



PRESSURE & TEMPERATURE SWITCH RT SERIES



- WIDE ADJUSTABLE RANGE
- ADJUSTABLE ON-OFF DIFFERENTIAL
- IN BUILT STURDY SNAP ACTION SWITCH
- REPEATABILITY $\pm 1\%$
- WEATHERPROOF ENCLOSURE

RT Series of **Pressure Switches** utilize seamless bellows as the sensing element. Simplicity of design and ease of installation has been stressed for reliable use, even in applications where shock and vibrations are present. The sensing element can be used for a variety of process fluids.

For corrosive media, viscous fluids and slurries, RT pressure switches perform well in conjunction with diaphragm type chemical seals.

RT Series of **Temperature Switches** have a vapour filled thermostatic element, which consists of a sensing bulb, capillary tube and a bellows element. The entire element contains a charge which reacts to temperature variations at the sensing bulb, so that pressure on the bellows increases on rising temperature. The bellows movement due to this increase in pressure is utilised to operate the switch.

Available in various ranges to control temperature upto 300°C, with high over temperature limits. RT temperature switches are available with a selection of capillary lengths. The vapour filled system features small bulb sizes making installation easy.

Wherever, bulb of temperature switch is exposed to pressure, corrosive fluid or high velocity, a thermowell must be used. Threaded or flanged thermowells, with length and materials as per application requirement are available.

RT series switches have an excellent record backed by our responsive manufacturing facility. Special application assistance is always available.

Applications include pumps, compressors, filters, evaporators, heat exchangers, lubrication systems, hydraulic systems, marine equipment, heating and air conditioning equipment, turbines, generators, circuit-breakers etc.



ORDERING MATRIX — PRESSURE SWITCH

MODELS / RANGES

Type	Code No.		Range (atmg)	Adjustable ^① Differential (atm)	Max. Test Pressure (atmg)	
	'PB' Bellows	'SB' Bellows			'PB'	'SB'
RT-121	17-5219	17-5215	(-)1 to 0	0.09 to 0.4	7	7
RT-113 ^③	17-5196 (Diaphragm)		0 to 300 cm wg	10 to 50 Cm wg	0.5	0.5
RT-112	17-5194	17-5191	0.1 to 1.1	0.07 to 0.16	7	7
RT-110	17-5293	17-5291	0.2 to 3	0.08 to 0.25	7	7
RT-200 ^②	17-5242	17-5237	0.2 to 6	0.25 to 1.2	15	25
RT-116 ^②	17-5213	17-5203	1 to 10	0.3 to 1.3	16	25
RT-5 ^②	17-5256	17-5255	4 to 17	1.2 to 4	25	25
RT-117	---	17-5295	10 to 30	1 to 4	×	45
RT-18 ^②	---	17-5270	2 to 17	0.3 to 2	×	25

^① Adjustable Differential values differ when microswitch type X or D is used. Consult factory for applicable values.
^② RT-5, 18, 116 & 200 types can be supplied with 316SS Bellows and wetted parts. Consult factory for availability.
^③ For RT-113 Sensing Element is Nitrile Diaphragm
4. Process Connection : For the all the above is 3/8" BSPM. Use adaptors for other connections.

A SENSING ELEMENT

Code Material

PB PB Bellows with brass wetted Parts – Std.
SB 304 SS Bellows with brass wetted parts
SS4 304 SS Bellows with 304 SS wetted parts
SS6 316 SS Bellows with 316 SS wetted parts available for types RT-5, RT-8, RT-116 & RT-200 only. Consult sales for lead time.

B SWITCH ELEMENT

NONE 1 No SPDT / 10A Res 4A Ind. 380V AC, 12W 220V DC – Std.
X 1 No SPDT – 10A Res 125V AC 10A Res. & 2A Ind. 125V DC 3A Res. & 0.75A Ind. 250V DC
OEN 1 No SPDT contact multiplied to 2 NO+2 NC contact using integral multiplying relay (Refer note 3)
D DPDT microswitch, 10A 125/250V AC, 2A 480V AC, 0.25A 250V DC

C ENCLOSURE

NONE DMC enclosure with painted steel cover, weatherproof to IP:66 as per IS:13947 (Part-1), 1993 – Std.
ADC Die cast Aluminium enclosure weatherproof to IP:66 as per IS:13947 (Part-1), 1993

D ACCESSORIES

AD Adaptor for different process connections in Brass, 304 SS or 316 SS
BC Blind cover – Refer note 5
CGB 1/2" NPTM Nickel plated Brass cable gland
CNA Coupling Nut Assembly with 10 mm OD and 6.5 mm ID nipple for welding / Soldering to steel / Cu tubing
CSD Diaphragm type chemical seal — available for all ranges except in RT-121 and 113 (WC and Vac. ranges)

D ACCESSORIES Contd...

DC 1M Damping Coil with 1/4" flare connector and copper capillary tube for use in steam plants
FR 3/8" BSP(F) 1/4" Flare Reducer
FS Factory Setting. When Factory Setting is required instrument is supplied only *with Seal Cap & Blind Cover* to prevent disturbance to setpoint.
PC 7-pin plug-in connector
SC Optional Seal Cap for locked setting (adjustable knob Std.)
SN Pressure Snubber
TG Identification Tagging

NOTES

- Max Process Temperature: 70°C for code PB & SB; 170°C for code SS4 & SS6.
- RT-117 available only with SS Bellows and Brass wetted parts.
- Relay coil voltage 220/110V AC. Contacts are rated for 55W, 220V DC/6A, 240V AC. Coils with Voltages 220/ 110 / 72V DC available on request.
- Maximum ambient temperature 70°C.
- Window cover is std. Blind cover is optional. (code BC)
- Select Model Number from Codes shown below :

Model Number to be ordered as Type-A-B-C-D

Type	Sensing Element A	Switch Element B	Enclosure C	Accessories D
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Example : RT 116-SB-X-ADC-AD1/2" NPTM

Type RT 116 (Range 1 to 10 atmg)

SS bellows & Brass wetted parts

1 SPDT 10A Res.125V AC microswitch

Die Cast Aluminium enclosure weatherproof to IP:66

1/2" NPTM Process Adaptor

ORDERING MATRIX — TEMPERATURE SWITCH

MODELS / RANGES

Type	Capillary Length Meters (M)	Code No.	Range (°C)	Adjustable Differential Setting (°C) ¹		Max Bulb Temp (°C)	Charge
				At Min.Temp.	At Max Temp.		
RT-101	3	17 - 5127	25 to 90	2.4 to 10	3.5 to 20	300	Adsorption
	5	17 - 5128					
	8	17 - 5129					
RT-107	3	17 - 5167	70 to 150	6 to 25	1.8 to 8	215	Partial
	5	17 - 5168					
	8	17 - 5169					
RT-120	3 ²	17 - 5206	120 to 215	7 to 30	1.8 to 9	260	
	5	17 - 5209					
	8 ²	17 - 5207					
RT-123	3 ²	17 - 5221	150 to 250	6.5 to 30	1.8 to 9	300	
	5	17 - 5222					
	8 ²	17 - 5223					
RT-124	3	17 - 5228	200 to 300	5 to 25	2.5 to 10	350	
	5	17 - 5229					
	8	17 - 5230					

¹ Adjustable Differential values differ when microswitch type X or D is used. Consult factory for applicable values.

² These are non-standard Thermal Systems. Available only on extended delivery basis.

³ 10 & 12 Meters long Thermal Systems available on request. Contact Sales for price and delivery.

A. SENSING ELEMENT

Code Material

NONE Tin plated copper bulb & copper capillary with 304SS armouring on capillary

B. SWITCH ELEMENT

NONE 1 No SPDT / 10A Res 4A Ind. 380V AC, 12W 220V DC - Std.

X 1 No SPDT - 10A Res 125V AC 10A Res. & 2A Ind. 125V DC 3A Res. & 0.75A Ind. 250V DC

OEN 1 No SPDT contact multiplied to 2 NO+2 NC contact using integral multiplying relay (Refer note 3)

D DPDT microswitch, 10A 125/250V AC, 2A 480V AC, 0.25A 250V DC

C. ENCLOSURE

NONE DMC enclosure with painted steel cover, weather-proof to IP:66 as per IS:13947 (Part-1), 1993 - Std.

ADC Die cast Aluminium enclosure weatherproof to IP:66 as per IS:13947 (Part-1), 1993

D. ACCESSORIES

B1 3/4" NPT Brass bulb pocket 111 mm length

B2 1/2" BSP Brass bulb pocket 111 mm length

BC4 316SS bulb and 316SS capillary with 304SS armour

CGB 1/2" NPTM Nickel plated Brass cable gland

FS Factory Setting

NST Non standard thermowell

D. ACCESSORIES Contd...

S1 3/4" NPT 304 SS bulb pocket 111 mm length

S2 1/2" NPT 304 SS bulb pocket 111 mm length

TG Identification Tagging

NOTES

- For RT-124 SS bulb & capillary only are standard.
- Maximum ambient temperature 70°C.
- Relay coil voltage 220/110V AC. Contacts are rated for 55W, 220V DC/6A, 240V AC. Coils with Voltages 220/ 110 / 72V DC available on request.
- Temperature switches are supplied with Seal Cap and Blind Cover only. Range adjustable knob and window cover are not available.
- Bulb pocket of 111 mm long is available in brass (codes B1 & B2) and in 304SS (codes S1 & S2)
- NST - Brass, 304SS or 316 SS Thermowells with other dimensions in welded tube or barstock construction available. Consult factory.
- Select Model Number from Codes shown below :

Model Number to be ordered as Type-A-B-C-D

Type & (M)	Sensing Element A	Switch Element B	Enclosure C	Accessories D
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Example : **RT101(5M)-D-ADC-S1-FS 50/60°C**

Type RT-101 (Range 25 to 90°C)

5M Long Capillary

DPDT microswitch 10A Res.125/250V AC

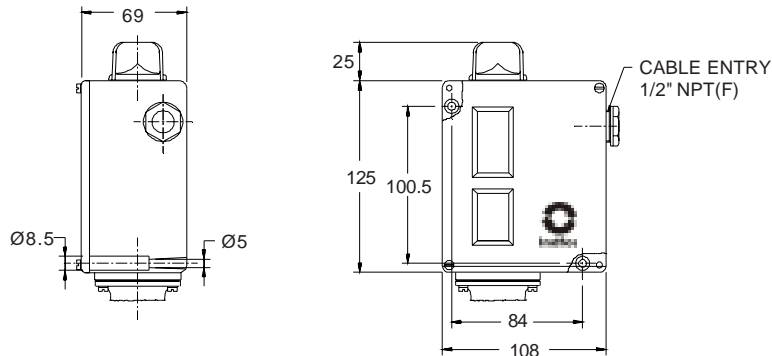
Die Cast Aluminium enclosure weatherproof to IP:66

3/4" NPT, 304 SS bulb pocket 111 mm length

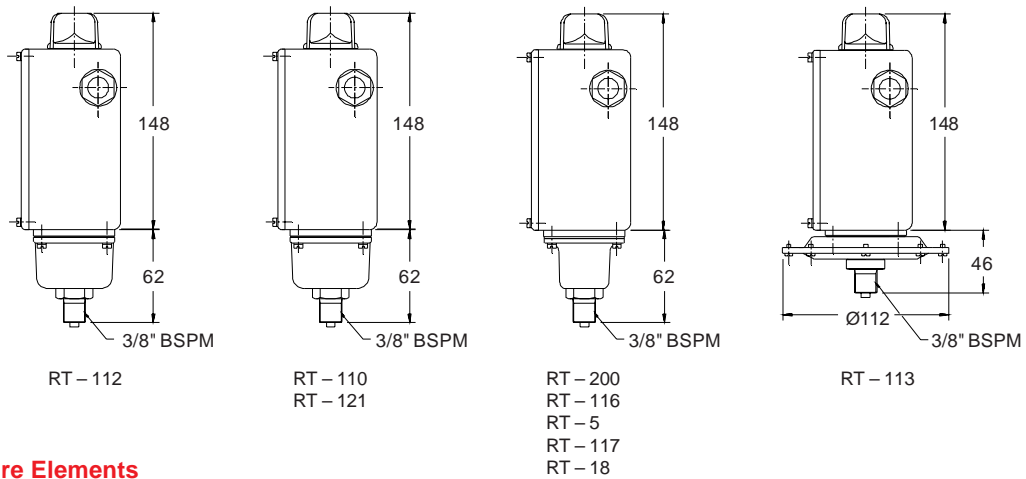
Factory setting at 50°C to 60°C

MOUNTING DIMENSIONS

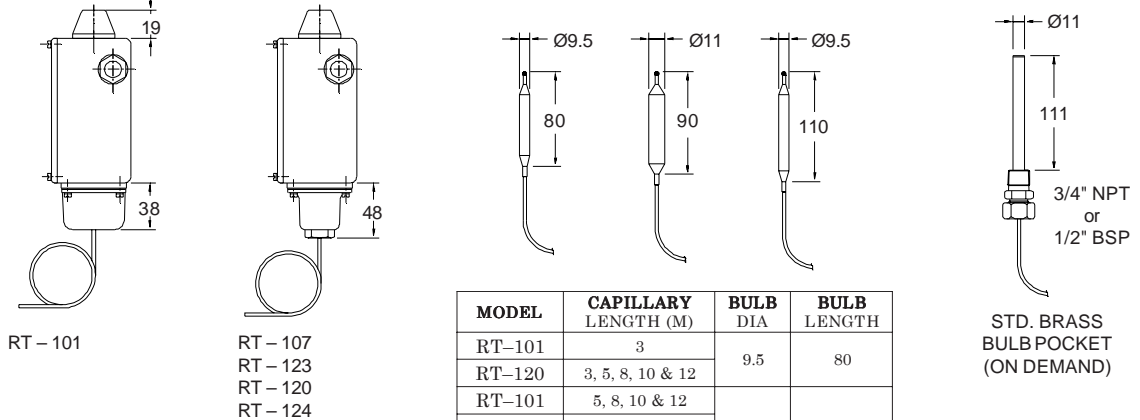
Enclosure only



With Pressure Elements



With Temperature Elements



MODEL	CAPILLARY LENGTH (M)	BULB DIA	BULB LENGTH
RT-101	3	9.5	80
RT-120	3, 5, 8, 10 & 12		
RT-101	5, 8, 10 & 12	9.5	110
RT-107	3, 5, 8, 10 & 12		
RT-123	3, 5, 8, 10 & 12	11	90
RT-124	3, 5, 8, 10 & 12		

Note : Following Thermal Systems are Non-std.
RT-120 (3 & 8); RT-123 (8) and 10 & 12 metre capillary in all models.

All dimensions are in mm