

# NPI/NPA-Series Pressure Switches

## Features

- Pressure ranges from 60 - 20,000 psi
- SPDT 10 amp relay output
- Switch status indication (NPI only)
- External setpoint adjustment (optional)
- Very narrow deadband available

## Typical Uses

- Machine tools
- Injection molding machines
- Turbines and compressors
- Pumps and pipelines
- Presses
- Hydraulic systems
- High-cycle applications
- Specialized OEM equipment

## Specifications

Setpoint Repeatability:	±0.50% of span
Setpoint:	Single Setpoint
Deadband:	Adjustable deadband
Response Time:	< 5 milliseconds
Output:	Switch SPDT (STD.), 4-20 mA (2-wire) (OPT.)
Supply Voltage:	36 Vdc unregulated
Enclosure Ratings:	NEMA 3, 4, 4X and 13 (IP66)
Enclosure Material:	Anodized aluminum
Process Connection:	1/8 NPT Male, 1/8 NPT Female, 1/4 NPT Male, 1/4 NPT Female, 7/16-20 SAE-1/4 SAE, 1/2 NPT Male & 1/4 NPT Female Combination, 3/8-18 UNF-2B Female for 1/4" high pressure tubing
Electrical Termination:	3/4 NPT Female

## Performance Specifications

Accuracy:	±1.0% of span
Nonlinearity:	±0.7% (includes hysteresis)
Terminal Point:	
B.F.S.L.:	±0.4%
Hysteresis:	±0.2%
Nonrepeatability:	±0.07%
Interchangeability:	±1.0%
Thermal Coefficients:	Zero and Span: ±0.04% of span (70 °F ref)
Stability:	±0.5% of span/year non-cumulative
Durability:	10 <sup>8</sup> cycles 20/80% of span with negligible performance change

### Min/Max Temperature Limits

Version	Process	Storage	Compensated
N-Series	-20 °F to 160 °F (-29 °C to 73 °C)	-65 °F to 250 °F (-54 °C to 121 °C)	-20 °F to 160 °F (-40 °C to 73 °C)



**NPA-Series**  
Watertight Enclosure Pressure Switch

**NPI-Series**  
Watertight Enclosure Pressure Switch With Indication



## Key Benefits

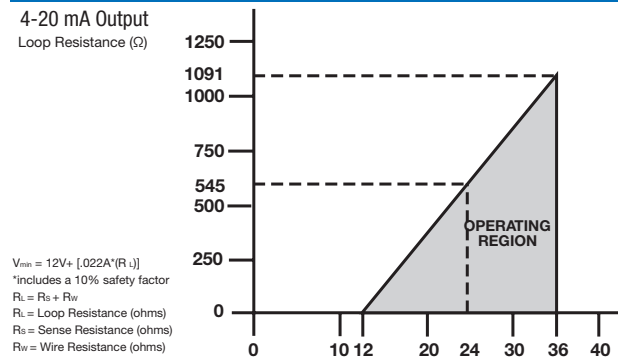
- Well-suited where pressure indication and switch output for alarm, shutdown, control or interlock are needed
- Multi-turn potentiometers allow easy setpoint and deadband adjustments

## Wetted Components

Diaphragm	Process Connection
17-4PH SS	316L SS

## Load limitations

4-20 mA Output  
Loop Resistance (Ω)



Output	Supply
SPDT 10 amp relay	110 Vac, 50/60 Hz, 24 Vdc 250 Vdc, 50, 60 Hz
4-20 mA (2 wire)	12 to 36 Vdc unregulated (must be an independent and isolated power supply from unit supply)

# NPI/NPA-Series Pressure Switches

Ordering Code	Example:	NPA	N4	D	L	S01	XEA	300#
<b>Function</b>								
NPA - Single setpoint, adjustable deadband (No LED display)		NPA						
NPI - Single setpoint, adjustable deadband, process and setpoint indication (With LED display)								
<b>Enclosure</b>								
N4 - NEMA 3, 4, 4X, 13 & IP66		N4						
<b>Output</b>								
D - SPDT relay (10A, 250 Vac, 30A, 30 Vdc)		D						
I - SPDT relay (10A, 250 Vac, 30A, 30 Vdc) and 4 to 20 mA output								
<b>Power Requirements</b>								
L - 110 Vac, 50/60Hz		L						
C - 24 Vdc								
V - 250 Vac, 50/60Hz								
<b>Process Connection</b>								
S01 - 1/8 NPT Male		S01						
S02 - 1/4 NPT Male								
S03 - 1/8 NPT Female								
S04 - 1/4 NPT Female								
S05 - 7/16-20 SAE-1/4 SAE								
S06 - 1/2 NPT Male, 1/4 NPT Female								
S07 - 3/8-18 UNF-2B Female for 1/4" high pressure tubing								
S08 - 7/16-20 SAE-J-514 female								
<b>Options (if choosing an option(s) must include an "X") (See Table 1 below for options)</b>								X _ _
EA - External setpoint adjustment		EA						
<b>Pressure Range (select from pressure range table below)</b>								
300# - 300 psi		300#						

Code	Description	Notes
CH	Chained cover	
EA	External setpoint adjustment	
FS	Factory adjusted setpoint	Setpoint must be given as increasing or decreasing
NH	Stainless steel tag	
NN	Paper tag	
TM	2" Pipe mounting bracket	
6B	Cleaned for oxygen	
C4	Individual certified calibration chart	

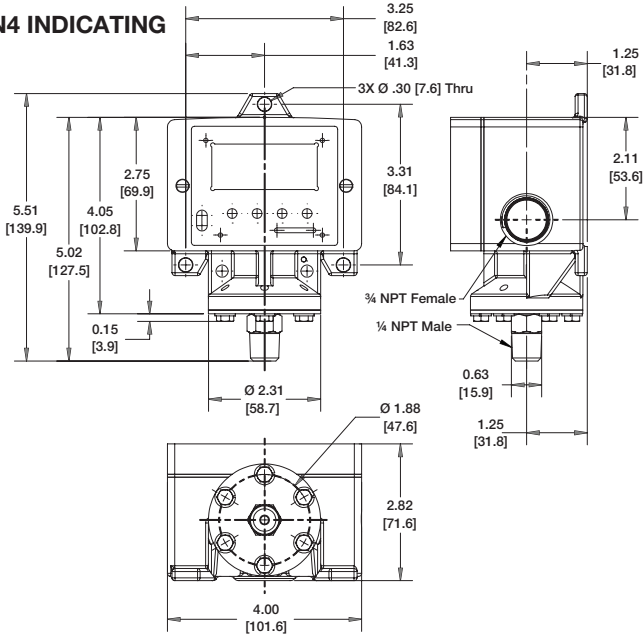
Nominal Range	Setpoint Limits	psi Proof	psi Burst
60#	3-60	120	480
100#	5-100	200	800
200#	10-200	400	1,600
300#	15-300	600	2,400
500#	25-500	1,000	4,000
750#	35-750	1,500	6,000
1000#	50-1,000	2,000	8,000
2000#	100-2,000	4,000	16,000
3000#	150-3,000	4,500	20,000
5000#	250-5,000	7,500	22,500
7500#	375-7,500	9,000	25,000
10000#	500-10,000	12,000	30,000
15000#	750-15,000	18,000	45,000
20000#	1,000-20,000	24,000	60,000

(Temperature specifications (70 °F ref.) -2 °F to 160 °F. Setpoint shift of up to ±2% of range per 50 °F change can be expected.)

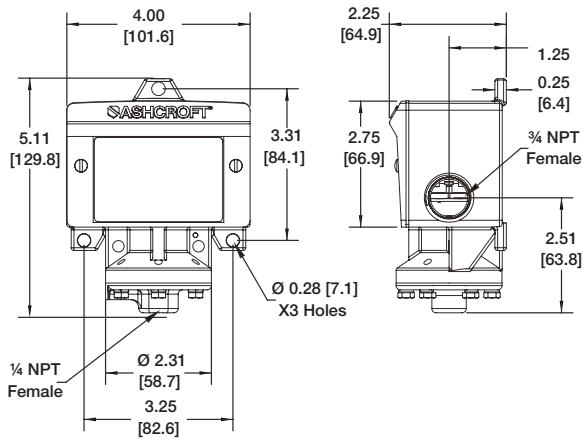
# NPI/NPA-Series Pressure Switches

Dimensions in [ ] are millimeters

## N4 INDICATING



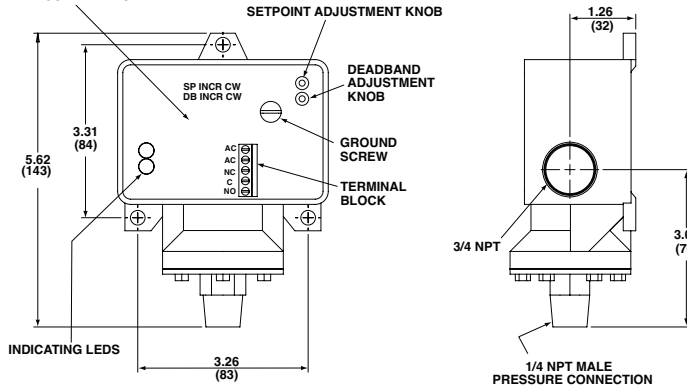
## N4 NON-INDICATING



## N4 - NPI Internal Setpoint Adjustment

For reference only, consult Ashcroft for specific dimensional drawings

NOTE: THESE VIEWS SHOWN WITH COVER REMOVED



## N4 - NPI External Setpoint Adjustment (XEA)

NOTE: THESE VIEWS SHOWN WITH COVER REMOVED

