

# Technical Datasheet



## Performance Series

### Performance Vapour Pressure and Gas Filled Temperature Switches

Models: 721/2/3, 731/2/3/4, 771/2/3/4 & 781

#### Key Features

- Precision stainless steel mechanism for arduous atmospheres and high humidity.
- Set point adjustable over whole range against calibrated scale with tamperproof adjuster.
- Weatherproof and Flameproof models.
- Hermetically sealed microswitch option.
- Models for fixed switching differential, adjustable differential and HI-LO operation.
- Ranges available up to 550°C (1020°F).  
Maximum working temperature up to 600°C (1110°F).



#### Product applications

The 700 Performance Series is suitable for a wide range of applications in:

- Oil & Gas
- Chemical
- Petrochemical
- Refining
- Power
- Food Industry

The choice of models available ensures that the 700 Performance Series is suitable for use in:

- Corrosive atmospheres
- Resistant to chemical attack

#### Series Overview

Designed in the mid-1970s and developed over subsequent years, the Performance Series switch range offers users the broadest range of options, the highest levels of set-point repeatability and the confidence of long term performance that a mature product such as this can prove.

The models 721/2/3, 731/2/3/4, 771/2/3/4, 781 Performance Series temperature switches comprise an armoured capillary or rigid stem thermal system upon which a compression gland slides to enable various depths of thermowell (pocket) to be accommodated. This sensor is coupled to the microswitch via a precision stainless steel mechanism, the combination of which helps deliver the market leading performance customers can expect from the Series.

#### How can we help you?

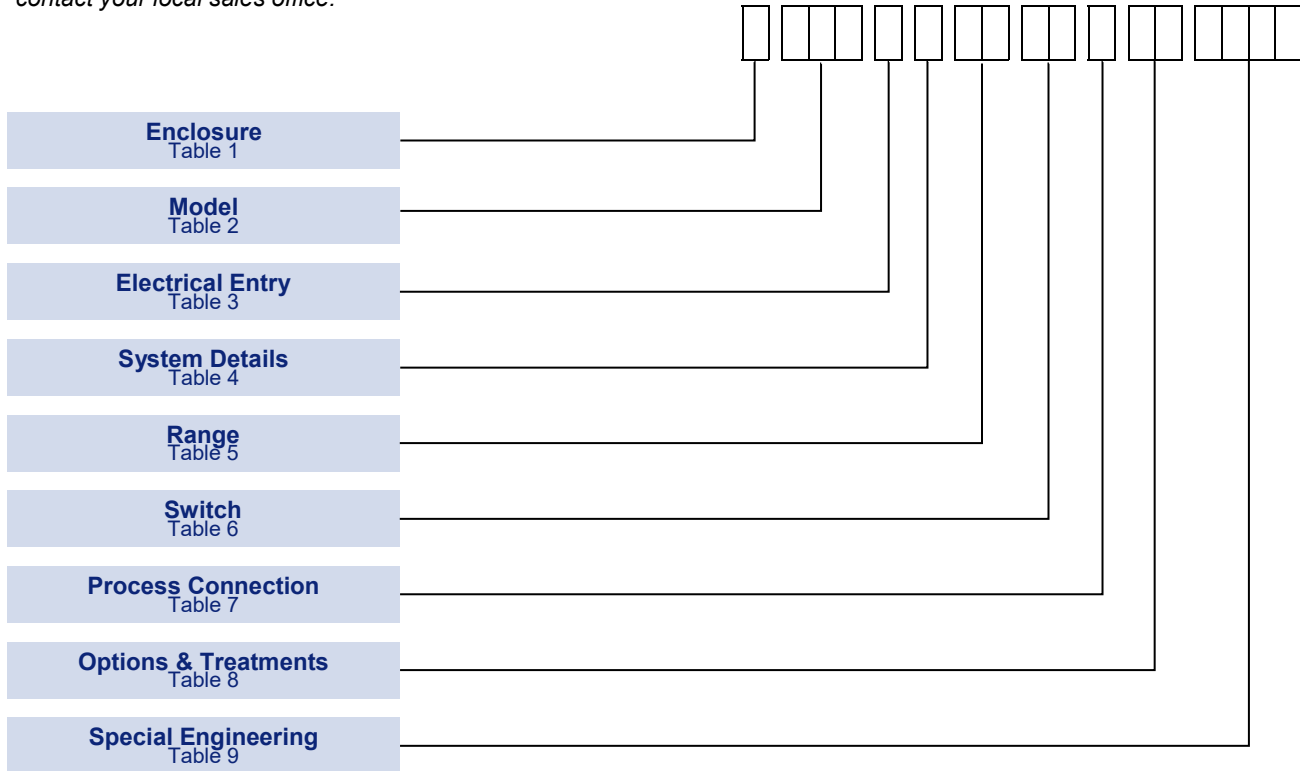
Delta Mobrey offers fast, efficient and knowledgeable support when and where you need it. Please visit our website at [www.delta-mobrey.com](http://www.delta-mobrey.com) to find your local support centre or call us on:

**+44 (0) 1252 729140**

**Performance Series**  
Models: 721/2/3, 731/2/3/4, 771/2/3/4 & 781

## How to order

Switches can be configured by selecting codes representing the desired features from the tables that follow. The chart below, describes how the model code is built up. For assistance in configuring a switch that best suits your needs, please contact your local sales office.



**NOTE:** Options shaded in the following tables are the most common options and are available on the quickest lead-times and at the lowest cost.

**NOTE:** Only the most common options are shown in this data sheet. Should you require a feature that is not shown, please contact your local sales office for further details.

## Technical Specification

<b>Accuracy:</b>	Set point repeatability $\pm 0.5\%$ of span at 20°C / 68°F ambient. Scale accuracy $\pm 2\%$ of full scale. For models 721-3, 781 scale accuracy will be effected by relative position of head and sensing bulb i.e “bulb elevation error”. Refer to Operating Instruction for more informations.
<b>Storage Temperature:</b>	-25 to +80°C / -13 to +176°F
<b>Ambient Temperature:</b>	-25 to +80°C / -13 to +176°F; SPECIAL ENGINEERING -60 to +80°C (-76 to 176°F) Models 771-4. A 10°C (18°F) rise in ambient temperature will on average result in a 1°C (1.8°F) fall in set point. On models 721-3, 781 it is advisable to avoid the condition where the ambient temperature is within $\pm 5^\circ\text{C}$ ( $\pm 9^\circ\text{F}$ ) of the set point. Where this condition is unavoidable refer to Models 771- 4 or 751- 4.
<b>Drift of set point due to T amb:</b>	Models 791-4. A 10°C (18°F) rise in ambient temperature will on average result in a 2% of the span fall in set point. Models 721-3, 781 and 731-4. A 1010°C (18°F) rise in ambient temperature will on average result in a 0.8% of the span fall in set point.
<b>Maximum Process Temperature:</b>	See Table 5
<b>Maximum Working Pressure:</b>	System sensing probes for both the capillary and rigid stem version are designed to withstand 100 bar (1500psi) without thermowell.
<b>Enclosure classification:</b>	IP66 / NEMA 4X / Flameproof Ex d
<b>Switch output:</b>	SPDT or DPDT snap action microswitch (standard) Hermetically sealed (optional)
<b>Electrical rating:</b>	See Table 6
<b>Process Connection:</b>	See Table 7
<b>Approximate Weight:</b>	Enclosures: “ <b>W &amp; N</b> ” 2.5kg / 5.5lb (models <b>731-4</b> 2.2kg/4.8lb); “ <b>A &amp; O</b> ” 3.5kg /7.7lb (models <b>731-4</b> 3.2kg/7.0lb); “ <b>H</b> ” 4.0kg/8.8lb; “ <b>K</b> ” 8.7kg/19.1lb.

**Performance Series**  
721/2/3, 731/2/3/4, 771/2/3/4 & 781

## Enclosure

### FINISH

The epoxy painted enclosures are finished in blue (RAL 5013). For different finishes ask.

### INTRINSIC SAFETY

Because of the low voltages and currency of I.S. circuits, we recommend using gold and/or sealed contacts.


**NOTE:** Enclosure H or K are not recommended on models 731/2/3/4, because of weight limitation on stem mounting.

## Models

For model and range availability see Tables 5A and 5B.

Models 771-4 & 771-4 is only available with armored capillary systems.

Models 731-4 are not available with ranges above 120°C (250°F).

TABLE 1 





ENCLOSURE TYPES	Code
<b>Weatherproof Enclosures</b>	
<b>General Purpose</b> The basic enclosure is pressure die-cast in zinc alloy, offering weather protection not less than NEMA 4 + 13/IP66.	W
<b>For Aggressive Atmospheres</b> Investment cast enclosure in austenitic stainless steel with weather protection not less than NEMA 4X + 13/IP66.	A
<b>Flameproof Enclosures Category 2 (Zone 1)</b>	
<b>ATEX Ex db IIC T6 (-60 to +40°C), T4 (-60 to +80°C) II 2 G D</b> Gravity die-cast enclosure in aluminium-silicon alloy. Suitable for outdoor use, IP66 / NEMA 4.  II 2 G D	H
<b>IECEX Ex db IIC</b>	
<b>ATEX Ex db IIC T6 (-60 to +40°C), T4 (-60 to +80°C) II 2 G D</b> As Code H, but sand cast in high quality grey iron.  II 2 G D	K
<b>IECEX Ex db IIC</b>	
<b>Exn Enclosures Category 3 (Zone 2).</b>	
<b>Type of Protection Exn II T6 (-25 to +40°C), T4 (-25 to +80°C) II 3 G D</b> As code 'W' but Exn. Weatherproof to NEMA 4/IP66. <b>Limited switching facility (see Table 6).</b>  II 3 G D	N
As 'N' but with investment cast enclosure in austenitic stainless steel as 'A'.	O

TABLE 2 

Model – and System Type	Vapour pressure flexible thermal system	Vapour pressure rigid stem	Gas filled flexible thermal system
<b>Fixed Switching Differential.</b> See Tables 10A and 10C. Basic model giving close, fixed switching differential using proprietary microswitch operated by high integrity stainless steel mechanism. Set point field adjustable over full range against calibrated scale. SPDT & DPDT options available.	721	731	771
<b>Adjustable Switching Differential.</b> (Limited Span). See Tables 10B & 10D. Achieved by special microswitch with built in adjuster, SPDT only. Not available with enclosure code N or O.	722	732	772
<b>Adjustable Switching Differential (Wide Span).</b> See Tables 10B & 10D. Falling set point adjustable against a calibrated scale. Rising reset point adjustable to increase switching differential by up to 50% of range.	723	733	773
<b>HI-LO Switching (Adjustable Gap).</b> See Tables 10A & 10C. Two individual set points and separate electrical circuits, with independent adjustment against calibrated scale.	781	734	774

**Performance Series**  
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## Electrical Entry

Adaptors are available for other popular thread sizes.

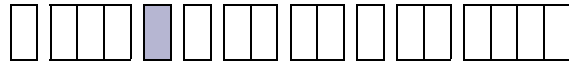
### Enclosures 'W' and 'N'

Standard option code 1(22mm dia) is provided with a nylon 22/20 reducer and fibre washer suitable for a standard M20 cable gland and back nut. Option code 0 elbow adaptor is factory fitted. Adaptor kits may also be provided retrospectively to fit at site if required. Ask for details. See diagrams for dimensions.

### 'W' and 'N' SAFETY NOTE

If a metal cable gland is site fitted it must either be earthed locally or an earth/gland plate must be used to connect the body of the gland at the enclosure earthing point. Earth/gland plates can be provided either factory fitted or in kit form for site assembly. Ask for details.

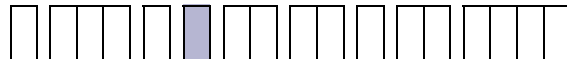
TABLE 3



	Code
Enclosures W & N: Clearance for 20mm (3/4 in) outside dia conduit.	1
Enclosures H, K, A & O: M20 x 1.5 ISO thread (direct)	0
Enclosures H & K: M20 x 1.5 ISO thread, dual entry.	5
Enclosures H & K: 3/4-NPT INT.	3
Enclosures H & K: 3/4-NPT INT dual entry.	6
Enclosure W: M20 x 1.5 elbow adaptor.	0
Enclosure N: M20 x 1.5 straight adaptor (Approved).	0
Enclosures H & K: 1/2-NPT INT.	2

## System Details

TABLE 4



The flexible thermal system of Models 721-3, 771-4 & 781 comprises an armoured capillary attached to the sensing bulb via a semi-rigid extension on which a compression gland slides to enable various depths of thermowell (pocket) to be accommodated. See DIMENSIONS.

All parts of the thermal system are in 300 series stainless steel with the capillary sensing bulb and armour in 316 stainless steel.

The thermal systems of Models 731-4 comprises a rigid stem attached to the sensing bulb by an extension on which a compression gland slides to accommodate various attachments the gland has a 1/2 – 14NP external thread. The rigid stem version has probe materials of 316 stainless steel.

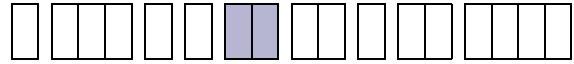
Models 721-3, 771-4, 781					
Capillary Length †		Length of Semi-rigid Stem †		Stainless Steel System & Brass Bellows	Stainless Steel System & Bel-lows
Metres	Feet	mm	inches	Code	Code
3	10	250	10	A	E
3	10	500	20	B	F
6	20	250	10	C	G
6	20	500	20	D	H

† Other lengths are available to order.

Models 731-4	Code
Rigid stem 250mm (10in) long x 12mm (0.47in) dia Stainless steel Rigid Stem & brass bellows	S
Rigid stem 250mm (10in) long x 12mm (0.47in) dia Stainless steel Rigid Stem & bellows	T

## Setting Ranges

TABLE 5



### Table 5A - Deg C

$T_{max}$  = maximum working temperature

**NOTE:** All models have a bulb diameter of 12mm (0.47in).

Models 721-3, 731-4 and 781 have a bulb length of 80mm (3.2in).

Models 771-4 have a bulb length of 140mm (5.5in).

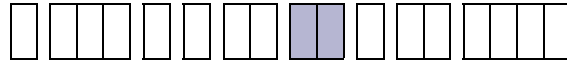
Availability			Range	$T_{max}$	Code
721-3 781	731-4	771-4			
✓	✓	-	-50 to +5	35	B1
-	-	✓	-50 to +150	250	M1
✓	✓	-	-5 to +65	75	H2
✓	✓	-	20 to 90	95	J1
✓	✓	-	50 to 120	130	L4
✓	-	-	100 to 170	180	Q4
✓	-	-	150 to 220	230	S5
✓	-	-	190 to 260	270	U6
✓	-	-	230 to 300	310	V7

### Table 5B - Deg F

Availability			Range	$T_{max}$	Code
721-3 781	731-4	771-4			
✓	✓	-	-50 to +40	75	BF
-	-	✓	-60 to +300	480	MF
✓	✓	-	20 to 150	170	HB
✓	✓	-	70 to 200	203	JF
✓	✓	-	120 to 250	270	LB
✓	-	-	210 to 340	360	QA
✓	-	-	300 to 430	450	SF
✓	-	-	370 to 500	520	UB
✓	-	-	450 to 580	600	VB

# Switch Options

TABLE 6

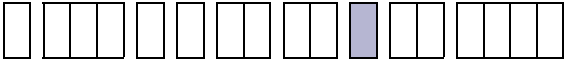


A much wider variety of switching options can be engineered to customer's requirements for Model 721, 731, 771 temperature switches, including heavy DC, manual latching, pneumatic output etc. Please consult our engineers for further information.

Model 721, 731, 771									
CSA Rating (RESISTIVE) §SEE NOTE	IEC 947-5-1/EN 60947-5-1 Rating						Contact	Code	
	Designation & Utilization Category	Rated operational current $I_n$ (A) at rated operational voltage $U_n$	$U_i$	$U_{imp}$	VA Rating				
					Make	Break			
5 Amps @ 110/250V AC Light Duty for AC only	AC14 D300 DC13 R300	0.6/0.3A @ 120/240V AC 0.22/0.1A @ 125/250V DC	250V	0.8kV	432 28	72 28	SPDT DPDT	00 01	
5 Amps @ 110/250V AC & 2 Amps @ 30V DC General purpose precision	AC14 D300 DC13 R300	0.6/0.3A @ 120/240V AC 0.22/0.1A @ 125/250V DC	250V	0.8kV	432 28	72 28	SPDT DPDT	02 03	
1 Amp @ 125V AC & <b>§100mA @ 30V DC</b> gold alloy contacts for low voltage switching	1 A @ 125 VAC RESISTIVE (IEC 1058-1/EN 61058-1)						SPDT DPDT	04 05	
<b>§ 5 Amps @ 110/250V AC &amp; 5 Amps @ 30V DC</b> Environmentally sealed	AC14 D300 DC13 R300	0.6/0.3A @ 120/240V AC 0.22/0.1A @ 125/250V DC	250V	0.5kV	432 28	72 28	SPDT* DPDT*	08 09	
<b>§ 1 Amp @ 30V AC &amp; 30V DC</b> Environmentally sealed with gold contacts	AC14 E150	0.3A @ 120V AC	125V	0.5kV	216	36	SPDT* DPDT*	0G 0H	
5 Amps @ 250V AC & 2 Amps @ 30V DC Hermetically sealed. Gold plated silver contacts	AC14 D300 DC13 R300	0.6/0.3A @ 120/240V AC 0.22/0.1A @ 125/250V DC	250V	0.5kV	432 28	72 28	SPDT DPDT	H2 H3†, H6‡	
† 2 Single pole, double throw, simultaneous falling under pressure ‡ 2 Single pole, double throw, simultaneous rising under pressure.									
Model 722, 732, 772 (Cannot be supplied with enclosure Code N/O)									
5 Amps @ 110/250V AC Light Duty for AC only	AC14 D300	0.6/0.3A @ 120/240V AC	250V	0.8kV	432	72	SPDT	0C	
5 Amps @ 110/250V AC & 2 Amps @ 30V DC Adjustable	AC14 D300 DC13 R300	0.6/0.3A @ 120/240V AC 0.22/0.1A @ 125/250V DC	250V	0.8kV	432 28	72 28	SPDT	0D	
Model 723, 733, 773									
5 Amps @ 110/250V AC & 2 Amps @ 30V DC General purpose precision	AC14 D300 DC13 R300	0.6/0.3A @ 120/240V AC 0.22/0.1A @ 125/250V DC	250V	0.8kV	432 28	72 28	SPDT DPDT	02 03	
1 Amp @ 125V AC & <b>§100mA @ 30V DC</b> gold alloy contacts for low voltage switching	1 A @ 125 VAC RESISTIVE (IEC 1058-1/EN 61058-1)						SPDT DPDT	04 05	
Model 734, 774, 781									
5 Amps @ 110/250V AC Light Duty for AC only	AC14 D300 DC13 R300	0.6/0.3A @ 120/240V AC 0.22/0.1A @ 125/250V DC	250V	0.8kV	432 28	72 28	SPDT	20	
5 Amps @ 110/250V AC & 2 Amps @ 30V DC General purpose precision	AC14 D300 DC13 R300	0.6/0.3A @ 120/240V AC 0.22/0.1A @ 125/250V DC	250V	0.8kV	432 28	72 28	SPDT	22	
1 Amp @ 125V AC & <b>§100mA @ 30V DC</b> gold alloy contacts for low voltage switching	1 A @ 125 VAC RESISTIVE (IEC 1058-1/EN 61058-1)						SPDT	24	
<b>§ 5 Amps @ 110/250V AC &amp; 5 Amps @ 30V DC</b> Environmentally sealed	AC14 D300 DC13 R300	0.6/0.3A @ 120/240V AC 0.22/0.1A @ 125/250V DC	250V	0.5kV	432 28	72 28	SPDT*	28	
<b>§ 1 Amp @ 30V AC &amp; 30V DC</b> Environmentally sealed with gold contacts	AC14 E150	0.3A @ 120V AC	125V	0.5kV	216	36	SPDT*	2G	
5 Amps @ 250V AC & 2 Amps @ 30V DC Hermetically sealed. Gold plated silver contacts	AC14 D300 DC13 R300	0.6/0.3A @ 120/240V AC 0.22/0.1A @ 125/250V DC	250V	0.5kV	432 28	72 28	SPDT	H4	
The electrical rating is dependent on the microswitch fitted to the instrument. The electrical ratings defined by each approval that the microswitch complies with and is shown on the product nameplate, ie CSA, or IEC. It should be noted that the instrument must be used within the electrical rating specified from the approval you require. This table lists the actual IEC ratings against the Designation & Utilization Category marked on the nameplates. In the absence of any verification by CSA the microswitch § manufacturer's rating is stated in <b>italics and bold</b> . <b>If in doubt seek guidance from the factory.</b>									
<b>NOTE:</b> For low energy circuits e.g. 30V and up to 100mA, we recommend using gold alloy contact switches. $U_i$ = rated insulation voltage $U_{imp}$ = rated impulse to withstand voltage across contacts.									
*Suitable for use with Exn Enclosures (See Table 1)									

Performance Series  
Models: 721/2/3, 731/2/3/4, 771/2/3/4 & 781

## Process Connection


TABLE 7 

Other thread specifications and sizes are available without using adaptors. See DIMENSIONS.

Adaptors are available for applications where their use is permitted.

	Code
3/8 –18 NPT EXT Sliding Gland (System Code A to H Table 4)	E
1/2 – 14NPT EXT Sliding Gland (System Code S, T Table 4)	J

## Options & Treatments

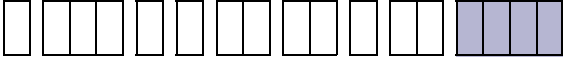
TABLE 8 

Combinations available, apply for details.

**NOTE:** Use stainless steel system codes E, F, G, H, T (Table 4) only with Marine & Ammonia codes 02, 03 and capillary codes A, B, C, D, E, F, G, H (Table 4) only with pipe mounting bracket code 10.

	Code
Tropicalisation High humidity atmospheres	01
Marine and Offshore Saline atmosphere or salt spray	02
Ammonia Process (wetted) parts and construction suitable for atmospheric ammonia	03
Oxygen Service 2: Process (wetted) parts are cleaned for oxygen	04
Oxygen Service 3: Process and non-process parts are cleaned for use with oxygen	05
Stainless Steel Pipe Mounting Bracket Permits local 2" pipe work to be utilized for mounting the instrument	10
Tagging - Variety of tagging methods are available	APPLY FOR DETAILS
Applies when - no option is required and selection is made from special engineering	00

## Special Engineering

TABLE 9 

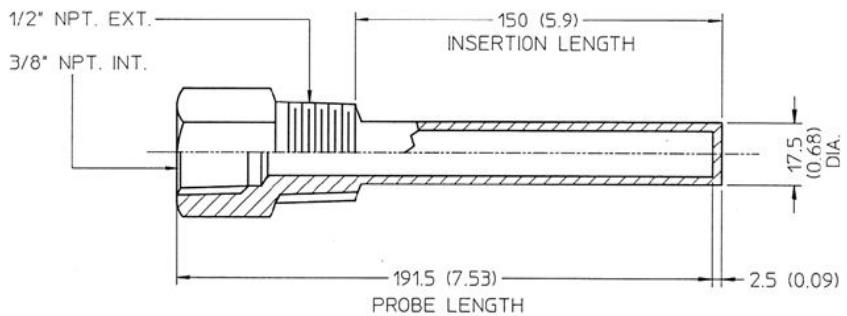
Last 4 digits of model code only used when special engineering is required.

	Code
Please consult Delta sales engineering for special requirements	TBA

### THERMOWELLS

Material 316SS.  
Maximum Working Pressure 140bar (2000psi) at 20°C

Thermowells can also be manufactured to customers own drawing/specification requirements.



Performance Series  
Models: 721/2/3, 731/2/3/4, 771/2/3/4 & 781

**Performance Data**

TABLE 10

**Celsius Units (°C)**

TABLE 10A

**FIXED SWITCHING DIFFERENTIAL**

Models 734, 774, 781 the switching differential on each point may be up to 1.5 times that of Table 10A & 10C. Care must be exercised, therefore, in specifying high differential switches or set point separation less than 3 times switching differential.

MODELS 721, 731, (734), 771, (774), (781)

TABLE 10A

Range Code	Range	SPDT OPTIONS					DPDT OPTIONS (721/731 ONLY)				
		00 (20)	02 (22)	04 (24)	08/0G (28/2G)	H2 (H4)	01	03	05	09/0H	H3/H6
B1	-50 to +5	2	4	2	8	11	4	6	4	12	16
M1	-50 to 150	3	5.5	3	11	11	5.5	28	5.5	20	16
H2	-5 to +65	1	2	1	4	5.5	2	4	2	6	8
J1	20 to 90	1	2	1	4	5.5	2	4	2	6	8
L4	50 to 120	1	2	1	4	5.5	2	4	2	6	8
Q4	100 to 170	1.5	3	1.5	6	8	3	5	3	9	12
S5	150 to 220	1.5	3	1.5	6	8	3	5	3	9	12
U6	190 to 260	2	4	2	8	10	4	6	4	12	15
V7	230 to 300	2	4	2	8	10	4	8	4	12	15

TABLE 10B

**ADJUSTABLE SWITCHING DIFFERENTIAL**

MODELS 722, 723, 732, 733, 772, 773

TABLE 10B

Range Code	Range	722, 732, 772				723, 733, 773			
		SPDT Only				SPDT Options		DPDT Options	
		0C		0D		02 or 04		03 or 05	
		Min	Max	Min	Max	Min	Max	Min	Max
B1	-50 to +5	2	4	3.5	8	10	30	15	30
M1	-50 to 150	3	5.5	5	11	30	100	40	100
H2	-5 to +65	1.5	4	3	7	10	30	15	30
J1	20 to 90	1.5	4	3	7	10	30	15	30
L4	50 to 120	1	3.5	2.5	7	10	30	15	30
Q4	100 to 170	1.5	4	3	7	10	30	15	30
S5	150 to 220	1.5	4	3	7	10	30	15	30
U6	190 to 260	2	4	3.5	8	10	30	15	30
V7	230 to 300	2	4	3.5	8	10	30	15	30

**Fahrenheit Units (°F)**

TABLE 10C

**FIXED SWITCHING DIFFERENTIAL**

MODELS 721, 731, (734), 771, (774), (781)

TABLE 10C

Range Code	Range	SPDT OPTIONS					DPDT OPTIONS (721/731 ONLY)				
		00 (20)	02 (22)	04 (24)	08/0G (28/2G)	H2 (H4)	01	03	05	09/0H	H3/H6
BF	-50 to +40	3.5	7	3.5	15	20	7	11	7	22	29
MF	-60 to 300	5	10	5	20	20	10	20	10	30	29
HB	20 to 150	2	3.5	2	7	10	3.5	7	3.5	11	14
JF	70 to 200	2	3.5	2	7	10	3.5	7	3.5	11	14
LB	120 to 250	2	3.5	2	7	10	3.5	7	3.5	11	14
QA	210 to 340	3	5.5	3	11	14	5.5	9	5.5	16	22
SF	300 to 430	3	5.5	3	11	14	5.5	9	5.5	16	22
UB	370 to 500	3.5	7	3.5	15	18	7	11	7	22	27
VB	450 to 580	3.5	7	3.5	15	18	7	15	7	22	27

TABLE 10D

**ADJUSTABLE SWITCHING DIFFERENTIAL**

Due to manufacturing tolerances, the figures quoted in these tables are for guidance only and are typical for weatherproof models. Should the differential be critical for specific applications, our engineers should be consulted prior to ordering.

Flameproof models may be up to 2 times higher depending on the range. Should the differential be critical for specific applications our engineers should be consulted prior to ordering.

MODELS 722, 723, 732, 733, 772, 773

TABLE 10D

Range Code	Range	722, 732, 772				723, 733, 773			
		SPDT Only				SPDT Options		DPDT Options	
		0C		0D		02 or 04		03 or 05	
		Min	Max	Min	Max	Min	Max	Min	Max
BF	-50 to +40	3.5	7	6.5	14	18	54	27	54
MF	-60 to 300	5	10	10	20	60	180	70	180
HB	20 to 150	3	7	5.5	12	18	54	27	54
JF	70 to 200	3	7	5.5	12	18	54	27	54
LB	120 to 250	2	6	4.5	12	18	54	27	54
QA	210 to 340	3	7	5.5	12	18	54	27	54
SF	300 to 430	3	7	5.5	12	18	54	27	54
UB	370 to 500	3.5	7	6.5	14	18	54	27	54
VB	450 to 580	3.5	7	6.5	14	18	54	27	54

**Performance Series**  
 Models: 721/2/3, 731/2/3/4, 771/2/3/4 & 781

## Electrical Connections

### Terminal Block

Cable entry is to a non-pinching terminal block made of a non-hygroscopic thermosetting plastic, suitable for cables up to 2.5mm<sup>2</sup>/14AWG.

### Earthing/Grounding

An earthing stud is provided inside all weatherproof enclosures, adjacent to the entry. External earthing is standard on flameproof versions. Safety note see Table 3.

### Dielectric Strength

The electrical assembly is capable of withstanding \*2kV between live parts and earth/ground and 500V between open contacts.

\* 1.2kV for micro switch Codes H2, H3, H4 and H6. Refer to Table 6.

### Electrical Entry

Standard options are listed in Table 3. Other threads can be accommodated by adaptors. Dual entry available, see Table 3.

## Optional Extras

### Mounting Position/Location/Installation

Vertical as shown, IN DIMENSIONS, taking care to avoid siting in locations that transmit excessive shock or vibration. For further advice contact our engineers.

### Pollution degree (EN60947-5-1)

All products are suitable for use in pollution degree 3. For extreme conditions where condensation may readily form, then sealed contacts should be used. See Table 6 Codes 08/09, 0G/0H, 2G/28, H2/H3/H4/H6.

### Electrical Isolation

These products are not suitable for electrical isolation. Always isolate circuit separately to carry out any electrical work.

## Approvals

### EUROPEAN DIRECTIVES



**Low voltage Directive (LVD) 2014/35/EU.**  
Compliant to LVD

### ATEX APPROVALS



**FLAMEPROOF:**  
Certificate No. BAS01ATEX2426X  
EN 60079-0, EN 60079-1, EN 60079-31

For Zone 1 models (**Enclosure code H/K, see Table 1**)

	II 2 GD	Ex db IIC T4 (Tamb -60°C to +80°C) Gb
	II 2 GD	Ex tb IIIC T135°C (Tamb -60°C to +80°C) Db IP66
	II 2 GD	Ex db IIC T6 (Tamb -60°C to +40°C) Gb
	II 2 GD	Ex tb IIIC T85°C (Tamb -60°C to +40°C) Db IP66

### GLOBAL CERTIFICATION



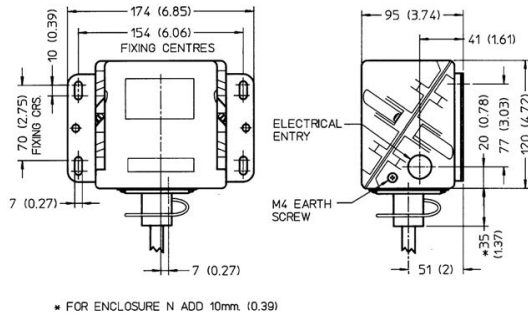
**IECEX Certified**  
Ex db IIC T4 (Tamb -60°C to +80°C) Gb  
Ex db IIC T6 (Tamb -60°C to +40°C) Gb

Certificate No. IECEX ITS 04.0006X  
IEC 60079-0, EN 60079-1

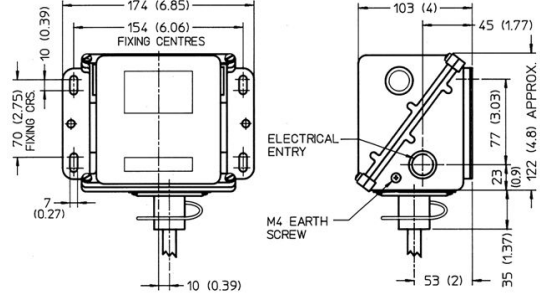
**Dimension**

All dimensions mm (inches)

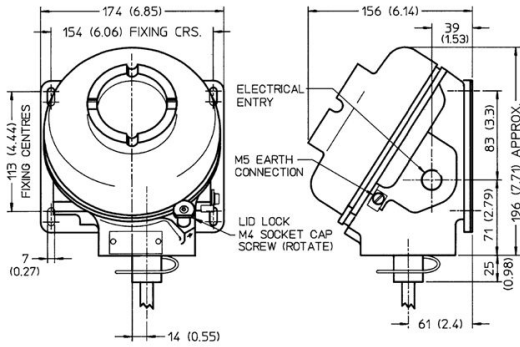
**W & N Enclosures**



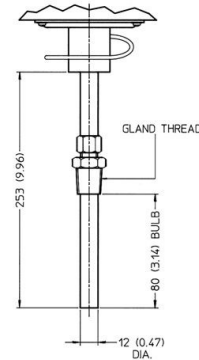
**A & O Enclosures**



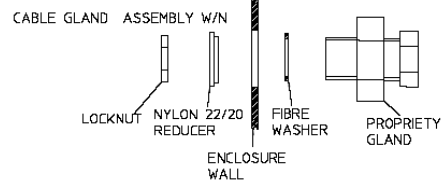
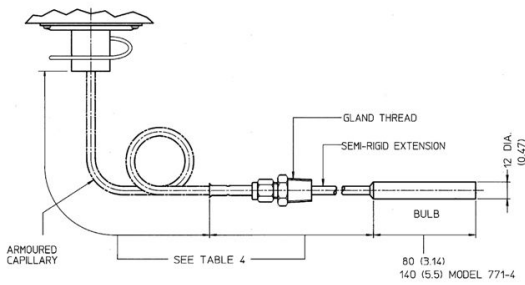
**H & K Enclosures**



**Rigid Stem – Model 731-4**



**Capillary Version – Model 721-3, 771-4, 781**



**Performance Series**  
Models: 721/2/3, 731/2/3/4, 771/2/3/4 & 781

ISO9001

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