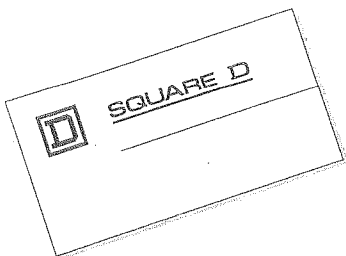
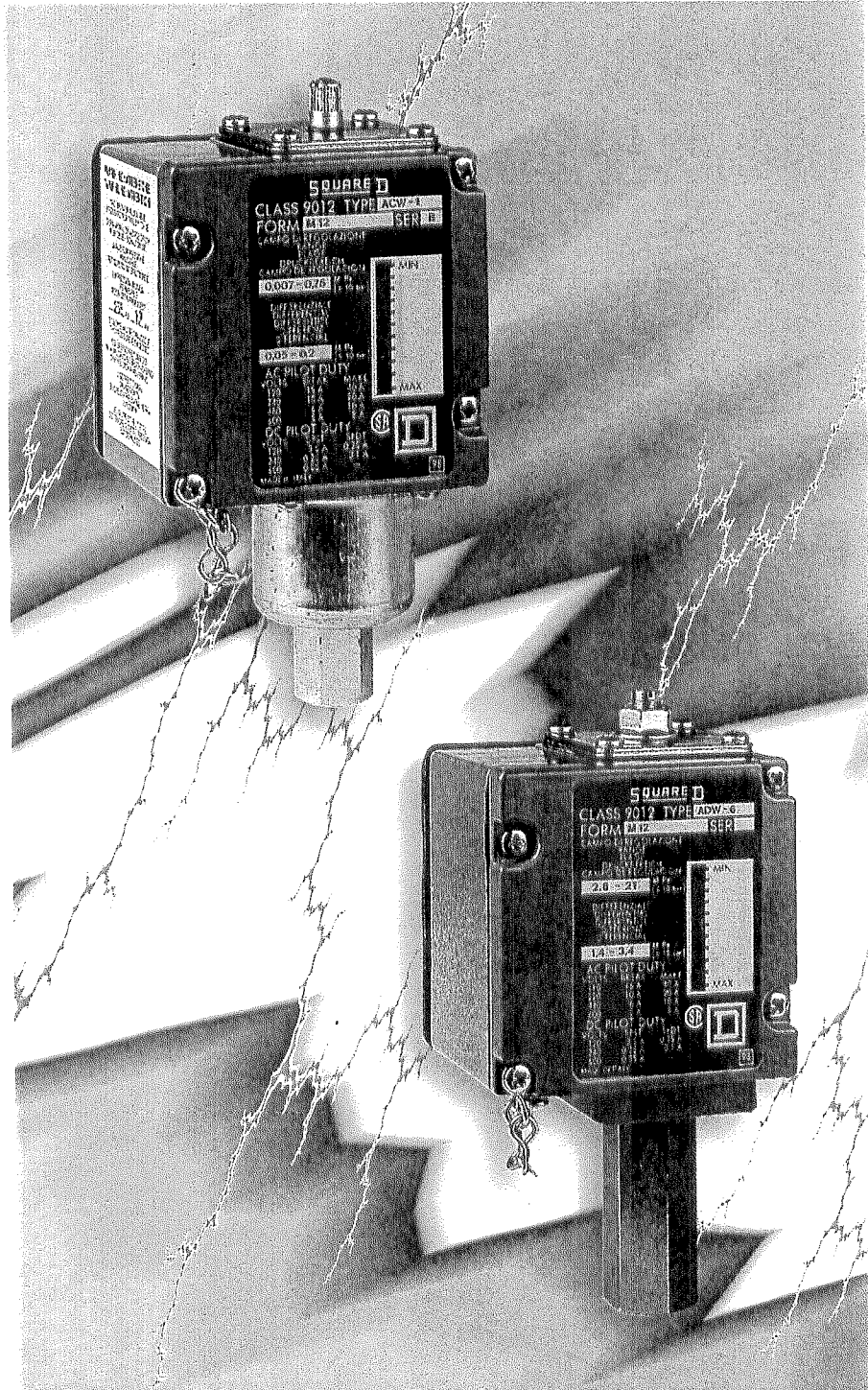


Class 9012 Industrial Pressure Switches



GROUPE SCHNEIDER

Industrial Pressure Switches

Type A

- Heavy duty switch for virtually any industrial application involving air, water or oil
- Bellows or piston actuated types
- Settings externally adjustable by screwdriver or accessory plastic knob
- Gasketed die cast enclosure - oil, coolant and moisture tight to IP 65
- Mechanism incorporates hardened parts and short travel characteristics for long mechanical life under severe conditions
- Double break snap switch with silver contacts, single or double pole

Technical Data

Type ACW

Steam - Switches should not be applied directly on steam exceeding 0,1 M Pa.

Adjustments - The range setting is made by turning the stem on top of the device with a screwdriver. Removal of the front cover reveals the screwdriver differential adjustment in the upper right-hand corner of the device.

Surge and pulsation Dampening - ACW switches are furnished with 1,5 mm pulsation plugs to prevent false operation of the switch on minor pressure surges. For surges of greater magnitude a surge reducer can be used.

Actuators - The materials in contact with the pressure medium on standard switches are as follows:

Housing and Connector - Zinc Plated Steel
Bellows - Phosphor Bronze
Pulse Plug - Brass
Joints - Soft Solder

Life Expectancy - Normally, the life of the ACW switching mechanism, excluding the bellows, is about 10 million operations. Bellows life can vary from a few thousand to millions of operations depending on operating pressure, bellows stroke, frequency of operation presence of corrosive elements and pressure surges. Complete data on this subject is available from the factory. High speed cycling, or rapid pressure drop to zero on each cycle can drastically reduce the life of a bellows actuated switch.

Service Temperature Limitations

Ambient	Pressure Media
Minimum: -56°C (-70°F) Maximum: +85°C (+185°F)	Minimum: -73°C (-100°F) Maximum: +125°C (+257°F)

Type ADW

Oil Leakage - Slight oil leakage past the piston is normal on the devices that have no piston seal. A G1/8 ISO 7/1 Rp tapped drain hole in the cylinder wall on the low pressure side of the piston permits piping of the leakage oil back to the reservoir. This hole should never be plugged nor should oil return lines be connected to a high volume discharge system because back pressure on the drain side can damage the diaphragm. Devices with piston seals have no leakage, and although an oil return line is not needed, the drain hole still should never be plugged.

Surge and Pulsation Dampening - These devices have as standard a 0,5 mm orifice pulsation plug which prevents false operation on minor pressure surges. For heavier duty surge snubbing a surge reducer can be used.

Actuators - The materials in contact with the pressure medium on standard switches are as follows:

Piston Housing - Cast Iron
Piston - Steel
Pulse Plug - Brass
Diaphragm - Nitrile Rubber (Buna N)
Seal - Nitrile Rubber (Buna N) } Piston Seal Types Only
Back up Ring - P.T.F.E.

Service Temperature Limitations

Ambient	Pressure Media
Minimum: -30°C (-22°F) Maximum: +85°C (+185°F)	Minimum: -30°C (-22°F) Maximum: +125°C (+257°F)

Industrial Pressure Switches

Type A

Technical Data

Enclosure

Gasketed, die cast, drip tight and oil resistant housing to IP65 NEMA Type 13

Electrical



The contacts used in type A devices are:

Single Pole, Double throw - Class 9007 Type AO-1 Snap Switch

Double Pole, Double throw - Class 9007 Type CO-3 Snap Switch

Contact Ratings

NEMA Ratings

Type		AC Ratings				DC Ratings		
		120V	240V	415V	600V		120V	240V
Single pole, double throw. One NO circuit and one NC circuit. These circuits cannot be used on opposite polarities	Maximum making current inductive 35% Cos θ A	40	20	10	8	Maximum making and breaking current. Pilot duty resistive and inductive A	0,25	0,1
	Maximum breaking current inductive 35% Cos θ A	15	10	6	5			
	Maximum continuous current A	15	15	15	15	Maximum continuous current A	15	15
	Maximum making, breaking and continuous current resistive 75% Cos θ A	15	15	15	15			
 Double pole, double throw. Each pole electrically separate from the other and may be used on opposite polarities. The contacts on each pole are single pole double throw and cannot be used on opposite polarities.	Maximum making current inductive 35% Cos θ A	30	15	7,5	6	Maximum making and breaking current. Pilot duty resistive and inductive A	115V 0,2	230V 0,1
	Maximum breaking current inductive 35% Cos θ A	3	1,5	0,75	0,6			
	Maximum continuous current A	10	10	10	10	Maximum continuous current A	10	10
	Maximum making, breaking and continuous current resistive 75% Cos θ A	10	10	10	10			
								

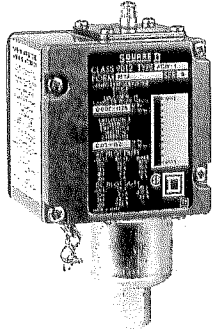
Industrial Pressure Switches

Type ACW

Bellows Actuated Pressure Switches

For use on Air, Oil, Water, other liquids and Gases. Ingress Protection IP 65 □ (IEC 529)

Single pole - double throw contacts (1 NO + 1 NC)



Type ACW-1

Range setting		Adjustable Differential		Maximum allowable pressure		Order Class 9012
Switch can be adjusted to operate on Falling pressure within this range		Add to range setting to obtain operating point on Rising pressure				Type...
MPa	PSI	MPa	PSI	MPa	PSI	
0,007 - 0,07	1 - 10	0,004 - 0,034	1/2 - 5	0,2	30	ACW-3
0,007 - 0,14	1 - 20	0,01 - 0,04	1 - 6	0,2	30	ACW-4
0,007 - 0,52	1 - 75	0,03 - 0,1	4 - 15	0,7	100	ACW-5
0,007 - 0,76	1 - 110	0,05 - 0,2	7 - 30	1,7	255	ACW-1
0,14 - 1,2	20 - 180	0,07 - 0,2	10 - 30	1,7	255	ACW-8
0,07 - 1,8	10 - 265	0,1 - 0,17	15 - 25	2	300	ACW-9
0,07 - 2,1	10 - 300	0,17 - 0,86	25 - 125	4,1	600	ACW-2
0,52 - 3,4	75 - 500	0,34 - 0,83	50 - 120	14	2000	ACW-6
1 - 6,9	150 - 1000	0,59 - 1	85 - 145	14	2000	ACW-7
2,4 - 13,1	350 - 1900	1,1 - 2,1	150 - 300	17,5	2500	ACW-10

Double pole - double throw contacts (2 NO + 2 NC)

Range setting		Adjustable Differential		Maximum allowable pressure		Order Class 9012
Switch can be adjusted to operate on Falling pressure within this range		Add to range setting to obtain operating point on Rising pressure				Type...
MPa	PSI	MPa	PSI	MPa	PSI	
0,007 - 0,07	1 - 10	0,005 - 0,048	3/4 - 7	0,2	30	ACW-23
0,007 - 0,14	1 - 20	0,014 - 0,07	2 - 10	0,2	30	ACW-24
0,007 - 0,52	1 - 75	0,041 - 0,14	6 - 20	0,7	100	ACW-25
0,007 - 0,76	1 - 110	0,09 - 0,28	13 - 40	1,7	255	ACW-21
0,14 - 1,2	20 - 180	0,1 - 0,28	15 - 40	1,7	255	ACW-28
0,07 - 1,7	10 - 250	0,16 - 0,24	23 - 35	2	300	ACW-29
0,07 - 2,1	10 - 300	0,24 - 1	35 - 150	4,1	600	ACW-22
0,52 - 3,4	75 - 500	0,59 - 1,1	85 - 160	14	2000	ACW-26
1 - 6,9	150 - 1000	0,93 - 1,4	135 - 200	14	2000	ACW-27
2,4 - 13,1	350 - 1900	1,7 - 2,4	240 - 350	17,5	2500	ACW-20

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Ordering Instructions
 State...Class, Type and Form No.
 (where applicable, see page 6)
 Eg: Class 9012 Type ACW-3 Form Z4

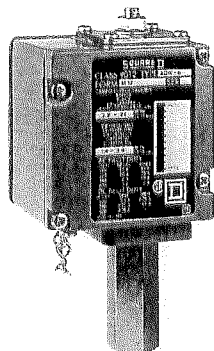
When fitted with suitable cable gland or adequately sealed conduit entry

Industrial Pressure Switches

Type ADW**

High Pressure Piston Actuated Pressure Switches

For use on Oil or Hydraulic Fluids only. Ingress Protection IP65 □ (IEC 529)



Type ADW-6

Single pole - double throw contacts (1 NO + 1 NC)

Range setting		Adjustable Differential		Maximum allowable pressure		Order Class 9012
Limits of Pressure between which switch can be adjusted to operate on Rising pressure		Subtract from range setting to obtain operating point on Falling pressure				Type...
MPa	PSI	MPa	PSI	MPa	PSI	Type...
0,93 - 6,9	135 - 1000	0,24 - 0,93	35 - 135	69	10.000	ADW-3
2,8 - 21	400 - 3000	0,69 - 2,8	100 - 400	69	10.000	ADW-4
3,8 - 34	550 - 5000	0,86 - 2,8	125 - 400	69	10.000	ADW-7

With piston seal *

MPa	PSI	MPa	PSI	MPa	PSI	Type...
0,93 - 6,9	135 - 1000	Increases with range		69	10.000	ADW-5
2,8 - 21	400 - 3000	See Table below		69	10.000	ADW-6
3,8 - 34	550 - 5000			69	10.000	ADW-7S1

Double pole - double throw contacts (2 NO + 2 NC)

Range setting		Adjustable Differential		Maximum allowable pressure		Order Class 9012
Limits of Pressure between which switch can be adjusted to operate on Rising pressure		Subtract from range setting to obtain operating point on Falling pressure				Type...
MPa	PSI	MPa	PSI	MPa	PSI	Type...
0,93 - 6,9	135 - 1000	0,31 - 1,4	45 - 200	69	10.000	ADW-23
2,8 - 21	400 - 3000	0,86 - 3,4	125 - 500	69	10.000	ADW-24
3,8 - 34	550 - 5000	1,4 - 4,1	200 - 600	69	10.000	ADW-27

With piston seal *

MPa	PSI	MPa	PSI	MPa	PSI	Type...
0,93 - 6,9	135 - 1000	Increases with range		69	10.000	ADW-25
2,8 - 21	400 - 3000	See Table below		69	10.000	ADW-26
3,8 - 34	550 - 5000			69	10.000	ADW-27S1

Approximate differential for types ADW-5, 6, 7S1, 25, 26, 27S1

MPa Type	ADW-5				ADW-25			
	Min	Max	Min	Max	Min	Max	Min	Max
Overall Range	0,48	1	0,62	1,2	70	150	90	180
Lower End	0,48	0,69	0,62	0,79	70	100	90	115
Middle	0,66	0,93	0,83	1,1	95	135	120	160
Upper End	0,86	1	1	1,2	125	150	150	180

MPa Type	ADW-6				ADW-26			
	Min	Max	Min	Max	Min	Max	Min	Max
Overall Range	1,4	3,4	1,7	3,9	210	500	250	560
Lower End	1,4	2,1	1,7	2,4	210	300	250	350
Middle	2,1	2,8	2,6	3,4	310	410	370	490
Upper End	2,8	3,4	3,4	3,9	400	500	500	560

MPa Type	ADW-7S1				ADW-27S1			
	Min	Max	Min	Max	Min	Max	Min	Max
Overall Range	1,9	4,5	2,2	5	270	650	320	730
Lower End	1,9	2,5	2,2	2,8	270	360	320	410
Middle	2,6	3,7	3,1	4,2	380	540	450	610
Upper End	3,8	4,5	4,4	5	550	650	640	730

** These devices should not be used with phosphate base synthetic hydraulic fluids.

* Prevents oil leakage refer to, Technical Data

□ When fitted with suitable cable gland or adequately sealed conduit entry

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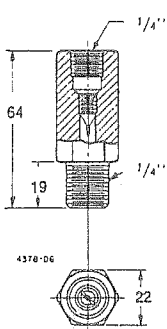
Ordering Instructions
 State...Class, Type and Form No.
 (where applicable, see page 4)
 Eg: Class 9012 Type ADW-5

Industrial Pressure Switches

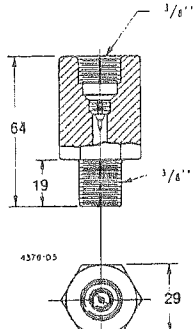
Type A

Special Features

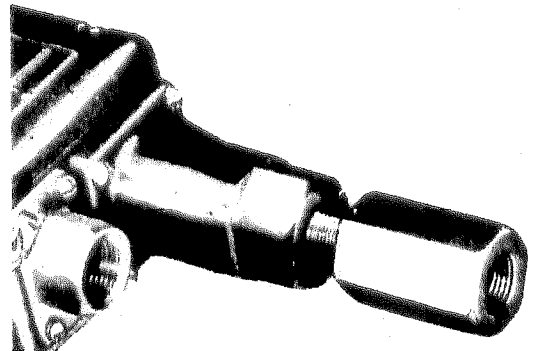
For use with	Description	Order
ACW and ADW	Pilot light - 24 V AC or DC (Factory modification only) Lights on increasing pressure	Form G 21
ACW and ADW	Pilot light - 125 V AC or DC (Factory modification only) Lights on increasing pressure	Form G 17
ACW and ADW	Range Adjustment Knob	1538 - G 13
ACW and ADW	Sealing cap (to prevent tampering with range adjustment)	CI.9049 A 17
ACW	Range adjustment locking nut (Factory modification only) (prevents tampering with range adjustment)	Form Z 4
ADW	Surge reducer for use on oils, coolants, hydraulic Fluids, not recommended for air or water (see below)	CI.9049 EA-25
ACW	Surge reducer for use on oils, coolants, hydraulic Fluids, not recommended for air or water (see below)	CI.9049 EA-26



Type EA-26



Type EA-25



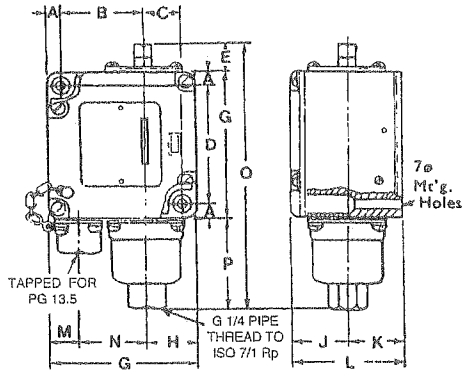
Type EA-25

Industrial Pressure Switches

Type A

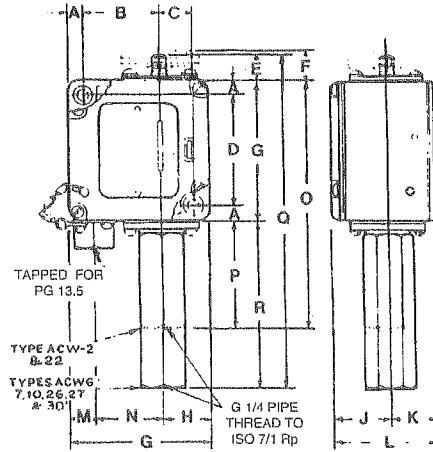
Dimensions Type ACW and ADW

TYPES ACW-1, 5, 8, 9, 21, 25, 28 & 29



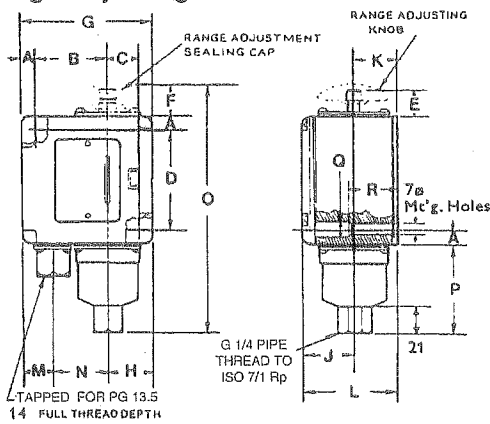
Net Weight - 1.55 Kg

TYPES ACW-2, 6, 7, 10, 20, 22, 26 & 27



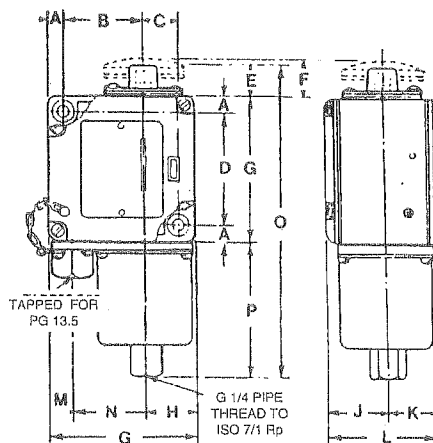
Net Weight - 2.10 Kg

TYPES ACW-1, 5, 8, 9, 21, 28 & 29 With Range Adjustment Sealing Cap and Range Adjusting Knob



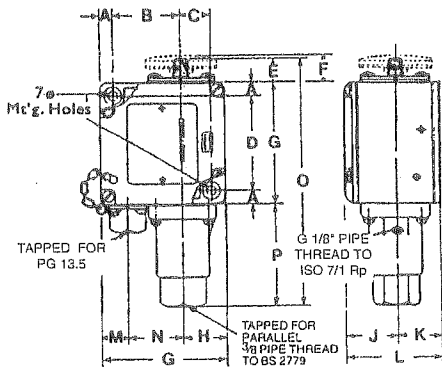
With Range Adjustment Sealing Cap (Specify Class 9049, Type A17) and Range Adjusting Knob (Specify 1538-G13)
Net Weight - 1.55 Kg

TYPES ACW-3, 4, 23 & 24



Net Weight - 1.75 Kg

TYPES ADW-3, 4, 5, 6, 7, 7S1, 23, 24, 25, 26, 27 & 27S1



Net Weight - 2.0 Kg

All Dimensions in mm

* NOTE: Conduit boss now fitted to types ACW-3, ACW-4, ACW-23 and ACW-24 only. All other types have casting tapped Pg 13.5.

A	B	C	D	E	F	G	H	J	K
10	48	21	69	17	19	88	31	37	31

Type	L	M	N	O	P	Q	R
ACW-3, 4, 23 & 24*	68	11	46	188	83	-	-
ACW-1, 5, 8, 9, 21, 25, 28 & 29	68	19	39	165	60	-	-
ACW-2, 6, 7, 10, 20, 22, 26 & 27	68	18	39	173	68	221	116
ADW-3, 4, 5, 6, 7, 7S1, 23, 24, 25, 26, 27 & 27S1	68	19	39	176	71	-	-