0.364 in] |  | $9,09 \mathrm{~mm}$ [0.358 in] |  |
| 9/16-18 UNF | F $\quad 12,24 \mathrm{~mm}[0.482 \mathrm{in}]$ |  | $10,00 \mathrm{~mm}$ [0.394 in] |  |
| 1/2-20 UNF | $10,85 \mathrm{~mm}$ [0.427 in] |  | 9,09 mm [0.358 in] |  |
| Port | Height "A" | $\begin{aligned} & \text { Diameter } \\ & \text { "øC" } \end{aligned}$ | $\begin{gathered} \hline \text { Diameter } \\ \text { "ØD" } \\ \hline \end{gathered}$ | Height "H" |
| M14 $\times 1.5$ | $\begin{gathered} 2,49 \mathrm{~mm} \\ {[0.098 \mathrm{in}]} \end{gathered}$ | $\begin{aligned} & 18,8 \mathrm{~mm} \\ & {[0.74 \mathrm{in}]} \end{aligned}$ | $\begin{aligned} & 11,71 \mathrm{~mm} \\ & {[0.461 \mathrm{in}]} \end{aligned}$ | $\begin{gathered} 10,998 \mathrm{~mm} \\ {[0.433 \mathrm{in}]} \end{gathered}$ |
| $\mathrm{M} 12 \times 1.5$ | $\begin{gathered} 2,49 \mathrm{~mm} \\ {[0.098 \mathrm{in}]} \end{gathered}$ | $\begin{aligned} & 16,79 \mathrm{~mm} \\ & {[0.661 \mathrm{in}]} \end{aligned}$ | $\begin{gathered} 9,70 \mathrm{~mm} \\ {[0.382 \mathrm{in}]} \end{gathered}$ | $\begin{gathered} 10,998 \mathrm{~mm} \\ {[0.433 \mathrm{in}]} \end{gathered}$ |
| $\mathrm{M} 10 \times 1.0$ | $\begin{gathered} 1,6 \mathrm{~mm} \\ {[0.063 \mathrm{in}]} \end{gathered}$ | $\begin{aligned} & 13,79 \mathrm{~mm} \\ & {[0.543 \mathrm{in}]} \end{aligned}$ | $\begin{gathered} 8,41 \mathrm{~mm} \\ {[0.331 \mathrm{in}]} \end{gathered}$ | $\begin{gathered} 8,51 \mathrm{~mm} \\ {[0.335 \mathrm{in}]} \end{gathered}$ |

Figure 28. HP, HE, MH, ME, LP, LE Wiring Diagrams

AA \& BA
Screw and blade versions

CA
Deutsch 3-pin connector version


SPDT


FA, UA, VA, GB
Various connector versions

GA, KA, LA, BB
Various connector versions


HA, MA, NA, PA,
RA, SA, XA, YA, ZA, AB, CB, EB, FB various versions


SPNC


SPNC


SPNC


SPNO


SPNO



Figure 28. HP, HE, MH, ME, LP, LE Wiring Diagrams, continued

## JA

DIN43650-C connector version


TA
ITT-Cannon 3P circular connector version


WA
Cable with blade version


DB


## WARRANTY/REMEDY

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## $\triangle$ PERSONAL INJURY WARNING DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury. <br> Failure to comply with these instructions could result in death or serious injury.


#### Abstract

\section*{$\triangle$ 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.


[^0]:    ${ }^{1}$ Set point: Point at which switch actuates or de-actuates
    ${ }^{2}$ Operating pressure: Maximum normal system operating pressure
    ${ }^{3}$ Proof pressure: Maximum pressure that the switch can handle while it maintains set point accuracy. Intermittent spikes to this level are acceptable.
    ${ }^{4}$ Burst pressure: Point of complete switch failure
    ${ }^{5}$ SPST: Single pole, single throw. SPDT: Single pole, double throw. NO: Normally open. NC: Normally closed.
    ${ }^{6}$ Field adjustability only available with AA, BA, CA, and DA (SPST only) terminations.
    ${ }^{7}$ IPOO for AA and BA terminations.

[^1]:    ${ }^{1}$ Port Style C: Switches less than 975 psi will use Base Style B; switches greater than 975 psi will use Base Style A.
    ${ }^{2}$ Port Styles F and G: Switches less than 350 psi will use Base Style B; switches greater than 350 psi will use Base Style A.
    Switches less than 150 psi will use only Base Style B.

