CUSTOM ENGINEERED SWITCHES

Engineered Solutions for The Most Severe Pressure, Vacuum and Temperature Applications
PRESSURE SWITCHES

- SQ Low Pressure Switch
- SM Low Pressure Switch
- MM Low Pressure Switch
- LM Low Pressure Switch
- CJ Low Pressure Switch
- XM High Pressure Switch
- WX High Pressure Switch
- CD High Pressure Switch
- CF High Pressure Switch (Fixed Set Point)

VACUUM SWITCHES

- VM Vacuum Switch
- NV Vacuum Switch
- VP Vacuum Switch

Pressure / Vacuum Switch Optional Configurations

Pressure / Vacuum Switch Media
Connection Designations

Pressure / Vacuum Switch Application Worksheet

TEMPERATURE SWITCHES

- TT Temperature Switch
- TD Temperature Switch
- TM Temperature Switch
- HT Temperature Switch

Temperature Switch Media
Connection Designations

Temperature Switch Optional Configurations

Temperature Switch Application Worksheet

TRANSUCERS

- NT100 Transducer
- NT40 Transducer
- NT25 Transducer

RESOURCES

- Basic Electrical Connection Options
- Diaphragm Compatibility
- Conversion Tables
- Glossary of Terms
NEW THINKING for better solutions
After more than sixty years of producing quality electrical, hydraulic, and pneumatic components for use in military and industrial applications, we've established ourselves as industry leaders in efficiency, flexibility, and customer service. Our line of custom engineered switches, offers proven reliability and unmatched customization.

Parts made by Nason are used around the globe in the harshest of environments, where engineers and users depend on the precision and reliability we promise to each of our clients. Our switches undergo rigid testing to ensure reliable service. We leave nothing to chance, crafting and assembling all parts within our own plant in the United States.

Our offering of options in ratings, connections, and mounting is unmatched in the industry. Besides our extensive stock of legacy switches, we keep an incredibly diverse supply of optional media and electrical connections to match our clients’ varied design specifications. Whatever your challenge, our technical support is available to you before and after the sale.

Our 50,000 square foot manufacturing facility, staffed with experienced design engineers and customer service representatives, exists solely to meet your engineering needs, big or small. We offer free switch samples to let you make sure that our customized design fits your particular application, so you can specify Nason with confidence. And we require no minimum orders, so even the smallest design challenge is no problem. Once you’ve looked over our products’ 3D CAD models and have made your design decisions, our extensive component inventory will ensure rapid assembly, often shipping products within days.

Contact Nason to see how our custom engineered switches can fit your exact application.
NASON SWITCH DESIGNS ENSURE HIGH RELIABILITY

All of Nason’s pressure switches use a snap-action electrical device activated by an elastomer diaphragm or piston, offering a precise and repeatable design. The snap-action design will maintain its state with contacts either open or closed, until a precise set point is reached when it will snap over center to a new state. It will remain in that state until a distinct change towards its original setting is sensed, at which time it will snap back to its original state. The design’s snap-action feature prevents contact intermittency near its switch point, which is common in creeper designs. As system pressures fluctuate, our switches inherent differential prevents searching. Nason uses only the highest quality snap-action switches. These switches and Nason’s are UL, CSA, and military approved.

Accuracy
Our elastomer diaphragm or piston, which moves a precise .040 of an inch, ensures accurate, instantaneous contact under all operating conditions. While nitrile is preferred for general use, we can also provide ethylene propylene, fluorocarbon, fluorosilicone, and neoprene, depending on your need. Nason tests 100% of its switches for accuracy.

Reliability
Under most operating conditions, Nason switches have an operational life of over one million cycles. Smart design, quality components, and careful assembly make a switch that easily outlasts the competition.

Flexibility
We offer media connections in NPT, BSP, SAE, JIS, DIN, MS, and many more (refer to page 23) as well as all the electrical connections depicted on the facing page.
MORE ELECTRICAL CONNECTIONS THAN THE COMPETITION

Nason knows that your designs are used in all types of applications imaginable, so we want to make sure you have a choice of how you configure electrical connections. We offer you a wide and growing selection of connections, and if you want something else, just ask our design engineers for it.

HF  
DIN43650A  
1/2” Conduit  
(Plug & Receptacle)

HH  
DIN43650A  
(Plug Only)

HR  
DIN43650A  
Strain Relief  
(Plug & Receptacle)

HP  
9.4mm DIN  
(Plug Only)

HM  
9.4mm DIN  
(Plug & Receptacle)

MP  
Metri-Pack  
Female 280  
Series Sealed

NP  
Metri-Pack  
Male 280  
Series Sealed

CP  
Metri-Pack  
Female 150  
Series Sealed

DP  
Metri-Pack  
Male 150  
Series Sealed

PP  
Boot  
(Military Connector)

QC  
1/4” Male  
Spade Quick Connect

WL  
Wire Leads

WP  
Weather Pack  
(Female)

TP  
Weather Pack  
(Male)

EL  
1/2” NPT  
Male Conduit

EF  
1/2” NPT  
Female Conduit

WD  
Deutsch  
Receptacle

PD  
Deutsch  
Plug

ES  
M12 - 4PIN

CL  
Sheathed  
18 AWG Primaries

SL  
SJO  
Cable

VL  
Convolute  
Covering

Color Code:  
Black – Common  
Red – Normally Open  
Blue – Normally Closed

DIN Connector Pin Assignments:  
#1 – Common  
#2 – Normally Closed  
#3 – Normally Open  
#4 – Not Used

M12 Connector Pin Assignments:  
#1 – Common  
#2 – Not Used  
#3 – Normally Open  
#4 – Normally Closed
PRESSURE SWITCHES

- Low to high pressure switch models with 2 psi to 7500 psi set points
- High-quality snap-action design
- Long-life elastomer diaphragms
- Proven sealed piston sensor on high-pressure models
- Over one million operating cycles
- 100% tested for accuracy
- Models for both pneumatic and hydraulic applications
- Adjustable and factory preset models
- Customizable
- NEMA 4 and 13 available

SHOP ONLINE at www.airlinehyd.com
Features

- Long-life elastomer diaphragm
- High-quality snap-action switch
- Fingertip adjustment
- Visual calibration
- Economical
- Quick delivery

Operating Specifications

Set Point Range
2 — 120 PSI (0.14 — 8.3 Bar)

Set Point Tolerance
±1 PSI or 5% (.07 Bar)

Maximum Operating Pressure
250 PSI (17 Bar)

Proof Pressure
750 PSI (51 Bar)

Differential
10 — 20%

Current Rating
10 A @ 125/250 VAC 5 A @ 30 VDC

Media Connection
1/8" NPT Male Brass

Circuit Form
SPDT

Electrical Connection
1/4" Blades

Diaphragm Material
Buna N

Cycle Life
1 Million

In-Stock Low Pressure Switches

Model  SQ-1  SQ-2  SQ-3
Adjustment Range  2 — 10 PSI  6 — 30 PSI  20 — 120 PSI

For more media connections, see pages 23-24.
For more electrical connections, see page 7.
Features

- Long-life elastomer diaphragm
- High-quality snap-action switch
- Factory preset
- Available in a wide range of configurations
- Economical
- Pneumatic and hydraulic applications
- NEMA 4, 13

Operating Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set Point Range</td>
<td>2 — 120 PSI (0.14 — 8.3 Bar)</td>
</tr>
<tr>
<td>Set Point Tolerance</td>
<td>±1 PSI or 5% (0.07 Bar)</td>
</tr>
<tr>
<td>Maximum Operating Pressure</td>
<td>250 PSI (17 Bar)</td>
</tr>
<tr>
<td>Proof Pressure</td>
<td>750 PSI (51 Bar)</td>
</tr>
<tr>
<td>Differential</td>
<td>8 — 16%</td>
</tr>
<tr>
<td>Current Rating</td>
<td>5 A @ 250 VAC</td>
</tr>
<tr>
<td>(Optional: 5 A @ 30 VDC (Resistive))</td>
<td></td>
</tr>
<tr>
<td>Media Connection</td>
<td>Standard: Brass (Optional: Aluminum, Nickel Plating, Delrin, Zinc Plated Steel, 303 SS, 316 SS)</td>
</tr>
<tr>
<td>Circuit Form</td>
<td>SPST-NO, SPST-NC or SPDT</td>
</tr>
<tr>
<td>Electrical Connection</td>
<td>See Order Chart Below for Options</td>
</tr>
<tr>
<td>Diaphragm Material</td>
<td>Buna N</td>
</tr>
<tr>
<td>Cycle Life</td>
<td>1 Million</td>
</tr>
</tbody>
</table>

How to Order

(Example: Part Number: SM - 2A - 95R /)

Media Connection

1 1/4" NPT Male
2 1/8" NPT Male
6 7/16" SAE O-Ring (-4)
14 1/2" NPT Male
18 1/8" NPT Female
17 1/4" BSPP Male (G1/4)
28 1/8" BSPP Male (G1/8)
41 7/16" – 20 Internal 45° Flare – SAE J 513
77 M16 x 1.5 SAE J2244-3

Circuit Form

A SPST-NO
B SPST-NC
C SPDT

Fixed Set Point

2 — 120 PSI

Set Point Direction

R Rising
F Falling

Electrical Options

WL Wire Leads 18"*
QC 1/4" Spade Connection
WP Weather Pack
HR DIN43650A Connector
MP Metri-Pack
AT 10 A @ 125/250 VAC
5 A @ 30 VDC
GG Internal Ground
AU Gold Plate/Alloy for low currents

* Defaults to Screw Terminals

For more media connections, see pages 23-24.
For all available optional configurations, see page 22.
For more electrical connections, see page 7.
Features

- Long-life elastomer diaphragm
- High-quality snap-action switch
- Factory preset
- Available in a wide range of configurations
- Economical
- Pneumatic and hydraulic applications
- NEMA 4, 13

Operating Specifications

- **Set Point Range**: 2 — 120 PSI (.14 — 8.3 Bar)
- **Set Point Tolerance**: ±1 PSI or 5% (.07 Bar)
- **Maximum Operating Pressure**: 600 PSI (41 Bar)
- **Proof Pressure**: 1800 PSI (124 Bar)
- **Differential**: 8 — 16%
- **Current Rating**: 5 A @ 250 VAC 5 A @ 30 VDC (Resistive)
- **Media Connection**: Standard: Brass (Optional: Aluminum, Nickel Plating, Delrin, Zinc Plated Steel, 303 SS, 316 SS)
- **Circuit Form**: SPST-NO, SPST-NC or SPDT
- **Electrical Connection**: See Order Chart Below for Options
- **Diaphragm Material**: Buna N
- **Cycle Life**: 1 Million

How to Order  (Example: Part Number: MM - 6A - 80R / WL)

- **Media Connection**
  1  1/4" NPT Male
  2  1/8" NPT Male
  6  7/16" SAE O-Ring (-4)
  14 1/2" NPT Male
  17 1/4" BSPP Male (G1/4)
  28 1/8" BSPP Male (G1/8)
  41 7/16" — 20 Internal 45° Flare — SAE J 513

- **Circuit Form**
  A  SPST-NO
  B  SPST-NC
  C  SPDT

- **Fixed Set Point**: 2 — 120 PSI

- **Set Point Direction**
  R  Rising
  F  Falling

- **Electrical Options**
  WL  Wire Leads 18"
  WP  Weather Pack
  HR  DIN43650A Connector
  MP  Metri-Pack
  AT  10 A @ 125/250 VAC 5 A @ 30 VDC
  AU  Gold Plate/Alloy for low currents

* Defaults to Screw Terminals

For more media connections, see pages 23-24.

For available optional configurations, see page 22.
Low Pressure Switch LM

Features

- Long-life elastomer diaphragm
- High-quality snap-action switch
- Factory preset
- Available in a wide range of configurations
- Economical
- Pneumatic and hydraulic applications
- NEMA 4, 13

Operating Specifications

Set Point Range 10 — 300 PSI (.69 — 20 Bar)
Set Point Tolerance ±1 PSI or 5% (.07 Bar)
Maximum Operating Pressure 2000 PSI (137 Bar)
Proof Pressure 6000 PSI (413 Bar)
Differential 12 — 24%
Current Rating 5 A @ 250 VAC 5 A @ 30 VDC (Resistive)
Media Connection Standard: Brass (Optional: Nickel Plating, Delrin, Zinc Plated Steel, 303 SS, 316 SS)
Circuit Form SPST-NO, SPST-NC or SPDT
Electrical Connection See Order Chart Below for Options
Diaphragm Material Buna N
Cycle Life 1 Million

How to Order  (Example: Part Number: LM - 6A - 250R / WL)

Media Connection
1 1/4” NPT Male
2 1/8” NPT Male
6 7/16” SAE O-Ring (-4)
12 M10 x 1 SAE J2244-3
49 M14 x 1.5 J2244/3
68 9/16” – 18 SAE O-Ring Face Seal (Female)

Circuit Form
A SPST-NO
B SPST-NC
C SPDT

Fixed Set Point
10 — 300 PSI

Set Point Direction
R Rising
F Falling

Electrical Options
WL Wire Leads 18"
WP Weather Pack
HR DIN43650A Connector
MP Metri-Pack
AT 10 A @ 125/250 VAC
5 A @ 30 VDC
AU Gold Plate/Alloy for low currents

* Defaults to Screw Terminals

For more media connections, see pages 23-24.
For all available optional configurations, see page 22.
For more electrical connections, see page 7.

RoHS
For all available optional configurations, see page 22.

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SHOP ONLINE at www.airlinehyd.com
800-999-7378
Low Pressure Switch CJ

Features
- Long-life elastomer diaphragm
- High-quality snap-action switch
- Field adjustable
- Compact design
- Easily customized
- Quick delivery
- NEMA 4, 13

Operating Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set Point Range</td>
<td>3 — 120 PSI (0.21 — 8.3 Bar)</td>
</tr>
<tr>
<td>Set Point Tolerance</td>
<td>±1 PSI or 5% (.07 Bar)</td>
</tr>
<tr>
<td>Maximum Operating Pressure</td>
<td>250 PSI (17 Bar)</td>
</tr>
<tr>
<td>Proof Pressure</td>
<td>750 PSI (51 Bar)</td>
</tr>
<tr>
<td>Differential</td>
<td>10 — 20%</td>
</tr>
<tr>
<td>Current Rating</td>
<td>3 A @ 125 VAC 2 A @ 30 VDC (Resistive)</td>
</tr>
<tr>
<td>Media Connection</td>
<td>Standard: Brass (Optional: Aluminum, Nickel Plating, Delrin, 303 SS, 316 SS)</td>
</tr>
<tr>
<td>Circuit Form</td>
<td>SPST-NO, SPST-NC or SPDT</td>
</tr>
<tr>
<td>Electrical Connection</td>
<td>See Order Chart Below for Options</td>
</tr>
<tr>
<td>Diaphragm Material</td>
<td>Buna N</td>
</tr>
<tr>
<td>Cycle Life</td>
<td>1 Million</td>
</tr>
</tbody>
</table>

How to Order (Example: Part Number: CJ - 1B3 - 60J / WL)

CJ - 1 - B - 3 - 6 - 0 - J / WL

<table>
<thead>
<tr>
<th>Media Connection</th>
<th>Circuit Form</th>
<th>Range</th>
<th>Desired Set Point</th>
<th>Set Point Direction</th>
<th>Electrical Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>1</td>
<td>3 — 10 PSI</td>
<td>J</td>
<td>WL</td>
</tr>
<tr>
<td>2</td>
<td>B</td>
<td>2</td>
<td>6 — 30 PSI</td>
<td>R</td>
<td>WP</td>
</tr>
<tr>
<td>6</td>
<td>B</td>
<td>3</td>
<td>20 — 120 PSI</td>
<td>F</td>
<td>HM</td>
</tr>
<tr>
<td>12</td>
<td>C</td>
<td>4*</td>
<td>100 — 400 PSI</td>
<td>G</td>
<td>MP</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>5*</td>
<td>500 — 1500 PSI</td>
<td></td>
<td>AU</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Not yet UL recognized

For more media connections, see pages 23-24.

For all available optional configurations, see page 22.

For more electrical connections, see page 7.

SHOP ONLINE at www.airlinehyd.com

800-999-7378
Features

- Long-life elastomer diaphragm
- High-quality snap-action switch
- Factory preset
- Compact design
- Available in a wide range of configurations
- Proven in the most demanding mobile hydraulic applications
- NEMA 4, 13

Operating Specifications

Set Point Range
40 — 4000 PSI  (1.3 — 275 Bar)

Set Point Tolerance
±5 PSI or 5%  (.34 Bar)

Maximum Operating Pressure
5000 PSI  (344 Bar)

Proof Pressure
15000 PSI  (1034 Bar)

Differential
8 — 16%

Current Rating
5 A @ 250 VAC
5 A @ 30 VDC (Resistive)

Media Connection
Standard: Zinc Plated Steel (Optional: Brass, Nickel Plating, 303 SS, 316 SS)

Circuit Form
SPST-NO, SPST-NC or SPDT

Electrical Connection
See Order Chart Below for Options

Diaphragm Material
Buna N

Cycle Life
1 Million

How to Order  (Example: Part Number: XM - 1A - 1500R / WL)

XM - 
1 A - 
1 5 0 0 R / WL *

Media Connection
1 1/4" NPT Male
2 1/8" NPT Male
4 7/16" SAE 37° Flare (-4)
6 7/16" SAE O-Ring (-4)
11 9/16" SAE O-Ring (-6)
17 1/4" BSP Male (G1/4)
47 1/4" – 19BSSPP Female (G1/4)

Circuit Form
A SPST-NO
B SPST-NC
C SPDT

Fixed Set Point
40 — 4000 PSI

Set Point Direction
R Rising
F Falling

Electrical Options
WL Wire Leads 18"
WP Weather Pack
HR DIN43650A Connector
MP Metri-Pack
AT 10 A @ 125/250 VAC
5 A @ 30 VDC
AU Gold Plate/Alloy
for low currents

* Defaults to Screw Terminals

For more media connections, see pages 23-24.
For all available optional configurations, see page 22.
For more electrical connections, see page 7.
**High Pressure Switch WX**

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### Features
- Long-life elastomer diaphragm
- High-quality snap-action switch
- Field adjustable
- Compact design
- Available in a wide range of configurations
- Proven in the most demanding mobile hydraulic applications
- NEMA 4, 13

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**Operating Specifications**

- **Set Point Range**: 50 — 5000 PSI (1.38 — 344 Bar)
- **Set Point Tolerance**: ±5 PSI or 5% (.34 Bar)
- **Maximum Operating Pressure**: 5000 PSI (344 Bar)
- **Proof Pressure**: 15000 PSI (1034 Bar)
- **Differential**: 3 — 10%
- **Current Rating**: 5 A @ 250 VAC 5 A @ 30 VDC (Resistive)
- **Media Connection**: Standard: Zinc Plated Steel (Optional: Brass, Nickel Plating, 303 SS, 316 SS)
- **Circuit Form**: SPST-NO, SPST-NC or SPDT
- **Electrical Connection**: See Order Chart Below for Options
- **Diaphragm Material**: Buna N
- **Cycle Life**: 1 Million

---

### How to Order

(Example: Part Number: **WX - 2A - 100J / HR**)

- **WX**
- **2**
- **A**
- **100**
- **J**
- **/ HR**

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### Electrical Options

- **WL**: Wire Leads 18*
- **QC**: 1/4" Spade Connection
- **WP**: Weather Pack
- **HR**: DIN 43650A Connector
- **MP**: Metri-Pack
- **AT**: 10 A @ 125/250 VAC 5 A @ 30 VDC
- **GG**: Internal Ground
- **AU**: Gold Plate/Alloy for low currents

* Defaults to Screw Terminals

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For more media connections, see pages 23-24.

For all available optional configurations, see page 22.

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For more electrical connections, see page 7.
High Pressure Switch  CD

**Features**
- Long-life elastomer diaphragm (Ranges 1 – 3)
- Proven sealed piston sensor (Ranges 4 – 8)
- High-quality snap-action switch
- Field adjustable
- Easily customized
- Quick delivery
- NEMA 4, 13

**Operating Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Range</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Set Point Range</strong></td>
<td>10 — 7500 PSI</td>
<td>(.69 — 310 Bar)</td>
</tr>
<tr>
<td><strong>Set Point Tolerance</strong></td>
<td>±5 PSI or 5%</td>
<td>(.34 Bar)</td>
</tr>
<tr>
<td><strong>Maximum Operating Pressure</strong></td>
<td>2000 PSI (Ranges 1 — 3) (137 Bar)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5000 PSI (Ranges 4 — 7) (344 Bar)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7500 PSI (Range 8) (517 Bar)</td>
<td></td>
</tr>
<tr>
<td><strong>Proof Pressure</strong></td>
<td>6000 PSI (Ranges 1 — 3) (413 Bar)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15000 PSI (Ranges 4 — 7) (1034 Bar)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>22500 PSI (Range 8) (1551 Bar)</td>
<td></td>
</tr>
<tr>
<td><strong>Differential</strong></td>
<td>10 — 20%</td>
<td></td>
</tr>
<tr>
<td><strong>Current Rating</strong></td>
<td>5 A @ 250 VAC</td>
<td>5 A @ 30 VDC (Resistive)</td>
</tr>
<tr>
<td><strong>Media Connection</strong></td>
<td>Standard: Brass (Optional: Nickel Plating, 303 SS, 316 SS)</td>
<td></td>
</tr>
<tr>
<td><strong>Circuit Form</strong></td>
<td>SPST-NO, SPST-NC or SPDT</td>
<td></td>
</tr>
<tr>
<td><strong>Electrical Connection</strong></td>
<td>See Order Chart Below for Options</td>
<td></td>
</tr>
<tr>
<td><strong>Diaphragm Material</strong></td>
<td>Buna (Ranges 1 — 3)</td>
<td></td>
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<tr>
<td></td>
<td>Hardened Steel Piston (Ranges 4 — 8)</td>
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</tr>
<tr>
<td><strong>Cycle Life</strong></td>
<td>1 Million</td>
<td></td>
</tr>
</tbody>
</table>

**How to Order**

(Example: Part Number: CD - 1B5 - 750J / EL)

**Media Connection**

- Piston
  - 1/4" NPT Male
  - 3/4" SAE Male (-8)
  - 9/16" SAE Male

- Diaphragms
  - 1/4" NPT Male
  - 3/8" NPT Male

**Circuit Form**

- A: SPST-NO
- B: SPST-NC
- C: SPDT

**Range**

- 1: 10 — 40 PSI
- 2: 25 — 100 PSI
- 3: 50 — 200 PSI
- 4: 100 — 400 PSI
- 5: 250 — 1000 PSI
- 6: 500 — 2000 PSI
- 7: 1200 — 4500 PSI
- 8: 2400 — 7500 PSI

**Desired Set Point**

- 10 — 7500 PSI

**Set Point Direction**

- J: Rising Adjustable
- G: Falling Adjustable

**Electrical Options**

- WL: Wire Leads 18"
- EL: Male Conduit 1/2" — 14
- EF: Female Conduit 1/2" — 14
- HR: DIN43650A Connector
- HH: DIN43650A Plug Only
- WP: Weather Pack
- MP: Metri-Pack
- WD: Deutsch
- AT: 10 A @ 125/250 VAC
- AU: Gold Plate/Alloy for low currents

For more media connections, see pages 23-24.

For all available optional configurations, see page 22.

For more electrical connections, see page 7.
# High Pressure Switch CF

## Features
- Long-life elastomer diaphragm
  (Set Points: 10 — 300 PSI)
- Proven sealed piston sensor
  (Set Points: 100 — 4500 PSI)
- High-quality snap-action switch
- Easily customized
- Quick delivery
- NEMA 4, 13

## Operating Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>10 — 4500 PSI</th>
<th>(.69 — 310 Bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Set Point Range</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Set Point Tolerance</strong></td>
<td>±5 PSI or 5%</td>
<td>(.34 Bar)</td>
</tr>
<tr>
<td><strong>Maximum Operating Pressure</strong></td>
<td>2000 PSI</td>
<td>(137 Bar)</td>
</tr>
<tr>
<td><strong>Proof Pressure</strong></td>
<td>6000 PSI</td>
<td>(413 Bar)</td>
</tr>
<tr>
<td><strong>Differential</strong></td>
<td>10 — 20%</td>
<td></td>
</tr>
<tr>
<td><strong>Current Rating</strong></td>
<td>5 A @ 250 VAC</td>
<td>5 A @ 30 VDC</td>
</tr>
<tr>
<td><strong>Media Connection</strong></td>
<td>Standard: Brass</td>
<td>Optional: Nickel Plating, 303 SS, 316 SS</td>
</tr>
<tr>
<td><strong>Circuit Form</strong></td>
<td>SPST-NO, SPST-NC or SPDT</td>
<td></td>
</tr>
<tr>
<td><strong>Electrical Connection</strong></td>
<td>See Order Chart Below for Options</td>
<td></td>
</tr>
<tr>
<td><strong>Diaphragm Material</strong></td>
<td>Buna (Diaphragm Design)</td>
<td></td>
</tr>
<tr>
<td><strong>Hardened Steel Piston (Piston Design)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cycle Life</strong></td>
<td>1 Million</td>
<td></td>
</tr>
</tbody>
</table>

## How to Order

(Example: Part Number: **CF - 1B - 750R / EL**)

<table>
<thead>
<tr>
<th>Media Connection</th>
<th>Circuit Form</th>
<th>Desired Set Point</th>
<th>Set Point Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piston</td>
<td>A</td>
<td>10 — 4500 PSI</td>
<td>R</td>
</tr>
<tr>
<td>1/4&quot; NPT Male</td>
<td>B</td>
<td></td>
<td>Rising</td>
</tr>
<tr>
<td>3/4&quot; SAE Male (-8)</td>
<td>C</td>
<td></td>
<td>F</td>
</tr>
<tr>
<td>9/16&quot; SAE Male</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Desired Set Point

10 — 4500 PSI

### Current Rating

5 A @ 250 VAC

### Media Connection

- Piston: 1/4" NPT Male, 3/4" SAE Male (-8), 9/16" SAE Male

### Circuit Form

- SPST-NO, SPST-NC, SPDT

### Set Point Direction

- R: Rising
- F: Falling

## Electrical Options

- WL: Wire Leads 18" Wire Leads 18"
- EL: Male Conduit 1/2" — 14
- EF: Female Conduit 1/2" — 14
- HR: DIN43650A Connector
- HH: DIN43650A Plug Only
- WP: Weather Pack
- MP: Metri-Pack
- WD: Deutsch
- AT: 10 A @ 125/250 VAC
- AU: Gold Plate/Alloy for low currents

### Additional Notes

- For more media connections, see pages 23-24.
- For all available optional configurations, see page 22.
- For more electrical connections, see page 7.

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VACUUM SWITCHES

- 1" to 29" vacuum models available
- Long-life elastomer diaphragms
- High-quality snap-action design
- Factory preset or field adjustable
- Over one million operating cycles
- 100% tested for accuracy
- NEMA 4 and 13 available
Vacuum Switch VM

Features

- Long-life elastomer diaphragm
- High-quality snap-action switch
- Factory preset
- Available in a wide range of configurations
- Economical
- NEMA 4, 13

Operating Specifications

Set Point Range: 4" — 29" Hg (102mm — 736mm Hg)
Set Point Tolerance: ±2" Hg (50mm Hg)
Maximum Operating Pressure: 250 PSI (17 Bar)
Differential: 20 — 40%
Current Rating: 5 A @ 250 VAC  5 A @ 30 VDC (Resistive)
Media Connection: Standard: Brass (Optional: Aluminum, Nickel Plating, Delrin, 303 SS, 316 SS)
Circuit Form: SPST-NO, SPST-NC or SPDT
Electrical Connection: See Order Chart Below for Options
Diaphragm Material: Buna N
Cycle Life: 1 Million

How to Order

Example: Part Number: VM - 11A - 10R / WP

<table>
<thead>
<tr>
<th>Media Connection</th>
<th>Circuit Form</th>
<th>Fixed Set Point</th>
<th>Set Point Direction</th>
<th>Electrical Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>4&quot; — 29&quot; Hg</td>
<td>R</td>
<td>WL</td>
</tr>
<tr>
<td>2</td>
<td>B</td>
<td></td>
<td>R</td>
<td>WP</td>
</tr>
<tr>
<td>11</td>
<td>C</td>
<td></td>
<td>F</td>
<td>HR</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td>MP</td>
</tr>
</tbody>
</table>

For more media connections, see pages 23-24.
For all available optional configurations, see page 22.
For more electrical connections, see page 7.
**Features**
- Long-life elastomer diaphragm
- High-quality snap-action switch
- Factory preset or field adjustable
- Available in a wide range of configurations
- Economical
- NEMA 4, 13

**Operating Specifications**

- **Set Point Range**: 3" — 29" Hg (76mm — 736mm Hg)
- **Set Point Tolerance**: ±2" Hg (50mm Hg)
- **Maximum Operating Pressure**: 250 PSI (17 Bar)
- **Differential**: 20 — 40%
- **Current Rating**: 5 A @ 250 VAC 5 A @ 30 VDC (Resistive)
- **Media Connection**: Standard: Brass (Optional: Aluminum, Nickel Plating, Delrin, 303 SS, 316 SS)
- **Circuit Form**: SPST-NO, SPST-NC or SPDT
- **Electrical Connection**: See Order Chart Below for Options
- **Diaphragm Material**: Buna N
- **Cycle Life**: 1 Million

**How to Order** (Example: Part Number: **NV-1A-20R/QC**)

- **Media Connection**
  - 1: 1/4" NPT Male
  - 3: 3/4" UNF SAE O-Ring (-5)
  - 17: 1/4" BSPP Male (G1/4)
- **Circuit Form**
  - A: SPST-NO
  - B: SPST-NC
  - C: SPDT
- **Adjustment Range**
  - 3" — 12" Hg
  - 8" — 29" Hg
- **Set Point Direction**
  - R: Rising
  - F: Falling
  - J: Rising Adjustable
  - G: Falling Adjustable
- **Electrical Options**
  - WL: Wire Leads 18"
  - WP: Weather Pack
  - HR: DIN43650A Connector
  - MP: Metri-Pack
  - AT: 10 A @ 125/250 VAC 5 A @ 30 VDC
  - AU: Gold Plate/Alloy for low currents

*Defaults to Screw Terminals*

---

For more **media connections**, see pages 23-24.

For all available **optional configurations**, see page 22.

For more **electrical connections**, see page 7.

**Shop Online at www.airlinehyd.com** 800-999-7378
Features

- Long-life elastomer diaphragm
- High-quality snap-action switch
- Factory preset or field adjustable
- Available in a wide range of configurations
- Economical
- NEMA 4, 13

Operating Specifications

Set Point Range: 1" — 29" Hg (25mm — 736mm Hg) 14" — 394" H2O
Set Point Tolerance: ±2" Hg (50mm Hg)
Maximum Operating Pressure: 250 PSI (17 Bar)
Differential: 20 — 40%
Current Rating: 10 A @ 125/250 VAC 5 A @ 30 VDC
Media Connection: Zinc Plated Steel
Circuit Form: SPST-NO, SPST-NC or SPDT
Electrical Connection: See Order Chart Below for Options
Diaphragm Material: Buna N
Cycle Life: 1 Million

How to Order (Example: Part Number: VP - 1A - 25R / MP)

<table>
<thead>
<tr>
<th>Media Connection</th>
<th>Circuit Form</th>
<th>Adjustment Range</th>
<th>Set Point Direction</th>
<th>Electrical Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>1&quot; — 5&quot; Hg (14&quot; - 70&quot; H2O)</td>
<td>Rising</td>
<td>WL  Wire Leads 18&quot;</td>
</tr>
<tr>
<td>11</td>
<td>B</td>
<td>4&quot; — 15&quot; Hg (55&quot; - 200&quot; H2O)</td>
<td>Falling</td>
<td>WP  Weather Pack</td>
</tr>
<tr>
<td>13</td>
<td>C</td>
<td>10&quot; — 29&quot; Hg (140&quot; - 394&quot; H2O)</td>
<td>Adjustable</td>
<td>HR  DIN43650A Connector</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td>MP  Metri-Pack</td>
</tr>
</tbody>
</table>

For more media connections, see pages 23-24.
For all available optional configurations, see page 22.
For more electrical connections, see page 7.

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800-999-7378
## Optional Configurations

### Pressure / Vacuum Switch Part Number Configuration

(Complete open boxes only. Shaded boxes should have been previously completed on individual switch pages.)

#### Wire Length Settings

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1</td>
<td>3” Wire Length</td>
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<tr>
<td>2</td>
<td>6” Wire Length</td>
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<tr>
<td>3</td>
<td>12” Wire Length</td>
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<td>4</td>
<td>18” Wire Length</td>
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<td>5</td>
<td>24” Wire Length</td>
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<td>6</td>
<td>36” Wire Length</td>
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<td>7</td>
<td>48” Wire Length</td>
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<tr>
<td>8</td>
<td>60” Wire Length</td>
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<tr>
<td>9</td>
<td>Special Wire Length</td>
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#### Media Connection Modifier

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<tbody>
<tr>
<td>A</td>
<td>Aluminum</td>
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<tr>
<td>B</td>
<td>Brass</td>
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<tr>
<td>N</td>
<td>Nickel Plating</td>
</tr>
<tr>
<td>P</td>
<td>Delrin</td>
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<tr>
<td>S</td>
<td>Zinc Plated Steel</td>
</tr>
<tr>
<td>T</td>
<td>303 Stainless Steel</td>
</tr>
<tr>
<td>U</td>
<td>316 Stainless Steel</td>
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#### Electrical Connection

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>HF</td>
<td>DIN43650A 1/2” Conduit (Plug &amp; Receptacle)</td>
</tr>
<tr>
<td>HH</td>
<td>DIN43650A (Plug Only)</td>
</tr>
<tr>
<td>HR</td>
<td>DIN43650A Strain Relief (Plug &amp; Receptacle)</td>
</tr>
<tr>
<td>HP</td>
<td>9.4mm DIN (Plug Only)</td>
</tr>
<tr>
<td>HM</td>
<td>9.4mm DIN (Plug &amp; Receptacle)</td>
</tr>
<tr>
<td>MP</td>
<td>Metri-Pack Female 280 Series Sealed (Nason Standard)</td>
</tr>
<tr>
<td>NP</td>
<td>Metri-Pack Male 280 Series Sealed</td>
</tr>
<tr>
<td>CP</td>
<td>Metri-Pack Female 150 Series Sealed</td>
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<tr>
<td>DP</td>
<td>Metri-Pack Male 150 Series Sealed</td>
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<tr>
<td>PP</td>
<td>Boot (Military Connector)</td>
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<tr>
<td>QC</td>
<td>1/4” Male Spade Quick Connect</td>
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<tr>
<td>WL</td>
<td>Wire Leads</td>
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<tr>
<td>WP</td>
<td>Weather Pack (Female)</td>
</tr>
<tr>
<td>TP</td>
<td>Weather Pack (Male)</td>
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<td>EL</td>
<td>1/2” NPT Male Conduit</td>
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<tr>
<td>EF</td>
<td>1/2” NPT Female Conduit</td>
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<tr>
<td>WD</td>
<td>Deutsch Receptacle</td>
</tr>
<tr>
<td>PD</td>
<td>Deutsch Plug</td>
</tr>
<tr>
<td>HL</td>
<td>Lighted DIN (Plug &amp; Receptacle)</td>
</tr>
<tr>
<td>PT</td>
<td>10 — 32 Post</td>
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<tr>
<td>ES</td>
<td>M12 - 4PIN</td>
</tr>
<tr>
<td>CL</td>
<td>Sheathed 18 AWG</td>
</tr>
<tr>
<td>SL</td>
<td>SJO Cable</td>
</tr>
</tbody>
</table>

#### Additional Options

**1. Diaphragms**
- BL Buna 50 Durometer
- BT Buna 431T
- EP EP 559 PE
- FS Fluorosilicone
- GJ Viton 514 GJ
- HJ HNBR, 574 HJ
- NE Neoprene
- SI 71418 Silicone 80 DUR
- VT Viton 514 AD
- YP Viton 514 YP

**2. Contacts**
- AT 10 A @ 125/250 VAC
- 5 A @ 30 VDC
- AU Gold Plate/Alloy for low currents
- AH 25 A @ 277 VAC
- 5 A @ 30 VDC

**3. Other**
- VL Convolute (for wire leads)
- GG Internal Ground
- NF NSF Approved

* Variant # identifies this configuration as unique to a specific customer or application.

** Ask about our new environmentally sealed snap-action switch.
### Pressure / Vacuum Switches

| Option | Base Thread Size* | SM | MM | LM | CJ | XM | WX | CD | VM | NV | VP |
|--------|-------------------|----|----|----|----|----|----|----|----|----|----|----|
| 1      | 1/4 — 18 NPT Male | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 2      | 1/8 — 27 NPT Male | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 3      | 3/4 — 16 UNF SAE O-Ring (-5) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 4      | 7/16 — 20 37° JIC Flare (-4) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 5      | 1/4 — 18 NPT Female | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 6      | 7/16 — 20 SAE O-Ring (-4) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 7      | 1/4 — 18 NPT Female (Obsolete) See Option 5 | | | | | | | | | | | |
| 8      | 1/8 NPT Female | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 9      | 3/8 — 18 NPT | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 10     | 1/4 Female Stainless Steel (Obsolete) See Option 5 | | | | | | | | | | | |
| 11     | 9/16 SAE O-Ring (-6) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 12     | M10 x 1 SAE J2244-3 | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 13     | 1/2 — 20 UNF SAE O-Ring (-5) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 14     | 1/2 NPT Male 1/8 NPT Female | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 15     | 7/16 — 20 Female SAE O-Ring (D4) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 16     | 7/16 — 20 Female SAE J 514 37 DEG | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 17     | 1/4 BSPP (G1/4) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 18     | 7/16 — 20 ADJ | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 19     | 1/8 BSPT JIS (FT) Taper | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 20     | Tri-Clover | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 21     | 1/4 BSPP Extended (G1/4) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 22     | 1/2 — 14 NPT Brass Male (IS Only) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 23     | 1/4 — 18 NPT SS Female (IS Only) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 24     | 10/32 INT 3/8 — 24 EXT | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 25     | 1/4 NPT Plastic (Obsolete) See Option 1 | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 26     | 9/16 — 18 Female 37 DEG SAE J 514 (-6) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 27     | 1/2 BSPT — Male (R12) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 28     | 1/8 BSPP (G1/8) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 29     | 3/8 — 24 SAE O-Ring (-3) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 30     | 1/4 BSPT (JIS) (R1/4) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 31     | Flange (NS Only) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 32     | M12 — 1.5 Metric | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 33     | Extended Flange (NS Only) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 34     | 7/16 — 20 MS33649 Female* 14 NPTE (Male) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 35     | 1/2 — 14 NPT (Male) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 36     | 9/16 O-Ring Extended Boss (-6) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 37     | 3/8 — 24 Inverted Flare | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 38     | 9/16 — 12 UNC (SR Only) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 39     | 1/4 — 18 NPTF SAE J516 (-4) | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 40     | M10X1 SAE J2244-3 (Obsolete) See Option 12 | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 41     | 7/16 — 20 Internal 45° Flare — SAE J 513 | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 42     | 9/16 — 18 ADJ | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 43     | M10 x 1 SAE J2244-3 Extended | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |
| 44     | 1/4 — 18 NPT Female Extended | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  | •  |

*Call Nason at 800.229.4955 if you don’t see the media connection that fits your application. Note: Consult factory for materials and stock.
## Media Connection Designations

### Pressure / Vacuum Switches

<table>
<thead>
<tr>
<th>Option</th>
<th>Base Thread Size*</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>9/16 — 18 SAE O-Ring Female (-6)</td>
</tr>
<tr>
<td>46</td>
<td>1/8 NPT Male Clipped Hex</td>
</tr>
<tr>
<td>47</td>
<td>1/4 — 19 BSPP Female (G1/4)</td>
</tr>
<tr>
<td>48</td>
<td>9/16 — 18 SAE Male 1/8 NPT Female</td>
</tr>
<tr>
<td>49</td>
<td>M14 x 1.5 J2244/3</td>
</tr>
<tr>
<td>50</td>
<td>.302 — 32 Female</td>
</tr>
<tr>
<td>51</td>
<td>M14 x 1.5 (19mm Hex)</td>
</tr>
<tr>
<td>52</td>
<td>3/8 — 24 UNF W/ 1/4 BARB</td>
</tr>
<tr>
<td>53</td>
<td>M12 x 1.5 SAE J2244</td>
</tr>
<tr>
<td>54</td>
<td>1-1/8 Hex 1/4 NPT</td>
</tr>
<tr>
<td>55</td>
<td>1/2 BSPP</td>
</tr>
<tr>
<td>56</td>
<td>M10 x 1 Metric Pipe Thread</td>
</tr>
<tr>
<td>57</td>
<td>7/16 — 20 1-1/8 Hex</td>
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<tr>
<td>58</td>
<td>9/16 — 18 1-1/8 Hex</td>
</tr>
<tr>
<td>59</td>
<td>1-11 — 1/2 NPT</td>
</tr>
<tr>
<td>60</td>
<td>1/4 SAE J513 Female Flare Deflator</td>
</tr>
<tr>
<td>61</td>
<td>9/16 — 18 SAE J514 37 DEG Male</td>
</tr>
<tr>
<td>62</td>
<td>1/4 Deflator</td>
</tr>
<tr>
<td>63</td>
<td>1/2 — 20 Extended</td>
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<td>64</td>
<td>G3/8 (3/8 — 19 BSPP)</td>
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<td>65</td>
<td>3/4 — 14NPT</td>
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<tr>
<td>66</td>
<td>1/4 Tube Plastic</td>
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<td>67</td>
<td>9/16 — 18 SAE O-Ring Face Seal</td>
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<td>68</td>
<td>9/16 — 18 SAE O-Ring Face Seal (Female)</td>
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<td>69</td>
<td>11/16 — 16 SAE O-Ring Face Seal</td>
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<td>70</td>
<td>M10 x 1.25 Female Flare Deflator</td>
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<td>71</td>
<td>DX Face Seal Mount</td>
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<td>72</td>
<td>11/16 — 16 SAE O-Ring Face Seal (Female)</td>
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<td>73</td>
<td>M18 x 1.5</td>
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<td>74</td>
<td>Special SM/MM Port Seal</td>
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<tr>
<td>75</td>
<td>1/8 — 27 Straight with 1/8 Barb</td>
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<tr>
<td>76</td>
<td>M8 x 1 SAE J2244-2</td>
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<tr>
<td>77</td>
<td>M16 x 1.5 SAE J2244-3</td>
</tr>
<tr>
<td>78</td>
<td>M16 x 1</td>
</tr>
<tr>
<td>79</td>
<td>M14 x 1.5 For Washer Seal</td>
</tr>
<tr>
<td>80</td>
<td>3/8 O-Ring Port Seal</td>
</tr>
<tr>
<td>81</td>
<td>3/8 — 24 — 3 J512 45° Flare</td>
</tr>
<tr>
<td>82</td>
<td>5/16 — 24 For #13 O-Ring Seal</td>
</tr>
<tr>
<td>83</td>
<td>M9 X 1.25 6G</td>
</tr>
<tr>
<td>84</td>
<td>3/8 — 24 UNF 2A — 3 37° Flare</td>
</tr>
<tr>
<td>85</td>
<td>M10 X 1 DIN 3852 Type B</td>
</tr>
<tr>
<td>86</td>
<td>3/4 — 14 Male 1/4 — 18 NPT Female</td>
</tr>
<tr>
<td>87</td>
<td>Top Manifold Mount (Seal)</td>
</tr>
<tr>
<td>88</td>
<td>M16 X 1.5 For Copper Washer Seal</td>
</tr>
</tbody>
</table>

*Call Nason at 800.229.4955 if you don't see the media connection that fits your application. **Note:** Consult factory for materials and stock.
Application Worksheet

Pressure / Vacuum Switches
So we can better meet your application needs, please take a moment to fill out this operation specifications form. Nason will provide a sample to your specifications.

1 Maximum Operating Pressure: __________________________________________________________

2 Media: __________________________________________________________

3 Set Point:  

Rising: ___________________ Rising Adjustable: ___________________
Falling: ___________________ Falling Adjustable: ___________________

4 Circuit Form:  

- SPST-NO
- SPST-NC
- SPDT

5 Differential: __________________________

6 Circuit:  

- Electrical
- AC V
- DC V

- Load (Amps): ____________________  
- Resistive
- Inductive
- Inrush

7 Media Connection: ____________________________

8 Electrical Connection: ____________________________

9 Temperature:  

- Media °F
- Ambient °F

10 Cycles: __________________ per hour  

Other (describe): ________________________

11 Other Special Requirements (attach separate sheet if necessary): __________________________

12 System:  

- New Design
- Redesign

13 Application: What will switch control? (Attach circuit diagrams if available) __________________________

14 Prototype(s) Required by (Date): __________________________

15 Estimated Annual Usage: ____________________  

Target Net Price: ____________________

Firm: __________________________
Address: __________________________

Project Number or Name: __________________________

Name & Title: __________________________  

Phone: __________________________

Email Address: __________________________
TEMPERATURE SWITCHES

- Models TT, TD, TM, and HT
- TT — Bi-metal immersion temperature switch for low voltage/low current applications
- TD — Snap disc design for high reliability with shock and vibration
- TM and HT — Bellows design for high reliability with shock and vibration
- Available in a wide range of configurations
- NEMA 4 and 13 available
- 100% tested for accuracy
Temperature Switch TT

**Features**
- Bi-metal immersion temperature switch
- Factory preset temperature
- Direct action contacts/minimum hysteresis
- Gold diffused, fine silver contacts
- Available in a wide range of configurations
- Economical and compact
- NEMA 4, 13

**Operating Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set Point Range</td>
<td>40°F — 300°F (4°C — 149°C)</td>
</tr>
<tr>
<td>Set Point Tolerance</td>
<td>±5°F (2.8°C)</td>
</tr>
<tr>
<td>Maximum Temperature</td>
<td>325°F (163°C)</td>
</tr>
<tr>
<td>Current Rating</td>
<td>3 A @ 240 VAC 2 A @ 24 VDC (Resistive)</td>
</tr>
<tr>
<td>Probe Length</td>
<td>1&quot;</td>
</tr>
<tr>
<td>Media Connection</td>
<td>Standard: Brass (Optional: 303 SS, 316 SS)</td>
</tr>
<tr>
<td>Circuit Form</td>
<td>SPST-NO or SPST-NC</td>
</tr>
<tr>
<td>Electrical Connection</td>
<td>See Order Chart Below for Options</td>
</tr>
<tr>
<td>Maximum External Pressure</td>
<td>5000 PSI</td>
</tr>
</tbody>
</table>

**How to Order**

(Example: Part Number: TT - D3A - 100R / WL)

- **TT**
- **D**
- **3**
- **A**
- **1**
- **0**
- **0**
- **R**
- **/ WL**

**Probe Length**
- D 1/2"
- E 3/4"
- F 1"
- H 1-1/2"
- J 2"

**Media Connection**
- 1 1/2" NPT Male
- 2 3/8" NPT Male
- 3 1/4" NPT Male
- 5 3/4" SAE O-Ring (-8)
- 6 M16 x 1.5
- 13 1/4" NPT (316SS)
- 35 M12 x 1.5
- 46 M14 x 1.25

**Circuit Form**
- A SPST-NO
- B SPST-NC

**Fixed Set Point**
- 40°F — 300°F

**Set Point Direction**
- R Rising
- F Falling

**Electrical Options**
- WL Wire Leads 6"
- QC 1/4" Spade Connection
- WP Weather Pack
- MP Metri-Pack
- GG Internal Ground

* Defaults to Screw Terminals

For more media connections, see pages 31-32.

For all available optional configurations, see page 33.

For more electrical connections, see page 7.
Temperature Switch TD

Features

- Utilizes snap disc approach to sense temperature
- High-quality snap-action switch
- Factory preset
- Shock and vibration resistant
- Available in a wide range of configurations
- Economical
- NEMA 4, 13

Operating Specifications

- **Set Point Range**: 150° — 300°F (65° — 149°C)
- **Set Point Tolerance**: ±5°F (2.8°C)
- **Maximum Operating Temperature**: 325°F (163°C)
- **Differential**: 8 — 16°F
- **Current Rating**: 5 A @ 250 VAC 5 A @ 30 VDC (Resistive)
- **Media Connection**: Standard: Brass (Optional: 303 SS, 316 SS)
- **Circuit Form**: SPST-NO, SPST-NC or SPDT
- **Electrical Connection**: See Order Chart Below for Options
- **Maximum External Pressure**: 2500 PSI

How to Order

(Example: Part Number: TD - 1C - 175R / WP)

<table>
<thead>
<tr>
<th>Media Connection</th>
<th>Circuit Form</th>
<th>Fixed Set Point</th>
<th>Set Point Direction</th>
<th>Electrical Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/2&quot; NPT Male</td>
<td>A SPST-NO</td>
<td>150°F — 300°F</td>
<td>R Rising</td>
<td>QC 1/4&quot; Spade Connection</td>
</tr>
<tr>
<td>2 3/8&quot; NPT Male</td>
<td>B SPST-NC</td>
<td></td>
<td></td>
<td>WL Wire Leads 18&quot;</td>
</tr>
<tr>
<td>5 3/4&quot; SAE O-Ring</td>
<td>-8</td>
<td>C SPDT</td>
<td></td>
<td>WP Weather Pack</td>
</tr>
<tr>
<td>17 M18 x 1.5 SAE J2244</td>
<td></td>
<td></td>
<td></td>
<td>HR DIN43650A Connector</td>
</tr>
<tr>
<td>23 1/2&quot; BSPT (R1/2)</td>
<td></td>
<td></td>
<td></td>
<td>MP Metri-Pack</td>
</tr>
<tr>
<td>38 9/16&quot; SAE-6 JS14</td>
<td></td>
<td></td>
<td></td>
<td>WD Deutsch</td>
</tr>
</tbody>
</table>

For more media connections, see pages 31-32.
For all available optional configurations, see page 33.
For more electrical connections, see page 7.
Temperature Switch TM

Features

• Utilizes bellows mechanism to sense temperature
• High-quality snap-action switch
• Factory preset
• Shock and vibration resistant
• Available in a wide range of configurations
• NEMA 4, 13

Operating Specifications

Set Point Range 40° — 300°F (4° — 149°C)
Set Point Tolerance ±5°F (2.8°C)
Maximum Operating Temperature 100°F above set point (325°F max)
Differential 8 — 16°F
Current Rating 5 A @ 250 VAC 5 A @ 30 VDC (Resistive)
Media Connection Standard: Brass (Optional: 303 SS, 316 SS)
Circuit Form SPST-NO, SPST-NC or SPDT
Electrical Connection See Order Chart Below for Options
Maximum External Pressure 500 PSI

How to Order (Example: Part Number: TM - 6A - 120R / WL)

Media Connection
1 1/2" NPT Male
2 3/8" NPT Male
6 M16 x 1.5
7 1/2" BSPP Male (G1/2)
16 3/8" — 19 BSPT/JIS
27 M22 x 1.5 SAE J2244
45 1/2" BSPP 303 SS

Circuit Form
A SPST-NO
B SPST-NC
C SPDT

Fixed Set Point 40°F — 300°F

Set Point Direction
R Rising
F Falling

Electrical Options
WL Wire Leads 18"
QC 1/4" Spade Connection
WP Weather Pack
HR DIN43650A Connector
MP Metri-Pack
AT 10 A @ 125/250 VAC 5 A @ 30 VDC
GG Internal Ground
AU Gold Plate/Alloy for low currents

For more media connections, see pages 31-32.
For all available optional configurations, see page 33.
For more electrical connections, see page 7.

SHOP ONLINE at www.airlinehyd.com
800-999-7378
Temperature Switch HT

Features
- Utilizes bellows mechanism to sense temperature
- High-quality snap-action switch
- Factory preset
- Shock and vibration resistant
- Available in a wide range of configurations
- NEMA 4, 13

Operating Specifications
- Set Point Range: 40°F — 300°F (4°C — 149°C)
- Set Point Tolerance: ±5°F (2.8°C)
- Maximum Operating Temperature: 100°F above set point (325°F max)
- Differential: 8 — 16°F
- Current Rating: 10 A @ 125/250 VAC 5 A @ 30 VDC
- Media Connection: Standard: Brass (Optional: 303 SS, 316 SS)
- Circuit Form: SPST-NO, SPST-NC or SPDT
- Electrical Connection: See Order Chart Below for Options
- Maximum External Pressure: 500 PSI

How to Order
(Example: Part Number: HT - 2A - 100R / WL)

<table>
<thead>
<tr>
<th>Media Connection</th>
<th>Circuit Form</th>
<th>Fixed Set Point</th>
<th>Set Point Direction</th>
<th>Electrical Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot; NPT Male</td>
<td>A</td>
<td>40°F — 300°F</td>
<td>Rising</td>
<td>WL Wire Leads 18&quot;</td>
</tr>
<tr>
<td>3/8&quot; NPT Male</td>
<td>B</td>
<td></td>
<td>Falling</td>
<td>OC 1/4&quot; Spade Connection</td>
</tr>
<tr>
<td>M16 x 1.5</td>
<td>C</td>
<td></td>
<td></td>
<td>WP Weather Pack</td>
</tr>
<tr>
<td>1/2&quot; BSPP Male (G1/2)</td>
<td></td>
<td></td>
<td></td>
<td>HR DIN43650A Connector</td>
</tr>
<tr>
<td>3/8&quot; — 19 BSPT/JIS</td>
<td></td>
<td></td>
<td></td>
<td>MP Metri-Pack</td>
</tr>
<tr>
<td>M22 x 1.5 SAE J2244</td>
<td></td>
<td></td>
<td></td>
<td>AH 25 A @ 277 VAC</td>
</tr>
<tr>
<td>1/2&quot; BSPP 303 SS</td>
<td></td>
<td></td>
<td></td>
<td>GG Internal Ground</td>
</tr>
</tbody>
</table>

For more media connections, see pages 31-32.
For all available optional configurations, see page 33.
For more electrical connections, see page 7.
### Media Connection Designations

#### Temperature Switches

<table>
<thead>
<tr>
<th>Option</th>
<th>Base Thread Size*</th>
<th>TD</th>
<th>TM/HT</th>
<th>D 1/2&quot; Probe</th>
<th>E 3/4&quot; Probe</th>
<th>F 1&quot; Probe</th>
<th>G 1-1/4&quot; Probe</th>
<th>H 1-1/2&quot; Probe</th>
<th>J 2&quot; Probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/2 NPT Male</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>2</td>
<td>3/8 NPT Male</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>3</td>
<td>1/4 NPT Male</td>
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<td>•</td>
<td>•</td>
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<td>•</td>
<td>•</td>
</tr>
<tr>
<td>4</td>
<td>3/8 NPT (1PC)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>5</td>
<td>3/4 – 16 SAE O-Ring (-8)</td>
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<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>6</td>
<td>M16 x 1.5</td>
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<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>7</td>
<td>1/2 BSPP</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<td>•</td>
<td>•</td>
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<tr>
<td>8</td>
<td>1/2 NPT (1PC)</td>
<td>•</td>
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<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>9</td>
<td>3/8 NPT (Short)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<td>•</td>
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</tr>
<tr>
<td>10</td>
<td>M14 x 1.5 (Nickel Plated)</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<td>11</td>
<td>M14 x 1.5</td>
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<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>12</td>
<td>1/2 NPT (Nickel Plated)</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<td>•</td>
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</tr>
<tr>
<td>13</td>
<td>1/4 NPT (316SS)</td>
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<td>•</td>
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<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
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<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>15</td>
<td>3/4 – 16 SAE O-Ring (-8) Short</td>
<td>•</td>
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<td>•</td>
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<td>•</td>
<td>•</td>
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<tr>
<td>16</td>
<td>3/8 – 19 BSPT/JIS</td>
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</tr>
<tr>
<td>17</td>
<td>M18 x 1.5 SAE J2244</td>
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<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>18</td>
<td>1/4 NPT (Nickel Plated)</td>
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<td>•</td>
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<tr>
<td>19</td>
<td>1/2 NPT (316SS-1PC)</td>
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<td>•</td>
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<td>•</td>
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</tr>
<tr>
<td>20</td>
<td>1/2 NPT (Very Short)</td>
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<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
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<td>22</td>
<td>M16 x 1.5 (Flare)</td>
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</tr>
<tr>
<td>23</td>
<td>1/2 BSPT (R1/2)</td>
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<td>•</td>
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<tr>
<td>25</td>
<td>3/8 NPT (Nickel Plated) 1PC</td>
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<td>26</td>
<td>M14 x 1.5 SAE J2244</td>
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<td>•</td>
<td>•</td>
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<tr>
<td>27</td>
<td>M22 x 1.5 SAE J2244</td>
<td>•</td>
<td>•</td>
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<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>28</td>
<td>1/4 – 19 BSPT</td>
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<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>29</td>
<td>3/8 – 19 BSPP</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
</tbody>
</table>

*Call Nason at 800.229.4955 if you don’t see the media connection that fits your application. Note: Consult factory for materials and stock.
### Media Connection Designations

#### Temperature Switches

<table>
<thead>
<tr>
<th>Option</th>
<th>Base Thread Size*</th>
<th>TD</th>
<th>TM/HT</th>
<th>TT Model Probe Code</th>
</tr>
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<tbody>
<tr>
<td>30</td>
<td>3/8 NPT (316SS)</td>
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<td></td>
<td>D</td>
</tr>
<tr>
<td>31</td>
<td>3/4 — 16 UNF (304)SS</td>
<td></td>
<td></td>
<td>E</td>
</tr>
<tr>
<td>32</td>
<td>M16 x 1.5 (SAE)</td>
<td></td>
<td></td>
<td>F</td>
</tr>
<tr>
<td>33</td>
<td>5/8 — 18 SAEJ 513</td>
<td></td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>34</td>
<td>1/2 NPT (Short)</td>
<td></td>
<td></td>
<td>H</td>
</tr>
<tr>
<td>35</td>
<td>M12 x 1.5</td>
<td></td>
<td></td>
<td>J</td>
</tr>
<tr>
<td>36</td>
<td>3/4 — 16 SAE O-Ring (Nickel Plated)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>M14 x 1.5 Taper Thread</td>
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</tr>
<tr>
<td>38</td>
<td>9/16 SAE-6 J514</td>
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</tr>
<tr>
<td>39</td>
<td>M16 x 2.0</td>
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<td></td>
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</tr>
<tr>
<td>40</td>
<td>1/2 — 20 UNF</td>
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</tr>
<tr>
<td>41</td>
<td>3/8 — 24 SAE</td>
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</tr>
<tr>
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<td>1/8 NPT</td>
<td></td>
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<tr>
<td>43</td>
<td>1/4 — 19 BSPP</td>
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<td></td>
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</tr>
<tr>
<td>44</td>
<td>M16 x 1.5 303 SS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>1/2 BSPP 303 SS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>M14 x 1.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>M16 x 1.5 45° Flare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>7/16 — 20 SAE O-Ring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>3/4 — 16 UNF Straight (Washer Sealed)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>1/8 — 28 BSPT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>M20x 1.5 Taper</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>3/8 NPT 303 SS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>M16 X 1.5 For Washer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>M10 X 1.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>1/8 — 28 BSPP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>M12 X 1.5 For Washer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>3/8 — 19 BSPP Washer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>1/4 — 19 BSPP316SS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Call Nason at 800.229.4955 if you don’t see the media connection that fits your application. **Note:** Consult factory for materials and stock.
Optional Configurations

Temperature Switch Part Number Configuration
(Complete open boxes only. Shaded boxes should have been previously completed on individual switch pages.)

Wire Length Settings
1 3" Wire Length
2 6" Wire Length
3 12" Wire Length
4 18" Wire Length
5 24" Wire Length
6 36" Wire Length
7 48" Wire Length
8 60" Wire Length
9 Special Wire Length

Electrical Connection
HF DIN43650A 1/2" Conduit (Plug & Receptacle)
HH DIN43650A (Plug Only)
HR DIN43650A Strain Relief (Plug & Receptacle)
HP 9.4mm DIN (Plug Only)
HM 9.4mm DIN (Plug & Receptacle)
MP Metri-Pack Female 280 Series Sealed (Nason Standard)
NP Metri-Pack Male 280 Series Sealed
CP Metri-Pack Female 150 Series Sealed
DP Metri-Pack Male 150 Series Sealed
PP Boot (Military Connector)
QC 1/4" Male Spade Quick Connect
WL Wire Leads
WP Weather Pack (Female)
TP Weather Pack (Male)
EL 1/2" NPT Male Conduit
EF 1/2" NPT Female Conduit
WD Deutsch Receptacle
PD Deutsch Plug
HL Lighted DIN (Plug & Receptacle)
PT 10 — 32 Post
ES M12 - 4PIN
CL Sheathed 18 AWG Primaries
SL SJO Cable

Additional Options
1. Contacts**
AT 10 A @ 125/250 VAC
5 A @ 30 VDC
AU Gold Plate/Alloy (for low currents)
AH 25 A @ 277 VAC
5 A @ 30 VDC
2. Ground
GG Internal Ground
3. Other
VL Convolute (for wire leads)

* Variant # identifies this configuration as unique to a specific customer or application.

** Ask about our new environmentally sealed snap-action switch.
Temperature Switches

So we can better meet your application needs, please take a moment to fill out this operation specifications form. Nason will provide a sample to your specifications.

1 Media: 

2 Set Point: Rising _________, (°F or °C) Falling _________, (°F or °C)

3 Differential: Yes □ No □

4 Circuit Form: SPST-NO □ SPST-NC □ SPDT □

5 Circuit: Electrical AC _______ V □ DC _______ V
   Load (Amps) _______ □ Resistive □ Inductive □ Inrush _______

6 Pressure: System (Normal) _______ (Maximum) _______.

7 Temperature: System (Normal) _______ (Maximum) _______ (Minimum) _______
   Ambient (Normal) _______ (Maximum) _______ (Minimum) _______

8 Media Connection: 

9 Electrical Connection: 

10 Cycles: _______ per hour □ Other (describe): 

11 Other Special Requirements (attach separate sheet if necessary): 

12 System: New Design □ Redesign □

13 Application: What will switch control? (Attach circuit diagrams if available)

14 Prototype(s) Required by (Date):

15 Estimated Annual Usage: _______ □ Target Net Price: 

Firm: 

Address: 

Project Number or Name: 

Name & Title: _______ Phone: _______

Email Address: 

SHOP ONLINE at www.airlinehyd.com 800-999-7378
TRANSDUCERS

- Three new models – NT100, NT40 and NT25
- Basic to highly customized models
- Hydraulic and pneumatic designs
- Models with accuracy ranges of 1%, .4% and .25%
- Vacuum ranges to 10,000 PSI
- IP69K seal available for the NT25, enabling high-pressure wash down capability
- Compact designs
- Custom outputs and ranges available
- Multiple industry applications
Features
- Vacuum ranges to 10,000 PSI
- Various outputs
- Compact designs
- 316 stainless steel wetted parts
- Low cost
- Industrial 1% accuracy
- Custom outputs and ranges available
- OEM tested and approved

Application
- Hydraulic/mobile hydraulic
- Pneumatic systems
- Food and beverage industry
- Refrigeration systems
- Pumps and compressors
- Energy and water management
- Construction and agricultural equipment

Description
The NT100 Series Pressure Transducer utilizes piezoresistance technology in an all stainless steel body. It is compact in size, has long term stability, is easy to install, and is very economical, as well as reliable.

The NT100 sets a new price-performance standard for low cost, high volume commercial and industrial applications.

How to Order (Example: Part Number: NT100 - 03 - B - 0500 - G - D00 - 4)

Model
NT100

Media Connection
03 = 1/4" NPT Male

Output
B = 4-20mA
C = 0-5V (3 wire)

Pressure Range (PSI)
0015
0025
0050
0100
0250
0500
1000
3000
5000

Pressure Type
G = Gauge

Electrical Connection
D00 = 9.4 mini DIN
B00 = 3 pin Packard

Accuracy
4 = 1%

** Consult factory for further OEM options.
Specifications

Input
Supply Voltage  12-36 VDC
Pressure Range  VAC to 10,000 PSI
Proof Pressure  1.5 x full scale
Burst Pressure  3 x full scale
Fatigue Life  More than 4 million cycles

Performance
Accuracy  1%
Stability  0.2% full scale
Compensated Temperatures  -10 to 75°C (14 to 167°F)
Operating Temperatures  -20 to 80°C (-4 to 176°F)
Zero and Span Offset Tolerance  1.5%

Mechanical Configuration
Pressure Port  1/4 NPT (standard) *
Electrical Connection  9.4 mini DIN, 3 pin Packard *
Sealing Rating  IP65 with standard 9.4 DIN cable
Wetted Parts  316 stainless steel

For best performance, use shielded cables. Mating cable assemblies sold separately. * Consult factory for further OEM options.

Electrical Connections

<table>
<thead>
<tr>
<th>Signal</th>
<th>Function</th>
<th>Color</th>
<th>Pin</th>
<th>Electrical Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5V</td>
<td>Supply V +</td>
<td>Red</td>
<td>1</td>
<td>DIN 4 pin (9.4)</td>
</tr>
<tr>
<td></td>
<td>Com</td>
<td>Black</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Output</td>
<td>White</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4-20mA</td>
<td>Supply V</td>
<td>Red</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Output</td>
<td>Black</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>0-5V</td>
<td>Com</td>
<td>-</td>
<td>A</td>
<td>3 pin Packard</td>
</tr>
<tr>
<td></td>
<td>Supply +</td>
<td>-</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Output +</td>
<td>-</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>4-20mA</td>
<td>Output</td>
<td>-</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supply +</td>
<td>-</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>
Features

- Vacuum ranges to 10,000 PSI
- Various outputs
- Compact designs
- 316 stainless steel wetted parts
- Low cost
- Better 0.4% accuracy
- Custom outputs and ranges available
- OEM tested and approved

Application

- Hydraulic/mobile hydraulic
- Pneumatic systems
- Food and beverage Industry
- Refrigeration systems
- Pumps and compressors
- Energy and water management
- Construction and agricultural equipment

Description

The NT40 Series Pressure Transducer utilizes piezoresistance technology in an all stainless steel body. It is compact in size, has long term stability, is easy to install, and is very economical, as well as reliable.

The NT40 sets a new price-performance standard for low cost, high volume commercial and industrial applications.

How to Order  (Example: Part Number: NT40 - 03 - B - 0500 - G - Q00 - 5)

Model  
NT40 - 03 - B - 0500 - G - Q00 - 5

Media Connection

03 = 1/4" NPT Male
**

Output

B = 4-20mA
C = 0-5V (3 wire)
**

Pressure Range (PSI)

0015
0025
0050
0100
0250
0500
1000
3000
5000
**

Pressure Type

G = Gauge

Electrical Connection

Q00 = M12
D00 = 9.4 mini DIN
**

Accuracy

5 = 0.4%
**

Consult factory for further OEM options.
### Specifications

#### Input
- **Supply Voltage**: 12-36 VDC
- **Pressure Range**: VAC to 10,000 PSI
- **Proof Pressure**: 1.5 x full scale
- **Burst Pressure**: 3 x full scale
- **Fatigue Life**: More than 4 million cycles

#### Performance
- **Accuracy**: 0.4%
- **Stability**: 0.2% full scale
- **Compensated Temperatures**: -10 to 75°C (14 to 167°F)
- **Operating Temperatures**: -20 to 80°C (-4 to 176°F)
- **Zero and Span Offset Tolerance**: 1.5%

#### Mechanical Configuration
- **Pressure Port**: 1/4 NPT (standard) *
- **Electrical Connection**: M12 *
- **Sealing Rating**: IP67 when used with M12 cable assembly
- **Wetted Parts**: 316 stainless steel

For best performance, use shielded cables. Mating cable assemblies sold separately. * Consult factory for further OEM options.

---

### Electrical Connections

**NT40 M12 pin assignments**

<table>
<thead>
<tr>
<th>Voltage outputs</th>
<th>4-20mA outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>pin 1 = Voltage Supply +</td>
<td>pin 1 = Voltage Supply +</td>
</tr>
<tr>
<td>pin 2 = Output</td>
<td>pin 2 = N/C</td>
</tr>
<tr>
<td>pin 3 = Com</td>
<td>pin 3 = Output</td>
</tr>
<tr>
<td>pin 4 = N/C</td>
<td>pin 4 = N/C</td>
</tr>
</tbody>
</table>
Features
- Totally digital proprietary design
- Innovative redundant sensing elements
- 24V digital output for pressure or temp switch point
- Voltage and current outputs
- Custom pressure ranges and outputs available
- More standard pressure ranges, industry first
- Optional 4x over pressure is available up to 5,000 PSI
- 0.25% accuracy
- ASIC technology, no zero/span potentiometers
- All stainless steel welded housing
- IP-69K rated seal available (high pressure wash down)
- Innovative low current consumption, ideal for custom wireless solutions
- Programmable systems available for OEM/systems integrators for in-house configuring of outputs, ranges and set points to reduce inventory and lead times
- Calibration certificates available (contact customer service)

Description
The NT25 Series digital/configurable is an industry first. This industrial pressure transducer features stability and accuracy over a wide temperature range. It is lower in cost than competitive units typically not found in older analog designs. It is also plug and play, which is not found in most lower-grade competitive units.

With its proprietary digital/ASIC technology, the NT25 Series features field-proven redundant sensing elements without the need for solder in resistors or trim pots that can drift over time. This provides years of excellent performance and reliability even in the harshest applications. This combined with optional 4x over pressure and the optional integrated temperature or pressure digital switch feature, makes the NT25 Series truly an industry first and second to none.

For extreme applications where power washers are used for wash down, the NT25 Series optional IP69K seal, another industry first, makes it ideal no matter what the environment.

With its flexible, low-power design and lower manufacturing costs, the NT25 Series offers outstanding value and makes it ideal for custom wireless applications.

How to Order
(Example: Part Number: NT25 - 03 - D - 1000 - G - Q00 - 2 - T40)

<table>
<thead>
<tr>
<th>Media Connection</th>
<th>Model</th>
<th>Output</th>
<th>Pressure Type</th>
<th>Pressure or Temp Set Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 = 1/4&quot; NPT Male</td>
<td>NT25= 2X Over Pressure</td>
<td>B = 4-20mA</td>
<td>G = Gauge</td>
<td>P or T10 = 10% of pressure range or 10°C</td>
</tr>
<tr>
<td>09 = 7/16&quot; x 20 **</td>
<td>NT26= 4X Over Pressure (up to 5000 PSI)</td>
<td>C = 0-5 vdc</td>
<td>**</td>
<td>P or T20 = 20% of pressure range or 20°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D = 0-10 vdc</td>
<td></td>
<td>P or T30 = 30% of pressure range or 30°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H = 1-5 vdc</td>
<td></td>
<td>P or T40 = 40% of pressure range or 40°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>J = 1-6 vdc</td>
<td></td>
<td>P or T50 = 50% of pressure range or 50°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G = 0.5-5.5 vdc</td>
<td></td>
<td>P or T60 = 60% of pressure range or 60°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(voltage outputs are 3 wire non-ratiometric)</td>
<td></td>
<td>P or T70 = 70% of pressure range or 70°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P or T80 = 80% of pressure range or 80°C</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P90 = 90% of pressure range (P = % of the full pressure range selected)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(full temp range is 10 to 80°C)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pressure Connection</th>
<th>Electrical Connection</th>
<th>X = no SP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q00 = IP69K M12</td>
<td>D00 = 4 pin Mini 9.4 DIN</td>
<td></td>
</tr>
<tr>
<td>**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pressure Range (PSI)</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>0015 0900</td>
<td>0.25%</td>
</tr>
<tr>
<td>0025 1000</td>
<td></td>
</tr>
<tr>
<td>0050 2000</td>
<td></td>
</tr>
<tr>
<td>0100 3000</td>
<td></td>
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<tr>
<td>0150 4000</td>
<td></td>
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<tr>
<td>0200 5000</td>
<td></td>
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<tr>
<td>0250 6000</td>
<td></td>
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<tr>
<td>0300</td>
<td></td>
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<tr>
<td>0400</td>
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<td>0500</td>
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<td>0600</td>
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<tr>
<td>0700</td>
<td></td>
</tr>
<tr>
<td>0800</td>
<td></td>
</tr>
</tbody>
</table>

** Consult factory for further OEM options.
### Specifications

**Performance**
- **Accuracy**: 0.25% BFSL (includes: non-linearity, hysteresis and non-repeatability)
- **Overrange Protection**: 2x Rated Pressure or optional 4x
- **Pressure Range**: see ordering chart - up to 6000 PSI (690 bar) (optional higher ranges available)
- **Burst Pressure**: 5x or 20,000 PSI, whichever is less
- **Pressure Cycles**: >100 million
- **Update Time**: <=1msec
- **Digital Output**: Optional digital output for pressure or temp switch point (not available on 4-20mA output units)

**Environmental Data**
- **Temperature**
  - Compensated Temperatures: -20° to 85°C (-4 to 185°F)
  - Operating Temperatures: -40° to 100°C (-40 to 212°F)
  - Storage: -40° to 125°C (-40° to 250°F)
- **Total Error Band (TEB)**: 0.9%
- **Stability**: 0.25% FS typical (1 year)
- **Shock**: 100g, 6 ms, 1/2 sine per EN 60068-2-27, EN 60068-2-29
- **Vibration**: 12g peak, 10 to 2000 Hz per EN60068-2-6, EN60068-2-64
- **EMI/RFI Protection**: Yes
- **Rating**: Up to IP-69K available (high pressure wash down)

**Mechanical Configuration**
- **Pressure Connections**: See ordering chart
- **Wetted Material**: 17-4PH stainless steel (for other materials consult factory)
- **Electrical Connection**: 9.4 Din, IP-69K 4 pin M12 Connector
- **Case (housing)**: 304 stainless steel

**Electrical Data**
- **Excitation**: 4.0-28 VDC, Typ (must be at least 0.3V above full output voltage)
  - (7.5 VDC min for 4-20mA)
- **Output**: see ordering chart
- **Output Load**: 0-800 Ohms @ 10-28 VDC for current output 10K Ohms minimum for voltage outputs
- **Current Consumption**: 25mA max (current output), <5mA (voltage output) without digital output, <8mA with digital output
- **Output Noise**: <2mV RMS
- **Reverse Polarity Protection**: Yes
- **Zero Offset**: 1%
- **CE Approval**: Yes. Shield must be attached to connector housing
  - (not tested with cable lengths over 30 meters)
- **Set Point for Either Pressure or Temperature**
  - For pressure, this is done by selecting a percentage of your transducer's full range and this will be the set point (40% of a 1000 PSI range will have the set point at 400 PSI) "P40". For temperature, simply select in degrees C where you want the set point to be (selecting 40°C will be represented by "T40" in the part number).
### Diaphragm Compatibility

#### Media Compatibility

<table>
<thead>
<tr>
<th>Media</th>
<th>Buna</th>
<th>EP</th>
<th>Viton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetone</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Acetylene</td>
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<tr>
<td>Air</td>
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<td></td>
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<tr>
<td>Alcohols</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Alkalis (Weak)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Alkalis (Strong)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ammonia (Anhydrous)</td>
<td></td>
<td></td>
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<tr>
<td>Ammonia (Hydride)</td>
<td></td>
<td></td>
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<tr>
<td>Asphalt</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Automotive Oils</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beer</td>
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<td></td>
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<tr>
<td>Benzene</td>
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<tr>
<td>Boric Acid</td>
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<td></td>
<td></td>
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<tr>
<td>Brake Fluid</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bunker Oil</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Butane</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butyl Cellosolve</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon Monoxide</td>
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<td></td>
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<tr>
<td>Cellube</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorobenzene</td>
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<td></td>
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<tr>
<td>Citric Acid</td>
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<td></td>
<td></td>
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<tr>
<td>Coke Oven Gas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coolanol</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Diesel Fuels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Di-Ester Lube (MIL-L-7808)</td>
<td></td>
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<tr>
<td>Dowtherm A&amp;E</td>
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</tr>
<tr>
<td>Ethanol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ether</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylene</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylene Glycol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freon 11, 12, 112, 114</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Freon 22</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fyrquel</td>
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Other diaphragm materials are available. Consult factory for stock.

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Other diaphragm materials are available. Consult factory for stock.
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[Formula °C = 5/9 (°F - 32°) °F = (9/5 °C) +32°]

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### Pressure Conversion Formulas

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<th>Bar</th>
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Glossary of Terms

Snap-Action Switches
Nason uses only the highest quality snap-action electrical switches which insures a positive, instantaneous electrical contact under all operating conditions. Nason electrical switches are UL, CSA, CE, and military listed. Ask about our new environmentally sealed snap-action switch.

Diaphragms
Nason pressure switches incorporate elastomer diaphragms to provide a positive media seal. Nitrile is the material of choice for most applications. Ethylene propylene, fluorocarbon, fluorosilicon, and neoprene are readily available for specific applications.

Differential
A distinct change in pressure (or temperature for temperature switches) is necessary to reset a Nason snap-action switch to its original electrical state. This feature prevents “searching” and maximizes switch and system life. Catalog ranges are typical mid-range and can be varied with special construction.

Electrical Connections
A wide variety of electrical connectors are readily available for most applications. Screw terminals, wire leads, blades, studs, conduit, automotive DIN and military connectors are stock items.

Media Connections
Nason’s offering of media connections is unmatched in the industry. NPT, BSP, SAE, JIS, DIN, MS and many others are readily available.

Electrical Circuits
A unique variety of electrical contact arrangements allows the system designer to achieve complex logic at minimal cost. Contact arrangements up to form ZZ and isolated dual set points are available.

Electrical Rating
Most Nason switches are available in a nominal 5 or 10 AMP rating. Gold plated contacts for low current and 25 AMP ratings are also available.

Life
The operational life of a Nason switch is normally in excess of one million cycles. Operating life depends on many variables, and specific tests should be run if marginal conditions exist.

Application
Nason switches are used successfully in a great variety of pneumatic and hydraulic applications. Military vehicles and equipment, aviation, marine, machine tools, farm and construction equipment, process equipment, medical equipment and industrial machinery are typical applications.

Customization
Nason has the experience and willingness to customize any switch to meet specific application requirements. Special media connections, electrical connections, circuitry and construction materials can be designed and produced as needed.

Installation Torques
Pressure Switch - 10 Ft lbs
Temperature Switch - 14-15 Ft lbs

Circuitry
Adjustable Pressure Switch
Component Symbol

Fixed Pressure Switch
Component Symbol
WARRANTY:

It is the sole responsibility of the user to determine the suitability of any product or information supplied by Nason for any application or use by the user.

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