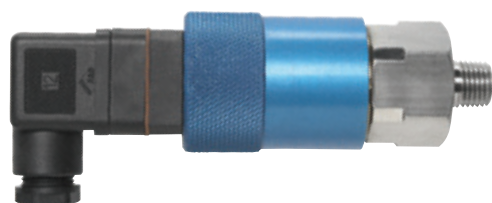
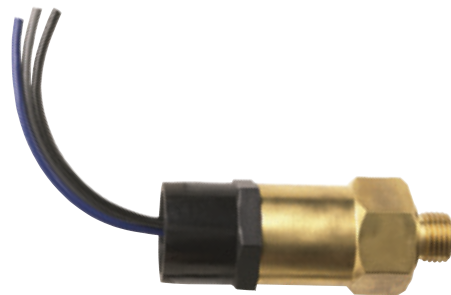


CUSTOM ENGINEERED SWITCHES

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



NASON
NEW THINKING

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NEW THINKING

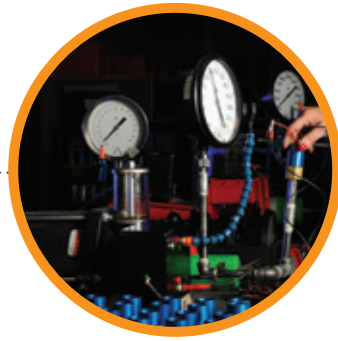
FOR BETTER SOLUTIONS

After more than seventy 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 70,000-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

www.mfcp.com

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.

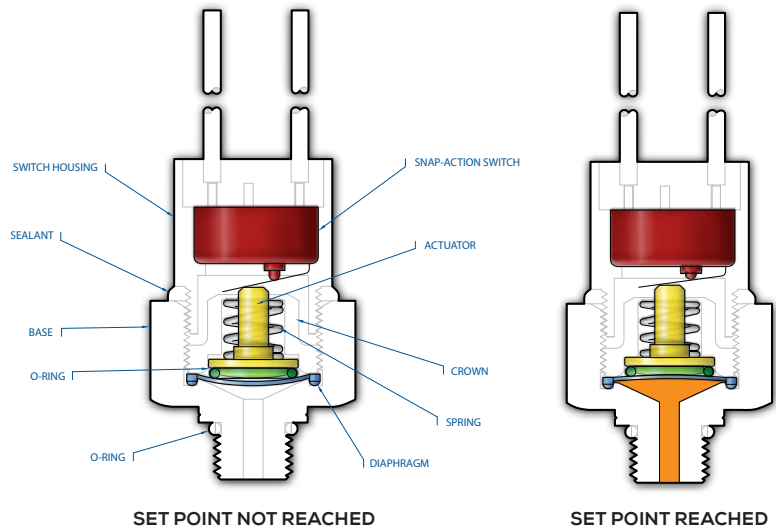
RELIABILITY

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.

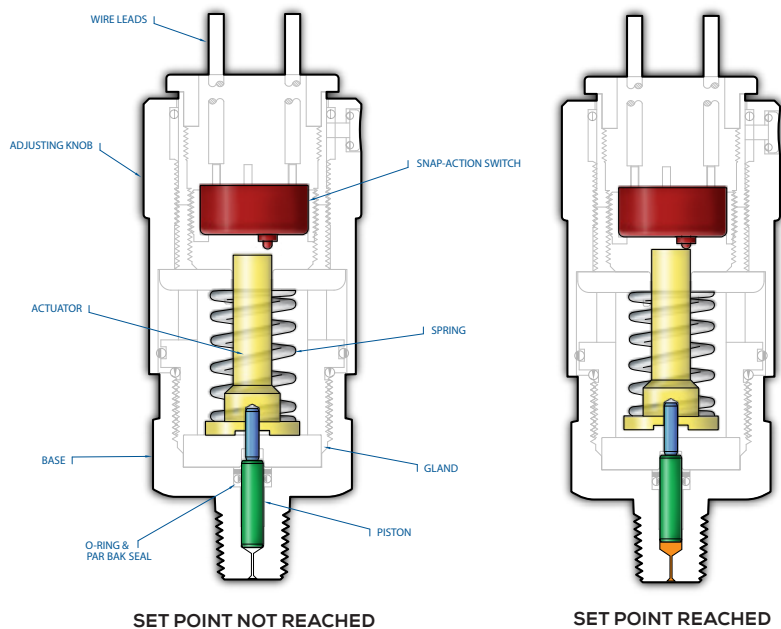
FLEXIBILITY

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.

DIAPHRAGM TYPE



PISTON TYPE



ELECTRICAL CONNECTION OPTIONS

MORE 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.



Screw
Terminals
#8 – 32



HF

DIN43650A
1/2" Conduit
(Plug & Receptacle)
IP65



HH

DIN43650A
(Plug Only)



HR

DIN43650A
Strain Relief
(Plug & Receptacle)
IP67



HP

9.4mm
DIN
(Plug Only)



HM

9.4mm DIN
(Plug & Receptacle)
IP65



MP

Metri-Pack
Female 280
Series Sealed
IP66



NP

Metri-Pack
Male 280
Series Sealed
IP66



CP

Metri-Pack
Female 150
Series Sealed
IP66



DP

Metri-Pack
Male 150
Series Sealed
IP66



PP

Boot
(Military Connector)



QC

1/4" Male
Spade Quick
Connect



WL

Wire Leads



WP

Weather Pack
(Female)
IP66



TP

Weather
Pack
(Male)
IP66



EL

1/2" NPT
Male
Conduit



EF

1/2" NPT
Female
Conduit



WD

Deutsch
Receptacle
IP67



PD

Deutsch
Plug
IP67



ES

M12 - 4PIN
IP67



CL

Sheathed
18 AWG
Primaries



SL

SJO
Cable



VL

Convolute
Covering

Color Code:
Pin Assignments:
DIN Connector Pin Assignments:
M12 Connector Pin Assignments:

Black – Common
A – Normally Open
#1 – Common
#1 – Common

Red – Normally Open
B – Common
#2 – Normally Closed
#2 – Not Used

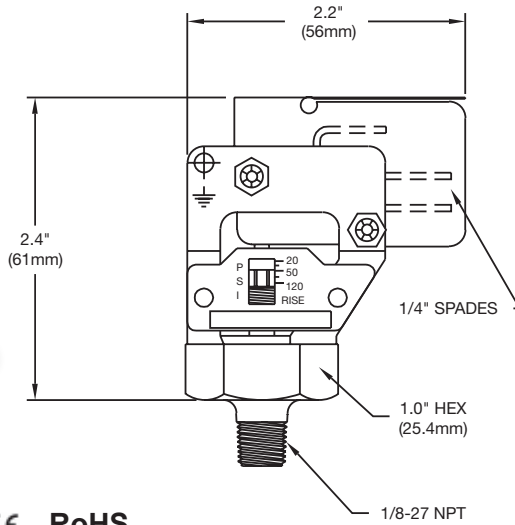
Blue – Normally Closed
C – Normally Closed
#3 – Normally Open
#3 – Normally Open

#4 – Not Used
#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



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	(.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	
Operating Temperature	-20°F - +220°F	
Unit Weight	.2 lbs	

In-Stock Low Pressure Switches

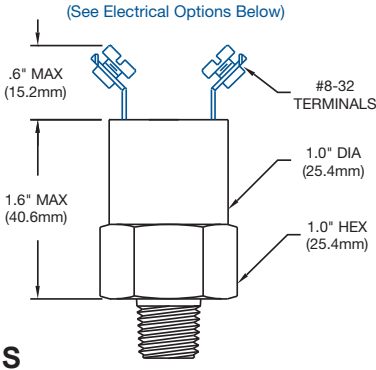


Model	SQ-1	SQ-2	SQ-3
Adjustment Range	2 — 10 PSI	6 — 30 PSI	20 — 120 PSI

For more [media connections](#), see pages 23-24.
For more [electrical connections](#), see page 7.



Shown with HP electrical option



UL **CE** **RoHS**

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

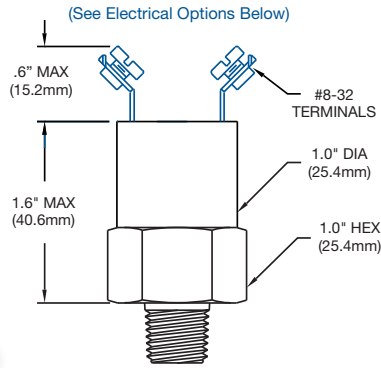
Operating Specifications

Set Point Range	2 — 120 PSI	(.14 — 8.3 Bar)
Set Point Tolerance	±1 PSI or 5%	(.07 Bar)
Maximum Operating Pressure	250 PSI	(17 Bar)
Proof Pressure	750 PSI	(51 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	
Operating Temperature	-20°F - +220°F	
Unit Weight	.13 lbs	

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 to create your own custom CAD file

How to Order (Example: Part Number: **SM - 2A - 95R /**)

SM	-	2	-	A	-	9	5	-	R	/	*



UL US CE RoHS

Shown with WP electrical option

Features

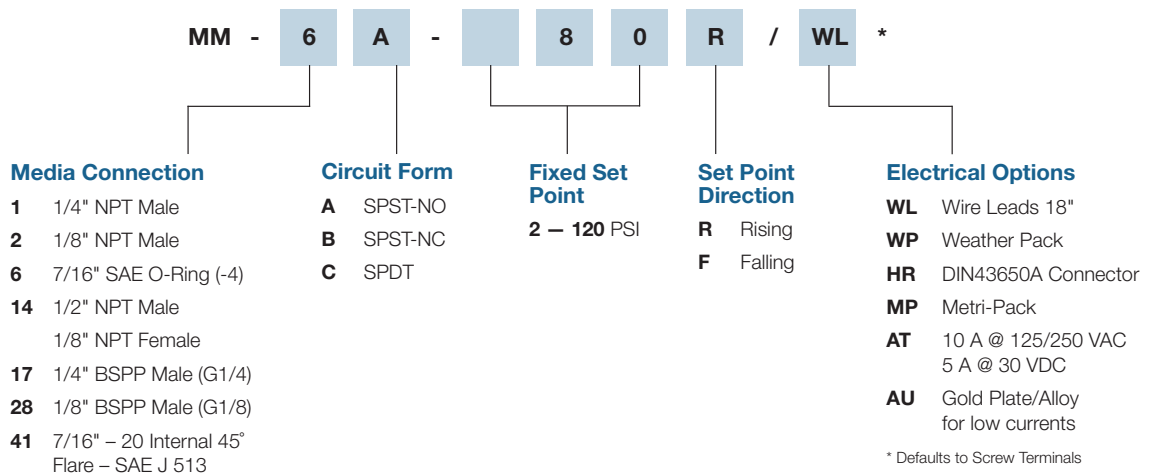
- Long-life elastomer diaphragm
- High-quality snap-action switch
- Factory preset
- Available in a wide range of configurations
- Economical
- Pneumatic and hydraulic applications
- NEMA 4, 13

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	
Operating Temperature	-20°F - +220°F	
Unit Weight	.16 lbs	

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

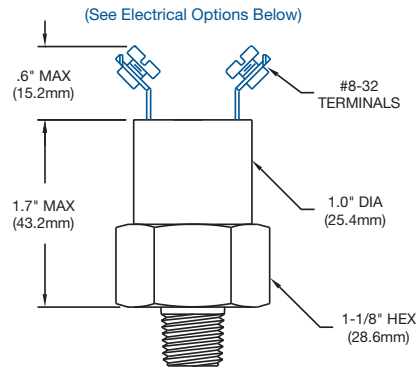


* Defaults to Screw Terminals

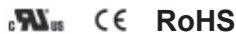
For more [media connections](#), see pages 23-24.

For all available [optional configurations](#), see page 22.

For more [electrical connections](#), see page 7.



Shown with unibody housing and EF electrical option



Features

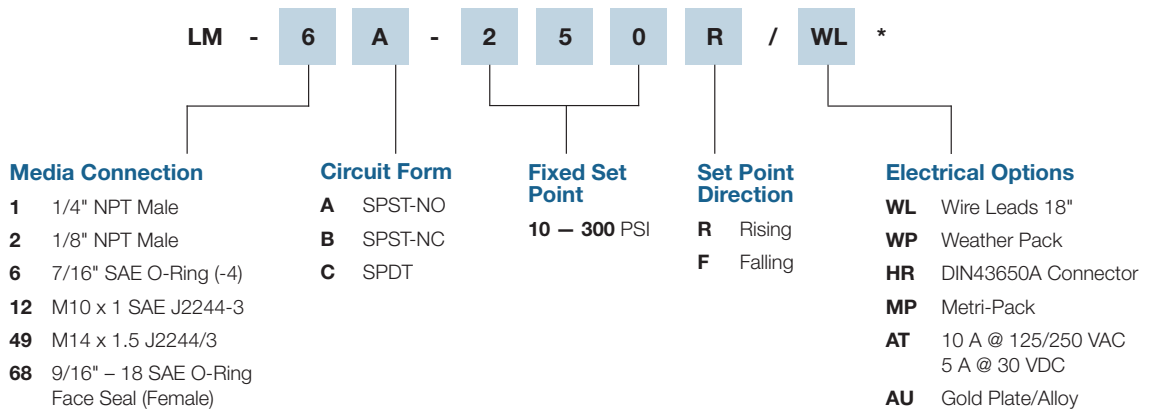
- Long-life elastomer diaphragm
- High-quality snap-action switch
- Factory preset
- Available in a wide range of configurations
- Economical
- Pneumatic and hydraulic applications
- NEMA 4, 13

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	
Operating Temperature	-20°F - +220°F	
Unit Weight	.23 lbs	

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

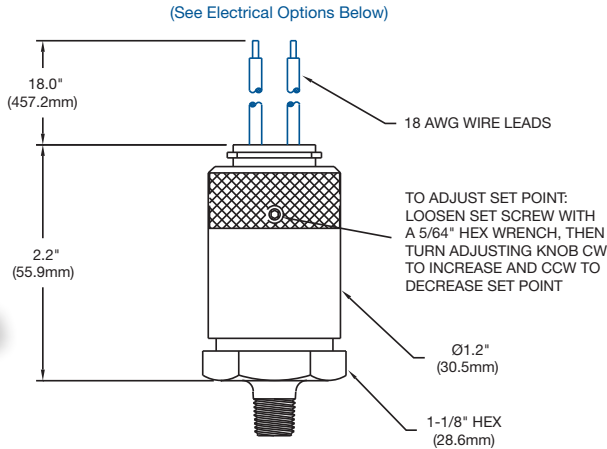


* Defaults to Screw Terminals

For more [media connections](#), see pages 23-24.

For all available [optional configurations](#), see page 22.

For more [electrical connections](#), see page 7.



Shown with HM electrical option



Features

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

Operating Specifications

Set Point Range	3 — 120 PSI	(.21 — 8.3 Bar)
Set Point Tolerance	±1 PSI or 5%	(.07 Bar)
Maximum Operating Pressure	250 PSI (Ranges 1 — 3)	(17 Bar)
Proof Pressure	750 PSI (Ranges 1 — 3)	(51 Bar)
Differential	10 — 20%	
Current Rating	3 A @ 125 VAC	2 A @ 30 VDC (Resistive)
Media Connection	Standard: Brass (<i>Optional: Aluminum, Nickel Plating, Delrin, 303 SS, 316 SS</i>)	
Circuit Form	SPST-NO, SPST-NC or SPDT	
Electrical Connection	See Order Chart Below for Options	
Diaphragm Material	Buna N	
Cycle Life	1 Million	
Operating Temperature	-20°F - +220°F	
Unit Weight	.42 lbs	

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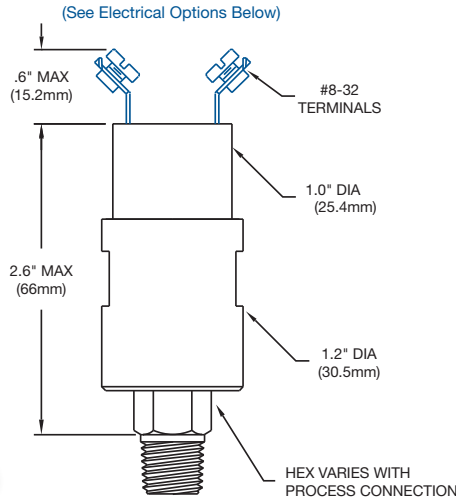
How to Order (Example: Part Number: **CJ - 1B3 - 60J / WL**)

CJ -		1	B	3	-	6	0	J	/	WL
Media Connection	Circuit Form	Range	Desired Set Point	Set Point Direction	Electrical Options					
1 1/4" NPT Male	A SPST-NO	1 3 — 10 PSI	3 — 120 PSI	J Rising Adjustable	WL Wire Leads 18"					
2 1/8" NPT Male	B SPST-NC	2 6 — 30 PSI	*121 — 1500 PSI	G Falling Adjustable	WP Weather Pack					
6 7/16" SAE O-Ring (-4)	C SPDT	3 20 — 120 PSI			HM 9.4mm DIN					
12 M10 x 1 SAE J2244-3		4* 100 — 400 PSI			MP Metri-Pack					
17 1/4" BSPP Male		5* 500 — 1500 PSI			AU Gold Plate/Alloy for low currents					
28 1/8" BSPP Male		* 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.



Shown with unibody housing and EL electrical option

UL **CE** **RoHS**

Features

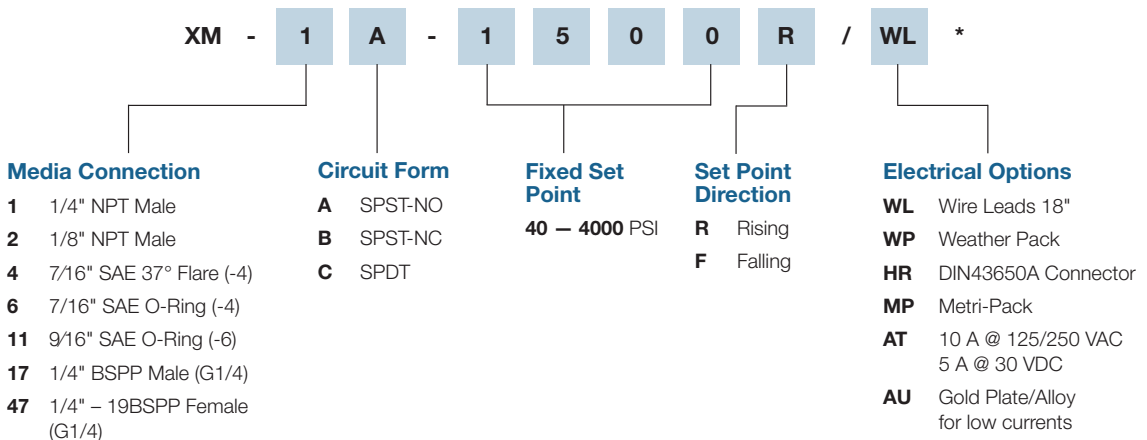
- Long-life elastomer diaphragm
- High-quality snap-action switch
- Factory preset
- Compact design
- Available in a wide range of configurations
- Proven in the most demanding mobile hydraulic applications
- NEMA 4, 13

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 (<i>Optional: Brass, Nickel Plating, 303 SS, 316 SS</i>)	
Circuit Form	SPST-NO, SPST-NC or SPDT	
Electrical Connection	See Order Chart Below for Options	
Diaphragm Material	Buna N	
Cycle Life	1 Million	
Operating Temperature	-20°F - +220°F	
Unit Weight	.56 lbs	

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

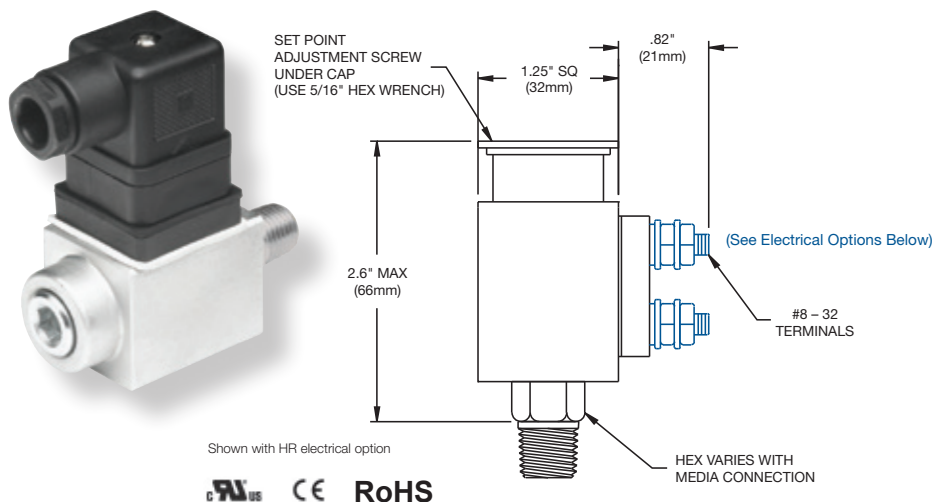


* Defaults to Screw Terminals

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
- Field adjustable
- 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	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 (<i>Optional: Brass, Nickel Plating, 303 SS, 316 SS</i>)	
Circuit Form	SPST-NO, SPST-NC or SPDT	
Electrical Connection	See Order Chart Below for Options	
Diaphragm Material	Buna N	
Cycle Life	1 Million	
Operating Temperature	-20°F - +220°F	
Unit Weight	.80 lbs	

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

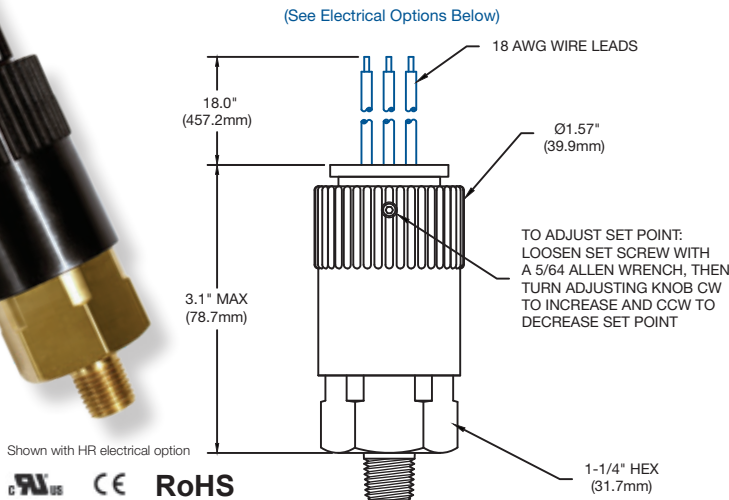
WX - 2 A - 1 0 0 J / HR *				
Media Connection	Circuit Form	Adjustment Range	Set Point Direction	Electrical Options
1 1/4" NPT Male	A SPST-NO	50 — 150 PSI	J Rising Adjustable	WL Wire Leads 18"
2 1/8" NPT Male	B SPST-NC	140 — 400 PSI	G Falling Adjustable	QC 1/4" Spade Connection
4 7/16" SAE 37° Flare (-4)	C SPDT	300 — 800 PSI		WP Weather Pack
6 7/16" SAE O-Ring (-4)		700 — 2500 PSI		HR DIN43650A Connector
11 9/16" SAE O-Ring (-6)		2000 — 5000 PSI		MP Metri-Pack
17 1/4" BSPP Male (G1/4)				AT 10 A @ 125/250 VAC 5 A @ 30 VDC
39 1/4" - 18 NPTF SAE J516 (-4)				GG Internal Ground
67 9/16" - 18 SAE O-Ring Face Seal				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

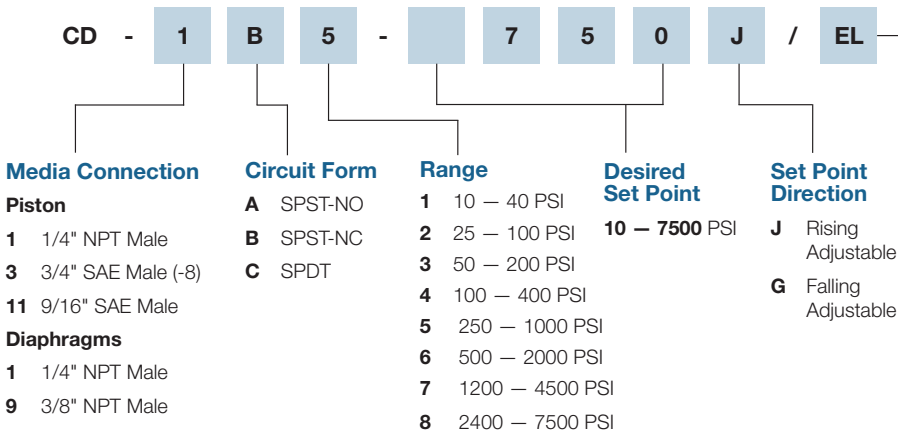
- Long-life elastomer diaphragm (Ranges 1 – 3)
- Proven sealed piston sensor (Ranges 4 – 8)
- High-quality snap-action switch
- Field adjustable
- Easily customized
- Quick delivery
- NEMA 4, 13

Operating Specifications

Set Point Range	10 – 7500 PSI	(.69 – 517 Bar)
Set Point Tolerance	±5 PSI or 5%	(.34 Bar)
Maximum Operating Pressure	1000 PSI (Ranges 1 – 3)	(69 Bar)
	5000 PSI (Ranges 4 – 7)	(344 Bar)
	7500 PSI (Range 8)	(517 Bar)
Proof Pressure	3000 PSI (Ranges 1 – 3)	(206 Bar)
	15000 PSI (Ranges 4 – 7)	(1034 Bar)
	22500 PSI (Range 8)	(1551 Bar)
Differential	10 – 20%	
Current Rating	5 A @ 250 VAC	5 A @ 30 VDC (Resistive)
Media Connection	Standard: Brass (Optional: 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 (Ranges 1 – 3)	
	Hardened Steel Piston (Ranges 4 – 8)	
Cycle Life	1 Million	
Operating Temperature	-20°F - +220°F	
Unit Weight	.47 lbs (noryl adjustment knob); .70 lbs (metal adjustment knob)	

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How to Order (Example: Part Number: **CD - 1B5 - 750 J / EL**)



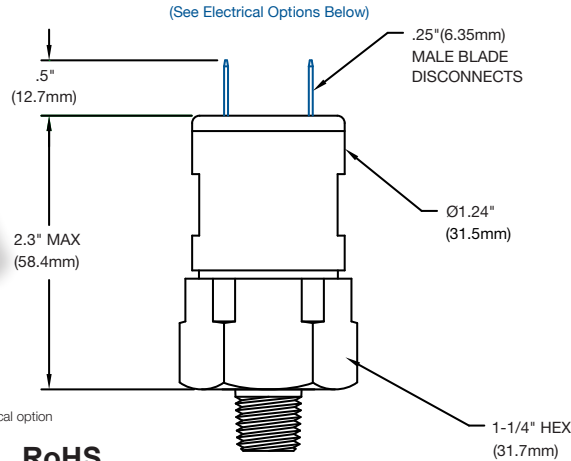
Electrical Options

- 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
5 A @ 30 VDC
- 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.



Shown with ES electrical option

UL **CE** **RoHS**

Features

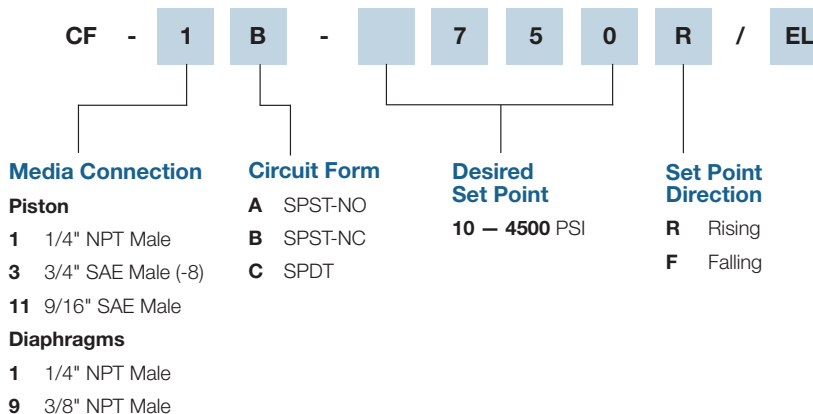
- Long-life elastomer diaphragm (Set Points: 10 – 300 PSI)
- Proven sealed piston sensor (Set Points: 100 – 4500 PSI)
- High-quality snap-action switch
- Easily customized
- Quick delivery
- NEMA 4, 13

Operating Specifications

Set Point Range	10 – 4500 PSI	(.69 – 310 Bar)
Set Point Tolerance	±5 PSI or 5%	(.34 Bar)
Maximum Operating Pressure	1000 PSI (Diaphragm Model)	(69 Bar)
	5000 PSI (Piston Model)	(344 Bar)
Proof Pressure	3000 PSI (Diaphragm Model)	(206 Bar)
	15000 PSI (Piston Model)	(1034 Bar)
Differential	10 – 20%	
Current Rating	5 A @ 250 VAC	5 A @ 30 VDC (Resistive)
Media Connection	Standard: Brass (Optional: 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 (Diaphragm Design) Hardened Steel Piston (Piston Design)	
Cycle Life	1 Million	
Operating Temperature	-20°F - +220°F	
Unit Weight	.33 lbs (noryl switch housing); .38 lbs (metal switch housing)	

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 to create your own custom CAD file

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



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
5 A @ 30 VDC
- AU** Gold Plate/Alloy for low currents

For more [media connections](#), see pages 23-24.

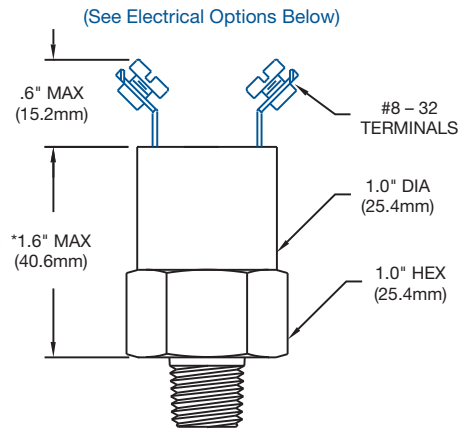
For all available [optional configurations](#), see page 22.

For more [electrical connections](#), see page 7.

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



Features

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

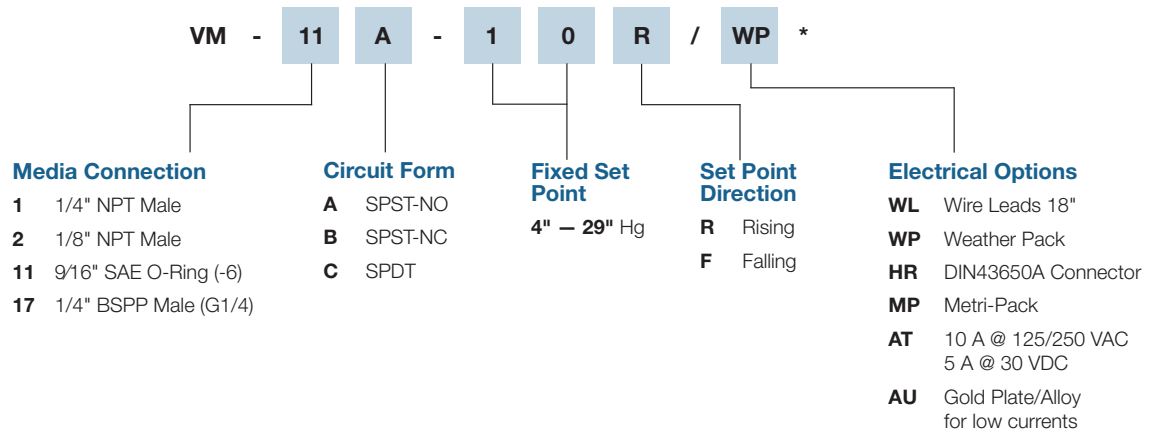
UL **CE** **RoHS**

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	
Operating Temperature	-20°F - +220°F	
Unit Weight	.16 lbs	

CHECK OUT
nasonptc.com/configure
 to create your own custom CAD file

How to Order (Example: Part Number: **VM - 11A - 10R / WP** *)

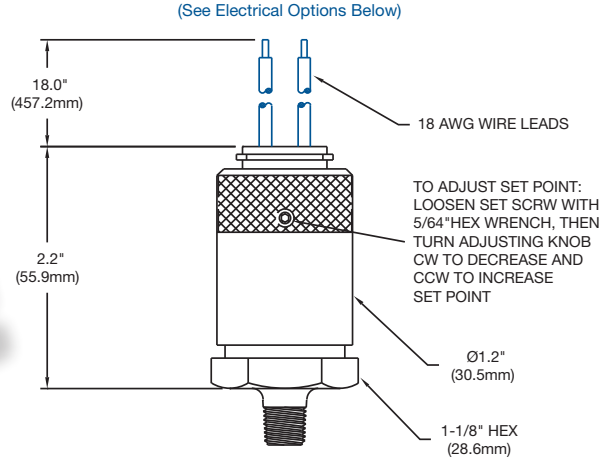


* Defaults to Screw Terminals

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
- Field adjustable
- Compact design
- Easily customized
- Quick delivery
- NEMA 4, 13

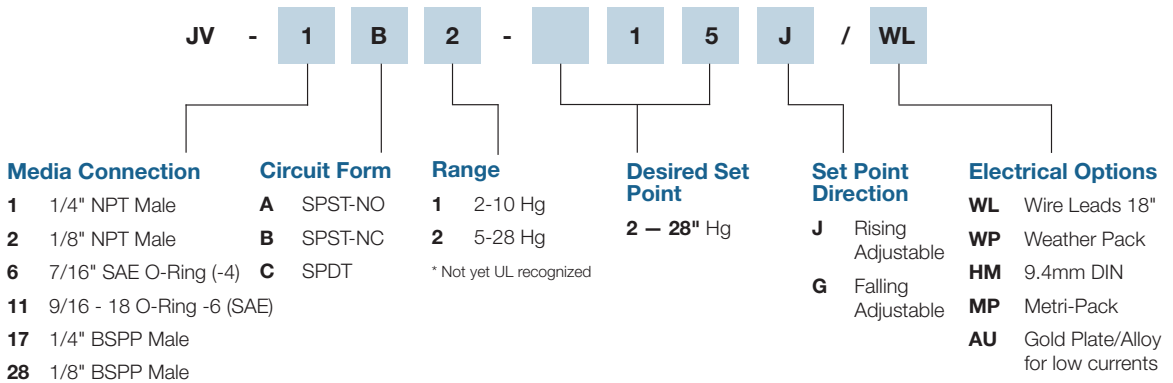
Shown with HM electrical option **RoHS**

Operating Specifications

Set Point Range	2 – 28 Hg	(.07 - .95 Bar)
Set Point Tolerance	± 2" Hg	(.07 Bar)
Maximum Operating Pressure	250 PSI (Ranges 1 – 3)	(17 Bar)
Proof Pressure	750 PSI (Ranges 1 – 3)	(51 Bar)
Differential	20 – 40%	
Current Rating	3 A @ 125 VAC	2 A @ 30 VDC (Resistive)
Media Connection	Standard: Brass (Optional: Aluminum, Nickel Plating, Delrin, 303 SS, 316 SS, CF)	
Circuit Form	SPST-NO, SPST-NC or SPDT	
Electrical Connection	See Order Chart Below for Options	
Diaphragm Material	Buna N	
Cycle Life	1 Million	
Operating Temperature	-20°F - +220°F	
Unit Weight	.42 lbs	

CHECK OUT
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How to Order (Example: Part Number: **JV - 1B2 - 15J / WL**)



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

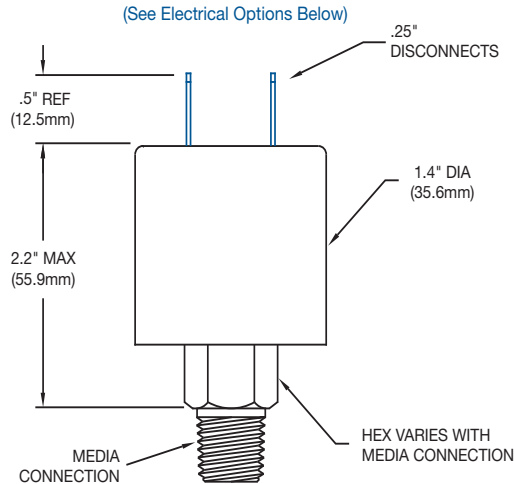
For all available **optional configurations**, see page 22.

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



Shown with HR electrical option

RoHS



Features

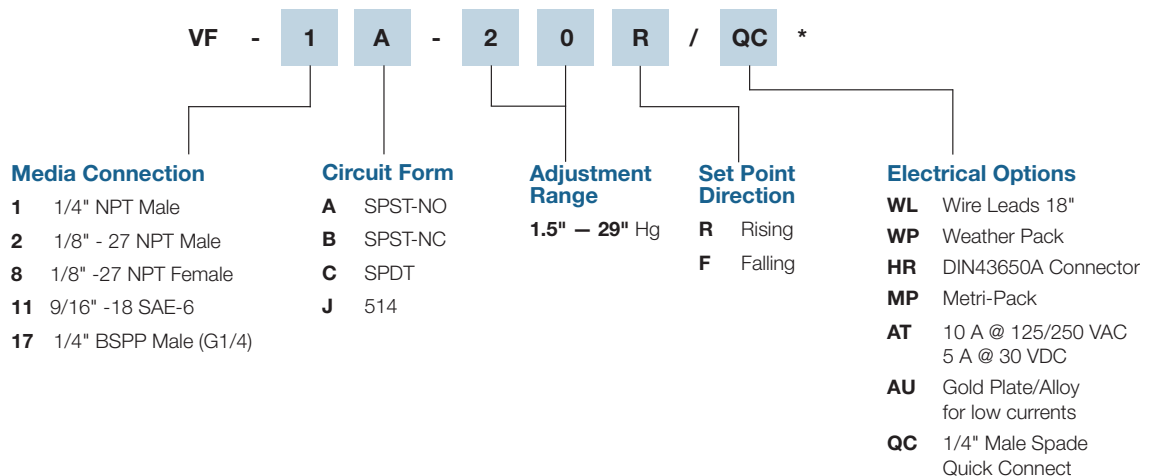
- Long-life elastomer diaphragm
- High-quality snap-action switch
- Factory preset
- Available in a wide range of configurations
- Economical
- NEMA 4, 13

Operating Specifications

Set Point Range	1.5" — 28" Hg	(.05 - .95 Bar)
Set Point Tolerance	±2" Hg	(.07 Bar)
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 (<i>Optional: Aluminum, Nickel Plating, Delrin, 303 SS, 316 SS</i>)	
Circuit Form	SPST-NO, SPST-NC or SPDT	
Electrical Connection	See Order Chart Below for Options	
Diaphragm Material	Buna N	
Cycle Life	1 Million	
Operating Temperature	-20°F - +220°F	
Unit Weight	.48 lbs	

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 to create your own custom CAD file

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



* 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.

Pressure / Vacuum Switch Part Number Configuration

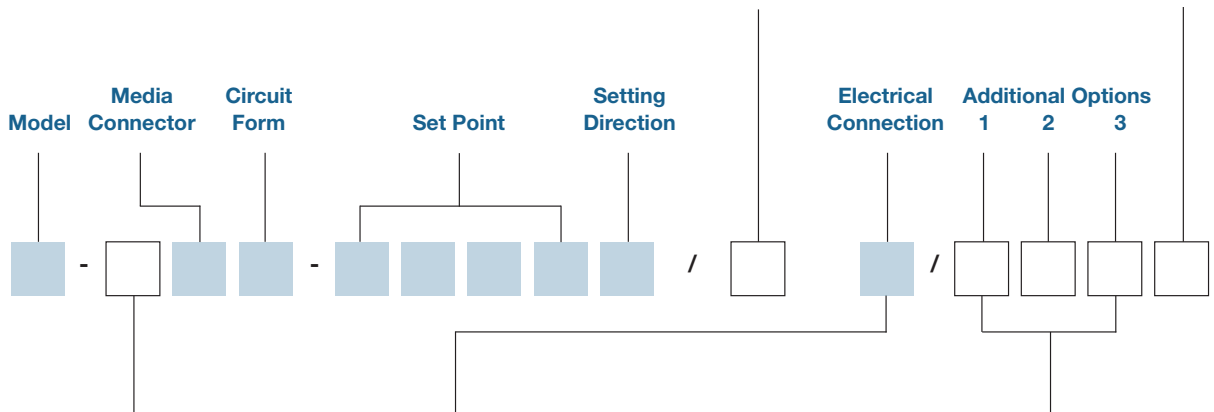
(Complete open boxes only. Shaded boxes should have been previously completed on individual switch pages.)

CHECK OUT
nasonptc.com/configure
 to create your own custom CAD file

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

Variant #*



Media Connection Modifier

- A** Aluminum
- B** Brass
- N** Nickel Plating
- P** Delrin
- S** Zinc Plated Steel
- T** 303 Stainless Steel
- U** 316 Stainless Steel

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 (DT04)
- PD** Deutsch Plug (DT06)
- HL** Lighted DIN (Plug & Receptacle)
- PT** 10 — 32 Post
- ES** M12 - 4PIN
- CL** Sheathed 18 AWG
- SL** SJO Cable

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 (-8)	•	•		•	•	•	•	•	•	
4	7/16 — 20 37° JIC Flare (-4)			•		•	•				
5	1/4 — 18 NPT Female	•	•			•	•	•			
6	7/16 — 20 O-Ring J514 (-4)	•	•	•	•	•	•	•		•	•
7	1/4 — 18 NPT Female (Obsolete) See Option 5										
8	1/8 — 27 NPT Female	•	•			•	•		•	•	•
9	3/8 — 18 NPT Male	•	•	•	•	•	•	•	•		
10	1/4 Female Stainless Steel (Obsolete) See Option 5										
11	9/16 — 18 SAE J514 O-Ring (-6)	•	•	•	•	•	•	•	•		•
12	M10 x 1 SAE J2244-3 O-Ring	•	•	•	•	•	•				
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 (-4)					•	•	•			
16	7/16 — 20 Female SAE J 514 37 DEG			•		•	•				
17	1/4 BSPP Male (G1/4)	•	•	•	•	•	•	•	•	•	•
18	7/16 — 20 SAE J1926 O-Ring (Adjustable)					•	•				
19	1/8 BSPT JIS (R1/8)	•	•	•		•	•				
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 (R1/2)	•	•						•		
28	1/8 BSPP (G1/8)	•	•		•						
29	3/8 — 24 SAE O-Ring J514 (-3)	•	•			•	•				
30	1/4 BSPT (JIS) (R1/4)	•	•					•	•		
31	Flange (NS Only)										
32	M12 — 1.5 Metric	•	•								
33	NO LONGER AVAILABLE										
34	7/16 — 20 MS33649 Female*					•	•				
35	1/2 — 14 NPT (Male)	•	•	•		•	•				
36	9/16 — O-Ring Ext Boss (-6)			•		•	•				
37	3/8 — 24 2A 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 SAE J1926 O-Ring (Adjustable)										
43	M10 x 1 SAE J2244-3 Extended	•	•								
44	1/4 — 18 NPT Female Extended					•	•				
45	9/16 — 18 Female SAE J514 O-Ring (-6)					•	•				
46	1/8 NPT Male Clipped Hex	•	•								
47	1/4 — 19 BSPP Female (G1/4)					•	•				

*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.

Pressure / Vacuum Switches

Option	Base Thread Size*	SM	MM	LM	CJ	XM	WX	CD	VM	NV	VP
48	9/16 — 18 SAE J514 O-Ring (-6)										•
49	M14 x 1.5 J2244/3 O-Ring	•	•	•		•	•	•			
50	.302 — 32 Female	•	•								
51	M14 x 1.5 (19mm Hex)			•							
52	3/8 — 24 UNF W/ 1/4 BARB	•	•								
53	M12 x 1.5 SAE J2244/3 O-Ring	•	•	•		•	•	•			
54	1-1/8 Hex 1/4 NPT					•	•				
55	1/2 BSPP (G1/2)					•	•				
56	M10 x 1 Metric Pipe Thread	•	•			•	•				
57	7/16 — 20 1-1/8 Hex					•	•				
58	9/16 — 18 1-1/8 Hex					•	•				
59	1-11 — 1/2 NPT										
60	1/4 SAE J513 Female Flare Deflator	•	•			•	•		•		
61	9/16 — 18 SAE J514 37° Male					•	•	•			
62	NO LONGER AVAILABLE										
63	1/2 — 20 Extended	•	•								
64	3/8 — 19 BSPP (G3/8)	•	•								
65	3/4 — 14 NPT Male			•							
66	1/4 Tube Plastic	•									
67	9/16 — 18 SAE J1453 O-Ring Face Seal (-4)			•		•	•	•			
68	9/16 — 18 SAE O-Ring Face Seal (Female)			•		•					
69	11/16 — 16 SAE J1453 O-Ring Face Seal (-6)					•	•	•			
70	M10 x 1.25 Female Flare Deflator	•	•								
71	DX Face Seal Mount										
72	11/16 — 16 SAE O-Ring Face Seal (Female)			•							
73	M18 x 1.5 SAE J2244/3 O-Ring							•			
74	Special SM/MM Port Seal	•	•								
75	1/8 — 27 Straight with 1/8 Barb									•	
76	M8 x 1 SAE J2244-2 O-Ring	•	•								
77	M16 x 1.5 SAE J2244-3 O-Ring	•	•								
78	M16 x 1.0							•			
79	M14 x 1.5 For Washer Seal										
80	3/8 O-Ring Port Seal	•	•								
81	3/8 — 24 J512 (-3) 45° Flare					•					
82	5/16 — 24 For #13 O-Ring Seal	•	•								
83	M9 X 1.25 6G					•					
84	3/8 — 24 UNF 2A (-3) 37° Flare	•	•								
85	M10 X 1 DIN 3852 Type B			•							
86	3/4 — 14 Male 1/4 — 18 NPT Female										
87	Top Manifold Mount (Seal)	•	•								
88	M16 X 1.5 For Copper Washer Seal	•	•								
89	M16 O-Ring Port Seal	•	•								
90	Stoelting Flange	•									
91	1/2 NPT Male 1/4 NPT Female	•	•			•					
92	3/8 BSPT (R3/8)	•	•			•					
93	7/16 — 20 For Washer Seal			•							

*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.

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 _____ Falling _____
 Rising Adjustable _____ 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: _____

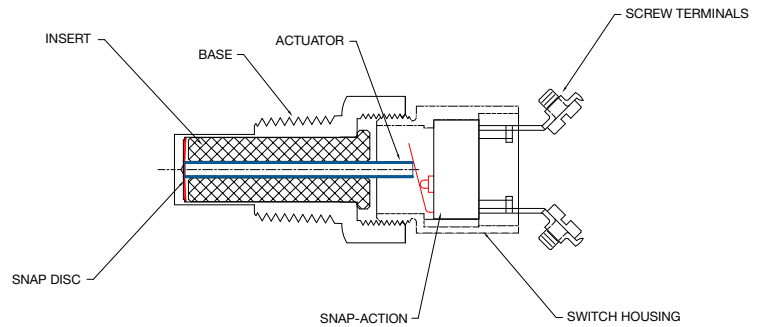
Address: _____

Project Number or Name: _____

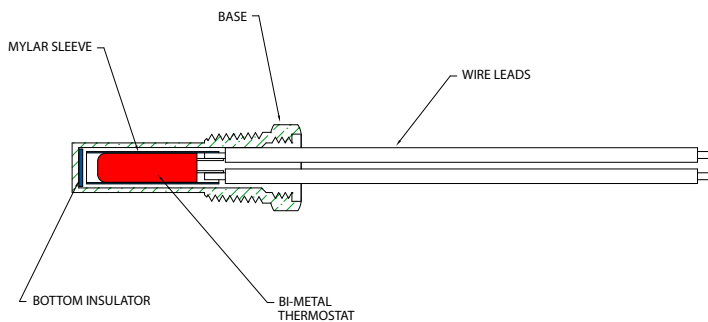
Name & Title: _____ Phone: _____

Email Address: _____

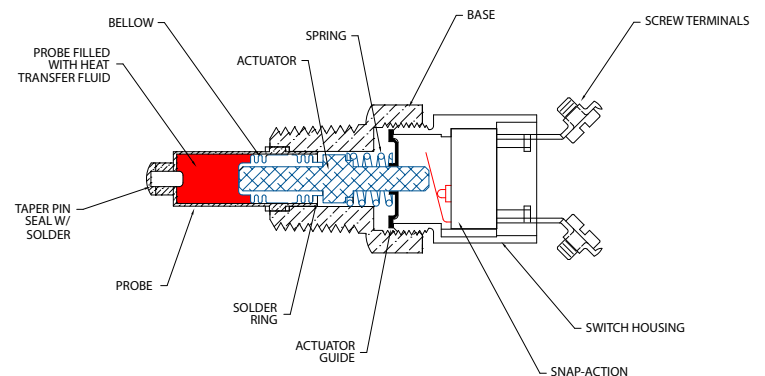
TEMPERATURE SWITCHES



SNAP DISC THERMOSTAT DESIGN

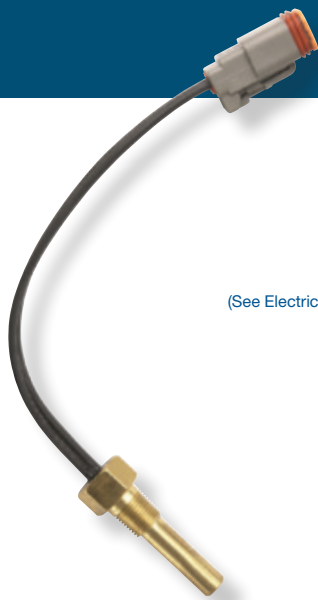


BI-METAL THERMOSTAT DESIGN

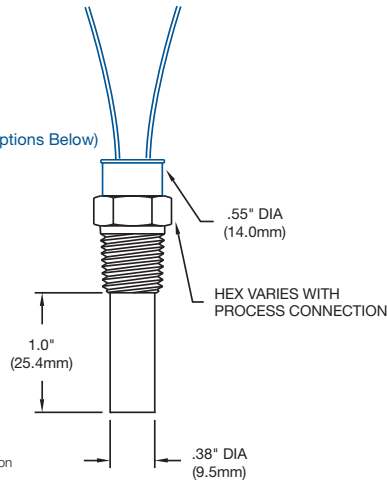


BELLOWS THERMOSTAT DESIGN

- 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



(See Electrical Options Below)



Shown with PD electrical option

UL **CE** **RoHS**

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

Set Point Range	40° — 300°F	(4° — 149°C)
Set Point Tolerance	±5°F	(2.8°C)
Maximum Temperature	325°F	(163°C)
Current Rating	3 A @ 240 VAC	2 A @ 24 VDC (Resistive)
Probe Length	1"	
Media Connection	Standard: Brass (<i>Optional: 303 SS, 316 SS</i>)	
Circuit Form	SPST-NO or SPST-NC	
Electrical Connection	See Order Chart Below for Options	
Maximum External Pressure	5000 PSI	
Unit Weight	.09 lbs	
Installation Torque	15 ft lbs	
	Smaller than 3/8" NPT Male = 5 — 10 ft lbs	

CHECK OUT
nasonptc.com/configure
 to create your own custom CAD file

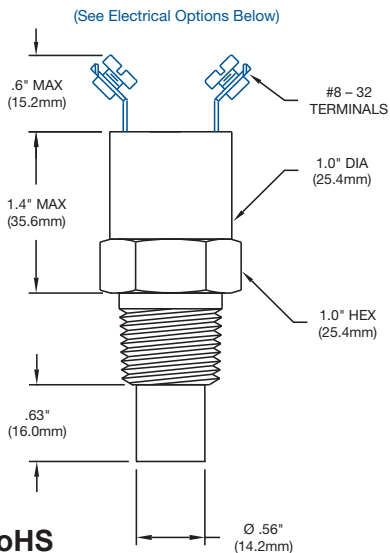
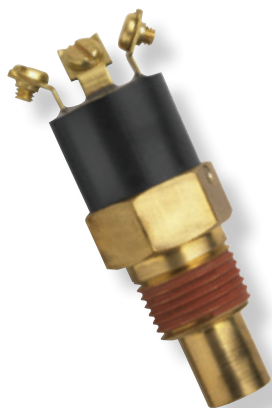
How to Order (Example: Part Number: **TT - D3A - 100R / WL**)

TT		-		D	3	A	-		1	0	0	R	/	WL	*
Probe Length		Media Connection		Circuit Form		Fixed Set Point		Set Point Direction		Electrical Options					
D	1/2"	1	1/2" NPT Male	A	SPST-NO	40°F — 300°F		R	Rising	WL	Wire Leads 6"				
E	3/4"	2	3/8" NPT Male	B	SPST-NC	(5° Increments)		F	Falling	QC	1/4" Spade Connection				
F	1"	3	1/4" NPT Male							WP	Weather Pack				
H	1-1/2"	5	3/4" SAE O-Ring (-8)							MP	Metri-Pack				
J	2"	6	M16 x 1.5							GG	Internal Ground				
		13	1/4" NPT (316SS)												* Defaults to Screw Terminals
		35	M12 x 1.5												
		46	M14 x 1.25												

For more [media connections](#), see pages 32-33.

For all available [optional configurations](#), see page 34.

For more [electrical connections](#), see page 7.



UL CE RoHS

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

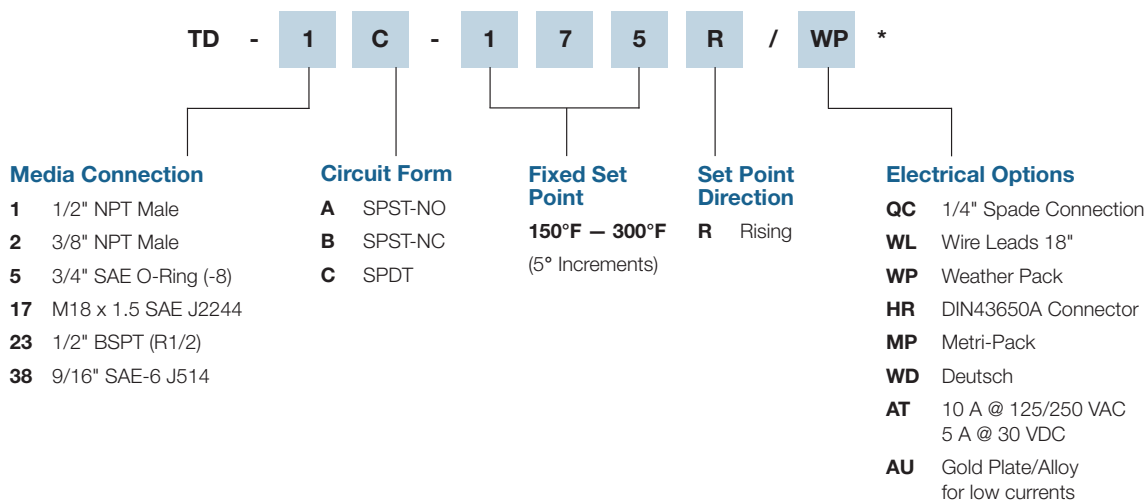
Operating Specifications

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 (<i>Optional: 303 SS, 316 SS</i>)	
Circuit Form	SPST-NO, SPST-NC or SPDT	
Electrical Connection	See Order Chart Below for Options	
Maximum External Pressure	2500 PSI	
Unit Weight	.21 lbs	
Installation Torque	15 ft lbs	

CHECK OUT
nasonptc.com/configure
 to create your own custom CAD file

Smaller than 3/8" NPT Male = 5 — 10 ft lbs

How to Order (Example: Part Number: **TD - 1C - 175R / WP**)

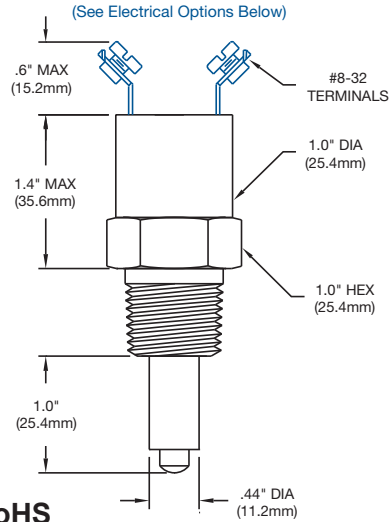


* Defaults to Screw Terminals

For more [media connections](#), see pages 32-33.

For all available [optional configurations](#), see page 34.

For more [electrical connections](#), see page 7.



UL CE RoHS

Features

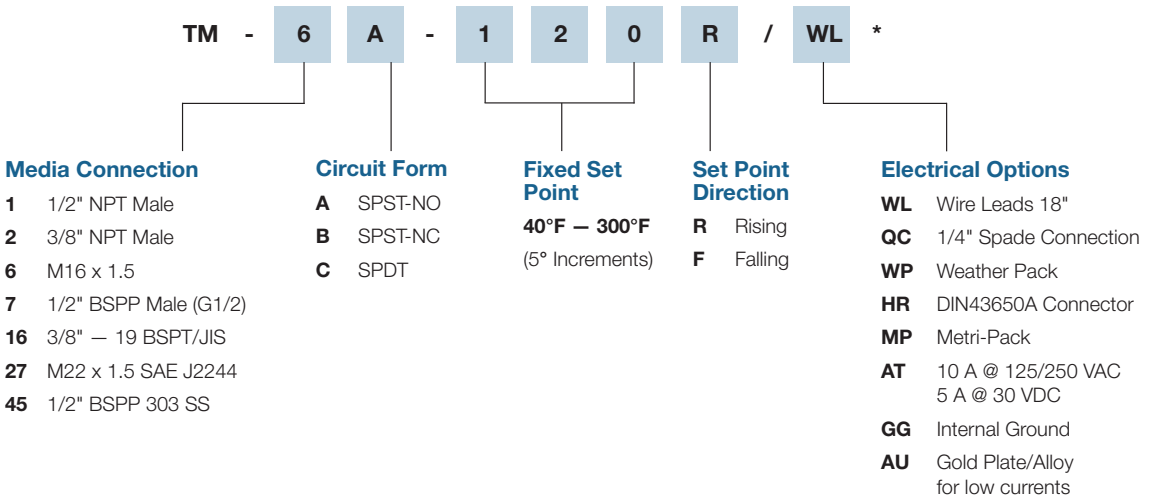
- Utilizes bellows mechanism to sense temperature
- High-quality snap-action switch
- Factory preset
- Shock and vibration resistant
- Available in a wide range of configurations
- NEMA 4, 13

Operating Specifications

Set Point Range	40° — 300°F	(4° — 149°C)
Set Point Tolerance	±5°F	(2.8°C)
Maximum Operating Temperature Differential	100°F above set point (325°F max)	
Current Rating	5 A @ 250 VAC	5 A @ 30 VDC (Resistive)
Media Connection	Standard: Brass (<i>Optional: 303 SS, 316 SS</i>)	
Circuit Form	SPST-NO, SPST-NC or SPDT	
Electrical Connection	See Order Chart Below for Options	
Maximum External Pressure	500 PSI	
Unit Weight	.19 lbs	
Installation Torque	15 ft lbs	
	Smaller than 3/8" NPT Male = 5 — 10 ft lbs	

CHECK OUT
nasonptc.com/configure
 to create your own custom CAD file

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

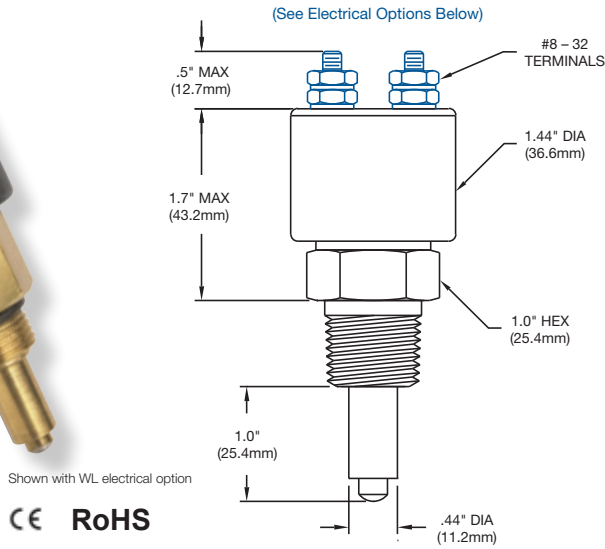


* Defaults to Screw Terminals

For more [media connections](#), see pages 32-33.

For all available [optional configurations](#), see page 34.

For more [electrical connections](#), see page 7.



Features

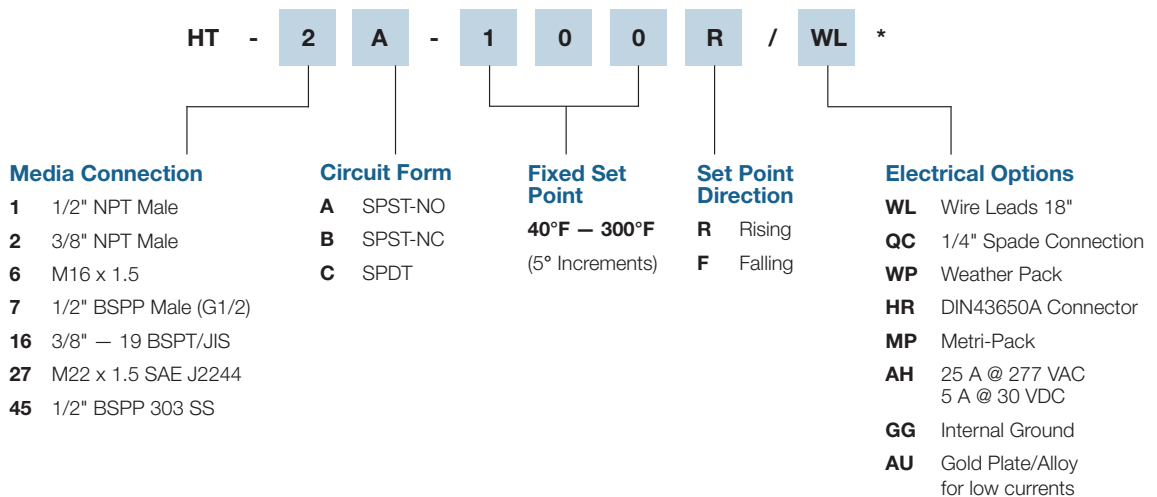
- Utilizes bellows mechanism to sense temperature
- High-quality snap-action switch
- Factory preset
- Shock and vibration resistant
- Available in a wide range of configurations
- NEMA 4, 13

Operating Specifications

Set Point Range	40° — 300°F	(4° — 149°C)
Set Point Tolerance	±5°F	(2.8°C)
Maximum Operating Temperature Differential	100°F above set point (325°F max)	
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	
Unit Weight	.23 lbs	
Installation Torque	15 ft lbs	
	Smaller than 3/8" NPT Male = 5 — 10 ft lbs	

CHECK OUT
nasonptc.com/configure
 to create your own custom CAD file

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

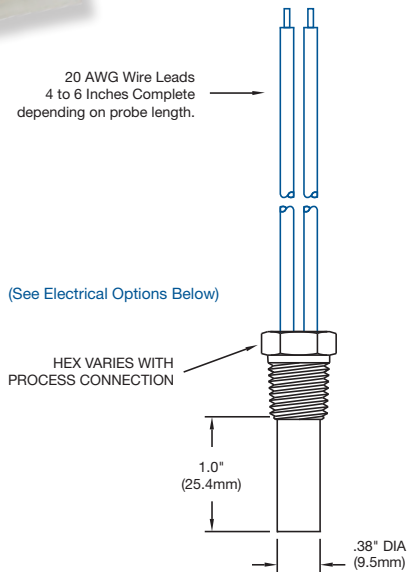


* Defaults to Screw Terminals

For more **media connections**, see pages 32-33.

For all available **optional configurations**, see page 34.

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



Features

- Snap action immersion temperature switch
- Factory preset temperature
- Hysteresis built in
- Available in a wide range of configurations
- Economical and compact
- NEMA 4, 13

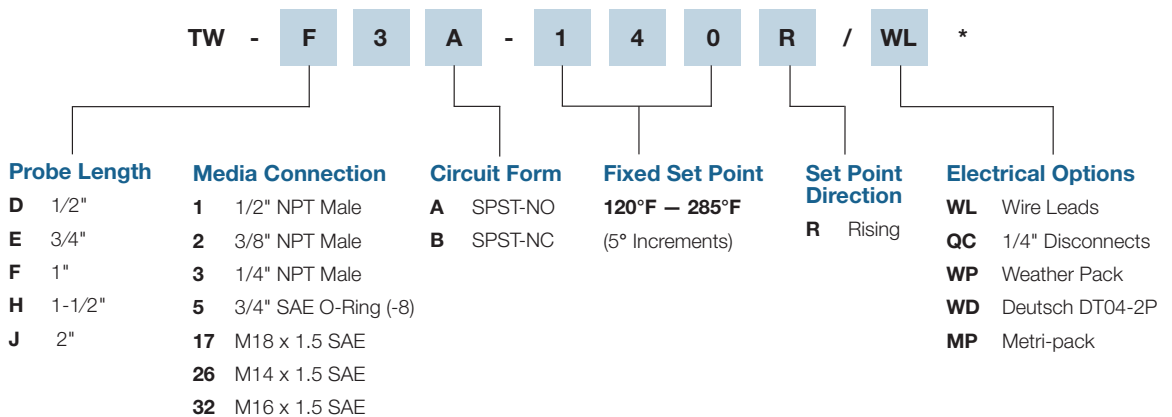
CE RoHS

Operating Specifications

Set Point Range	120° – 285°F	(50° – 140°C)
Set Point Tolerance	±5°F	(2.8°C)
Maximum Temperature	163°F	(325°C)
Current Rating	10 A @ 120 VAC	5 A @ 240 VDC 4 A @ 12VDC
Differential	30% C of the set point (<i>nominal</i>)	
Cycle Life	10,000 cycles (<i>Depending on amp draw</i>)	
Probe Length	1.0" standard	
Media Connection	Standard: Brass (<i>Optional: 303 SS, 316 SS</i>)	
Circuit Form	Normally close or normally open	
Electrical Connection	Wire leads standard - See options below	
Maximum External Pressure	5000 PSI	

CHECK OUT
nasonptc.com/configure
 to create your own custom CAD file

How to Order (Example: Part Number: **TW - F3A - 140R / WL**)



For more [media connections](#), see pages 32-33.

For all available [optional configurations](#), see page 34.

For more [electrical connections](#), see page 7.

Temperature Switches

Option	Base Thread Size*	TD	TM/HT	TT Model Probe Code					
				D 1/2" Probe	E 3/4" Probe	F 1" Probe	G 1-1/4" Probe	H 1-1/2" Probe	J 2" Probe
1	1/2 NPT Male	•	•	•	•	•	•	•	•
2	3/8 NPT Male	•	•	•	•	•		•	•
3	1/4 NPT Male			•	•	•		•	•
4	3/8 NPT (1PC)		•						
5	3/4 — 16 SAE O-Ring (-8) J514	•	•	•	•	•		•	•
6	M16 x 1.5 NON SAE		•	•	•	•			•
7	1/2 BSPP (G1/2)	•	•		•				•
8	1/2 NPT (1PC)		•						
9	3/8 NPT (Short) NON SAE		•						
10	M14 x 1.5 (Nickel Plated) NON SAE				•				
11	M14 x 1.5 NON SAE				•	•			
12	1/2 NPT (Nickel Plated)		•			•	•		
13	1/4 NPT (316SS)			•	•	•			
14	1/2 BSPP Extended		•						
15	3/4 — 16 SAE O-Ring (-8) Short J514		•						
16	3/8 — 19 BSPT (R3/8)	•	•	•			•		
17	M18 x 1.5 SAE J2244/3 O-Ring	•	•	•	•	•			
18	1/4 NPT (Nickel Plated)			•	•				
19	1/2 NPT (316SS-1PC)		•						
20	1/2 NPT (Very Short)		•						
21	3/8 NPT (Very Short)		•						
22	M16 x 1.5 45° Flare				•				
23	1/2 BSPT (R1/2)	•	•			•			
24	1/2 NPT (316SS)					•			
25	3/8 NPT (Nickel Plated) 1PC		•						
26	M14 x 1.5 SAE J2244/3 O-Ring			•	•	•			
27	M22 x 1.5 SAE J2244/3 O-Ring	•	•			•			
28	1/4 — 19 BSPT (R1/4)				•				
29	3/8 — 19 BSPP (G3/8)				•			•	

*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.

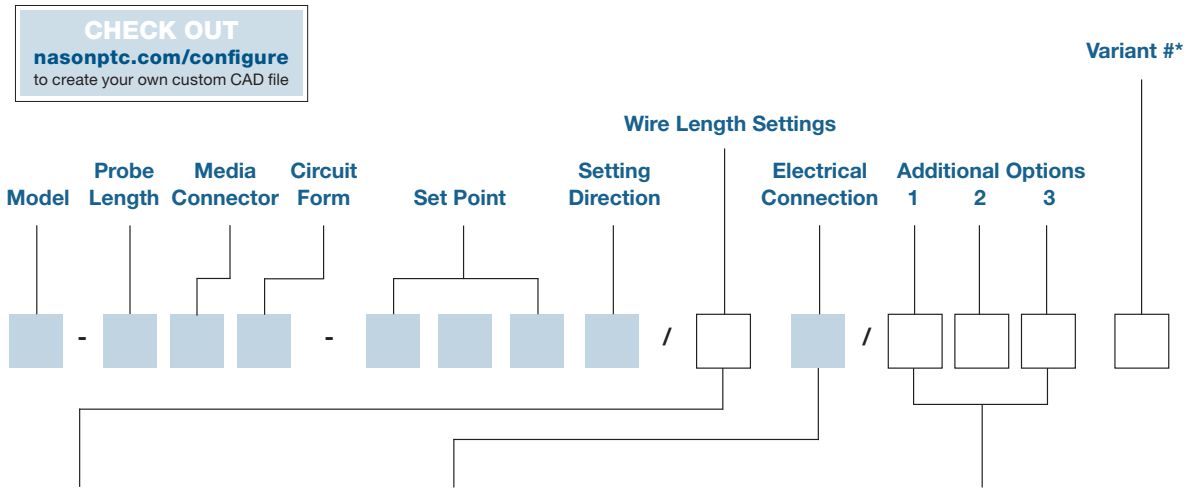
Temperature Switches

Option	Base Thread Size*	TD	TM/HT	TT Model Probe Code					
				D 1/2" Probe	E 3/4" Probe	F 1" Probe	G 1-1/4" Probe	H 1-1/2" Probe	J 2" Probe
30	3/8 NPT (316SS)			•	•	•			
31	3/4 — 16 UNF (304 SS)		•						
32	M16 x 1.5 (SAE) J2244/3								
33	5/8 — 18 SAE J513 45° Flare			•	•				
34	1/2 NPT (Short) Male		•						
35	M12 x 1.5 SAE J2244/3			•		•			
36	3/4 — 16 SAE O-Ring (Nickel Plated)								
37	M14 x 1.5 Taper Thread								
38	9/16 — 18 SAE J514 O-Ring (-6)	•		•	•	•	•	•	•
39	M16 x 2.0			•					
40	1/2 — 20 UNF SAE J514 O-Ring (-5)			•		•			
41	3/8 — 24 SAE J514 O-Ring (-3)			•					
42	1/8 NPT Male			•		•			
43	1/4 — 19 BSPP (G1/4)			•		•			
44	M16 x 1.5 303 SS					•			
45	1/2 BSPP 303 SS (G1/2)	•	•						
46	M14 x 1.25					•			
47	M16 x 1.5 45° Flare			•		•			
48	7/16 — 20 SAE J514 O-Ring (-4)			•		•			
49	1 1/16 — 12 SAE J514 O-Ring (-12)	•		•					
50	1/8 — 28 BSPT (R1/8)			•					
51	M20X 1.5 Taper								
52	3/8 NPT 303 SS Male								
53	M16 X 1.5 For Washer			•	•	•		•	•
54	M10 X 1.5								
55	1/8 — 28 BSPP (G 1/8)			•					
56	M12 x 1.5 For Washer			•					
57	3/8 — 19 BSPP Washer (G3/8)			•					
58	1/4 — 19 BSPP (G1/4) 316 SS					•			
59	7/8 — 14 SAE J514 O-Ring (-10)		•						
60	3/4 — 16 SAE J514 O-Ring (-8)		•						
61	M10 x 1.0						•		
62	3/4 — 16 for Washer Seal			•					

*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.

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 (DT04)
- PD** Deutsch Plug (DT06)
- HL** Lighted DIN (Plug & Receptacle)
- 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: _____

TRANSDUCERS



- New models – NTS, NT110, NT41, NES, NESD, NTBT, and NTBT-DL
- 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

- 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
- 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)

CE RoHS

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.

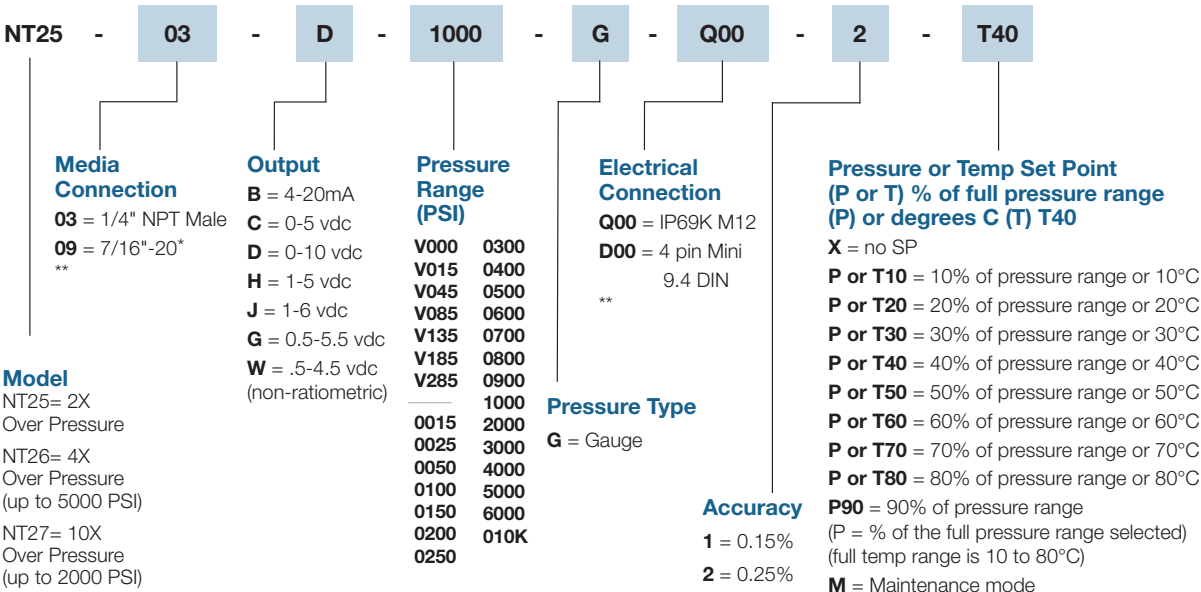
With its proprietary digital/ASIC technology, the NT25 Series features field-proven redundant sensing elements without the need for solder in resistors or trim pots that can drift over time. This provides years of excellent performance and reliability even in the harshest applications. This combined 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.

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



* For pressure 3000 PSI and higher only.

** Consult factory for further OEM options.

Specifications

Performance

Accuracy	Performance @ 25°C (77°F)
Overrange Protection	0.25% BFSL (includes: non-linearity, hysteresis and non-repeatability)
Pressure Range	2x Rated Pressure or optional 4x and 10x
Burst Pressure	see ordering chart - up to 6000 PSI (690 bar) (optional higher ranges available)
Pressure Cycles	5x or 20,000 PSI, whichever is less
Update Time	>100 million
Digital Output	<=1msec
	Optional digital output for pressure or temp switch point (not available on 4-20mA output units)

Environmental Data

Temperature	
Compensated Temperatures	-40° to 100°C (-40 to 212°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)

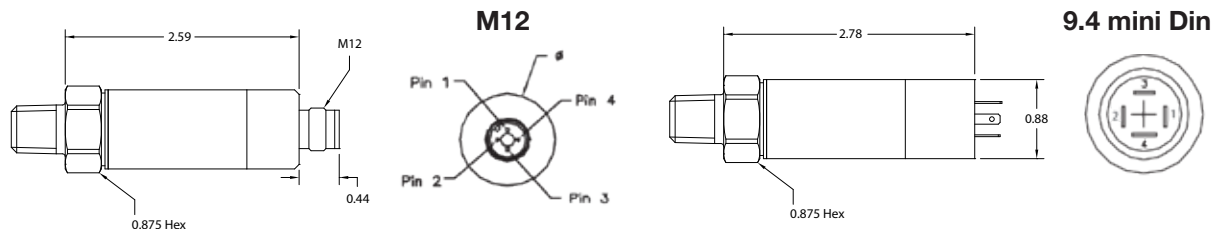
Mechanical Configuration

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).
Maintenance Mode	The maintenance mode output indicates 1/2 bridge failure.

Electrical Connections



NT25 M12 Pin Assignments

Voltage Units	Current Units
Pin 1 = - Power Supply	Pin 1 = + Power Supply
Pin 2 = Output	Pin 2 = N/C
Pin 3 = Common	Pin 3 = Output
Pin 4 = Digital Output (optional)	Pin 4 = N/C

NT25 9.4 Pin Assignments

Voltage Units	Current Units
Pin 1 = + Power Supply	Pin 1 = + Power Supply
Pin 2 = - Power Supply	Pin 2 = Output
Pin 3 = Output	Pin 3 = N/C
Pin 4 = Digital Output (optional)	Pin 4 = N/C



CE RoHS

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

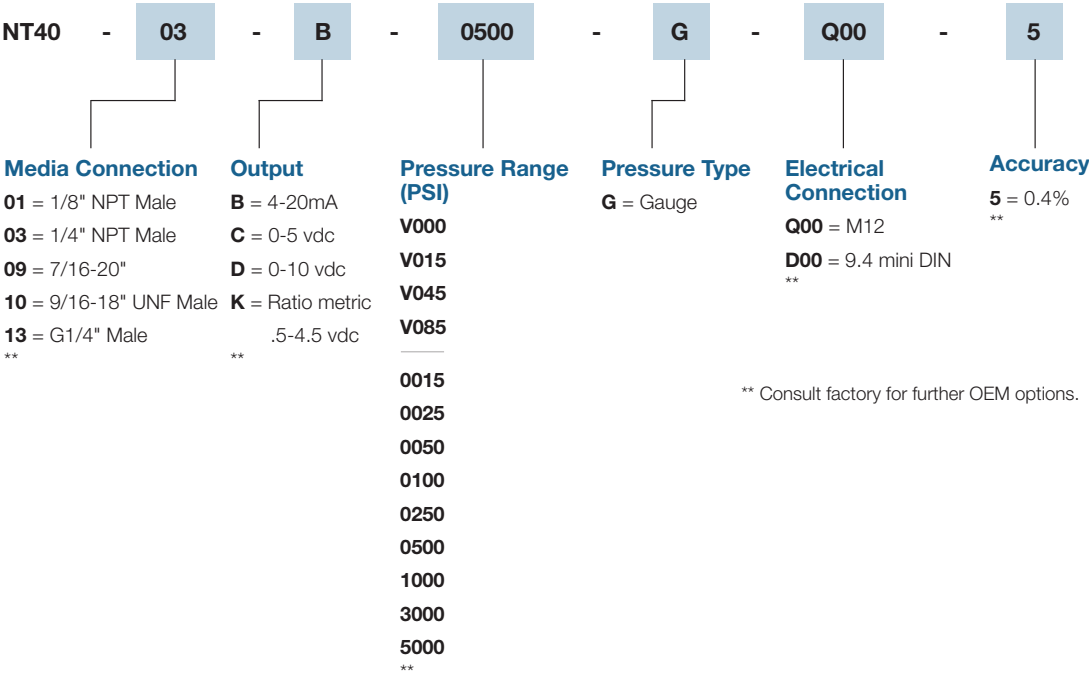
Description

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



** Consult factory for further OEM options.

Specifications

Input

Supply Voltage	8-28 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

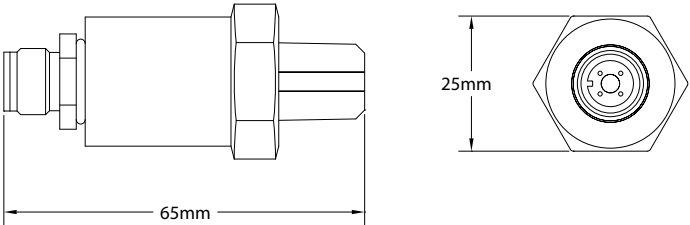
Performance

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
Diaphragm Material	0-75 PSI = 316 SS • 100-1500 PSI = Ceramic • 2,000-10,000 PSI = 17 - 4 SS

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



Electrical Connections

Signal	Function	Color	Pin	Electrical Connector
0-5V	Supply V +	Red	1	DIN 4 pin (9.4)
	Com	Black	2	
	Output	White	3	
4-20mA	Supply V	Red	1	
	Output	Black	2	
0-5V	Supply V +	Black	1	M12
	Output +	Red	2	
	Com	White	3	
4-20mA	Supply V +	Brown	1	
	Output	Blue	3	



CE RoHS

Features

- Vacuum ranges to 285 PSI or 3 to 10,000 PSI
- Various outputs
- Compact designs
- 316 stainless steel housing
- All stainless steel wetted parts
- Low cost
- Better 0.4% accuracy
- Custom outputs and ranges available
- OEM tested and approved
- Low power consumption
- High 125°C (257°F) operating temperature

Application

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

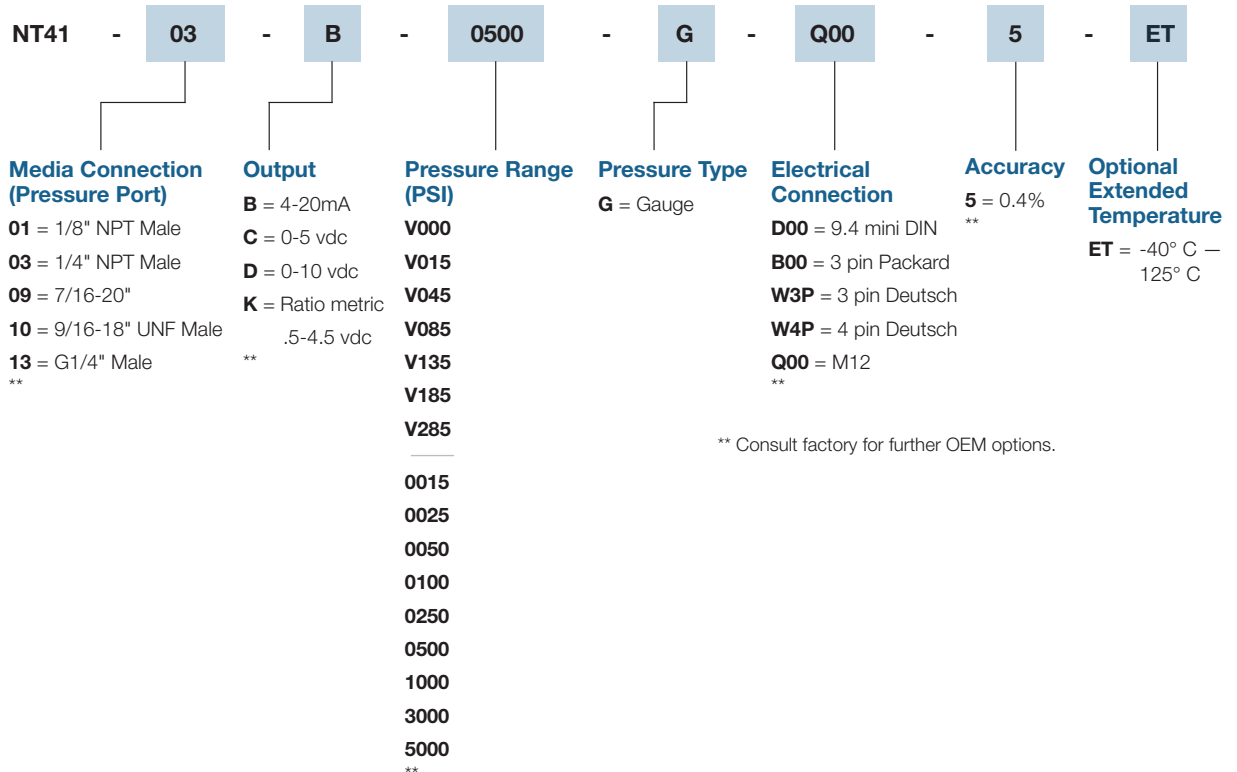
Description

The NT41 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 NT41 sets a new price-performance standard for low cost, high volume commercial and industrial applications.

How to Order (Example: Part Number: **NT41 - 03 - B - 0500 - G - Q00 - 5 - ET**)

Model



** Consult factory for further OEM options.

Specifications

Input

Supply Voltage	8-28 VDC
Pressure Range	VAC to 10,000 PSI
Proof Pressure	3 — 6,000 PSI = 3x 6,000 — 10k PSI = 2x
Burst Pressure	3 — 6,000 PSI = 4x 6,000 — 10k PSI = 3x
Fatigue Life	More than 4 million cycles

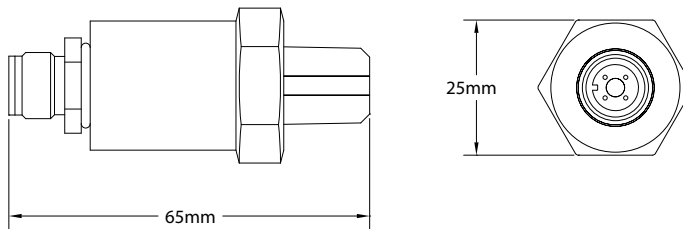
Performance

Accuracy	0.4%
Stability	0.2% full scale
Compensated Temperatures	-10 to 100°C (14 to 212°F)
Operating Temperatures	-20 to 125°C (-4 to 257°F)
Zero and Span Offset Tolerance	1.5%

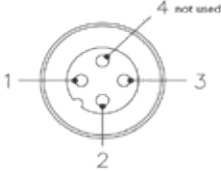
Mechanical Configuration

Pressure Port	1/4 NPT (standard) *
Electrical Connection	M12*, 3 pin Deutsch, 4 pin Deutsch
Sealing Rating	IP67 when used with M12 cable assembly
Wetted Parts	316 stainless steel

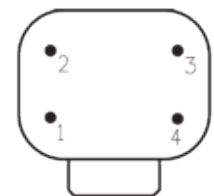
For best performance, use shielded cables. Mating cable assemblies sold separately. * Consult factory for further OEM options.



Electrical Connections

Signal	Function	Color	Pin	Electrical Connector
0-5V	Supply V +	Brown	1	M12 
	Output +	White	2	
	Com	Blue	3	
4-20mA	Supply V	Brown	1	
	Output	Blue	3	

x4	Pin1	Pin2	Pin3	Pin4
mA	Output+	Supply+	N/C	N/C
V	COM	Supply+	N/C	Output+



Transducer View
Deutsch DT04-4P



CE RoHS

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

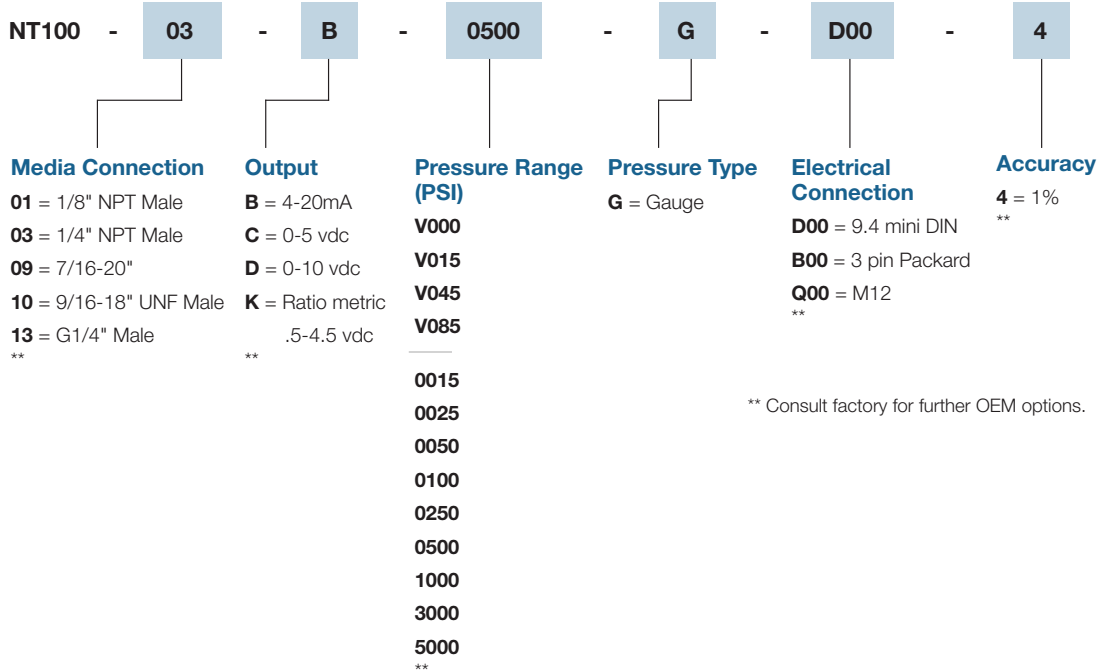
Description

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



** Consult factory for further OEM options.

Specifications

Input

Supply Voltage	8-28 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

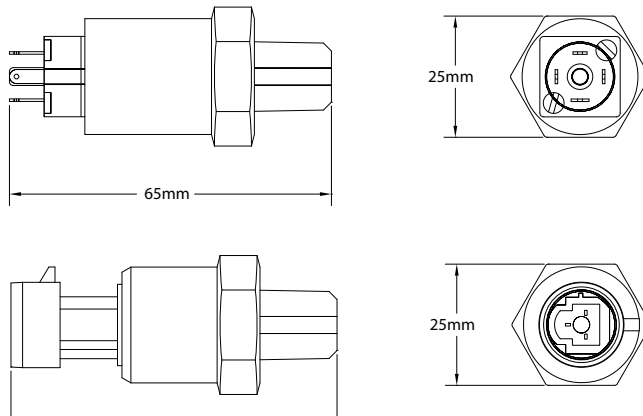
Performance

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%

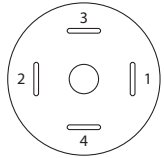
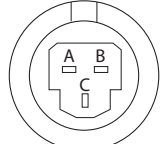
Mechanical Configuration

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

Signal	Function	Color	Pin	Electrical Connector
0-5V	Supply V +	Red	1	DIN 4 pin (9.4) 
	Com	Black	2	
	Output	White	3	
	N/A	N/A	4	
4-20mA	Supply V	Red	1	
	Output	Black	2	
0-5V	Com	-	A	3 pin Packard 
	Supply +	-	B	
	Output +	-	C	
4-20mA	Output	-	A	
	Supply +	-	B	



CE RoHS

Features

- Vacuum ranges to 285 PSI or 3 to 10,000 PSI
- Various outputs
- Compact designs
- 316 stainless steel housing
- All stainless steel wetted parts
- Low cost
- Industrial 1% accuracy
- Custom outputs and ranges available
- OEM tested and approved
- Low power consumption
- High 125°C (257°F) operating temperature

Application

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

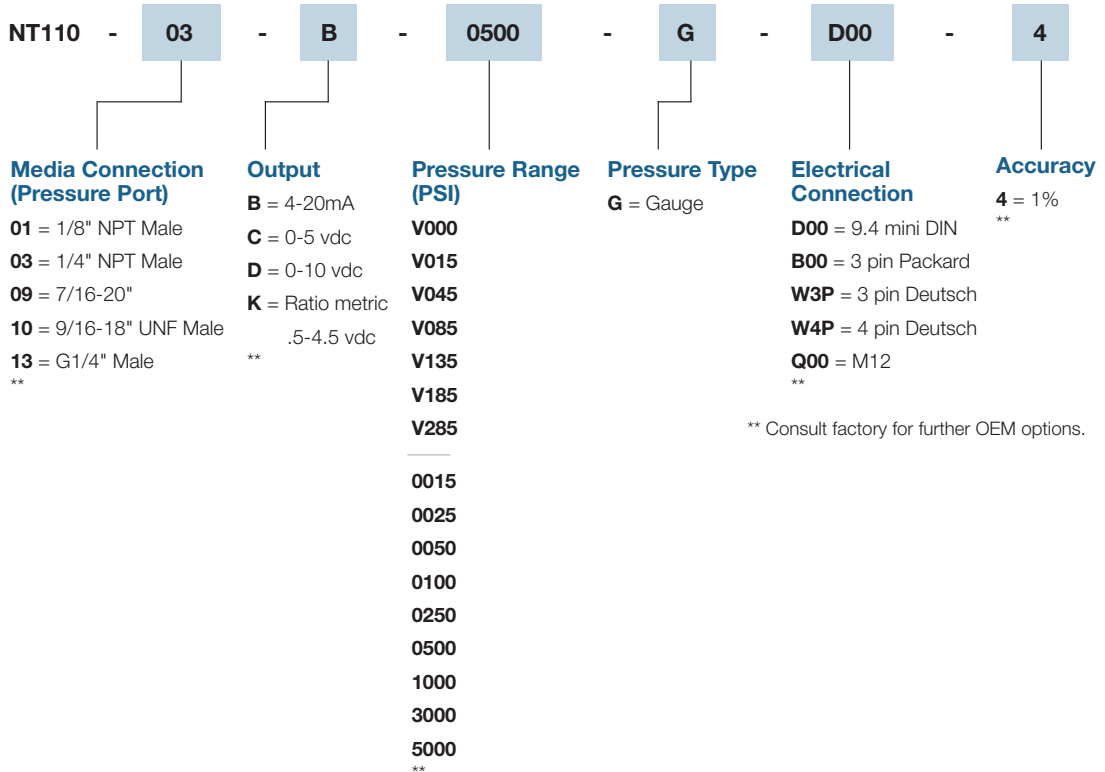
Description

The NT110 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 NT110 sets a new price-performance standard for low cost, high volume commercial and industrial applications.

How to Order (Example: Part Number: **NT110 - 03 - B - 0500 - G - D00 - 4**)

Model



** Consult factory for further OEM options.

Specifications

Input

Supply Voltage	8-28 VDC
Pressure Range	VAC to 285 PSI or 3 to 10,000 PSI
Proof Pressure	3 — 6,000 PSI = 3x 6,000 — 10k PSI = 2x
Burst Pressure	3 — 6,000 PSI = 4x 6,000 — 10k PSI = 3x
Fatigue Life	More than 4 million cycles

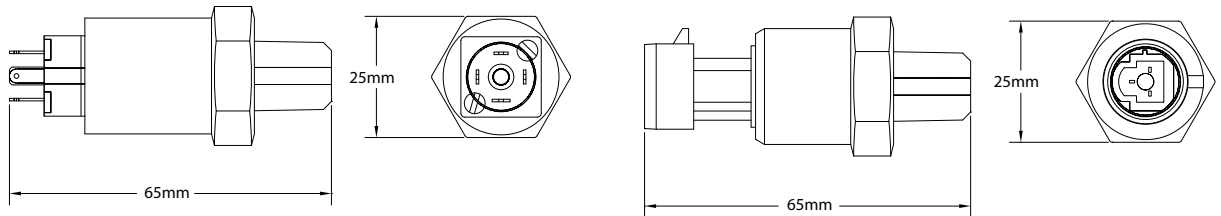
Performance

Accuracy	1% FS, BFSL
Stability	0.2% full scale
Compensated Temperatures	-10 to 100°C (14 to 212°F)
Operating Temperatures	-20 to 125°C (-4 to 257°F)
Zero and Span Offset Tolerance	1.5%
Current Consumption	Approx 3mA for voltage output, 22mA for current output (4-20mA)
Shock	50g, 11ms, 1/2 sign
Vibration	11g peak from 10 to 400 Hz

Mechanical Configuration

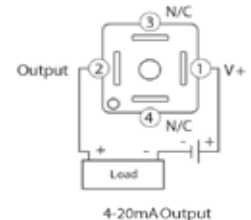
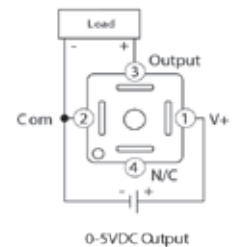
Pressure Port	1/4 NPT (standard) *
Electrical Connection	9.4 mini DIN, 3 pin Packard *
Ingress Rating	IP65 with standard 9.4 DIN cable
Housing	316 stainless steel
Diaphragm Material	316 SS <1500 psi, 17-4 SS >1500 PSI, wetted parts are SS, no internal O-Rings
Approvals	CE

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



Electrical Connections

Signal	Function	Color	Pin	Electrical Connector
0-5V	Supply V +	Red	1	DIN 4 pin (9.4)
	Com	Black	2	
	Output	White	3	
	N/A	N/A	4	
4-20mA	Supply V	Red	1	Black
	Output	Black	2	
0-5V	Com	Black	A	3 pin Packard
	Supply +	Red	B	
	Output +	White	C	
4-20mA	Output	Black	A	
	Supply +	Red	B	





Features

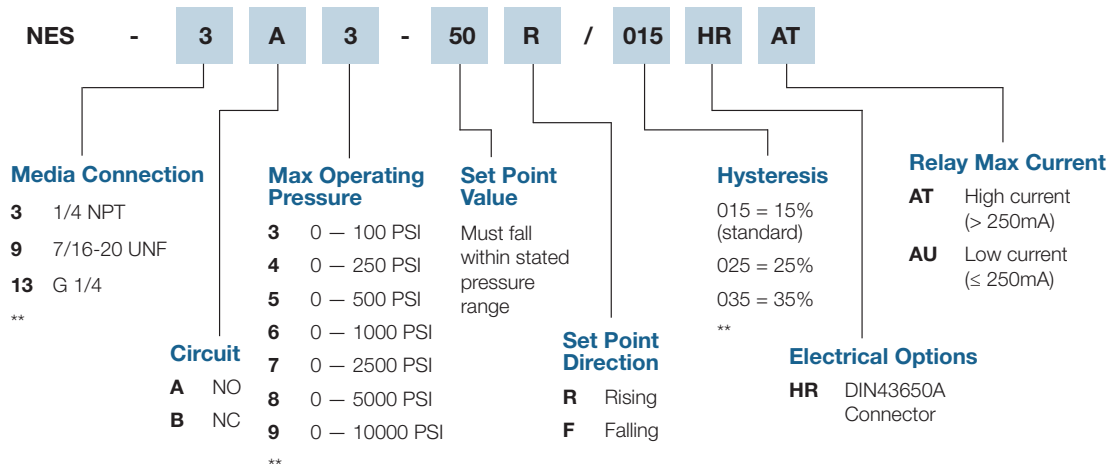
- **Operating temperature:** -40° C to 90° C
- **Power supply:** 9 VDC to 28 VDC
- **Power supply current:** 35mA maximum
- **Relay output:** 250 VAC/220 VDC, 10A maximum
- **Relay type:** normally open or normally closed
- **Media connection:** 1/4" NPT standard
(consult factory for other options)
- **Pressure ranges:** up to 10,000 PSI
- **Set point and hysteresis:** factory programmable
- **UL recognized component**

Description

The NES Electronic Pressure Switch Digital Technology brings a new level of performance to the pressure switch world. The NES features a solid stainless steel long life header/diaphragm for demanding applications where o-rings and creeper compatibility are a thing of the past. The NES houses the proprietary redundant

bridge circuit for high-shock and high-vibration environments making it ideal for off road/mobile hydraulic applications where downtime is not an option. These industry firsts combined with the factory programmable set-point and hysteresis allows for low-cost custom solutions with next day shipments.

How to Order (Example: Part Number: **NES - 3A3 - 50R / 015 HR AT**)



Pressure ranges and outputs listed above are quick ship versions.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use. While we provide application assistance personally, through our literature and the Nelson website, it is up to the customer to determine the suitability of the product in the application.

Specifications

Performance

Accuracy:	0.5% of max operating pressure (see ordering code)
Overage Protection:	2x Rated Pressure and optional 4x
Pressure Range:	see ordering chart
	- up to 10,000 PSI (689 bar)
Burst Pressure:	5x or 20,000 PSI,
	whichever is less
Relay Life:	>2 million @ 100mA at 240 VAC, Typ*
Update Time:	≤1msec
Relay Output:	250 VAC/220 VDC, up to 5A standard 10A Max
Relay Max Current:	Low Current ≤ 250mA,
	High Current > 250mA,
	10A Max (increased current results in reduced lifecycle*)

Environmental Data

Compensated Temperatures:	-40° to 90° C (-40° to 194° F)
Operating Temperatures:	-40° to 90° C (-40° to 194° F)
Storage:	-40° to 125° C (-40° to 250° F)
TEB:	1% of max operating pressure (see ordering code)
Long Term Drift:	0.2% FS/year (non-cumulative)
Shock:	2g, 11 ms, 1/2 sine
Vibration:	4g, peak, 30 to 400 Hz
EMI/FRI Protection:	Yes
Rating:	IP65
Approvals:	UL (approved connector, max ambient temperature at 55° C for L relay version; max ambient temperature at 20° C for H relay version)

Mechanical Configuration

Media Connection:	1/4" NPT Male (standard)
Wetted Material:	17-4PH stainless steel
Electrical Connection:	Large DIN
Case:	(housing) 304 stainless steel/polycarbonate plastic

Electrical Data

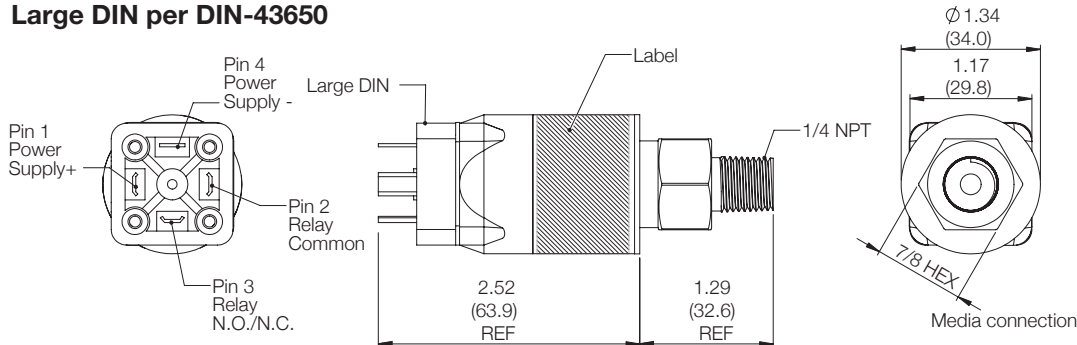
Excitation:	9-28 VDC, Typ
Output:	Relay output
Current Consumption:	35mA max
Reverse Polarity Protection:	Yes
Set Points:	No set points in vacuum range, 5 PSI Min set point with <100 PSI, 10% of configured pressure min set point >100 PSI range

Mating connectors and cable assemblies sold separately.

*Refer to relay datasheet for lifecycle information: TE connectivity, high current relay, product code PB114024, part number 9-1415029-1.

Electrical Connections

Large DIN per DIN-43650



Large DIN per DIN-43650

Pin 1:	Power supply +: 9 VDC to 28 VDC
Pin 2:	Relay common
Pin 3:	Relay N.O./N.C.
Pin 4:	Power supply -

Dimensions are in inches (mm) and for reference only.



Features

- **Compensated temperature:** -40° C to 85° C
- **Operating temperature:** -40° C to 100° C
- **Power supply:** 10.5 VDC to 28 VDC
- **Display:** 4-digit, bi-color display (red or green)
- **Outputs:** Digital : 250 mA max (PNP) or 200 mA max (NPN), or optional analog output: up to 10.5 VDC or up to 28 VDC (field selectable)
- **Media connection:** 1/4" NPT, 7/16-20 UNF, G 1/4
- **Pressure ranges:** Wide variety up to 10K psig

Description

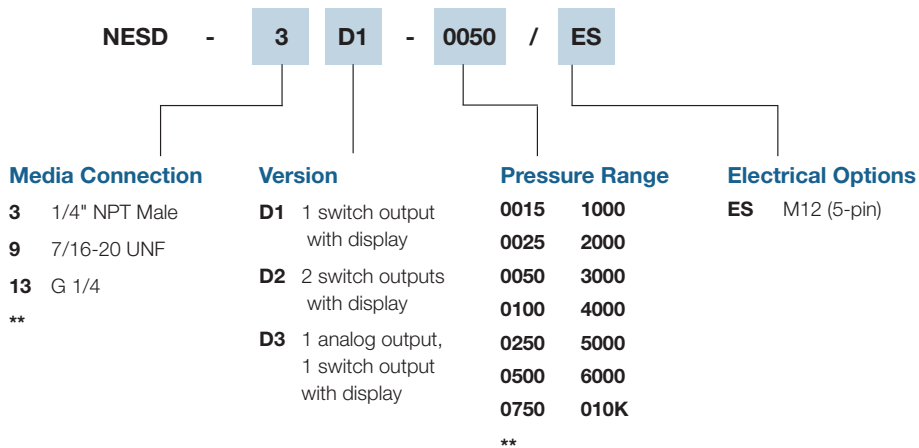
What makes the NESD model stand apart is the unique LED display - which allows for 360° scrolling, or you can lock the display in one location. It also features field-programmable set points and hysteresis.

The NESD model incorporates redundant sensing technology, allowing for notification that

the sensor needs to be replaced before it might fail (maintenance mode), eliminating operational downtime.

The NESD model pressure switch/transducer comes standard with one digital output (NPN or PNP), optional analog output, operates from 10.5 to 28 VDC, and is IP67 certified.

How to Order (Example: Part Number: NESD - 3D1 - 0050/ES)



** Consult factory for further OEM options. Pressure ranges and outputs listed above are quick ship versions.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use. While we provide application assistance personally, through our literature and the Nason website, it is up to the customer to determine the suitability of the product in the application.

Specifications

Performance

Accuracy:	Performance @ 25° C (77° F) 0.5% of max operating pressure
Overrange Protection:	2x Rated Pressure or optional 4x and 10x
Pressure Range:	see ordering chart - up to 10,000 PSI (689 bar)
Burst Pressure:	5x or 20,000 PSI, whichever is less
Pressure Cycles:	>100 million
Update Time:	≤1msec

Environmental Data

Compensated Temperatures:	-40° to 85° C (-40° to 185° F)
Operating Temperatures:	-40° to 100° C (-40° to 212° F)
Storage:	-40° to 125° C (-40° to 257° F)
TEB:	1% BFSL (includes: Non-linearity, Hysteresis and Non-repeatability)
Long Term Drift:	0.2% FS/year (non-cumulative)
Shock:	50g, 11 ms, 1/2 sine
Vibration:	10g, peak, 20 to 2400 Hz
EMI/FRI Protection:	Yes
Rating:	Up to IP67

Mechanical Configuration

Pressure Connections:	1/4" NPT Male, 7/16-20 UNF, G1/4 Male
Wetted Material:	17-4PH stainless steel (for other materials consult factory)
Electrical Connection:	M12 (5-pin)
Case:	(housing) 304 stainless steel and high-impact polycarbonate (display)

Electrical Data

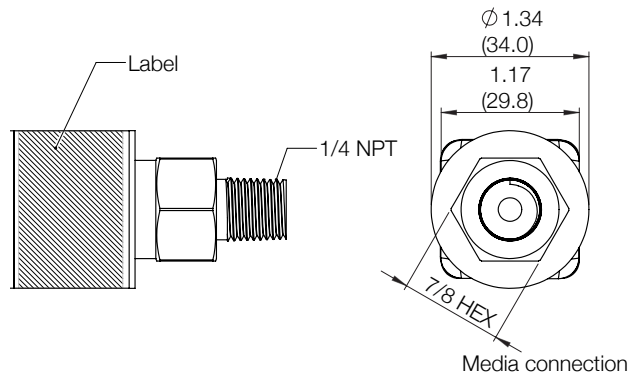
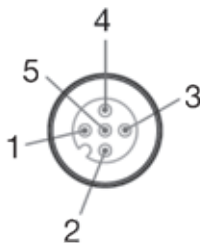
Power Supply:	10.5-28VDC
Output:	10.5 VDC to 28 VDC at 250 mA max (PNP) or 200 mA max (NPN) (digital)
Field Programmable:	up to 10 VDC or up to 20 mA (analog)
Output Impedance:	<100 Ohms, Nominal
Current Consumption:	30 mA at 24V/voltage output 40 mA at 12V/voltage output 50 mA at 24V/voltage output 60 mA at 12V/voltage output
Output Noise:	<2mV RMS
Reverse Polarity Protection:	Yes

For best performance use shielded cables.

Mating connectors and cable assemblies sold separately.

Electrical Connections

5-Pin M12



5-Pin M12

- Pin 1: Power supply: 10.5 VDC to 28 VDC
- Pin 2: Digital output #2 (optional) or analog output (optional)
- Pin 3: Power supply common
- Pin 4: Digital output #1
- Pin 5: Maintenance mode output

Dimensions are in inches (mm) and for reference only.



Features

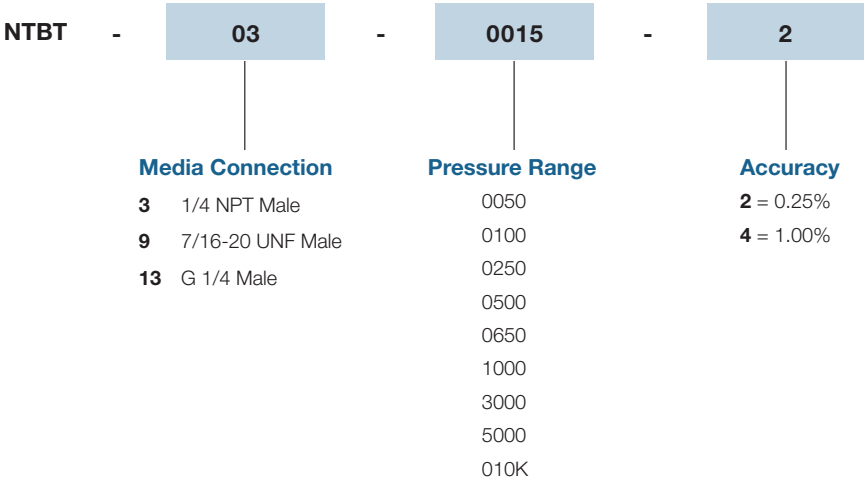
- Connects to smartphones and tablets with BLE (Bluetooth® Low Energy)
- Certified Bluetooth® wireless technology
- Pressure ranges from vacuum to 10,000 psi
- Long battery life (proprietary technology)
- 1% standard accuracy with optional 0.25% ultra high accuracy
- Stainless steel and high-impact polycarbonate construction
- Alarm set points
- Secure field programmable naming
- Patent-pending design
- Schrader, NPT, SAE and G ¼ pressure connection

Description

Another industry first! The first Bluetooth®-certified wireless pressure transducer with long battery life and patent-pending design makes the NTBT a perfect fit for many applications for Industrial and Home Automation. Download the free app, install the transducer and wirelessly connect — no confusing wiring to figure out.

Choose the NTBT for virtually anywhere you'd like to monitor pressure without the use of wires — from pneumatic systems, mobile hydraulics, residential and commercial applications to water, hydraulic, irrigation, pools, medical and sprinkler systems. Because it is built on Nason proprietary technology, the NTBT ensures high quality and high accuracy with Nason's quick deliveries and low costs.

How to Order (Example: Part Number: **NTBT - 03 - 0015 - 2**)



Specifications

Performance

Pressure Accuracy:	Performance @ 25° C (77° F) 0.25% or 0.2 psi, whichever is greater, 1% BFSL (includes non-linearity, hysteresis, non-repeatability)
Overage Protection:	2x Rated Pressure
Pressure Range:	see ordering chart - up to 10,000 psi (690 bar)
Burst Pressure:	5x or 20,000 psi, whichever is less
Pressure Cycles:	>100 million
Update Time:	Bluetooth® wireless technology (1sec)

Environmental Data

Compensated Temperatures:	-10° to 85° C (14 to 185° F)
Operating Temperatures:	-40° to 85° C (-40° to 185° F)
Storage:	-40° to 125° C (-40° to 257° F) without battery
TEB:	3% BFSL (includes: Non-linearity, Hysteresis and Non-repeatability)
Long Term Drift:	0.2% FS/year (non-cumulative)
Shock:	50g, 11 ms, 1/2 sine
Vibration:	10g, peak, 20 to 2400 Hz
EMI/FRI Protection:	Yes
Ingress Rating:	IP-67

Mechanical Configuration

Pressure Connection:	1/4 NPT Male, 7/16-20 UNF Male, G1/4 Male
Wetted Material:	17-4PH stainless steel (for other materials consult factory)
Case:	(housing) 304 stainless steel and high-impact polycarbonate I

Electrical Data

Power Supply:	3.6V Proprietary replacement battery. Battery life: 24 months, typical. Battery life is affected by high and low temperatures.
Battery Removal:	If the battery pack is removed, you must wait 90 seconds to reinstall or unit may lock up.
Connection Distance:	250 feet (line of sight)
Compatible Devices:	Software: Android - (Version 4.3 or later) iOS - (Current version and previous one) Hardware: Android - Device supports Bluetooth Smart (Version 4.0 and later) iPad Gen 3 - (released March 16, 2012) iPad Gen 4 - (released November 2, 2012) iPad Mini Gen 1 - (released November 2, 2012) iPad Mini Gen 2 - (released November 12, 2013) iPad Air - (released November 1, 2013) iPhone 5 - (released September 21, 2012) iPhone 5C, 5S - (released September 20, 2013) iPhone 6, 6 Plus - (released September 19, 2014) iPhone 6S, 6S plus - (released Sept 25 2015) iPhone 7, 7 plus - (released Sept 16, 2016) iPhone 8, 8 plus iPhone X, Xs, Xs Max

Features

- Connects to smartphones and tablets with BLE (Bluetooth® Low Energy)
- Certified Bluetooth® wireless technology
- Pressure ranges from vacuum to 10,000 psi
- Long battery life (proprietary technology)
- 1% standard accuracy with optional 0.25% ultra high accuracy
- Stainless steel and high-impact polycarbonate construction
- Alarm set points
- Secure field programmable naming
- Patent-pending design
- Number of individual logs: from 15,872 to 32,768
- Email logged files from the **FREE** app



Description

Another Industry First! The first Bluetooth® certified wireless pressure transducer with long battery life and patent- pending design makes the NTBT-DL a perfect fit for many applications for Industrial and Home Automation. The NTBT-DL includes data logging capability to save pressure and temperature data that can be emailed and opened in an excel spread sheet. Download the free app, install the transducer and wirelessly connect - no confusing wiring to figure out.

From HVAC in marine, campers, motorhomes, residential and commercial applications to water, hydraulic, irrigation, pools, medical and sprinkler systems or anywhere you need to monitor pressure without the need of wires.

Because it is built on Nason proprietary technology, the NTBT-DL ensures high quality and high accuracy with quick deliveries, and low costs.

How to Order (Example: Part Number: **NTBT-DL - 03 - 0500 - 2 - T24**)

<p>NTBT-DL - 03 - 0500 (psi) - 2 - T24</p>	<p>Pressure Connection 03 = 1/4" NPT Male 09 = 7/16- 20 UNF Male 13 = G1/4 Male 42 = 7/16-20 UNF Female w/ 45° flare & valve depressor (Schrader) **</p>	<p>Pressure Range 0050 0100 0250 0500 0650 1000 3000 5000 010K **</p>	<p>Accuracy 2 = 0.25% 4 = 1.00%</p>	<p>M5 / Temperature Probe (BLANK) = No M5 connector (not temp probe capable) T24 = 24" cable with M5 mating connector and external temperature probe M5 = M5 connector alone (temp probe capable) **</p>
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** - Consult factory for further OEM options.
 Pressure ranges listed above are quick ship versions.
 All straight-thread o-rings are Viton. It is customer's responsibility to determine compatibility.
www.mfcp.com

Specifications

Performance

Pressure Accuracy:	Performance @ 25° C (77° F) 0.25% or 0.2 psi, whichever is greater, 1% BFSL (includes non-linearity, hysteresis, non-repeatability)
Temperature Accuracy:	±1° C
Overrange Protection:	2x Rated Pressure
Pressure Range:	see ordering chart - up to 10,000 psi (690 bar)
Burst Pressure:	5x or 20,000 psi, whichever is less
Pressure Cycles:	>100 million
Update Time:	Bluetooth® wireless technology (1sec)

Environmental Data

Compensated Temperatures:	-10° to 85° C (14 to 185° F)
Operating Temperatures:	-40° to 85° C (-40° to 185° F)
Storage:	-40° to 125° C (-40° to 257° F) without battery
TEB:	3% BFSL (includes: Non-linearity, Hysteresis and Non-repeatability)
Long Term Drift:	0.2% FS/year (non-cumulative)
Shock:	50g, 11 ms, 1/2 sine
Vibration:	10g, peak, 20 to 2400 Hz
EMI/FRI Protection:	Yes
Ingress Rating:	IP-67
Approvals:	CE

Mechanical Configuration

Pressure Connection:	1/4 NPT Male, 7/16-20 UNF Male, G1/4 Male, 7/16-20 UNF Female w/45° flare & valve depressor
Wetted Material:	17-4PH stainless steel (for other materials consult factory)
Case:	(housing) 304 stainless steel and high-impact polycarbonate I

Electrical Data

Power Supply:	3.6V Proprietary replacement battery. Battery life: 24 months, typical. Battery life is affected by high and low temperatures.
Battery Removal:	If the battery pack is removed, you must wait 90 seconds to reinstall or unit may lock up.
Connection Distance:	250 feet (line of sight)
Compatible Devices:	Software: Android - (Version 4.3 or later) iOS - (Current version and previous one) Hardware: Android - Device supports Bluetooth Smart (Version 4.0 and later) iPad Gen 3 - (released March 16, 2012) iPad Gen 4 - (released November 2, 2012) iPad Mini Gen 1 - (released November 2, 2012) iPad Mini Gen 2 - (released November 12, 2013) iPad Air - (released November 1, 2013) iPhone 5 - (released September 21, 2012) iPhone 5C, 5S - (released September 20, 2013) iPhone 6, 6 Plus - (released September 19, 2014) iPhone 6S, 6S plus - (released Sept 25 2015) iPhone 7, 7 plus - (released Sept 16, 2016) iPhone 8, 8 plus iPhone X, Xs, Xs Max

Data Logging

Measurement Intervals:	From 50ms up to 1hr Fill Until Full: 50ms, 500ms, 1 sec, 5 sec, 10 sec, 30 sec, 1 min, 5 min, 10 min, 20 min, 30 min, 1 hr, 1 day FIFO: 500ms, 1 sec, 5 sec, 10 sec, 30 sec, 1 min, 5 min, 10 min, 20 min, 30 min, 1 hr, 1 day
Recording Temperature:	External temperature probe required to record temperature data
Storage Modes:	Fill Until Full: When memory is full, recording will stop FIFO (First in/First out): When memory is full, recording will start over from the beginning replacing the first recordings with the latest moving forward

Specifications

Input

Supply Voltage / (Output): 8-28 VDC (0-5V, 4-20mA)
 5 VDC (0.5-4.5V)
 12-36 VDC (0-10V)

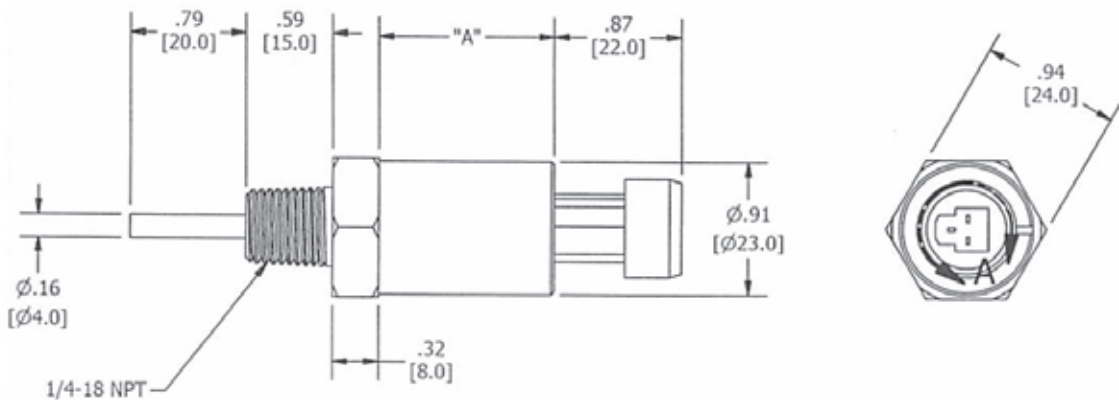
Performance

Accuracy: 1% FS
 Stability: 0.2% FS
 Measuring Temperature Range: -40 to 200° C (-40 to 392° F)
 Operating Temperature Range: -40 to 85° C (-40 to 185° F)
 Max Continuous Temperature: 250° F
 Current Consumption: 23mA for 4-20mA
 8mA for 0-5V
 11mA for 0-10V
 Max Pressure for 6 mm Diameter Probe: 300 bar
 Max Pressure for 8 mm Diameter Probe: 500 bar

Mechanical Configuration

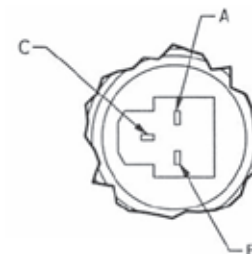
Probe Lengths: 10mm, 20mm, 40mm, 50mm, 100mm, 150mm
 Process Connection: ¼ NPT (standard) *
 Electrical Connection: 4-pin M12 *
 Ingress Rating: IP67 with standard M12 cable
 Housing: 304 stainless steel
 Wetted Parts: 316SS

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



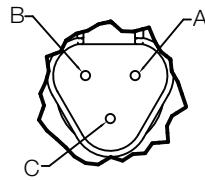
Electrical Connections

Output	Signal	Function	Pin
K	0.5-4.5V	Com	A
C	0-5V	Supply V +	B
D	0-10V	Output +	C
B	4-20mA	Output Supply V +	A B



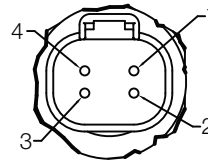
NOTES: 1. "A" dimension = 1.20 [30.5] when temp rating is less than 200°F.
 2. "A" dimension = 1.70 [43.2] when temp rating is greater than 200°F.

W3P Connector



ELECTRICAL CONNECTIONS		
SIGNAL	FUNCTION	PIN
0-5V	SUPPLY V	A
	OUTPUT +	B
	COM	C
4-20mA	SUPPLY V	A
	OUTPUT +	B

W4P Connector



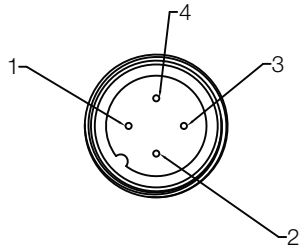
ELECTRICAL CONNECTIONS		
SIGNAL	FUNCTION	PIN
0-5V	COM	1
	SUPPLY V+	2
	N/C	3
	OUTPUT +	4
4-20mA	OUTPUT +	1
	SUPPLY +	2
	N/C	3
	N/C	4

3 PIN Packard Connector for B00 Option



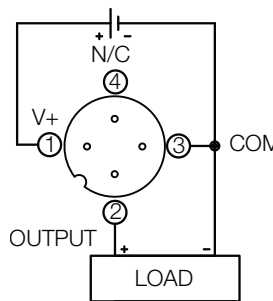
ELECTRICAL CONNECTIONS		
SIGNAL	FUNCTION	PIN
0-5V	COM	A
	SUPPLY +	B
	OUTPUT +	C
4-20mA	OUTPUT	A
	SUPPLY +	B

M12 4 PIN Connector for Q00 Option

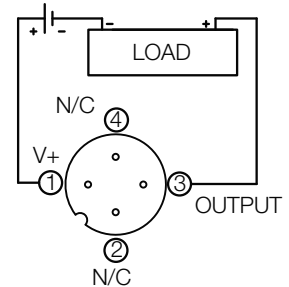


ELECTRICAL CONNECTIONS		
SIGNAL	FUNCTION	PIN
0-5V	SUPPLY V+	1
	OUTPUT	2
	COM	3
	N/C	4
4-20mA	SUPPLY V+	1
	N/C	2
	OUTPUT	3
	N/C	4

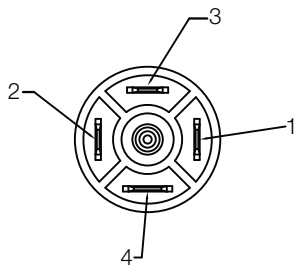
0-5VDC OUTPUT



4-20mA OUTPUT

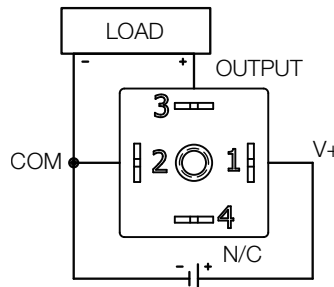


9.4 DIN Connector for D00 Option

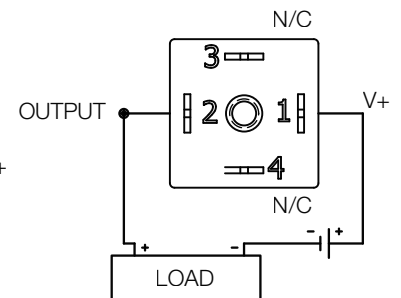


ELECTRICAL CONNECTIONS			
SIGNAL	FUNCTION	COLOR	PIN
0-5V	+POWER SUPPLY	RED	1
	-COMMON	BLACK	2
	OUTPUT	WHITE	3
	*DIGITAL OUTPUT	GREEN	4
4-20mA	+POWER SUPPLY	RED	1
	OUTPUT	BLACK	2
	N/C	N/C	3
	N/C	N/C	4

0-5VDC OUTPUT

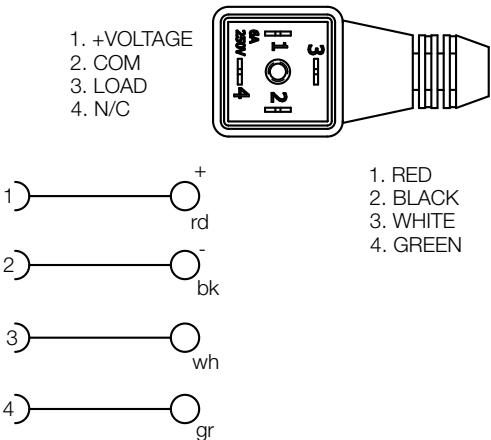


4-20mA OUTPUT



*(OPTIONAL)

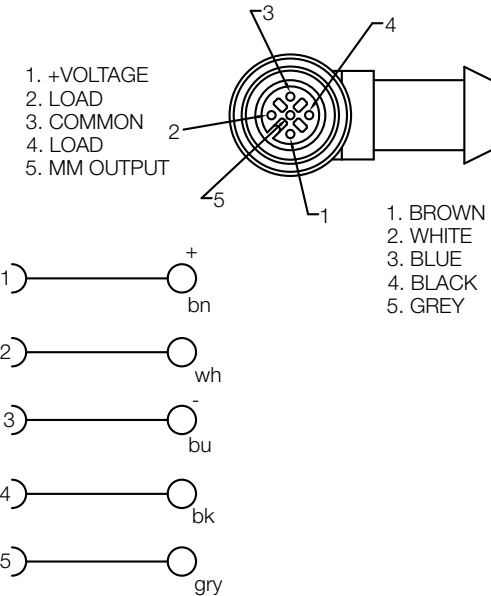
9.4mm DIN Cable Assembly



PART #	* = LENGTH
NTC91	1 METER
NTC93	3 METERS

CABLE: PUR - 4 X 22AWG SHIELDED

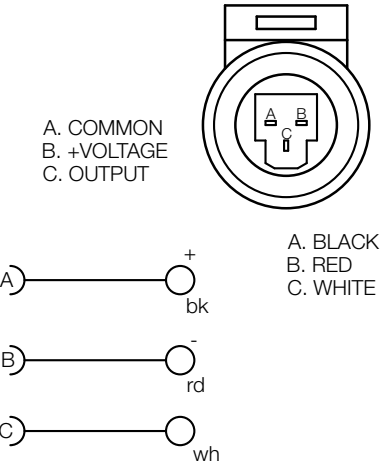
M12, 5 PIN IP67K Cable Assembly



PART #	* = LENGTH
NTCM1251	1 METER
NTCM1253	3 METERS

CABLE: PVC - 5 X 22AWG SHIELDED

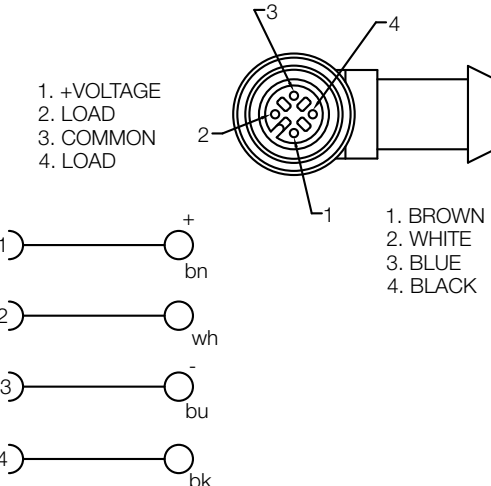
3 PIN Packard Cable Assembly



PART #	* = LENGTH
NTCPAC1	1 METER
NTCPAC3	3 METERS

CABLE: PVC - 4 X 22AWG

M12, 4 PIN IP69K Cable Assembly



PART #	* = LENGTH
NTCM121	1 METER
NTCM123	3 METER

CABLE: PUR - 4 X 22AWG SHIELDED

Diaphragm Compatibility

Media	Buna	EP	Viton
Acetic Acid		•	
Acetone		•	
Acetylene	•		
Air	•		
Alcohols	•		
Alkalies (Weak)	•		
Alkalies (Strong)		•	
Ammonia (Anhydrous)	•		
Ammonia (Hydroxide)		•	
Asphalt			•
Automotive Oils	•		
Beer	•		
Benzene			•
Boric Acid	•		
Brake Fluid		•	
Bunker Oil	•		
Butane	•		
Butyl Cellosolve		•	
Carbon Dioxide	•		
Carbon Monoxide	•		
Cellube		•	
Chlorobenzene			•
Citric Acid	•		
Coke Oven Gas			•
Coolanol	•		
Diesel Fuels	•		
Di-Ester Lube (MIL-L-7808)			•
Dowtherm A&E		•	
Ethanol	•		
Ether		•	
Ethylene	•		
Ethylene Glycol	•		
Freon 11, 12, 112, 114	•		
Freon 22		•	
Fyrquel		•	
Fuel Oil	•		
Gasoline	•		
Glycerin	•		
Helium	•		
Hexane	•		

Media	Buna	EP	Viton
Hydraulic Oil (PET Base)	•		
Hydrocarbons	•		
Hydrogen	•		
Hydrogen Sulphide		•	
Isopropanol		•	
JP-3-6	•		
Kerosene	•		
LPG	•		
Lube Oil (PET base)	•		
Methanol	•		
MEK		•	
Mineral Oil	•		
Motor Oils	•		
Naptha		•	
Natural Gas	•		
Nitric Acid		•	
Nitrogen	•		
Oleum Spirits			•
Oxygen	•		
Ozone		•	
Crude Oil	•		
Phosphoric Acid			•
Propane	•		
Propanol	•		
Pydraul		•	
Shell Iris 902	•		
Silicone Greases	•		
Silicone Oils	•		
Skydrol 500 & 7000		•	
Soap Solutions	•		
Steam Below 320°F		•	
Stoddard Solvent	•		
Sulfuric Acid			•
Toluene			•
Transmission Fluid A	•		
Trisodium Phosphate	•		
Turpentine	•	•	
Water to 220°F (104°C)	•		
Water to 302°F (150°C)		•	

Other diaphragm materials are available. Consult factory for stock.

Temperature Conversions - [Formula °C = 5/9 (°F - 32) °F = (9/5 °C) +32°]

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
40	104.0	62	143.6	84	183.2	106	222.8	128	262.4
41	105.8	63	145.4	85	185.0	107	224.6	129	264.2
42	107.6	64	147.2	86	186.8	108	226.4	130	266.0
43	109.4	65	149.0	87	188.6	109	228.2	131	267.8
44	111.2	66	150.8	88	190.4	110	230.0	132	269.6
45	113.0	67	152.6	89	192.2	111	231.8	133	271.4
46	114.8	68	154.4	90	194.0	112	233.6	134	273.2
47	116.6	69	156.2	91	195.8	113	235.4	135	275.0
48	118.4	70	158.0	92	197.6	114	237.2	136	276.8
49	120.2	71	159.8	93	199.4	115	239.0	137	278.6
50	122.0	72	161.6	94	201.2	116	240.8	138	280.4
51	123.8	73	163.4	95	203.0	117	242.6	139	282.2
52	125.6	74	165.2	96	204.8	118	244.4	140	284.0
53	127.4	75	167.0	97	206.6	119	246.2	141	285.8
54	129.2	76	168.8	98	208.4	120	248.0	142	287.6
55	131.0	77	170.6	99	210.2	121	249.8	143	289.4
56	132.8	78	172.4	100	212.0	122	251.6	144	291.2
57	134.6	79	174.2	101	213.8	123	253.4	145	293.0
58	136.4	80	176.0	102	215.6	124	255.2	146	294.8
59	138.2	81	177.8	103	217.4	125	257.0	147	296.6
60	140.0	82	179.6	104	219.2	126	258.8	148	298.4
61	141.8	83	181.4	105	221.0	127	260.6	149	300.2

Pressure Conversion Formulas

Into > Multiply by To Convert	PSI	H2O (15°C)	mmHg (0°C)	"Hg (0°C)	Millibar	Bar	Kg/Cm2	kPa
PSI	•	27.70	51.71	2.036	68.95	0.06895	0.07031	6.895
"H2O (15°C)	0.03609	•	1.867	0.07349	2.489	0.002489	0.002538	0.249
mmHg (0°C)	0.01934	0.5357	•	0.03937	1.3333	0.0013333	0.0013596	0.113
"Hg (0°C)	0.4912	13.61	25.40	•	33.86	0.03386	0.03453	3.386
Millibar	0.0145	0.4018	0.750062	0.02953	•	0.001	0.0010197	0.09998
Bar	14.50	401.8	750.062	29.53	1000	•	1.0197	99.98
Kg/Cm2	14.22	394.05	735.559	28.96	980.7	0.9807	•	98.05
kPa	0.145	4.016	7.519	0.2953	10.002	0.010	0.0102	•

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.

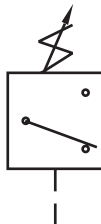
Installation Torques

Pressure Switch - 10 ft lbs

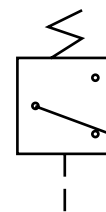
Temperature Switch - 14-15 ft lbs.

Circuitry

Adjustable Pressure Switch
Component Symbol



Fixed Pressure Switch
Component Symbol





CHECK OUT
nasonptc.com/configure
to create your own custom CAD file

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.

ALL ORDERS FOR PRODUCT ARE SUBJECT TO THE FOLLOWING: Nason warrants each product to be free from defects in material and workmanship under normal use and service. Nason's obligation under this warranty is limited to repairing or supplying, at our option, a part or parts to replace any defective part or parts which fail, within one (1) year from date of shipment. No product shall be returned without prior authorization. If authorized, the transportation charges shall be prepaid to Nason, Walhalla, South Carolina. Unauthorized returns will not be accepted.

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