

**A Selection Guide to Trimmer Potentiometers**

Meggitt Electronic Components offer a wide range of PCB trimmers in cermet and carbon, suited to hand or auto insertion, fully sealed or lower cost enclosure sealed specification.

	<b>Size</b>	<b>Tums</b>	<b>Element</b>	<b>Style</b>	<b>Features</b>	<b>Product</b>
<b>Multiturn Cermet Sealed</b>	6mm sq.	13	Cermet	Top, Side, Low Profile	Fully Sealed	<b>4270</b>
	10mm sq.	22	Cermet	Top, Side, Low Profile	Fully Sealed	<b>4290</b>
	19mm rect.	15	Cermet	Opaque / Clear	Fully Sealed	<b>433/422</b>
<b>Single Turn Cermet Sealed</b>	4.5mm sq	1	Cermet	Top	Fully Sealed	<b>468</b>
	6mm dia.	1	Cermet	Top, Side	Fully Sealed	<b>470</b>
	6mm sq.	1	Cermet	Top, Side	Fully Sealed	<b>4265</b>
	6mm sq.	1	Cermet	Top, Side	Fully Sealed	<b>4275</b>
	10mm sq.	1	Cermet	Top, Side, Low Profile	Fully Sealed	<b>4295</b>
<b>Single Turn Cermet Enclosed</b>	6mm dia.	1	Cermet	Top, Side, Underside	High Reliability	<b>406</b>
	6mm dia.	1	Cermet	Top, Side, Underside	Low Cost	<b>416</b>
	6mm sq.	1	Cermet	Top, Side, Underside	Auto Insertion	<b>436</b>
	6mm sq.	1	Cermet	Top, Side, Underside	Auto Insertion	<b>446</b>
	10mm sq.	1	Cermet	Top, Side, Underside	Finger Adjust	<b>409</b>
	10mm sq.	1	Cermet	Top, Side, Underside	Plug In Shafts	<b>PTC10</b>
	15mm sq.	1	Cermet	Top, Side, Underside	Plug In Shafts	<b>PTC15</b>
	15mm dia.	1	Cermet	Top, Finger	High Power	<b>PC910</b>
<b>Single Turn Carbon Enclosed</b>	6mm sq.	1	Carbon	Top, Side, Underside	Low Cost	<b>N6</b>
	10mm sq.	1	Cermet	Top, Side, Underside	Plug In Shafts	<b>PT10</b>
	15mm sq.	1	Carbon	Top, Side, Underside	Low Cost	<b>PT15</b>
	15mm dia.	1	Carbon	Top, Finger	Enclosed	<b>MP</b>

**For product or data not shown within this section please, contact our Sales Desk**

**Tel: (01793) 611666  
Fax: (01793) 611777**

## 6mm square multiturn

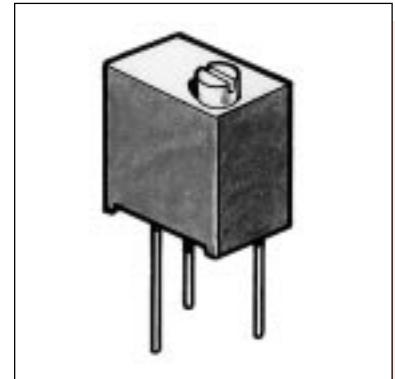
### type 4270 series

Small modern and reliable, this is a range of 6mm square multiturn trimmers well suited to industrial and professional applications. For stability, the range has a cermet resistance element. The trimmer is actuated by a lead screw with slipping clutch at each end of travel. Components from this range are available with various adjustment configurations. They are all fully sealed to stand up to immersion in normal board washing solvents.

### PCB Trimmers

### Key features

- stable high resolution cermet element
- 0.25 watts at 70°C
- low temperature coefficient
- space saving size
- double chevron seal
- fully sealed for board washing
- low profile "p" version available
- choice of adjustment styles



### Specification

#### Electrical

Resistance Range:	10R to 1M
Resistance Values:	1, 2, 5 in each decade
Resistance Tolerance:	± 10%
Slider Current:	50mA
Power Rating:	0.25 Watts at 70°C derating to zero at 125°C
Limiting Element Voltage:	250V DC or AC RMS maximum
Insulation Resistance:	1000M ohms at 500 Volts DC
Rotational Noise (CRV):	3 ohms or 3% maximum, whichever is greater
Temperature Coefficient:	<100 ohms ± 200ppm/°C, >100 ohms ±100ppm/°C
Electrical Adjustment:	13 turns nominal

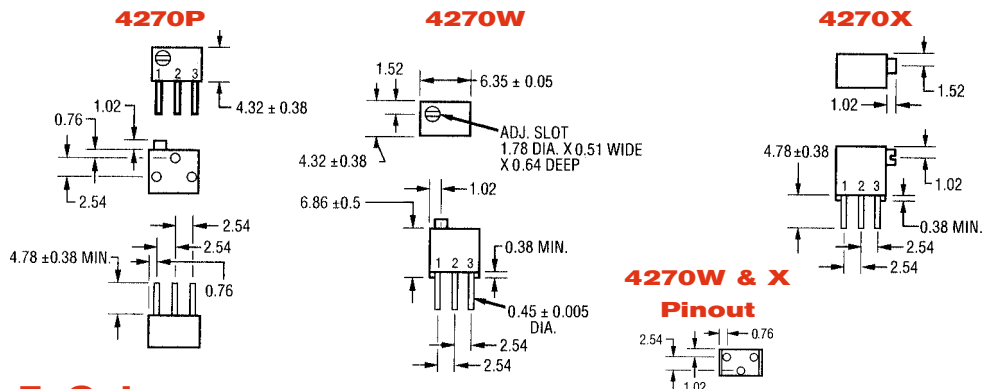
#### Mechanical

End Stop:	Slipping Clutch action
Starting Torque:	<35mNm
Mechanical Adjustment:	14 turns nominal

#### Environmental

Temperature Range:	- 55°C ~ +125°C
Rotational Life:	200 cycles
Load Life:	ΔR <2% after 1000 hours
Sealing:	For board washing

### Dimensions



### How To Order

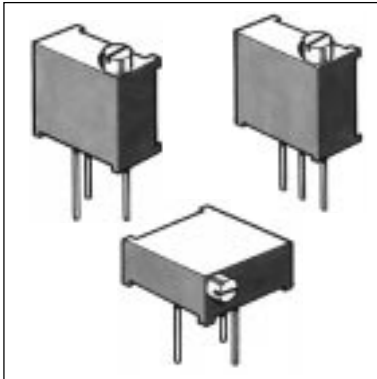
Common Part	Pin Configuration	Resistance Value	Tolerance
4270	P - Low Profile W - Top Adjust X - Side Adjust	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following Example 1K :102 10K :103 100K:104	K - ± 10%

Please Request Full Data Sheet F0261

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## 10mm square multiturn

### Key features



- stable high resolution cermet element
- slim profile assists stacking
- 0.5 watt rating at 70°C
- low tcr  $\pm 100\text{ppm}/^\circ\text{C}$  maximum
- top and side adjust versions available
- audible signal at clutch end
- fully sealed for board washing
- flame retardant case

### type 4290 series

Where size and reliability are critical, this range of 10mm square multiturn trimming potentiometers satisfies the requirements in industrial and professional applications. The cermet element offers stability and high resolution. The trimmer is actuated by a lead screw with a slipping clutch at each end of travel. End stops are marked by audible click. All units are fully sealed to withstand immersion in board washing solvents.

### Electrical

Resistance Range:	10R to 5M
Resistance Values:	1, 2, 5 in each decade
Resistance Tolerance:	$\pm 10\%$
Slider Current:	50mA
Power Rating:	0.2 Watts at 70°C Derating to zero at 100°C
Limiting Element Voltage:	100V DC or AC RMS maximum
Rotational Noise (CRV):	3 ohms or 3% whichever is greater
Temperature Coefficient:	$\pm 250\text{ppm}/^\circ\text{C}$
Electrical Adjustment:	22 Turns nominal

### Environmental

Temperature Range:	- 55°C to +125°C
Rotational Life:	200 cycles
Load Life at 70°C:	$\Delta R < 3\%$ after 1000 hours
Sealing:	Board Washing

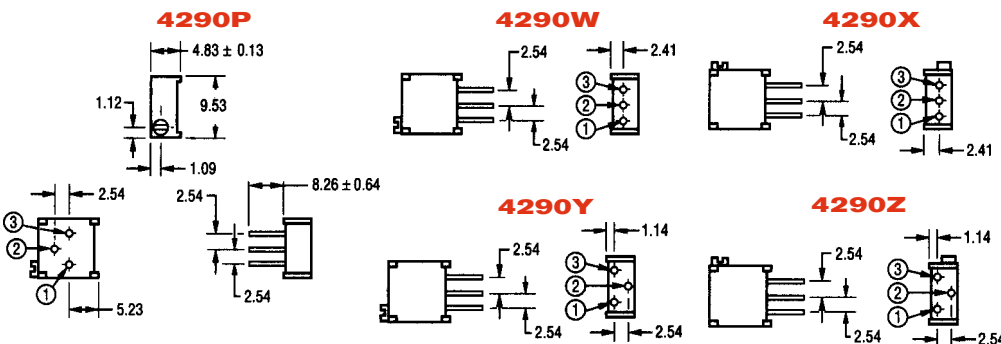
### Mechanical

End Stop:	Slipping Clutch action
Starting Torque:	30gfcM
Mechanical Adjustment:	25 Turns

### Specification

### PCB Trimmers

### Dimensions



### How to Order

Common Part	Pin Configuration	Resistance Value	Tolerance
4290	P - Low Profile W - Top Adjust X - Side Adjust Y - Top Adjust Z - Side Adjust	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following  Example 1K :102 10K :103 100K :104	K - $\pm 10\%$

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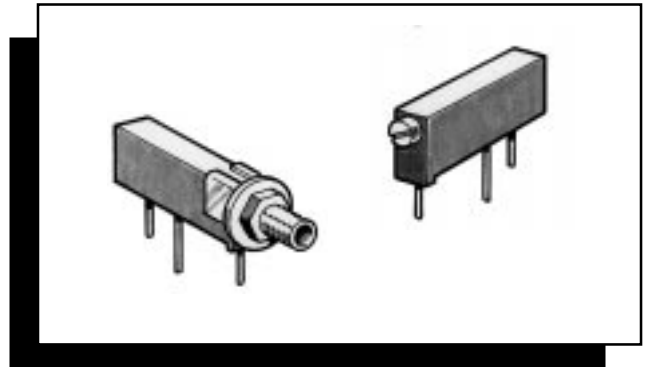
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POTENTIOMETERS  
INDUCTORS,  
SURFACE MOUNT DEVICES  
SWITCHES, NETWORKS  
ENCODERS, SENSORS

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## Professional Trimmers

### TYPE 422PW AND 433PW SERIES

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When you need a durable trimming potentiometer, these 19mm rectilinear styles offer quality performance at a competitive price. They feature a cermet element for stability and resolution and are available in two formats.

Type 422PW has a transparent plastic case so the wiper position may be clearly seen.

Type has an opaque plastic case. Either will withstand all recognised board washing solvents. Both styles can be offered with panel mount for external adjustment.

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### MEGGITT CITEC KEY FEATURES

- STABLE INFINITE RESOLUTION
- HIGH PERFORMANCE
- AUDIBLE CLICK AT WIPER END STOP
- TRANSPARENT CASE AVAILABLE
- RUGGED CONSTRUCTION
- FULLY SEALED
- PANEL MOUNT AVAILABLE
- ATTRACTIVE PRICE KEEPS DOWN COSTS

**ELECTRICAL**

Resistance Range:	10 Ohms to 2M Ohms
STD Resistance Values:	1, 2 and 5 in each decade
STD Resistance Tolerance:	± 10%
End Resistance:	2 Ohms or 1% of total resistance, whichever is greater
Slider Current:	100 mA or within power rating maximum
Power Rating, Watts:	0.75 at 70°C derating to zero at 125°C
Isolation Voltage:	500 V dc or ac peak
Input Voltage:	400 V dc or ac RMS maximum
Breakdown Voltage:	1000 V ac for one minute
Insulation Resistance:	100 M ohms at 500 V dc minimum
Resolution:	Essentially Infinite
Rotational Noise (CRV):	1 Ohms or 1 % of total resistance, whichever is greater
Temperature Coefficient:	± 100 ppm/°C maximum
Electrical Adjustment	15 Turns Nominal

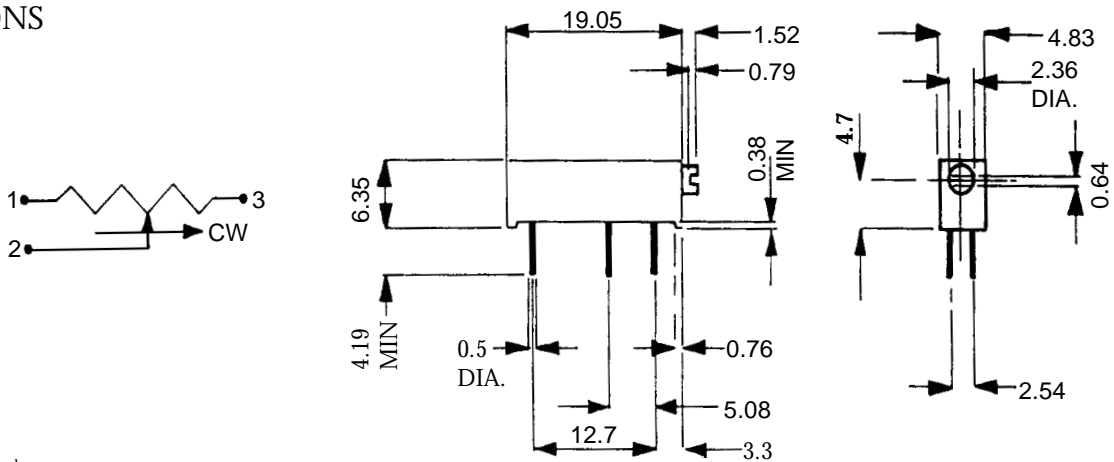
**MECHANICAL**

End Stop:	Slipping Clutch Both Ends
Starting Torque:	35mNm maximum
Mechanical Adjustment:	18 Turns Nominal
Weight:	1.4 grams maximum

**ENVIRONMENTAL**

Temperature Range:	-55°C to +125°C
Temperature Storage:	1000 Hrs at 125°C
Thermal Shock:	5 Cycles -55°C to +125°C
Bump Severity:	4000 Bumps; 40g (3mm or 390 m/s <sup>2</sup> )
Vibration Severity:	10 - 500Hz; 10g (0.75mm or 98m/s <sup>2</sup> )
Rotational Life:	200 Cycles
Load Life at 85°C:	Δ R < 2% after 1000 Hours
Sealing:	Sealed for Board Washing
Climatic Category:	55/125/21

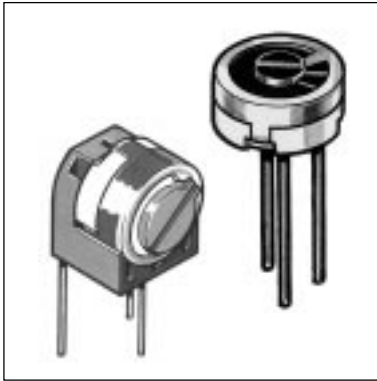
**DIMENSIONS**



All Dimensions are nominal and in mm unless otherwise shown. Do Not Scale.

**HOW TO ORDER**

433 COMMON PART	PW ORIENTATION	102 RESISTANCE VALUE	K TOLERANCE
433 - Opaque case 422 - Clear case	PW for PCB Mount PM for Panel Mount	The first digits are significant figures of resistance value and the third one denotes the number of zeros following  Example 1k : 102 10k : 103 100k : 104	K = ± 10%



### Key features

- stable high resolution cermet element
- space saving device
- 0.5 watt rating at 85°C
- proven reliability
- top and side adjust versions
- sealed for wave soldering
- well established design
- up to 150°C temperature

### type 470 series

For applications that demand a durable, miniature trimming potentiometer, this military style offers quality at the right price. Cermet element technology ensures stability and performance in these 6mm diameter components. All units are available with top or side adjustment. All are fully sealed to withstand immersion in normal board washing solvents.

### Electrical

Resistance Range:	10R to 1M
Resistance Values:	1, 2, 5 in each decade
Resistance Tolerance:	± 10%
Slider Current:	50mA
Power Rating:	0.5W at 85°C Derating to zero at 150°C
Limiting Element Voltage:	200V DC or AC RMS maximum
Rotational Noise (CRV):	3 ohms or 3% whichever is greater
Temperature Coefficient:	±100ppm/°C
Electrical Adjustment:	240° nominal

### Environmental

Temperature Range:	- 55°C to +150°C
Rotational Life:	200 cycles
Load Life at 70°C:	1000 hours at 0.5W
Sealing:	Board Washing and immersion cleaning

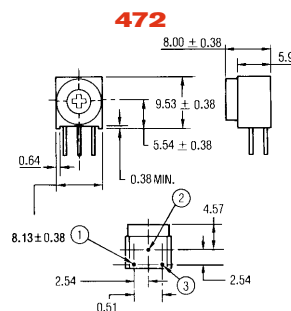
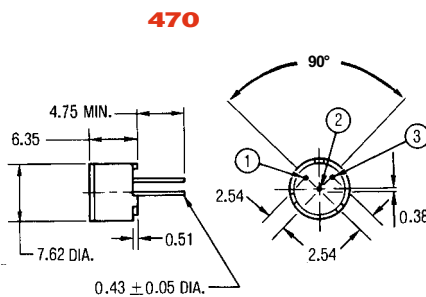
### Mechanical

End Stop:	3.5 mNm minimum
Starting Torque:	3.5mNm maximum
Mechanical Adjustment:	260° nominal

### Specification

### PCB Trimmers

### Dimensions



### How to Order

470	102	K
Common Part	Resistance Value	Tolerance
470 - Top Adjust 472 - Side Adjust	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following  Example 1K :102 10K :103 100K :104	K - ±10%

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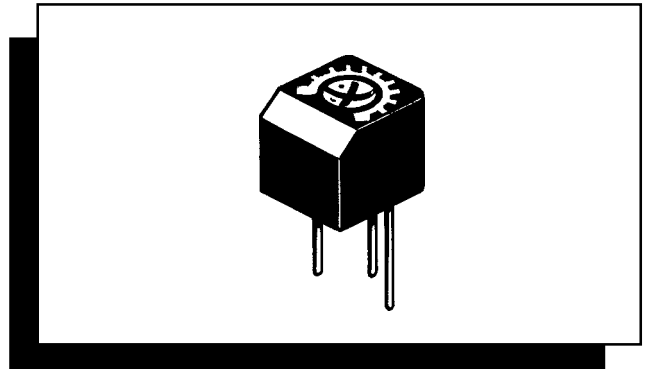
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## Professional Trimmers

### TYPE 4265 SERIES

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A tiny, fully sealed, professional single turn trimmer with a range of pin configurations. The 4265 is available with top or side adjustment and pin configurations that meet the majority of requirements.

The cermet element is very stable and has good setability. A high quality modern trimmer at a very attractive price. Of particular interest will be the 4265 LT and UT versions supplied on radial tape for automatic insertion.

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### MEGGITT CITEC KEY FEATURES

- HIGH RESOLUTION STABLE CERMET ELEMENT
- COMPACT 6mm SIZE
- FULLY SEALED CONSTRUCTION
- 0.5 WATT RATING AT 70°C
- FLAME RETARDANT
- P.C.B. STANDOFFS
- ROBUST CONSTRUCTION
- VERTICAL OR HORIZONTAL ADJUSTMENTS
- AVAILABLE ON TAPE

**ELECTRICAL**

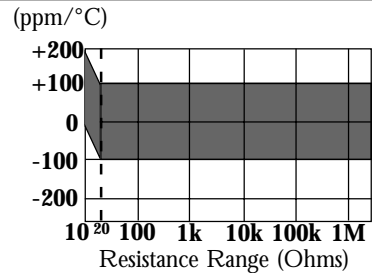
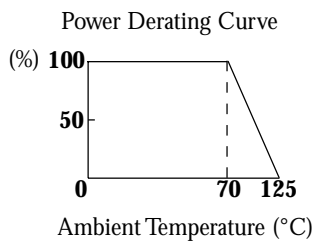
Resistance Range:	10 ohms to 2M ohms
Resistance Values:	1, 2, and 5 in each decade
Resistance Tolerance:	± 20%
End Resistance:	3 ohms or 1% of total resistance
Slider Current:	50 mA or within power rating, Max.
Power Rating, Watts:	0.5 at 70°C derating to zero at 125°C
Dielectric Withstand:	500V RMS for 1 minute
Max. Input Voltage:	200V dc or ac RMS, Max.
Insulation Resistance:	1000 M Ohms (Min.) at 500V dc
Resolution:	Essentially infinite
Rotational Noise (CRV):	3 ohm or 3%, whichever is greater
Electrical Adjustment:	220° Nominal

**MECHANICAL**

End Stop:	50 mNm minimum
Rotational Torque:	20 mNm maximum
Mechanical Adjustment:	250° nominal
Weight:	0.55 gram nominal
Solderability:	MIL Std 202 Method 208A

**ENVIRONMENTAL**

Temperature Range:	-55°C to +125°C
Temperature Storage:	250 Hours. at 125°C
Thermal Shock:	5 Cycles - 55°C to 125°C
Shock:	Medium Impact
Vibration Severity:	10-2000 -10Hz 20 minutes
Rotational Life:	100 Cycles minimum
Sealing:	Sealed for Board Washing (85°C Florinert)
Climatic Category:	55/125/21
Humidity:	MIL - Std - 202G Method 103 (96 hours)
Temperature Coefficient:	See graph below right



**DIMENSIONS**

TYPE 4265P	TYPE 4265H
TYPE 4265X	TYPE 4265V
TYPE 4265LT	TYPE 4265UT





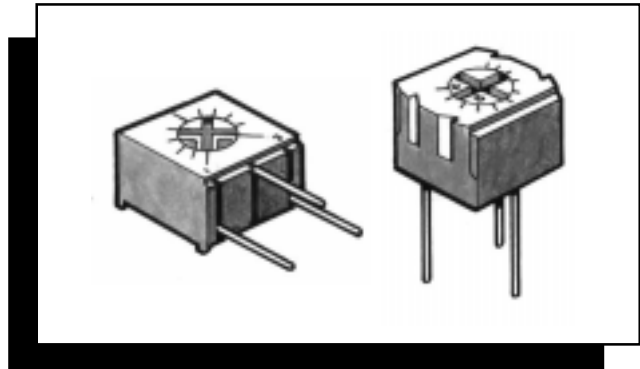
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INDUCTORS,  
SURFACE MOUNT DEVICES  
SWITCHES, NETWORKS  
ENCODERS, SENSORS

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## Professional Trimmers

### TYPE 4275 SERIES

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A tiny, fully sealed, professional trimmer offered with a range of pin configurations. The 4275 is available with top or side adjustment and can be supplied on tape, ammo packed for automatic high speed radial insertion. Standard packaging is in tough plastic tubes.

The cermet element is very stable and has good stability. A high quality modern trimmer at an attractive price. The product is designed for use in small size professional equipments and boasts performance well beyond its price.

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### MEGGITT CITEC KEY FEATURES

- HIGH RESOLUTION STABLE CERMET ELEMENT
- ONLY 6mm SQUARE
- VERTICAL OR HORIZONTAL ADJUSTMENT
- 0.5 WATT RATING AT 70°C
- CHOICE OF PIN CONFIGURATION
- RUGGED CONSTRUCTION
- FLAME RETARDENT
- SUPPLIED IN FIRM PLASTIC TUBES

**ELECTRICAL**

Resistance Range:	10R to 2M
Resistance Values:	1, 2 and 5 in each decade
Resistance Tolerance:	10%
End Resistance:	2 ohms or 1% whichever is greater
Power Rating:	0.5W at 70°C derating to zero at 125°C
Isolation Voltage:	300 V dc or ac peak
Limiting Element Voltage:	200 V dc or ac RMS, maximum
Insulation Resistance:	1000 M at 500 V dc, minimum
Rotational Noise (CRV):	3w or 1%, whichever is greater
Electrical Adjustment:	1 turn - 240° Nominal
Temperature Coefficient:	± 100ppm/°C

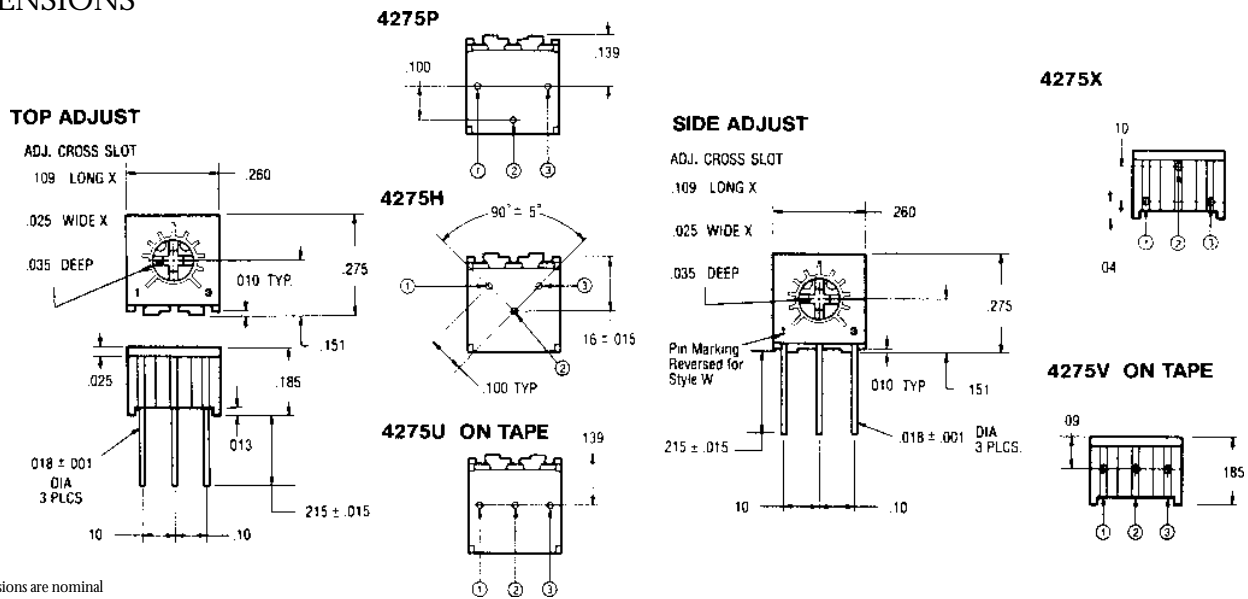
**MECHANICAL**

End Stop:	50 mNm, minimum
Starting Torque:	20 mNm, maximum
Mechanical Adjustment:	1 turn - 270° Nominal
Weight:	0.6 gm Nominal

**ENVIRONMENTAL**

Temperature Range:	-55°C to +125°C
Temperature Storage:	250 hrs. at 125°C
Thermal Shock:	5 cycles -55°C to 125°C
Bump Severity:	4000 bumps 40G
Vibration Severity:	10 - 500 Hz, 30G
Rotational Life:	200 cycles, minimum
Load Life at 70°C:	DR <3% after 1000 hours.
Sealing:	Sealed for board washing
Soldering Heat:	5 seconds at 350°C
Climatic Category:	55/125/21

**DIMENSIONS**



All Dimensions are nominal and in mm unless otherwise shown. Do Not Scale.

**HOW TO ORDER**

4275	P	104	K
COMMON PART	PIN / ADJUSTMENT STYLE	RESISTANCE VALUE	TOLERANCE
4275	P - Top Adjust H - Top Adjust X - Side Adjust U - Top Adjust Taped V - Side Adjust Taped	The first digits are significant figures of resistance value and the third one denotes the number of zeros following  Example 100R : 101 1K0 : 102 10K : 103 100K : 104	K = ± 10%

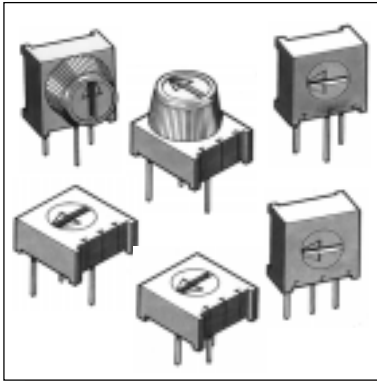


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## 10mm square single turn

### Key features



- stable high resolution cermet element
- enclosure sealed
- 0.5 watt rating at 70°C
- vertical or horizontal adjustment
- finger adjust versions available
- approved to BT style 45
- flame retardant
- pcb standoffs

### type 4295 series

These long established 10mm square, single turn potentiometers will meet a wide range of industrial and professional applications. Cermet element technology ensures stability and reliability. This PCB mounted package has easy top and side adjustments, as well as finger adjust styles. All components are sealed to withstand printed circuit board washing solvents.

### Electrical

Resistance Range:	10R to 2M
Resistance Values:	1, 2, 5 in each decade
Resistance Tolerance:	± 10%
Slider Current:	100mA or within power rating, maximum
Power Rating:	0.5W at 85°C derating to zero at 125°C
Limiting Element Voltage:	300V DC or AC RMS maximum
Insulation Resistance:	1000 M ohms minimum at 500 V DC
Rotational Noise (CRV):	1 ohms or 1% whichever is greater
Temperature Coefficient:	±100ppm/°C
Electrical Adjustment:	280° nominal

### Environmental

Temperature Range:	- 55°C to +125°C
Rotational Life:	200 cycles minimum
Load Life at 70°C:	ΔR <3% after 1000 hours
Sealing:	Board Washing

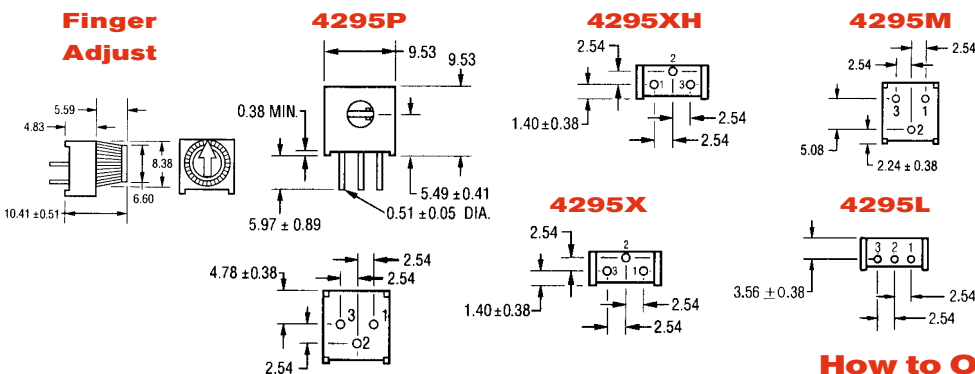
### Mechanical

End Stop:	50mNm
Starting Torque:	36mNm
Mechanical Adjustment:	310° nominal

### Specification

### PCB Trimmers

### Dimensions



### How to Order

Common Part	Orientation	Resistance Value	Tolerance
4295	M - Top Adjust P - Top Adjust X - Side Adjust L - Side Adjust XH - Side Adjust (Rev) MF - Finger Adjust	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following  Example 1K :102 10K :103 100K :104	K - ±10%

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## 6mm round single turn

### type 406 series

Meggitt specification in cermet technology gives this small trimmer stability and reliability. For use in industrial and professional equipment applications, the 406 offers a quality performance and is available with top, underside or side adjustment, as well as various pinouts. The 406 series is often used as replacements for the larger, more expensive, 10mm sealed series in modern applications. The 406 is widely used in the telecomms industry.

### PCB Trimmers

### Key features

- stable high resolution cermet element
- space saving device
- 0.3 watts at 70°C
- vertical or horizontal adjustment
- underside adjustment (M) available
- dust and splash proof
- pcb standoffs
- choice of mounting configurations



### Specification

#### Electrical

Resistance Range:	50R to 2M
Resistance Values:	1, 2, 5 in each decade (2.2 and 4.7 are also available as specials)
Resistance Tolerance:	± 20%
Slider Current:	50mA
Power Rating:	0.3W at 70°C derating to zero at 100°C
Limiting Voltage:	100V DC or AC RMS maximum
Resolution:	Essentially Infinite
Rotational Noise (CRV):	5% maximum
Temperature Coefficient:	± 200ppm/°C

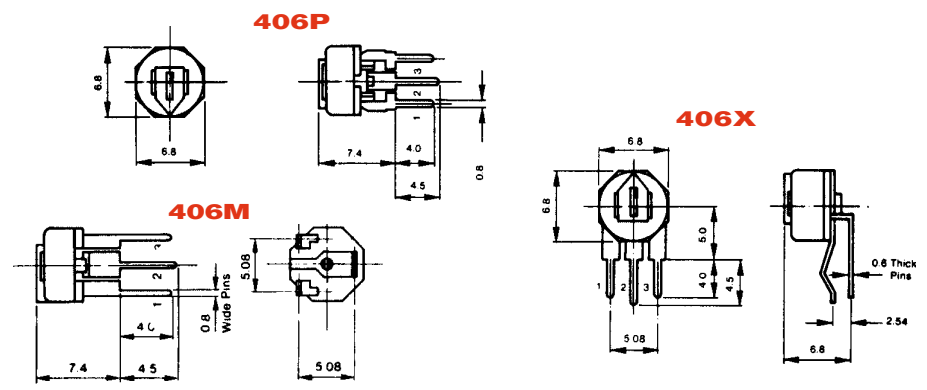
#### Mechanical

End Stop Torque:	>100mNm
Starting Torque:	≤ 25mNm
Mechanical Adjustment:	265° ± 5°

#### Environmental

Temperature Range:	- 40°C ~ +100°C
Rotational Life:	200 cycles
Sealing:	Fully Enclosed (Not Sealed)

### Dimensions



### How To Order

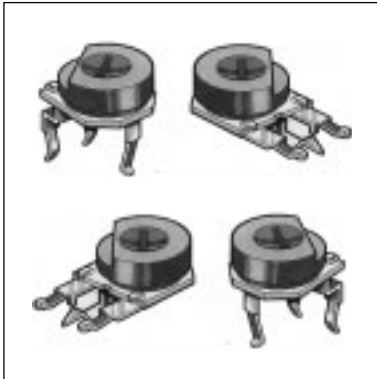
Common Part	Adjustment Style	Adjustment Head	Resistance Value	Tolerance
406	P - Top Adjust 2.5 x 5.0mm M - Top & Underside Adjust 5.0 x 5.0mm X - Side Adjust 2.5 x 5.0mm	A - Minus Slot	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following  Example 1K :102 10K :103 100K:104	M - ± 20%

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## 6mm square single turn

### Key features



- stable high resolution cermet element
- space saving size
- 0.2 watt rating at 70°C
- wide value range
- available on tape for auto insertion
- top, side or underside adjust
- dust and splashproof
- auto adjust head available

### type 416 series

This tiny 6mm square cermet trimmer is offered with alternative adjustment covers for screwdriver and automatic setting as well as being available in bulk or taped in ammo pack. The 416 can be adjusted from the top, side or underside (through board, not 'P' style) and is an inexpensive solution to high reliability potentiometer requirements. This series is used to replace some of the larger, expensive, sealed types in high volume circuits.

### Specification

#### Electrical

- Resistance Range: 50R to 1M
- Resistance Values: 1, 2, 5 in each decade
- Resistance Tolerance: ± 25%, (±20% by selection)
- End Resistance: 1% Nominal or 10 ohms maximum, whichever is greater.
- Wiper Current: 50mA
- Power Rating: 0.2W at 70°C Derating to zero at 100°C
- Limiting Element Voltage: 100V DC or AC RMS maximum
- Rotational Noise (CRV): 3% maximum
- Temperature Coefficient: ±250ppm/°C

#### Environmental

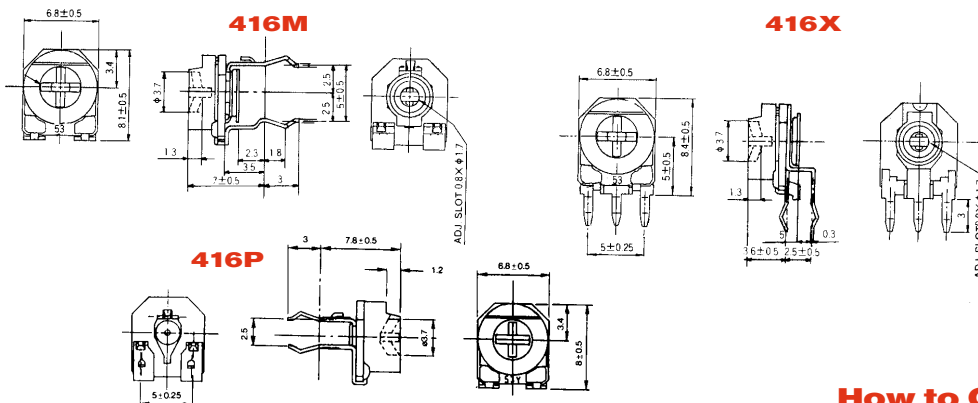
- Temperature Range: -20°C to +100°C
- Load Life at 70°C: ΔR < 5% after 1000 hours
- Sealing: Dust Proof
- Climatic Category: 25/100/21

#### Mechanical

- End Stop: 50 mNm minimum
- Starting Torque: 35 mNm maximum
- Mechanical Adjustment: 260° nominal
- Operational Life: 100 turns

PCB Trimmers

### Dimensions



### How to Order

Common Part	Adjustment Style	Head Style	Resistance Value		Tolerance
416 - 6mm low cost trimmer	M - 5.0 x 5.0mm Top/ Underside Adjust X - 5.0 x 2.5mm Both Side Adjust P - 2.5 x 5.0mm Top Adjust Only	A - Cross R - Auto Adjust X - Skeleton	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following	Example 1K :102 10K :103 100K :104	M - ±20%

Please Request Full Data Sheet F0271

## 6mm square for auto insertion

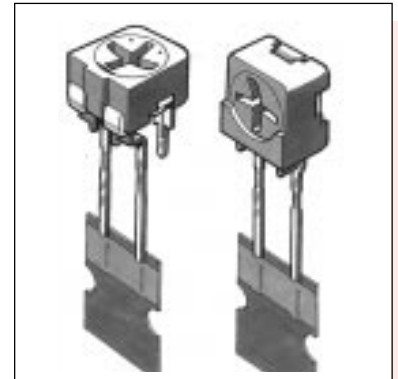
### type 436 series

The 436 has been designed for use in the industrial and professional equipment applications. This component offers durability and quality performance and is available with top, underside or side adjustment, as well as various pinouts. The 436 is only offered on radial tape and ammo boxed for high speed auto insertion. The 436 series is often used as replacements for the larger, more expensive, 10mm sealed series in modern applications.

**PCB Trimmers**

### Key features

- auto insertion only
- excellent mounting design
- both sides adjust available
- excellent reliability
- protected knob construction
- horizontal and vertical body styles
- cermet and carbon (N6) available
- choice of mounting configurations



### Specification

#### Electrical

Resistance Range:	100R to 1M
Resistance Values:	1, 2, 5 in each decade
Resistance Tolerance:	± 25%
Power Rating:	0.3W at 70°C
Limiting Element Voltage:	100V DC or AC RMS maximum
Resolution:	Essentially Infinite
Rotational Noise (CRV):	5% maximum
Temperature Coefficient:	± 200ppm/°C

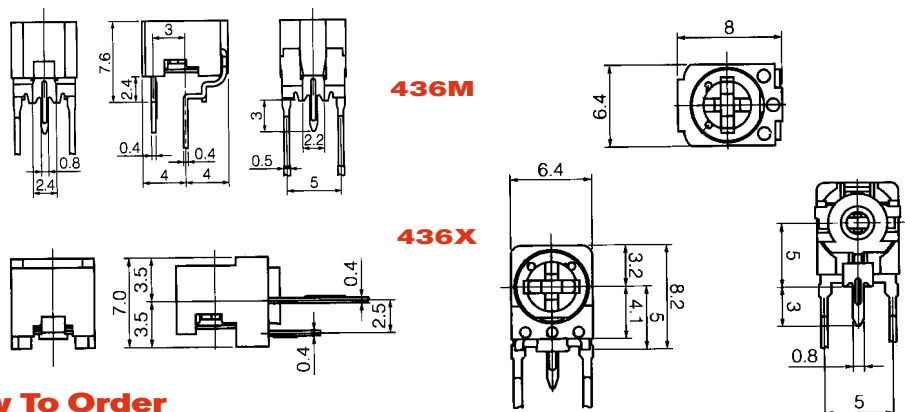
#### Mechanical

End Stop Torque:	35 mNm minimum
Starting Torque:	20 mNm minimum
Mechanical Adjustment:	210° nominal

#### Environmental

Temperature Range:	-25°C ~ +100°C
Rotational Life:	200 cycles
Load Life:	ΔR <4% after 1000 hours
Sealing:	Dust Proof

### Dimensions



### How To Order

Common Part	Adjustment Style	Head Style	Resistance Value		Tolerance
436 - Enclosed Trimmer	M - Top Adjust 5.0 x 3.0mm X - Side Adjust 2.5 x 5.0mm	A - Cross Head	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following		P - ± 25%
			Example 1K :102 10K :103 100K:104		

Please Request Full Data Sheet F0278

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**sales fax line (01793) 611777**

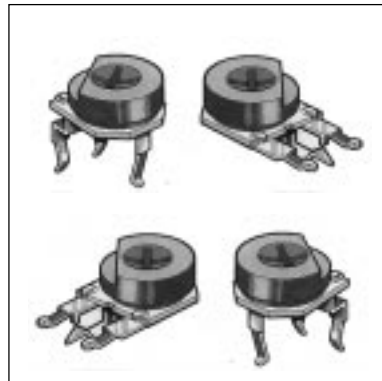
6mm square single turn

Key features

- very low cost
- robust enclosed construction
- dust proof
- latest cermet technology
- top, side and underside adjust
- 0.3 watts power rating
- stable in very high humidity
- excellent reliability

type 446 series

This miniature trimmer incorporates the latest technology development and has been rigorously tested to the highest standards. Special attention at the design stage has created a new cermet printing technology which is ideally suited to high volume, low cost applications in a range of consumer and industrial markets. The 446 can be adjusted from both sides.



Specification

Electrical

- Resistance Range: 100R to 1M
- Resistance Values: 1, 2, 5 in each decade
- Resistance Tolerance: ± 30%
- Power Rating: 0.3W at 70°C derating to zero at 100°C
- Operating Voltage: 100V DC or AC RMS maximum
- Rotational Noise (CRV): 4% maximum
- Temperature Coefficient: ±250ppm/°C

Environmental

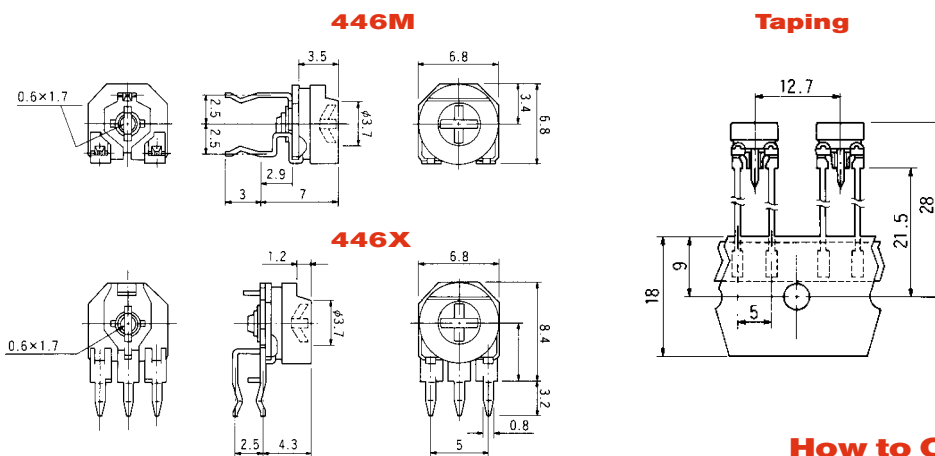
- Temperature Range: -25°C to +100°C
- Load Life at 70°C: ΔR < 5% after 1000 hours
- Sealing: Dust Proof
- Terminal Strength: 0.3 kg minimum

Mechanical

- End Stop: 50 mNm for 5 seconds
- Starting Torque: 1 mNm
- Mechanical Adjustment: 240° nominal
- Operational Life: 50 turns

PCB Trimmers

Dimensions



How to Order

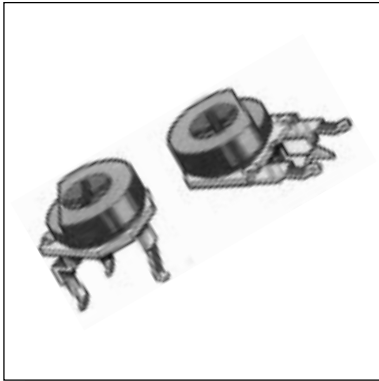
Common Part	Adjustment Style	Head Style	Resistance Value	Tolerance
446 - 6mm low cost trimmer	X - 5.0 x 2.5mm Both Side Adjust M - 5.0 x 5.0mm Top/Underside Adjust	A - Cross Slot	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following  Example 1K :102 10K :103 100K :104	N - ±30%

Please Request Full Data Sheet F0279



## 10mm square single turn

### Key features



- stable high resolution cermet element
- rugged construction
- pcb standoffs
- wide value range
- 0.5 watt power rating
- high reliability
- dust and splashproof
- auto adjust head available

### type 409 series

The 409 series offers typical Meggitt Electronic features, the stability of a cermet resistive element, and an attractive price.

The range satisfies many applications in industrial and professional product.

Components are available with top, underside, side, finger, auto and skeleton

adjustments. The 409 is widely used in power supplies, telecommunications, medical instrumentation and the automotive industry.

### Electrical

Resistance Range:	100R to 1M (Linear)
Resistance Values:	1, 2, 5 in each decade
Resistance Tolerance:	± 20%
End Resistance:	2% Nominal
Wiper Current:	50mA maximum
Power Rating:	0.5W at 70°C derating to zero at 100°C
Limiting Element Voltage:	200V DC or AC RMS maximum
Rotational Noise (CRV):	3% maximum
Temperature Coefficient:	±250ppm/°C

### Mechanical

End Stop:	50 mNm minimum
Starting Torque:	3 mNm
Mechanical Adjustment:	200° nominal
Operational Life:	100 turns

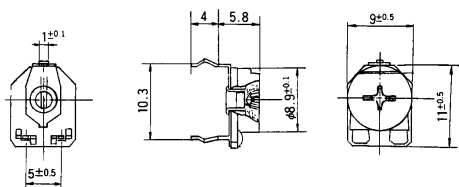
### Environmental

Temperature Range:	- 20°C to + 100°C
Load Life at 70°C:	ΔR < 5% after 1000 hours
Sealing:	Dust Proof
Climatic Category:	25/100/21

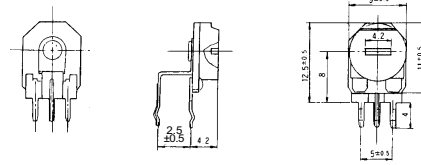
PCB Trimmers

### Dimensions

409H



409V



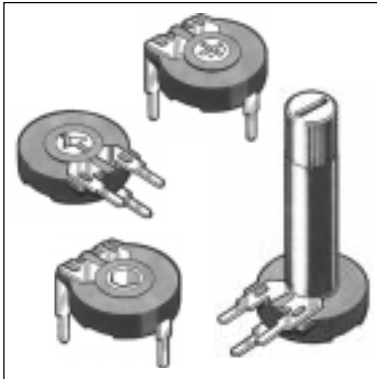
### How to Order

Common Part	Adjustment Style	Head Style	Resistance Value		Tolerance
409	H - Top/Bottom Adjust V - Side Adjust	A - Phillips Slot R - Auto Adjust S - Finger Adjust T - Minus Slot X - Skeleton Style	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following	Example 1K :102 10K :103 100K :104	M - ±20%

Please Request Full Data Sheet F0260

10mm cermet round single turn

Key features



- stable high resolution cermet element
- enclosed construction
- 0.33 watts at 70°C
- both sides adjustment
- flame retardant
- dust and splash proof
- suitable for spindles and thumbwheels
- arrow position indicator

type TC10 series

The CERMET "sister" of the PT10, this, enclosed trimmer offers long term stability at a sensible price. We can offer hexagon centres with spindle adjustment and other custom styles. The Meggitt Electronics TC10 is normally selected when equipments require highly stable potentiometers for setting precise voltages. Standard resistance selection tolerance is ±20%.

Specification

Electrical

Resistance Range:	100R to 1M (Linear/Log/Inverse Log)
Resistance Values:	1, 2.2, 4.7 in each decade
Resistance Tolerance:	± 20%, (others available to order)
Rotational Noise (CRV):	<3% or 3 ohms minimum
Power Rating:	Linear: 0.33W at 70°C derating to zero at 90°C Non Linear: 0.25W at 70°C derating to zero at 90°C
Nominal Voltage:	200V (Linear) / 150V (Non Linear)
Temperature Coefficient:	± 100ppm/°C
Slider Current:	50mA
Electrical Rotation:	220° nominal

Mechanical

End Stop Torque:	50 mNm
Starting Torque:	4 to 20 mNm
Mechanical Adjustment:	235° nominal

Environmental

Temperature Range:	- 40°C ~ +90°C
Rotational Life:	100 cycles (10,000 cycles Long Life Version)
Sealing:	Fully Enclosed (Not Sealed)

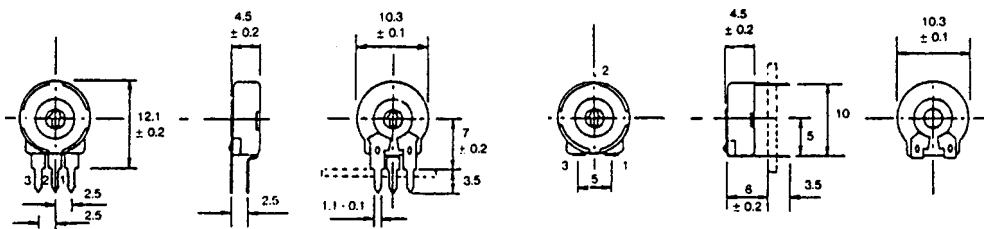
PCB Trimmers

N.B. This product is also known as the Citec 408 series

Dimensions

TC10\_H (side adjust)

TC10\_V (top adjust)



N.B. Plug in accessories are available. For selection please see end of this section.

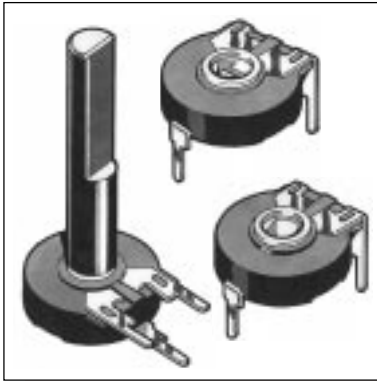
How to Order

TC10	L	H	102	M	-	-
Common Part	Adjustment Style	Orientation	Resistance Value	Tolerance	Features	Law
TC10 - Std	L - Screwdriver M - Hexagon (Other Centres on Request)	H - Vertical to PCB V - Horizontal to PCB	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following Example 1K : 102 10K : 103 100K : 104	K - 10% Special M - 20% N - 30% (<1 Meg)	- - Standard Part E - Extended Life	- - Lin. B - Log C - Inv. Log

Please Request Full Data Sheet F0266

15mm cermet round single turn

Key features



- stable high resolution cermet element
- enclosed construction
- 0.5 watts at 70°C
- top, bottom and both side adjustment
- flame retardant
- dust and splash proof
- suitable for spindles and thumbwheels
- arrow position indicator

type TC15 series

The CERMET "sister" of the PT15, this low price, enclosed trimmer offers long term stability at a sensible price. Of particular interest is its ability to dissipate high power at elevated ambient temperature. We can offer hexagon centres with spindle adjustment as well as other custom styles. The Meggitt TC15 is normally selected when quality equipment require high reliability, stable potentiometers for setting precise voltages.

Specification

Electrical

Resistance Range: 100R to 5M (Linear/Log/Inverse Log)  
 Resistance Values: 1, 2.0, 2.2, 2.5, 4.7, 5.0 in each decade  
 Resistance Tolerance: ± 20%, (others available to order)  
 Rotational Noise (CRV): <3% or 3 ohms minimum  
 Power Rating (Watts): Linear: 0.5W at 70°C derating to zero at 90°C  
 Non Linear: 0.25W at 70°C derating to zero at 90°C  
 Nominal Voltage: 250V DC (Linear) / 125V DC (Non Linear)  
 Temperature Coefficient: ± 100ppm/°C  
 Electrical Rotation: 250° ±20°

Mechanical

End Stop Torque: 100 mNm  
 Starting Torque: 5 to 25 mNm  
 Mechanical Adjustment: 265° ±5°

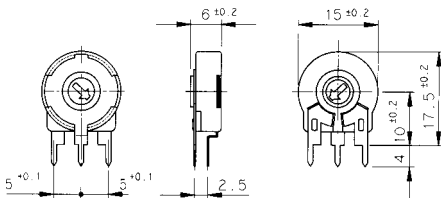
Environmental

Temperature Range: - 40°C ~ +90°C  
 Rotational Life: 100 cycles (10,000 cycles Long Life Version)  
 Sealing: Fully Enclosed (Not Sealed)

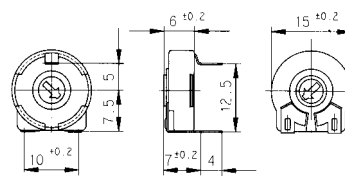
PCB Trimmers

Dimensions

TC15\_H (side adjust)



TC15\_V (top adjust)

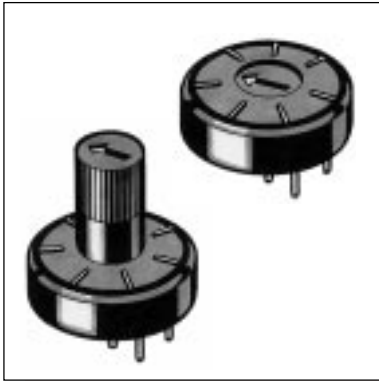


How to Order

Common Part	Adjustment Style	Pin Pitch	Resistance Value	Tolerance	Features	Law
TC15 - Std Part	L - Screwdriver N - For Plug In Accessories (Other Centres on Request)	H2 - 2.5mm H5 - 5.0mm V12 - 12.5mm V15 - 15.0mm V17 - 17.5mm	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following Example 1K : 102 10K : 103 100K : 104	M - 20% N - 30%	- Standard Part E - Extended Life	- Lin. B - Log C - Inv. Log

N.B. Plug in accessories are available. For selection please see end of this section.

Please Request Full Data Sheet F0281



**Key features**

- **stable high resolution cermet element**
- **proven reliability**
- **1 watt rating at 40°C**
- **resistant to pcb solvents**
- **wiper position indicator**
- **special log laws available**
- **rugged construction**
- **finger adjust version**

**type PC910 series**

Specify the PC910 series, offering a number of Meggitt Electronic Components quality features. This series is ideal for use in most professional and industrial equipment. The components have a higher power rating and offer the stability and reliability that come with cermet element technology. The finger adjust type is widely used in V.D.U. brightness controls and as stable adjustment trimmers in temperature controls and timing applications.

**Electrical**

Resistance Range/Laws:	47R to 2M2 (Linear) - 1K to 1M (Non-linear)
Resistance Values:	1, 2.2, 4.7 in each decade (2 and 5 available to special order)
Resistance Tolerance:	± 20% (tighter tolerance by request)
Rated Dissipation at 40°C:	1 Watt Linear - 0.5 Watt Non-linear
Limiting Element Voltage:	315V DC or AC maximum
Electrical Adjustment:	240° nominal
Rotational Noise (CRV):	5 ohms or 5% maximum, whichever is greater

**Environmental**

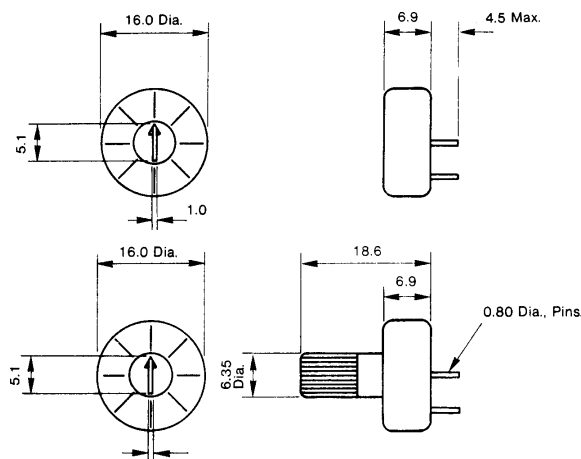
Change of Resistance:	3% after 1000 hours
Rotational Life:	200 cycles minimum
Climatic Category:	40/100/21

**Mechanical**

End Stop:	90mNm
Starting Torque:	30mNm
Mechanical Adjustment:	270° nominal

**Specification**

**Dimensions**



**PC910**

**PC911**

**How to Order**

PC910	102	K	A
<b>Common Part</b>	<b>Resistance Value</b>	<b>Tolerance</b>	<b>Law</b>
PC910 - Screwdriver Adjust PC911 - Finger Adjust	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following  Example 1K :102 10K :103 100K :104	K - ±10%	A - Linear B - Log

Please Request Full Data Sheet M0223

**PCB Trimmers**

## 6mm square single turn

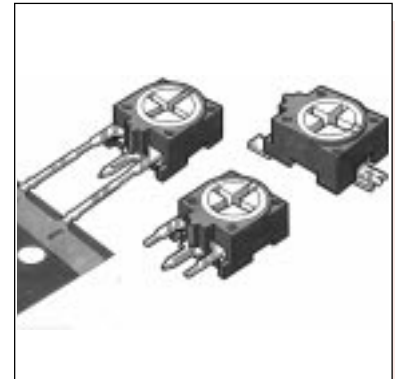
### type N6 series

An innovative fully enclosed trimmer potentiometer. The element is a patented technique using special carbon polymer inks on polyester film and the device is packaged on tape as standard for auto insertion. The units can be adjusted from either side, have a full 280° of adjustment and have a wide value range. The N6 is designed for consumer applications but will be widely used in a range of telecomms, instrumentation, medical and automotive industry sectors.

**PCB Trimmers**

### Key features

- small dimensions
- fully enclosed
- both side adjustment
- available on tape or bulk packed
- special carbon on film technology
- full 280° rotation
- -25°C to +70°C temperature range
- available from stock



### Specification

#### Electrical

Resistance Range:	200R to 1M (Linear)
Resistance Values:	1, 2.2, 2.5, 4.7, 5 in each decade
Resistance Tolerance:	± 30%
End Resistance:	<2% or 10R whichever is greater
Rotational Noise (CRV):	<5%
Power Rating:	0.1W maximum at 40°C
Element Voltage:	100V DC
Electrical Rotation:	245° ±25°

#### Mechanical

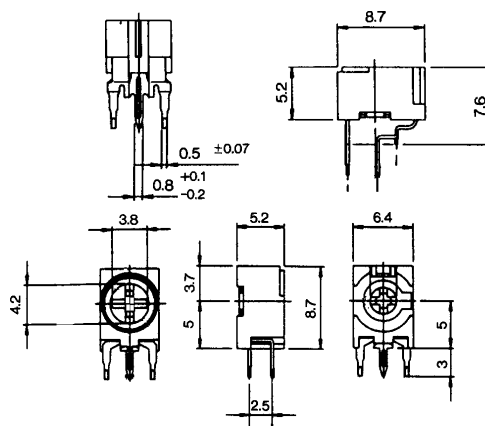
End Stop Torque:	>35 mNm
Operating Torque:	2 - 30 mNm
Mechanical Adjustment:	280° nominal

#### Environmental

Temperature Range:	-25°C ~ +70°C
Rotational Life:	100 cycles
Load Life:	ΔR <10% after 1000 hours

### Dimensions

#### N6 L25



#### N6 S25

### How To Order

Common Part	Adjustment Style	Pack Style	Resistance Value		Tolerance
N6	S25 - Side Adjust L25 - Top Adjust L30 - Top Adjust (Taped)	TO - Bulk TI - Taped	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following	Example 1K :102 10K :103 100K:104	N - ± 30%

Please Request Full Data Sheet F0246

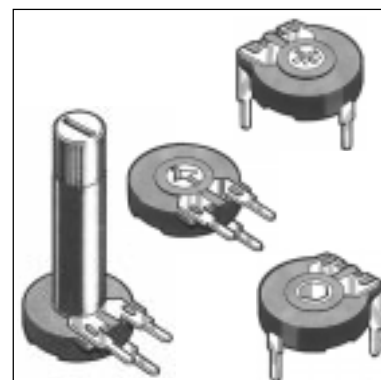
**sales action desk (01793) 611666**  
**sales fax line (01793) 511513**

If you require information on taped product for auto insertion, please discuss with our sales staff, as we have alternative styles to fit various auto insertion equipment.

## 10mm carbon round single turn

### Key features

- stable in high humidity
- top and bottom adjustments
- arrow position indicator
- spindle adjust versions
- robust enclosed construction
- flame retardant
- very low cost
- custom design service available



### type PT10 series

Low price, versatility and stable environmental characteristics are important benefits of this product. The PT10 features a patented carbon resistive element printed on polyester film in a fully enclosed package. There is an option to have a hexagonal centre in any pin style to enable plug in accessories.

### PCB Trimmers

N.B. This product is also known as the CP10 Series.

### Specification

#### Electrical

Resistance Range:	100R to 10M (Linear)
Resistance Values:	1, 2.2 and 4.7 in each decade
Resistance Tolerance:	± 20% (±30% above 1M)
Power Rating:	0.15W @ 40°C derating to zero at 85°C
Limiting Element Voltage:	200V DC or AC RMS maximum
Electrical Rotation:	220°
Termination Resistance:	5 ohms maximum
End Resistance:	<3%
Rotational Noise (CRV):	<5% or 3 ohms minimum
Temperature Coefficient:	± 1000ppm/°C

#### Mechanical

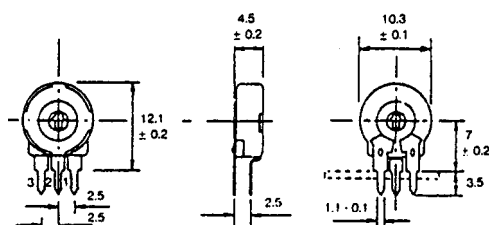
End Stop Torque:	50mNm minimum
Starting Torque:	4 - 20mNm maximum
Mechanical Adjustment:	235° nominal

#### Environmental

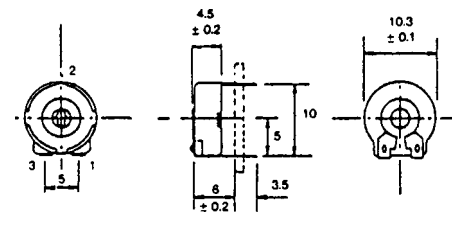
Temperature Range:	-25°C to +70°C
Rotational Life:	200 cycles (10,000 cycles (Long Life Version)
Load Life:	ΔR <15% after 1000 hours
Sealing:	Dust and Splash proof

### Dimensions

#### PT10LH (side adjust)



#### PT10LV (top adjust)



N.B. Plug in accessories are available. For selection please see end of this section.

### How To Order

Common Part	Adjustment Style	Orientation	Resistance Value	Tolerance	Features	Law
PT10 - Std	L - Screwdriver M - Hexagon (Other Centres on Request)	H - Vertical to PCB V - Horizontal to PCB	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following Example 1K : 102 10K : 103 100K : 104	K - 10% Special M - 20% N - 30% (<1 Meg)	- - Standard Part E - Extended Life	- - Lin. B - Log C - Inv. Log

Please Request Full Data Sheet F0267

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## 15mm carbon round single turn

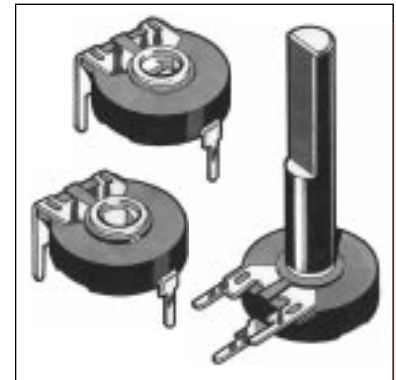
### type PT15 series

Low price, versatility and stable environmental characteristics are important benefits of this product. Featuring an innovative carbon resistive element printed on film in a fully enclosed package, this potentiometer style is normally chosen for a wide range of applications in industrial, professional and consumer equipment. The PT15 is also available in a long life version. Please see data sheet for full detailed mechanical options available.

### PCB Trimmers

### Key features

- stable in high humidity
- top and bottom adjustments
- arrow position indicator
- spindle adjust versions
- detent action available
- flame retardant
- long life version available
- custom design service available



### Specification

#### Electrical

Resistance Range:	100R to 5M
Resistance Values:	1, 2.2 and 4.7 in each decade (2.5 and 5 by special request)
Resistance Tolerance:	± 20% (±30% above 1M)
Power Rating at 40°C:	0.25 Watts (Linear) / 0.12 Watts (Non-Linear)
Limiting Element Voltage:	250V DC (Linear) / 125V DC (Non-Linear)
Electrical Rotation:	250° ± 20°
Residual Resistance:	≤ 5x10 <sup>-3</sup> Rn (2 ohms minimum)
Rotational Noise (ENR):	≤ 3% of Rn nominal or 3 ohms minimum
Temperature Coefficient:	± 300ppm/°C

#### Mechanical

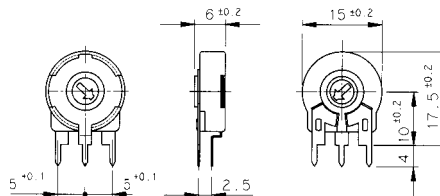
End Stop Torque:	100mNm minimum
Starting Torque:	25mNm maximum
Mechanical Adjustment:	265° ± 5°

#### Environmental

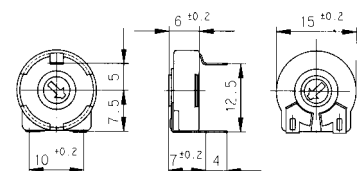
Temperature Range:	-25°C to +70°C
Rotational Life:	500 cycles (10,000 cycles Long Life version)
Load Life:	ΔR <15% after 1000 hours
Sealing:	Dust and Splash proof

### Dimensions

PT15\_H2 (side adjust)



PT15\_V12 (top adjust)



N.B. Plug in accessories are available. For selection please see end of this section.

### How To Order

Common Part	Adjustment Style	Pin Pitch	Resistance Value	Tolerance	Features	Law
PT15 - Std Part	L - Screwdriver N - For Plug In Accessories (Other Centres on Request)	H2 - 2.5mm H5 - 5.0mm V12 - 12.5mm V15 - 15.0mm V17 - 17.5mm	The first two digits are significant figures of resistance value and the third one denotes the number of zeros following  Example 1K : 102 10K : 103 100K : 104	M - 20%  N - 30%	- - Standard Part E - Extended Life	- - Lin. B - Log C - Inv. Log

Please Request Full Data Sheet F0280

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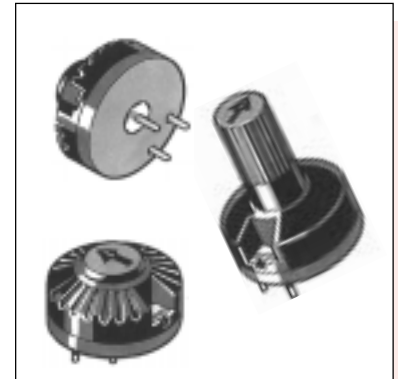
## 16mm round single turn

### type MP series

Meggitt Electronic Components manufactures this long established range of trimmers that are ideally suited to many professional and industrial equipment applications. Alternative knob styles are available. These feature co-moulded carbon to meet most requirements for preset potentiometers. All components can be adjusted manually without tools. The spindle adjust style is widely used in picture monitor applications.

### Key features

- easy to adjust
- co-moulded carbon or wirewound
- proven reliability
- 1 watt rating at 70°C (wirewound)
- tag solderability to BS2011 part 2.1 TA
- wiper position indicator
- resistant to pcb solvents
- alternative knob styles



### Specification

#### Electrical

Element Technology: Co-moulded Carbon  
 Resistance Range: 1K to 2M $\Omega$   
 Resistance Law: Linear, Non-linear  
 Resistance Tolerance:  $\pm 20\%$   
 Rated Dissipation: 0.25 Watts  
 Limiting Element Voltage: 500V DC  
 Electrical Rotation: 230°  
 Terminal Resistance: <25 ohms

#### MP

#### WMP

Wirewound  
 33R to 4K7  
 Linear  
 $\pm 10\%$   
 1.0 Watt  
 100V DC  
 285°  
 <5% or 2 ohms whichever is greater

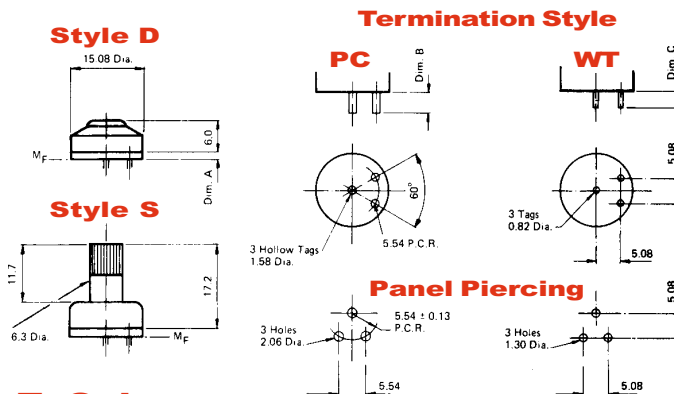
#### Mechanical

End Stop: 100mNm minimum  
 Starting Torque: 50mNm maximum  
 Mechanical Adjustment: 290° nominal

#### Environmental

Change in Resistance: 15% after 1000 hours  
 Rotational Life: 200 cycles minimum  
 Climatic Category: 25/070/04

### Dimensions



Type	Terminations	
	Style D	Style S
MP	PC/WT	PC/WT
WMP	PC	-

Type	Variable Dimensions		
	A	B	C
MP	2.13	4.30	3.17
WMP	4.57	4.30	-

### How To Order

Meggitt Electronics Part Number: Series:  
 Style MPD/PC 404/8/02857/Ser  
 MPS/PC 404/8/02876/Ser  
 MPD/WT 404/8/02893/Ser  
 MPS/WT 404/8/02877/Ser  
 WMP 404/8/02896/Ser

N.B. For new designs, please select MPWT pins.

Please Request Full Data Sheet M0200

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