WASCO SALES AND MARKETING INC.

Miniature Pressure Switches and Vacuum Switches

ISO 9001 - 2008 Certified

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

Wasco, Inc. Catalog J-2010

Table of Contents

P550 Value Low Pressure Switch

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	0.5 - 15 PSI
2	Setpoint Tolerance	See Table I
3	Temperature Range	-65° F to + 225° F
4	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
5	Weight	2.5 oz (typical with 12 inch "W3" electrical interface)

RoHS compliant

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications P550

Wetted		Non Wetted	
Body/Fitting	6061-T6 Aluminium Anodized	Electrical Interface	Steel, Zinc Chromate Finish
Diaphragm	300 Series Stainless Steel		
O-Ring	Buna N*		
O-Ring Retainer	300 Series Stainless Steel		

* Standard material, other options are available, consult with factory

This Model is Not Adjustable

Operating Pressure Range and Standard Tolerances

Table I - Positive Pressure Setpoints P550 Series

Sensor	Max Operating Pressure (PSI)	Setpoint Range (PSI)	Setpoint Tolerance (±) (PSI)	Reset Band (PSI)
3	75	0.5 - 15	± 0.5	0.4 - 1.8

Custom specifications available

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

P500 Value Pressure Switch

Value

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	2 - 500 PSI
2	Setpoint Tolerance	See Table II
3	Temperature Range	-65° F to + 225° F
4	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
5	Weight	2.5 oz (typical with 12 inch "W3" electrical interface)

RoHS compliant

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications P500

Wetted		Non Wetted	
Body/Fitting	Steel, Zinc Chromate Finish, Brass	Electrical Interface	Steel, Zinc Chromate Finish
Locking Compound	Loctite #277	Lock Ring	Steel, Zinc Chromate Finish
O-Ring	Buna N*		
Sensor	17-7PH Stainless Steel		

* Standard material, other options are available, consult with factory

Pressure Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing counter clockwise to raise the set point, clockwise to lower the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Operating Pressure Range and Standard Tolerances

Table II - Positive Pressure P500 Series

Sensor	Max Operating Pressure (PSI)	Setpoint Range (PSI)	Setpoint Tolerance (±) (PSI)	Reset Band (PSI)
3	30	2 - 30	± 1.0	1.0 - 2.0
5	125	5 - 125	± 3.0	2.0 - 3.0
8	250	10 - 250	± 7.0	3.0 - 8.0
15	500	22 - 500	± 10.0	8.0 - 18.0

Custom specifications available

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

V500 Value Vacuum Switch

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	2.0 - 29.5" Hg
2	Setpoint Tolerance	See Table III
3	Temperature Range	-65° F to + 225° F
4	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
5	Weight	2.5 oz (typical with 12 inch "W3" electrical interface)

RoHS compliant

Value

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications V500

Wetted		Non Wetted	
Body/Fitting	Steel, Zinc Chromate Finish, Brass	Electrical Interface	Steel, Zinc Chromate Finish
Locking Compound	Loctite #277	Lock Ring	Steel, Zinc Chromate Finish
O-Ring	Buna N*		
Sensor	17-7PH Stainless Steel		

* Standard material, other options are available, consult with factory

Vacuum Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing clockwise to raise the set point, counter clockwise to lower the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Note: V500 Series sensor will be damaged if positive pressure is applied

Operating Vacuum Range and Standard Tolerances

Table III - Vacuum Setpoints V500 Series

Sensor	Max Operating Pressure (" Hg)	Setpoint Range (" Hg)	Setpoint Tolerance (±) (" Hg)	Reset Band (" Hg)
3	30.0	2.0 - 29.5	± 1.5	2.0 - 4.0
5	30.0	10.0 - 29.5	± 1.5	3.0 - 7.0

Custom specifications available

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

P110 Standard Pressure Switch

Standard

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	1.0 - 500 PSI
2	Setpoint Tolerance	See Table IV
3	Temperature Range	-65° F to + 225° F
4	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
5	Weight	3.5 oz (typical with 12 inch "W3" electrical interface)

RoHS compliant

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications P110

Wetted		Non Wetted	
Body/Fitting	300 Series Stainless Steel	Electrical Interface	Steel, Zinc Chromate Finish
Locking Compound	Loctite #277	Lock Ring	Steel, Zinc Chromate Finish
O-Ring	Buna N*		
Sensor	17-7PH Stainless Steel		

* Standard material, other options are available, consult with factory

Pressure Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing counter clockwise to raise the set point, clockwise to lower the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Operating Pressure Range and Standard Tolerances

Table IV - Positive Pressure Setpoints P110 Series

Sensor	Max Operating Pressure (PSI)	Setpoint Range (PSI)	Setpoint Tolerance (±) (PSI)	Reset Band (PSI)
3	30	1 - 30	± 0.7	0.7 - 2.3
4	70	2 - 70	± 1.4	1.0 - 3.8
5	125	3 - 125	± 2.0	1.3 - 3.8
8	250	8 - 250	± 5.0	2.0 - 10.0
15	500	18 - 500	± 10.0	5.0 - 21.0

Custom specifications available

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

V110 Standard Vacuum Switch

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	1.6 - 29.5" Hg
2	Setpoint Tolerance	See Table V
3	Temperature Range	-65° F to + 225° F
4	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
5	Weight	3.5 oz (typical with 12 inch "W3" electrical interface)

RoHS compliant

Standard

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications V110

Wetted		Non Wetted	
Body/Fitting	300 Series Stainless Steel	Electrical Interface	Steel, Zinc Chromate Finish
Locking Compound	Loctite #277	Lock Ring	Steel, Zinc Chromate Finish
O-Ring	Buna N*		
Sensor	17-7PH Stainless Steel		

* Standard material, other options are available, consult with factory

Vacuum Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing clockwise to raise the set point, counter clockwise to lower the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Note: V110 Series sensor will be damaged if positive pressure is applied

Operating Vacuum Range and Standard Tolerances

Table V - Vacuum Setpoints V110 Series

Sensor	Max Operating Pressure (" Hg)	Setpoint Range (" Hg)	Setpoint Tolerance (±) (" Hg)	Reset Band (" Hg)
3	30.0	1.6 - 29.5	± 1.2	1.4 - 4.6
5	30.0	6.0 - 29.5	± 4.0	2.6 - 7.6

Custom specifications available

TAMO
Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

SP120 Super Purity Pressure Switch

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	1.0 - 500 PSI
2	Setpoint Tolerance	See Table VI
3	Temperature Range	-65° F to + 225° F
4	Leak Rate	≤1.0 x 10^{-9} cc/sec He ("Helium Leak Tested")
5	Weight	3.5 oz (typical with 12 inch "W3" electrical interface)

RoHS compliant

High Purity

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications SP120

Wetted		Non Wetted	
Body/Fitting	316 Stainless Steel	Electrical Interface	Steel, Zinc Chromate Finish
Sensor	17-7PH Stainless Steel	Lock Ring	Steel, Zinc Chromate Finish

Pressure Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing clockwise to lower the set point, counter clockwise to raise the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Operating Pressure Range and Standard Tolerances

Table VI - Positive Pressure Setpoints SP120 Series

Sensor	Max Operating Pressure (PSI)	Setpoint Range (PSI)	Setpoint Tolerance (±) (PSI)	Reset Band (PSI)
3	30	1 - 30	± 0.7	0.7 - 2.3
4	70	2 - 70	± 1.4	1.0 - 3.8
5	125	3 - 125	± 2.0	1.3 - 3.8
8	250	8 - 250	± 5.0	2.0 - 10.0
15	500	18 - 500	± 10.0	5.0 - 21.0

Custom specifications available

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

SV120 Super Purity Vacuum Switch

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	1.6 - 29.5" Hg
2	Setpoint Tolerance	See Table VII
3	Temperature Range	-65° F to + 225° F
4	Leak Rate	≤1.0 x 10^{-9} cc/sec He ("Helium Leak Tested")
5	Weight	3.5 oz (typical with 12 inch "W3" electrical interface)

RoHS compliant

High Purity

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications SV120

Wetted		Non Wetted	
Body/Fitting	316 Stainless Steel	Electrical Interface	Steel, Zinc Chromate Finish
Sensor	17-7PH Stainless Steel	Lock Ring	Steel, Zinc Chromate Finish

Vacuum Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing clockwise to raise the set point, counter clockwise to lower the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Note: SV120 Series sensor will be damaged if positive pressure is applied

Operating Vacuum Range and Standard Tolerances

Table VII - Vacuum Setpoints SV120 Series

Sensor	Max Operating Pressure (" Hg)	Setpoint Range (" Hg)	Setpoint Tolerance (±) (" Hg)	Reset Band (" Hg")
3	30.0	1.6 - 29.5	± 1.2" Hg	1.4 - 4.6
5	30.0	6.0 - 29.5	± 4.0" Hg	2.6 - 7.6

Custom specifications available

TAMO
Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

UHP150 Ultra High Purity Pressure Switch

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	1.0 - 500 PSI
2	Setpoint Tolerance	See Table VIII
3	Temperature Range	-65° F to + 225° F
4	Leak Rate	≤1.0 x 10^{-9} cc/sec He ("Helium Leak Tested")
5	Weight	3.5 oz (typical with 12 inch "W3" electrical interface)

RoHS compliant

High Purity

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications UHP150

Wetted		Non Wetted	
Body/Fitting	316 VIM/VAR Stainless Steel	Electrical Interface	Steel, Zinc Chromate Finish
Sensor	17-7PH Stainless Steel	Lock Ring	Steel, Zinc Chromate Finish

Pressure Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing clockwise to lower the set point, counter clockwise to raise the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Operating Pressure Range and Standard Tolerances

Table VIII - Positive Pressure Setpoints UHP150 Series

Sensor	Max Operating Pressure (PSI)	Setpoint Range (PSI)	Setpoint Tolerance (±) (PSI)	Reset Band (PSI)
3	30	1 - 30	± 0.7	0.7 - 2.3
5	125	3 - 125	± 2.0	1.3 - 3.8
8	250	8 - 250	± 5.0	2.0 - 10.0
15	500	18 - 500	± 10.0	5.0 - 21.0

Custom specifications available

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

UHP160 Ultra High Purity Vacuum Switch

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	1.6 - 29.5" Hg
2	Setpoint Tolerance	See Table IX
3	Temperature Range	-65° F to + 225° F
4	Leak Rate	≤1.0 x 10^{-9} cc/sec He ("Helium Leak Tested")
5	Weight	3.5 oz (typical with 12 inch "W3" electrical interface)

RoHS compliant

High Purity

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications UHP160

Wetted		Non Wetted	
Body/Fitting	316 VIM/VAR Stainless Steel	Electrical Interface	Steel, Zinc Chromate Finish
Sensor	17-7PH Stainless Steel	Lock Ring	Steel, Zinc Chromate Finish

Vacuum Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing clockwise to raise the set point, counter clockwise to lower the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Note: UHP160 Series sensor will be damaged if positive pressure is applied

Operating Vacuum Range and Standard Tolerances

Table IX - Vacuum Setpoints UHP160 Series

Sensor	Max Operating Pressure (" Hg)	Setpoint Range (" Hg)	Setpoint Tolerance (±) (" Hg)	Reset Band (" Hg)
3	30.0	1.6 - 29.5	± 1.2	1.4 - 4.6
5	30.0	6.0 - 29.5	± 4.0	2.6 - 7.6

Custom specifications availal

TAMO
Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

TP700 Dual Pressure Switch

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	1.0 - 500 PSI
2	Setpoint Tolerance	See Table X
3	Temperature Range	-65° F to + 225° F
4	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
5	Weight	8 oz (typical with 12 inch "W3" electrical interface)

RoHS compliant

Dual

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications TP700

Wetted		Non Wetted	
Body/Fitting	Steel, Zinc Chromate Finish, Brass	Electrical Interface	Steel, Zinc Chromate Finish
Locking Compound	Loctite #277	Lock Ring	Steel, Zinc Chromate Finish
O-Ring	Buna N*		
Sensor	17-7PH Stainless Steel		

* Standard material, other options are available, consult with factory

Pressure Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing counter clockwise to raise the set point, clockwise to lower the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Operating Pressure Range and Standard Tolerances

Table X - Positive Pressure Setpoints TP700 Series

Sensor	Max Operating Pressure (PSI)	Setpoint Range (PSI)	Setpoint Tolerance (±) (PSI)	Reset Band (PSI)
3	30	1 - 30	± 0.7	0.7 - 2.3
5	125	3 - 125	± 2.0	1.3 - 3.8
8	250	8 - 250	± 5.0	2.0 - 10.0
15	500	18 - 500	± 10.0	5.0 - 21.0

Custom specifications available

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

TV700 Dual Vacuum Switch

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	2.0 - 29.5" Hg
2	Setpoint Tolerance	See Table XI
3	Temperature Range	-65° F to + 225° F
4	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
5	Weight	8 oz (typical with 12 inch "W3" electrical interface)

RoHS compliant

Dual

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications TV700

Wetted		Non Wetted	
Body	Steel, Zinc Chromate Finish, Brass	Electrical Interface	Steel, Zinc Chromate Finish
Locking Compound	Loctite #277	Lock Ring	Steel, Zinc Chromate Finish
O-Ring	Buna N*		
Sensor	17-7PH Stainless Steel		

* Standard material, other options are available, consult with factory

Vacuum Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing clockwise to raise the set point, counter clockwise to lower the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Note:TV700 Series sensor will be damaged if positive pressure is applied

Operating Vacuum Range and Standard Tolerances

Table XI - Vacuum Setpoints TV700 Series

Sensor	Max Operating Pressure (" Hg)	Setpoint Range (" Hg)	Setpoint Tolerance (±) (" Hg)	Reset Band (" Hg)
3	30.0	2.0 - 29.5	± 1.5	2.0 - 4.0
5	30.0	10.0 - 29.5	± 5.0	3.0 - 7.0

Custom specifications available

TAMO
Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

P250 Pressure Switch with Overpressure Protection

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	1.0 - 100 PSI
2	Setpoint Tolerance	See Table XII
3	Burst Pressure	6,000 PSI
4	Temperature Range	-65° F to + 225° F
5	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
6	Weight	5 oz (typical with 12 inch "W3" electrical interface)

CE

RoHS compliant

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications P250

Wetted		Non Wetted	
Diaphragm	Kapton* or Stainless Steel	Adjusting Nut	Steel
Fitting	300 Series Stainless Steel	Body	300 Series Stainless Steel
O-Ring	Buna N*	Electrical Interface	Steel, Zinc Chromate Finish
Screws	300 Series Stainless Steel	Locking Compound	Loctite #277
Washer	300 Series Stainless Steel		

* Standard material, other options are available, consult with factory

Pressure Switch Adjustment (if field adjustable)
A change in the set point may be made by turning the adjusting ring located in the opening in the side of the body. Causing the ring to turn counter clockwise will lower the set point, and turning clockwise will raise the set point. For the best results after resetting the switch, cycle the system pressure level several times to stabilize the new set point. Repeat preceding adjustment instructions if necessary.

Operating Pressure Range and Standard Tolerances

Table XII - Positive Pressure Setpoints P250 Series

Sensor	Max Operating Pressure (PSI)	Proof Pressure (PSI)	Setpoint Range (PSI)	Setpoint Tolerance (±) (PSI)	Reset Band (PSI)
1	4,000	5,000	1 - 10	± 0.2	0.5 - 1.5
2	4,000	5,000	10 - 20	± 0.4	1.0 - 4.0
3	4,000	5,000	20 - 35	± 0.7	2.0 - 5.0
4	4,000	5,000	35 - 60	± 1.2	4.5 - 8.0
5	4,000	5,000	60 - 100	± 2.0	7.0 - 15.0

Custom specifications available

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

V250 Vacuum Switch with Overpressure Protection

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	0.5 - 29.5" Hg
2	Setpoint Tolerance	See Table XV
3	Burst Pressure	6,000 PSI
4	Temperature Range	-65° F to + 225° F
5	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
6	Weight	5 oz (typical with 12 inch "W3" electrical interface)

CE

RoHS compliant

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications V250

Wetted		Non Wetted	
Diaphragm	Kapton* or Stainless Steel	Actuator/Springs	Steel
Fitting	300 Series Stainless Steel	Adjusting Nut	Steel
O-Ring	Buna N*	Body	300 Series Stainless Steel
Screws	300 Series Stainless Steel	Electrical Interface	Steel, Zinc Chromate Finish
Washer	300 Series Stainless Steel	Locking Compound	Loctite #277

* Standard material, other options are available, consult with factory

Overpressure

Vacuum Switch Adjustment (if field adjustable)
A change in the set point may be made by turning the adjusting ring located in the opening in the side of the body. Causing the ring to turn counter clockwise will raise the set point, and turning clockwise will lower the set point. For the best results after resetting the switch, cycle the system pressure level several times to stabilize the new set point. Repeat preceding adjustment instructions if necessary.

Operating Vacuum Range and Standard Tolerances

Table XV - Vacuum Setpoints V250

Sensor	Max Operating Pressure (PSI)	Setpoint Range (" Hg)	Setpoint Tolerance (±) (" Hg)	Reset Band (" Hg)
0*	3,000	0.5 - 2.0	± 0.3	1.0 - 3.5
1	3,000	2.0 - 5.0	± 0.3	1.0 - 3.5
2	3,000	2.5 - 12.0	± 0.4	1.5 - 6.0
3	3,000	10.0 - 29.5	± 0.4	3.0 - 8.0

***Setpoint Range 0.5-2.0" Hg is decreasing vacuum only**

Custom specifications available

P325 High Pressure Switch with Overpressure Protection

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	400 - 6,000 PSI
2	Setpoint Tolerance	See Table XIII
3	Burst Pressure	6,000 PSI
4	Temperature Range	-65° F to + 225° F
5	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
6	Weight	4.5 oz (typical with 12 inch "W3" electrical interface)

CE

RoHS compliant

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications P325

Wetted		Non Wetted	
Fitting	300 Series Stainless Steel	Actuator/Springs	Steel
O-Ring	Buna N*	Body	300 Series Stainless Steel *
Piston	17-4 Stainless Steel	Electrical Interface	Steel, Zinc Chromate Finish
		Locking Compound	Loctite #277
		Lock Ring	Steel, Zinc Chromate Finish

* Standard material, other options are available, consult with factory

Pressure Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing counter clockwise to raise the set point, clockwise to lower the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Operating Pressure Range and Standard Tolerances

Table XIII - Positive Pressure Setpoints P325 Series

Sensor	Max Operating Pressure (PSI)	Setpoint Range (PSI)	Setpoint Tolerance (±) (PSI)	Reset Band (PSI)
1	3,000	400 - 3,000	± 4%	40 - 150
2	6,000	900 - 6,000	± 4%	50 - 350

Custom specifications available

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

P400 High Pressure Switch with Overpressure Protection

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	100 - 6,000 PSI
2	Setpoint Tolerance	See Table XIV
3	Burst Pressure	12,000 PSI
4	Temperature Range	-65° F to + 225° F
5	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
6	Weight	6.5 oz (typical with 12 inch "W3" electrical interface)

CE
RoHS compliant

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications P400

Wetted		Non Wetted	
Diaphragm	Kapton* or Stainless Steel	Actuator/Springs	Steel
Fitting	300 Series Stainless Steel	Body	300 Series Stainless Steel
O-Ring	Buna N*	Electrical Interface	Steel, Zinc Chromate Finish
		Locking Compound	Loctite #277
		Piston	17-4 Stainless Steel

* Standard material, other options are available, consult with factory

Pressure Switch Adjustment (if field adjustable)
A change in the set point may be made by turning the adjusting ring located in the opening in the side of the body. Causing the ring to turn counter clockwise will lower the set point, and turning clockwise will raise the set point. For the best results after resetting the switch, cycle the system pressure level several times to stabilize the new set point. Repeat preceding adjustment instructions if necessary.

Operating Pressure Range and Standard Tolerances

Table XIV - Positive Pressure Setpoints P400

Sensor	Max Operating Pressure (PSI)	Setpoint Range (PSI)	Setpoint Tolerance (±) (PSI)	Reset Band (PSI)
1	6,000	100 - 500	± 3%	15 - 60
2	6,000	400 - 2,500	± 3%	20 - 200
3	6,000	1,500 - 6,000	± 3%	100 - 600

Custom specifications available

TAMO
Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

DP30 Solid State Differential Pressure Switch

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	1.0 - 500 PSI
2	Setpoint Tolerance	See Table XVI
3	Temperature Range	0° F to + 150° F
4	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
5	Weight	7.8 oz (typical with 12 inch "W3" electrical interface)

CE

RoHS compliant

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications DP30

Wetted		Non Wetted	
Body/Fitting	300 Series Stainless Steel	Electrical Interface	Steel, Zinc Chromate Finish
Locking Compound	Loctite #277 (P1)	Lock Ring	Steel, Zinc Chromate Finish
O-Ring	Buna N*		
Sensor	17-7PH Stainless Steel		
Magnet	Neodymium, nickel finish (P2)		
Spring	Stainless Steel (P2)		

* Standard material, other options are available, consult with factory

Solid State

Differential

Differential Pressure Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing counter clockwise to raise the set point, clockwise to lower the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

See page J-20 for Solid State technical data regarding this switch

Operating Pressure Range and Standard Tolerances

Table XVI - Positive Pressure Setpoints DP30

Sensor	Max System Pressure Differential* (PSID)	Max Operating Pressure (PSID)	Setpoint Range (PSID)	Setpoint Tolerance (±) (PSID)	Reset Band (PSID)
3	30	500	1 - 30	± 0.7	0.7 - 2.3
4	70	500	2 - 70	± 1.4	1.0 - 3.1
5	125	500	3 - 125	± 2.0	1.3 - 3.8
8	250	500	8 - 250	± 5.0	2.0 - 10.0
15	500	500	18 - 500	± 10.0	5.0 - 21.0

*Example: P1 at 107 PSI, P2 at 64, Pressure Differential = (107-64) = 43 PSID

Custom specifications available

DV40 Solid State Differential Vacuum Switch

Technical Specifications

No.	Name	Requirements
1	Setpoint Range	2.0 - 29.5" Hg
2	Setpoint Tolerance	See Table XVII
3	Temperature Range	0° F to + 150° F
4	Leak Rate	≤1.0 x 10^{-3} cc/min Air ("Bubble Tight")
5	Weight	7.8 oz (typical with 12 inch "W3" electrical interface)

CE
RoHS compliant

Electrical Rating

Max. Amp Rating	Volts AC/DC	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Material Specifications DP30

Wetted		Non Wetted	
Body/Fitting	300 Series Stainless Steel	Electrical Interface	Steel, Zinc Chromate Finish
Locking Compound	Loctite #277 (P1)	Lock Ring	Steel, Zinc Chromate Finish
O-Ring	Buna N*		
Sensor	17-7PH Stainless Steel		
Magnet	Neodymium, nickel finish (P2)		
Spring	Stainless Steel (P2)		

* Standard material, other options are available, consult with factory

Solid State

Differential

Differential Vacuum Switch Adjustment (if field adjustable)
This model may be adjusted by loosening the Lock Ring and turning the electric switch housing clockwise to raise the set point, counter clockwise to lower the set point. Holding the electric switch housing in position, tighten the Lock Ring and check the set point. Repeat preceding adjustment instructions if necessary.

Note: The DV40 series vacuum switches may be damaged if exposed to positive pressure

See page J-20 for Solid State technical data regarding this switch

Operating Pressure Range and Standard Tolerances

Table XVII - Vacuum Setpoints DP40

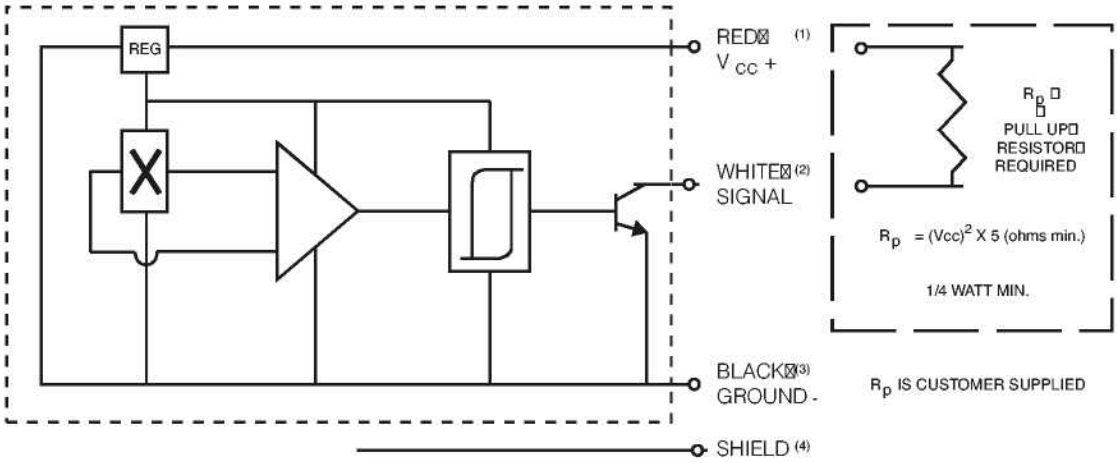
Sensor	Max System Pressure Differential* (PSID)	Max Operating Pressure (PSI)	Setpoint Range (" Hg)	Setpoint Tolerance (±) (" Hg)	Reset Band (" Hg)
3	15	100	2.0 - 29.5	± 1.0	1.0 - 4.0

*Example: P1 at 12.0" Hg, P2 at 3.0" Hg, Pressure Differential = (12.0-3.0) = 9.0" Hg

Custom specifications available

Solid State Technical Data

Hall Effect Solid State Electronic Switch



OPTIONS ON ALL SOLID STATE SWITCHES:
REVERSE POLARITY PROTECTION
OUTPUT SHORT CIRCUIT PROTECTION
PNP OUTPUT CAPABILITY (NPN output is standard)

ELECTRONICS SPECIFICATION

INPUT VOLTAGE Vcc: +4.5 TO 24 VDC
INPUT CURRENT Icc: 9 MILLIAMPS MAX. (OUTPUT VOLTAGE HI)
OUTPUT SATURATION VOLTAGE: 400 MILLIVOLTS MAX.
OUTPUT ON CURRENT
OUTPUT RISE TIME: 1 MICROSECOND
OUTPUT FALL TIME: 1 MICROSECOND
OUTPUT LEAKAGE CURRENT: 10 MICROAMPS
MAX. WHEN SWITCH IS NORMALLY **OPEN**: LOGIC IS "HI"
WHEN SWITCH IS **CLOSED**: LOGIC IS "LO" AT SET POINT

TEMPERATURE RANGE: 0° F to +160° F, a slight change up to 2% in the set point may occur below +40° F and above +125° F.

Solid State Low Pressure

HE 901 Series | 1 - 500 PSI RANGE

Features:
- Stainless Steel Construction
- Capsule Type Pressure Sensor
- Miniature Size
- Excellent Accuracy and Repeatability
- Field Adjustable, Factory Set, or Factory Set & Locked

Note: All values given in PSI (gauge).

Sensor	Max. System Pressure (PSI)	Set Point Range (PSI)	Set Point Tolerance (PSI)	Reset Band (PSI)
3	30	1 - 30	± 0.7	0.7 - 2.5
5	125	3 - 125	± 2.0	1.2 - 3.5
8	250	8 - 250	± 5.0	2.0 - 10.0
15	500	18 - 500	± 10.0	5.0 - 20.0

PRESSURE SWITCH ADJUSTMENT (if field adjustable)
This model may be adjusted by loosening the lock ring and turning the electric switch housing clockwise to lower set point, counter clockwise to raise the set point. Holding the electric switch housing in position, tighten the lock ring and check the pressure setting. Repeat preceding adjustment instructions if necessary.

Wetted Materials:
Capsule - 17-7 PH Stainless Steel
Seal - Buna-N, Viton, EPR
Unibody - 300 Series Stainless Steel

HE 902 Series | 1 - 100 PSI RANGE | Burst 6,000 PSI

UL 353 Recognized
</= 125 PSI

Features:
- Stainless Steel Construction
- Sensitive Limp Diaphragm Sensor
- Miniature Size
- Excellent Accuracy and Repeatability
- Field Adjustable, Factory Set, or Factory Set & Locked

Note: All values given in PSI (gauge).

Sensor	Max. System Pressure	Set Point Range (PSI)	Set Point Tolerance (PSI)	Reset Band (PSI)	Burst Pressure (PSI)
1	3,000	1 - 10	± 0.5	1.0 - 3.0	6,000
2	3,000	5 - 50	± 1.0	1.2 - 3.5	6,000
3	3,000	10 - 100	± 2.0	5.0 - 9.0	6,000

PRESSURE SWITCH ADJUSTMENT (if field adjustable)
A change in the set point may be made by turning the adjusting ring located in the opening in the side of the body. Causing the ring to turn counter clockwise will lower the set point, and turning clockwise will raise the set point. For the best results after resetting the switch, cycle the system pressure level several times to stabilize the new set point. Repeat preceding adjustment instructions if necessary.

Wetted Materials:
Fitting - 300 Series Stainless Steel
Adapter - 300 Series Stainless Steel
Seal - Buna-N, Viton, EPR
Diaphragm - Kapton
Backup - 300 Series Stainless Steel
Screw - 300 Series Stainless Steel

Solid State High Pressure

HE 903 Series | 400 - 6,000 PSI RANGE | Burst 6,000 PSI

Features:
- Stainless Steel Construction
- Piston With O-Ring Style Sensor
- Miniature Size
- Excellent Accuracy and Repeatability
- Field Adjustable, Factory Set, or Factory Set & Locked

Sensor	Max. System Pressure (PSI)	Set Point Range (PSI)	Set Point Tolerance (PSI)	Reset Band (PSI)	Burst Pressure (PSI)
1	3,000	400 - 3,000	± 4%	40 - 150	6,000
2	6,000	900 - 6,000	± 4%	50 - 350	6,000

Notes:All values given in PSI (gauge).
Media type must accompany orders.

PRESSURE SWITCH ADJUSTMENT (if field adjustable)
This model may be adjusted by loosening the lock ring and turning the electric switch housing clockwise to lower set point, counter clockwise to raise the set point. Holding the electric switch housing in position, tighten the lock ring and check the pressure setting. Repeat preceding adjustment instructions if necessary.

Wetted Materials:
Piston - 17-4 Stainless Steel
Seal - Buna-N, Viton, EPR
Unibody - 300 Series Stainless Steel

HE 904 Series | 100 - 6,000 PSI RANGE | Burst 12,000 PSI

UL 353 Recognized
</= 125 PSI

Features:
- Stainless Steel Construction
- Sensitive Limp Diaphragm Sensor
- Miniature Size
- Excellent Accuracy and Repeatability
- Field Adjustable, Factory Set, or Factory Set & Locked

Sensor	Max. System Pressure (PSI)	Set Point Range (PSI)	Set Point Tolerance (PSI)	Reset Band (PSI)	Burst Pressure (PSI)
1	6,000	100 - 500	± 3%	15 - 60	12,000
2	6,000	400 - 2,500	± 3%	20 - 200	12,000
3	6,000 PSI	1,500 - 6,000	± 3%	100 - 600	12,000 PSI

Note:All values given in PSI (gauge).
PRESSURE SWITCH ADJUSTMENT (if field adjustable)
A change in the set point may be made by turning the adjusting ring located in the opening in the side of the body. Causing the ring to turn counter clockwise will lower the set point, and turning clockwise will raise the set point. For the best results after resetting the switch, cycle the system pressure level several times to stabilize the new set point. Repeat preceding adjustment instructions if necessary.

Wetted Materials:
Fitting - 300 Series Stainless Steel
Adapter - 300 Series Stainless Steel
Seal - Buna-N, Viton, EPR
Diaphragm - Kapton
Backup - 300 Series Stainless Steel
Screw - 300 Series Stainless Steel

Solid State Vacuum

HE 905 Series | 1.6 - 29.9" Hg RANGE

UL 353 Recognized
</= 125 PSI

Features:
- Stainless Steel Construction
- Piston With O-Ring Style Sensor
- Miniature Size
- Excellent Accuracy and Repeatability
- Field Adjustable, Factory Set, or Factory Set & Locked

Sensor	Max. System Pressure (" Hg)	Set Point Range (" Hg)	Set Point Tolerance (" Hg)	Reset Band (" Hg)
3	30.0	1.6 - 29.9	± 1.0	1.0 - 4.0

NOTE: The HE905 series vacuum switches may be damaged if exposed to positive pressure

VACUUM SWITCH ADJUSTMENT (if field adjustable)
This model may be adjusted by loosening the lock ring and turning the electric switch housing clockwise to lower set point, counter clockwise to raise the set point. Holding the electric switch housing in position, tighten the lock ring and check the pressure setting. Repeat preceding adjustment instructions if necessary.

Wetted Materials:
Capsule - 17-7 PH Stainless Steel
Seal - Buna-N, Viton, EPR
Unibody - 300 Series Stainless Steel

HE 906 Series | 1 - 29.9" Hg RANGE | Burst 6,000 PSI

UL 353 Recognized
</= 125 PSI

Features:
- Stainless Steel Construction
- Sensitive Limp Diaphragm Sensor
- Miniature Size
- Excellent Accuracy and Repeatability
- Field Adjustable, Factory Set, or Factory Set & Locked

Sensor	Max. System Pressure (PSI)	Set Point Range (" Hg)	Set Point Tolerance (" Hg)	Reset Band (" Hg)	Burst Pressure (PSI)
1	3,000	1.0 - 5.0" Hg	± 0.3" Hg	0.5 - 2" Hg	6,000
2	3,000	2.0 - 29.9" Hg	± 0.5" Hg	1.0 - 3" Hg	6,000

VACUUM SWITCH ADJUSTMENT (if field adjustable)
A change in the set point may be made by turning the adjusting ring located in the opening in the side of the body. Causing the ring to turn counter clockwise will raise the set point, and turning clockwise will lower the set point. For the best results after resetting the switch, cycle the system pressure level several times to stabilize the new set point. Repeat preceding adjustment instructions if necessary.

Wetted Materials:
Fitting - 300 Series Stainless Steel
Adapter - 300 Series Stainless Steel
Seal - Buna-N, Viton, EPR
Diaphragm - Kapton
Backup - 300 Series Stainless Steel
Screw - 300 Series Stainless Steel

How to Order: Capsule Sensor Switches

(P110, V110, P500, V500, P550 TP700, TV700 Series)

P110	-3	1	W3	C	-X	/9999
Switch Series	Sensor	Max Amperage	Interface	Setpoint Adjustability	Options Callout	Unique Four Digit Number

Switch Series

P110, V110, P500, V500, P550, TP700 or TV700

Sensor

-3, -4, -5, -8, -15 (see switch series specification sheet for individual pressure/vacuum range)

Amperage

Max. Amp Rating	Volts AC/DC1	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Interface

W2 = 2 Jacketed Wire Leads (Standard)
W3 = 3 Jacketed Wire Leads (Standard)
F2 = 2 Screw Terminals (# 8-32 screws)
F3 = 3 Screw Terminals (# 8-32 screws)
Q2 = 2 Quick-Connect Terminals
Q3 = 3 Quick-Connect Terminals
L2 = 2 Flying Wire Leads
L3 = 3 Flying Wire Leads
S2 = 2 Solder Pins
S3 = 3 Solder Pins

Setpoint Adjustability

A = Factory set and field adjustable
B = Factory set and permanently locked
C = Switch set at the middle of its range and field adjustable (customer sets switch to final set point)

Options Callout

-X = Special Options; this will only be inserted when your application calls for special options. On initial order, include what X indicates following the part number; example ("X= Electrical Connector Assembly").

Unique Four Digit Number

Insert the four digit number (sometimes called "file number") that Wasco has supplied to you. This number identifies all the unique properties of your application. Note, this number is issued by the factory or your distributor/representative. Do not insert anything other than what has been issued to you. If the requirements for your application changes, check with Wasco to see if this four digit number needs to change.

Example: P110-31W3C-X/9999

This part number indicates that this is a (P110) series switch with a (-3) sensor (Maximum pressure of 30PSI) with an electrical switch max amperage of 1 amp. Interface is (W3) three Jacketed Wire Leads. The switch is (A) Factory set and field adjustable. (-X) Options callout indicated (for this switch only) that there is a Stainless Steel enclosure. (9999) is the unique four digit number Wasco has issued to you.

How to Order: Spring Package Switches

(P250, V250, P325, P400 Series)

V250	-3	1	W3	C	-X	/9999
Switch Series	Sensor	Amperage	Interface	Setpoint Adjustability	Options Callout	Unique Four Digit Number

Switch Series

P250, V250, P325 or P400

Sensor

-0, -1, -2, -3, -4, -5 (see switch series specification sheet for individual pressure/vacuum range)

Amperage

Max. Amp Rating	Volts AC/DC1	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Interface

W2 = 2 Jacketed Wire Leads (Standard)
W3 = 3 Jacketed Wire Leads (Standard)
F2 = 2 Screw Terminals (# 8-32 screws)
F3 = 3 Screw Terminals (# 8-32 screws)
Q2 = 2 Quick-Connect Terminals
Q3 = 3 Quick-Connect Terminals
L2 = 2 Flying Wire Leads
L3 = 3 Flying Wire Leads
S2 = 2 Solder Pins
S3 = 3 Solder Pins

Setpoint Adjustability

A = Factory set and field adjustable
B = Factory set and permanently locked
C = Switch set at the middle of its range and field adjustable (customer sets switch to final set point)

Options Callout

-X = Special Options; this will only be inserted when your application calls for special options. On initial order, include what X indicates following the part number; example ("X= Electrical Connector Assembly").

Unique Four Digit Number

Insert the four digit number (sometimes called "file number") that Wasco has supplied to you. This number identifies all the unique properties of your application. Note, this number is issued by the factory or your distributor/representative. Do not insert anything other than what has been issued to you. If the requirements for your application changes, check with Wasco to see if this four digit number needs to change.

Example: V250-31W3C-X/9999

This part number indicates that this is a (V250) series switch with a (-3) sensor and an electrical switch max amperage of 1 amp. Interface is (W3) three Jacketed Wire Leads. The switch is (A) Factory set and field adjustable. (-X) Options callout indicated (for this switch only) that there is a Stainless Steel enclosure. (9999) is the unique four digit number Wasco has issued to you.

How to Order: High Purity Switches

(SP120, SV120, UHP150, UHP160)

SP120	-3	1	W3	C	-X	/9999
Switch Series / Fitting	Sensor	Max Amperage	Interface	Setpoint Adjustability	Options Callout	Unique Four Digit Number

Switch Series

SP120, SV120, UHP150 or UHP160

Fitting

4 = 1/4" NPT Male
7 = 7/16-20 UNF
0 = Custom Fittings
8 = 1/8" NPT Male
9 = 1/4" Face Seal

Sensor

-3, -4, -5, -8, -15 (see switch series specification sheet for individual pressure/vacuum range)

Amperage

Max. Amp Rating	Volts AC/DC1	Amp Resistive	Amp Inductive	Contact Material
1	115/28	1/1	1/0.5	Gold
5	250/28	5/5	5/3	Silver
7	250/28	7/7	7/4	Silver

Interface

W2 = 2 Jacketed Wire Leads (Standard)
W3 = 3 Jacketed Wire Leads (Standard)
F2 = 2 Screw Terminals (# 8-32 screws)
F3 = 3 Screw Terminals (# 8-32 screws)
Q2 = 2 Quick-Connect Terminals
Q3 = 3 Quick-Connect Terminals
L2 = 2 Flying Wire Leads
L3 = 3 Flying Wire Leads
S2 = 2 Solder Pins
S3 = 3 Solder Pins

Setpoint Adjustability

A = Factory set and field adjustable
B = Factory set and permanently locked
C = Switch set at the middle of its range and field adjustable (customer sets switch to final set point)

Options Callout

-X = Special Options; this will only be inserted when your application calls for special options. On initial order, include what X indicates following the part number; example ("X= Electrical Connector Assembly").

Unique Four Digit Number

Insert the four digit number (sometimes called "file number") that Wasco has supplied to you. This number identifies all the unique properties of your application. Note, this number is issued by the factory or your distributor/representative. Do not insert anything other than what has been issued to you. If the requirements for your application changes, check with Wasco to see if this four digit number needs to change.

Example: SP120-31W3C-X/9999

This part number indicates that this is a (SP120) series switch with a (-3) sensor (Maximum pressure of 30PSI) with an electrical switch max amperage of 1 amp. Interface is (W3) three Jacketed Wire Leads. The switch is (A) Factory set and field adjustable. (-X) Options callout indicated (for this switch only) that there is a Stainless Steel enclosure. (9999) is the unique four digit number Wasco has issued to you.

How to Order: Differential Switches

(DP30, DV40 Series)

DP30	-05	B	B	080	R	A	-X	/9999
Switch Series	Sensor	Fitting (P1)	Fitting (P2)	Setpoint	Setpoint Indicator	Setpoint Adjustability	Options Callout	Unique Four Digit Number

Switch Series

DP30, DV40

Sensor

-3, -4, -5, -8, -15 (see switch series specification sheet for individual pressure/vacuum range)

Fitting ("P1") & ("P2") Select one of the following for each fitting. See page J-20 for optional fittings.

A = Cartridge (7/8 - 14)
B = 1/4" tube with Swagelok Nut & Ferrule
C = 1/8" NPT Male
D = 1/4" NPT Male
E = 1/4" Male VCR
F = M12 x 1.5 Male
G = 7/16 - 20 Male

Setpoint

Using a three digit number, insert what your desired setpoint ("actuation point") is. For a mid-range setpoint, insert "MDR"

Setpoint Indicator

For DP30 only

R = Setpoint is RISING presure
F = Setpoint is FALLING pressure

For DV40 only

H = Setpoint on increasing vacuum (measuring vacuum with inches of mercury (" Hg))
J = Setpoint on decreasing vacuum (measuring vacuum with inches of mercury (" Hg))
K = Setpoint on decreasing Torr (incr vacuum), where 760 Torr = atmosphere and 0 Torr = perfect vacuum
L = Setpoint on increasing Torr (decr vacuum), where 760 Torr = atmosphere and 0 Torr = perfect vacuum

Setpoint Adjustability

A = Factory set and field adjustable
B = Factory set and permanently locked
C = Switch set at the middle of its range and field adjustable (customer sets switch to final set point)

Options Callout

-X = Special Options; this will only be inserted when your application calls for special options. On initial order, include what X indicates following the part number; example ("X= Electrical Connector Assembly").

Unique Four Digit Number

Insert the four digit number (sometimes called "file number") that Wasco has supplied to you. This number identifies all the unique properties of your application. Note, this number is issued by the factory or your distributor/representative. Do not insert anything other than what has been issued to you. If the requirements for your application changes, check with Wasco to see if this four digit number needs to change.

Example: DP30-05BB080RA-X/9999

This part number indicates that this is a (DP30) series switch with a (-5) sensor (Maximum pressure of 125 PSI). P1 fitting is (B) 1/4" tube with Swagelok® Nut & Ferrule; P2 fitting is also a (B) 1/4" tube with Swagelok® Nut & Ferrule. The setpoint is 80 PSID (080) on (R) RISING pressure, the switch is (A) Factory set and field adjustable. (-X) Options callout indicated (for this switch only) that the switch includes a BX1-1 enclosure (see page 20 of this catalog for optional enclosure information). (9999) is the unique four digit number Wasco has issued to you.

How to Order: Solid State Switches

(Solid State Series)

HE901	-3	0	C	-X	/9999
Switch Series	Sensor	Fitting	Setpoint Adjustability	Options Callout	Unique Four Digit Number

Switch Series

HE901, HE902, HE903, HE904, HE905 or HE906

Sensor

-1, -2, -3, -4, -5, -8, -15 (see switch series specification sheet for individual pressure/vacuum range)

Fitting

4 = 1/4" NPT Male
7 = 7/16-20 UNF
8 = 1/8" NPT Male
9 = 1/4" Face Seal
0 = Custom Fittings

Setpoint Adjustability

A = Factory set and field adjustable
B = Factory set and permanently locked
C = Switch set at the middle of its range and field adjustable (customer sets switch to final set point)

Options Callout

-X = Special Options; this will only be inserted when your application calls for special options. On initial order, include what X indicates following the part number; example ("X= Electrical Connector Assembly").

Unique Four Digit Number

Insert the four digit number (sometimes called "file number") that Wasco has supplied to you. This number identifies all the unique properties of your application. Note, this number is issued by the factory or your distributor/representative. Do not insert anything other than what has been issued to you. If the requirements for your application changes, check with Wasco to see if this four digit number needs to change. This number is used as a revision control.

Example: HE901-30C-X/9999

This part number indicates that this is a (HE901) series switch with a (-3) sensor (Maximum pressure of 30PSI.) The switch is (C) set at the middle of its range and is field adjustable. (-X) Options callout indicated (for this switch only) that a BX1-3 Enclosure has been added. (9999) is the unique four digit number Wasco has issued to you.

Notes

Interface

Solid State switches come with a three lead, electrically shielded jacketed wire with a fourth grounding wire.

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

Application Worksheet

Take a few minutes to record your application. Please complete as much information as you can. Once completed, your information will help determine the proper model and sensor. We will be more than happy to assist you, but first, have as much of your information outlined below.

Your Name: _____ Phone: _____

Company: _____ Fax: _____

E-mail: _____

• Medium (media) _____

• Desired Set Point _____ +/- _____ Increasing Pressure ☐ Decreasing Pressure ☐
Increasing Vacuum ☐ Decreasing Vacuum ☐

• Reset Point (if required) _____ Minimum _____ Maximum _____

• Switch Adjustability A ☐ Factory set, and field adjustable
B ☐ Factory set, and permanently locked
C ☐ Set mid-range; customer to set final set point

• Electrical Use SPDT ☐ SPST ☐ Common and NO ☐ NC ☐

• Desired Fitting _____

• Max. System Pressure _____ PSIG. Normal Working Pressure _____ PSIG

• Max. Spike Pressure _____ Number of Spikes per ___ minute ___ hour ___ day

• Max. System Temp. _____ ° F Normal Operating Temp. _____ ° F

• Electrical System _____ Volts, AC ☐ DC ☐ @ ____ Amp, Inductive ☐ Resistive ☐

• CPM (cycles per minute) _____ Shifts/Day _____

• Special Protection, ie: NEMA _____

• Vibration and Shock (if applicable)
Vibration _____ CPS @ _____ G's
Shock _____ G's @ _____ Milliseconds

• Helium Leakage Requirement ☐ If so, __ x 10^{-} – cc/sec He
• Special Requirements or Modification. Please outline in detail below.

_____
_____
_____

QF16/120108

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

Standard Process Fittings

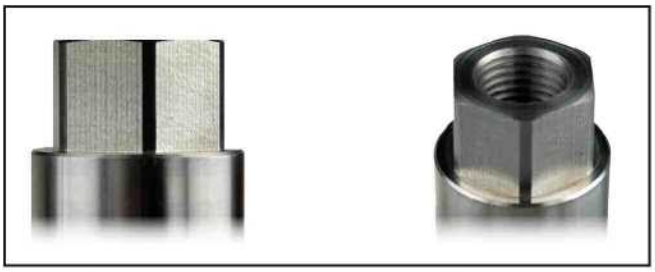
1/4 NPT Male

7/16-20 UNF

1/8" NPT Male

1/4" Face Seal

Custom Process Fittings



NPT Female NPT Female

1 1/2" Surface Mount

1 1/8" Surface Mount

KF-16

1/4" Tube

M12 x 1.5

KF-25

5/16-24 UNF

Additional Fittings Available

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015
E-Mail: info@tamo.co.uk Website: www.tamo.co.uk

Enclosures

All enclosures are factory installed only, and are usually installed on switches that are **factory set and locked** (option "B" under the Setpoint Adjustability category.) This will assure protection to the equivalent minimum level of NEMA 4 *or* IP 65.

BX1 Series Enclosures

BX1 Series Enclosures (except BX1-2X) come standard with 20 AWG x 18" long jacketed wire.

BX1 Series Enclosure Material:
Body - 300 Series Stainless Steel
Strain Relief - (BX1-3) nylon with BUNA-N gasket/gland

BX1-2X terminal pin-out
#1 pole - Normally open
#2 pole - Normally closed
Ground pole - common

BX1-3 Includes Heyco Liquid tight pigtail fitting with strain relief.

Custom Enclosures

Cannon 3-Pin Connector

Applicable Switch Models:
P/V110, P/V250, P325, P400, SP/SV120, UHP150, UHP160, HE901-906, DP30, and DV40 series.

9-Pin Enclosure

Material:
Body - 300 Series Stainless Steel

TAMO

Tamo Limited,
22 Sarum Complex, Salisbury Road, Uxbridge
Middlesex.
UB8 2RZ
Tel: 01895 200015

Glossary of Terms

Accuracy: A measure of conformity between the value read on the indicating scale or calibrated dial and an accepted standard value. Instrument accuracy is usually expressed as a % of its range, i.e. "accurate within the limits of + x % of full range span."
Burst Pressure: Pressure which causes failure of the pressure element, resulting in permanent damage.
Deadband: The minimum change in pressure required to open or close the contacts of a switch. (See also Reset Band)
Dielectric Strength - the maximum electric field strength that an insulator can withstand intrinsically without breaking down, i.e., without experiencing failure of its insulating properties.
Hysteresis: The difference in readings of an instrument when the value of the measured quantity is approached from two different directions.
Maximum Operating Pressure: The designed safe limit of a pressure element for regular use at a specified pressure.
Maximum Temperature: The highest temperature at which a pressure or vacuum switch may be operated without resulting in the loss of accuracy and set point tolerance.
NEMA 4: Water-tight and dust-tight enclosures intended for use indoors or outdoors to protect the equipment against splashing, falling, or hose directed water, external condensation and water seepage. They are also sleet-resistant.
NEMA 4X: Water-tight, dust-tight and corrosion resistant enclosures with same qualifications as NEMA 4, but with added corrosion resistance.
Operating Pressure Range: The pressure range within which two opposing sensors can be safely operated and still maintain set point adjustability provided the difference in pressure between them does not exceed the designed adjustable range.
Proof Pressure: Pressure in excess of the maximum working pressure to which a pressure sensor may be occasionally subjected, which causes no permanent damage. The unit may require recalibration.
Reset Band: The difference in pressure between the set point and the reset point. (See also Deadband)
Reset point: Point at which a switch will return to its original or normal operating position.
Sensor: A primary measuring device (bellows, diaphragm, piston) for detecting either the absolute or variable pressure.
Set Point: The predetermined point at which a switch will operate and can be specified either on increasing or decreasing pressure.
Set Point Tolerance: The exactness with which a unit duplicates its set point value after each successive cycle, within the same conditions.
SPDT: Single pole double throw, an SPDT switch contains one common, normally open and normally closed terminal.
Vacuum Pressure: The value of pressure below atmospheric pressure.
Wetted Parts: Components that come into direct contact with the process.

Return Policy

Should one of our products be suspected of malfunction, return it as soon as possible, with shipping charges prepaid. An RMA (Return Material Authorization) number must be issued for your return. Please do not attempt to disassemble or repair as this action may destroy evidence of malfunction. Your cooperation in this regard will save both time and money.

Warranty Policy

WASCO warrants the differential, pressure and vacuum switch products in this catalog to be free from defects in material and workmanship in normal use and service for a period of 3 years or 1,,000,,000,,000 cycles from date of shipment, which ever occurs first. This warranty is limited to the repair or replacement of the product or part thereof which the Seller's inspection finds to be defective. This warranty shall not apply if the product has been subjected to misuse, negligence, accident, modification or repair by unauthorized persons. Repairs NOT covered under this Warranty will be subjected to a standard service charge. No other warranty or guarantee is expressed or implied.

Note: Please consider all the possible failure modes in your system that could occur with the use of our product. The switch you are considering could fail mechanically or electrically and the user must bear full responsibility for its' misapplication and misuse, including but not limited to any losses or damages caused by your use of that switch in your products, and by your customer's use of your products. Wasco, Inc. accepts no responsibility or liability for failures resulting from any misapplication of its product.