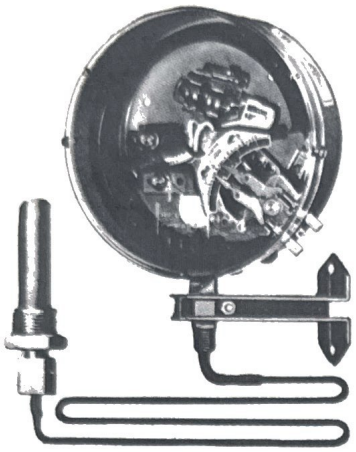
Temperature Controls

Series D



General Purpose Types DA, DS, DR

Adjustable Deadband
Fully Automatic, Double Adjustments

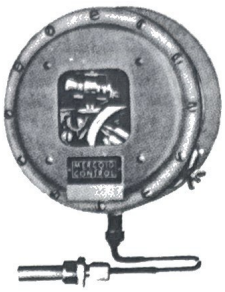
Type DA

Equipped with two external adjustments, one for setting the high temperature operating point and the other for setting the low tempeature operating point. Set points adjustable over the full range.

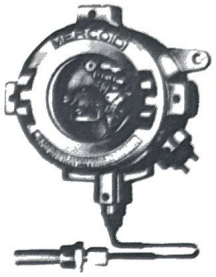
Fixed Deadband
Fully Automatic, Single Adjustment

Type DS

Equipped with single external adjustment for setting one operating point only, the temperature point where switch operation will occur. The deadband is factory pre-set and is not adjustable.



Watertight-Dusttight Types DAW, DSW, DRW
Weather-Resistant Types N3DAW, N3DSW, N3-DRW



Explosion Proof
Types DAH, DSH, DRH

FEATURES:

Hermetically-sealed mercury or snap-action switches • Vapor pressure actuated Bourdon tube • Visible dial, calibrated in °F and °C • Visible on-off operation • Operating ranges to 530° F. • Copper or stainless steel remote sensing bulb and 6' capillary tubing.

APPLICATION:

For use in high limit, low limit, operating or alarm control applications. Where excessive vibration or pulsation is involved, the optional Delrin-Bushed Movement is recommended. Both mercury switch and snap-action type controls are available in fully automatic *adjustable deadband* models, or fully automatic *fixed deadband* models, and in a choice of several different enclosures. A manual reset, semi-automatic model can also be ordered, see "Special Features"

Available Construction

Enclosures (See Pg. 7 for details)
General Purpose NEMA 1 (Standard)
Watertight, Dust-Tight NEMA, 3S, 4, & 4X (Optional) Add prefix "W", i.e. DAW
Weather-Resistant, Rain-Tight NEMA 3R (Optional) Add prefix "N3" and "W", i.e N3-DAW
Weatherproof NEMA 1, 1A, 2, 3, 4, & 12 (Optional) Specify "Weatherproof Housing"
Explosion-Proof, Hazardous Area (Optional) Add prefix "H", i.e. DAH
Explosion-Proof, Hazardous Area (Optional) Add prefix "E", i.e. DAE

Accessories	**See Page Number**
Flange for Surface Mounting (General Purpose only)	18
Delrin Bushed Movement—Recommended for extreme vibration or pulsations. Prolongs control life.	19
Special Features	
Breather & Drain for Explosion-Proof Enclosures	19
DAH for Panel Mounting	19
Single Adjustment or Lock Type	6
440 V Multiple Circuits	17
Multiple Circuit Combinations (Tilt-type mercury switches)	22
Fungus Proof (Spec. 23720)	-
DC Ratings for Code E	17
Back Pressure Connection, 1/4" NPT	18
Manual Reset Semi-Automatic Models	6

To Order:

Specify Type, Circuit Suffix No., Range Number, Bulb Type and Capillary Length desired.

DA-35-153 - Range 1A with Bulb No. 2 and 6 ft. copper capillary.

OPERATING RANGES/SERIES D

WITH MERCURY SWITCH CONTACTS Types: D-35, D-535, D-235

Adjustable Operating Range °F.	Range No.	Max. Process Temp. Not To Exceed	Adjustable Deadband DA-35 DAW-38 DAH-35 MINIMUM DEADBAND When Operating Point is Set At HI	MED.	LO	Adjustable Deadband DA-535 DAW-538 DAH-535 MINIMUM DEADBAND When Operating Point is Set At HI	MED.	LO	Fixed Deadband DS-235 DSW-238 DSH-235 FIXED DEADBAND When Operating Point is Set At HI	MED.	LO	Bulb Furnished. With 6' Capillary Unless Otherwise Specified BULB NO.
-60 +30°	1A	120°	6.5°	13°	19.5°	3°	6°	12°	1.5°	2.5°	3°	2, Copper
0-75°	2	120°	2°	5°	10.5°	1.5°	3°	5°	0.6°	1°	1.5°	2, Copper
0-75°	2A	240°	2°	5°	10.5°	1.5°	3°	5°	0.6°	1°	1.5°	2, Copper
25-100°	3	120°	1.5°	4°	6.5°	1°	2°	3°	0.6°	1°	1.5°	2A, Copper
50-150°	4	170°	2°	7°	14°	2°	4°	7°	0.7°	0.9°	1.5°	2A, Copper
100-200°	5	220°	2.5°	7°	11.5°	1°	2°	3°	0.8°	1.5°	3°	2, Copper
140-250°	6	285°	4°	8°	13°	1°	2°	3°	0.8°	1.5°	3°	2, Copper
200-300°	7A	320°	4°	8°	13°	1.5°	3°	6°	0.8°	1.5°	3°	2, Copper
250-380°	8	400°	3°	6°	12°	1°	2°	3°	0.8°	1.5°	2°	2, Copper
280-415°	8A	440°	5°	8°	18°	3°	6°	9°	1.5°	3°	5°	2, S.S.
370-530°	9	550°	4°	8°	14°	2°	3°	4°	1°	1.5°	3°	2, S.S.
ELECTRICAL RATING			SEE CODE A/B			SEE CODE H			SEE CODE I			
MULTIPLE CIRCUITS			SEE PAGE 17			SPST Only			SPST Only			

WITH SNAP-ACTION CONTACTS Types: DA-7035, DS-7235

			DA-7035-153 HI	MED.	LO	DS-7235-153 HI	MED.	LO	
-60 +30°	1A	120°	16°	23°	38°	5°	8°	17°	2, Copper
0-75°	2	120°	7°	10°	17°	2°	4°	7°	2, Copper
0-75°	2A	240°	7°	10°	17°	2°	4°	7°	2, Copper
25-100°	3	120°	9°	11°	18°	2°	4°	5°	2A, Copper
50-150°	4	170°	8°	11°	22°	2.5°	4°	8°	2A, Copper
100-200°	5	220°	7°	10°	18°	2°	3°	6°	2, Copper
140-250°	6	285°	7°	11°	22°	2°	3°	7.5°	2, Copper
200-300°	7A	320°	10°	14°	23°	2°	4°	7°	2, Copper
250-380°	8	400°	8°	11°	21°	2°	4°	9°	2, Copper
280-415°	8A	440°	8°	15°	25°	2°	4°	7°	2, S.S.
370-530°	9	550°	9°	17°	32°	2°	4°	10°	2, S.S.
ELECTRICAL RATING			SEE CODE D			SEE CODE E			
MULTIPLE CIRCUITS			See DS-7235 804			SEE PAGE 17			

Repeatability ± 1% of full scale.

ELECTRICAL RATINGS

Code	Circuit Suffix	AC Capacity 120V.	240V.	440V.	DC Resistive 120V.	240V.	Horsepower AC	DC
A	-2, -3	10A.	5A.	3A.	10A.	5A.	3/4	1/3
B	-153	4A.	2A.	①	4A.	2A.	1/8	NA
H	-2, -3	5A.	2A.	NA	2½A.	1A.	1/8	1/10
I ②	-2, -3	0.3A.	0.15A.	NA	0.15A.	0.07A.	NA	NA
D	-153	15A.	15A.	15@480V.	½A.	¼A.	⅛	NA
E	-153	15A.	15A.	NA	④	④	③	NA
G	-804	5.0A @ 120/240V AC			5.0A 30V DC Resistive			

① -153 circuit available 1A, 440V AC on special order.
② Also rated 0.9 A @ 240V AC.
③ 1/4 HP @ 120V AC, 1/2 HP @ 240 V AC.
④ DC rated controls (up to 10A), see Page 17.

Fixed Deadband DS-7235 804 (2) SPDT			
Range No.	When operating point is set at HI	MED	LO
1A	3°	5°	9°
2	3°	4.5°	6°
2A	3°	4.5°	6°
3	3°	4°	5°
4	3°	4°	5°
5	2°	4°	6°
6	3°	5°	6°
7	3°	5°	6°
8	2°	4°	6°
8A	3°	5°	6°
9	3°	5°	6°
	SEE CODE G		

SWITCH ACTIONS

Circuit Suffix No.	Switch Action
-2	SPST, OPENS on increase
-3	SPST, CLOSES on increase
-153	SPDT, One OPENS as other CLOSES
-804	(2) SPDT, Two OPEN as Two CLOSE