

RS14

14mm Rotary Sensor with 150.000 cycles of mechanical life on its standard configuration, making it particularly appropriate for control applications.

RS14 has plastic housing and protection type IP 5 (dust-proof). On demand, plastic parts can be self-extinguishable according to UL 94 V0.

Standard taper is linear, with linearity of $\pm 3\%$. ACP can study log, antilog and other special tapers (cut tracks, step curves with areas of constant value, etc), as well as more strict linearity.

Through-hole and SMD configuration are available.

Thumbwheels and shafts can be provided either separately or already inserted in the sensor.

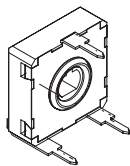
Our RS14 can be manufactured in a wide range of possibilities regarding: resistance value, tolerance, tapers, pitch, positioning of the wiper, housing and rotor color.

Applications

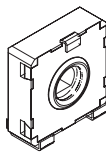
- Household appliances: temperature control, position sensor.
- Automotive: position adjustment and sensing.
- Industrial controls.

Models

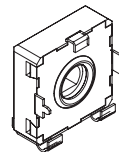
Although the standard of the RS14 is rotor T, models can be manufactured with any rotor listed on the rotor menu. The color of the housing and rotor can also be modified.



RS14 V15



RS14 VSMD

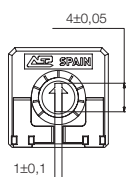


RS14 VSMD...CY

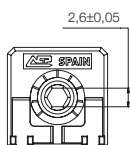
Other models on request.

Rotors

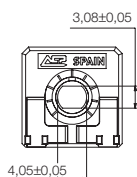
T is the rotor by default. Accessories are designed for the T, N and Z rotors.



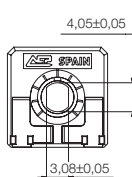
P



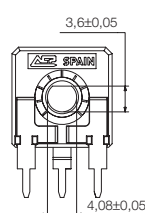
M



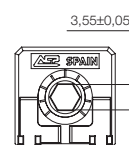
N



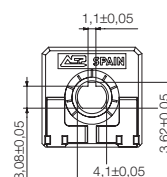
Z



D



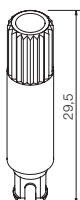
E



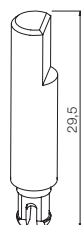
T

Shafts

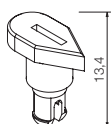
Shafts are available in different colors and can be provided already inserted in the RS14. ACP can also study special shafts.



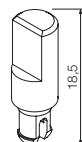
14008



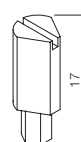
14015



14042



14056



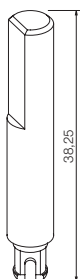
14065
For the M rotor



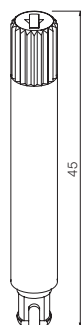
14066



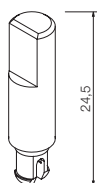
14067



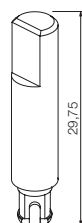
14072



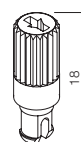
14073



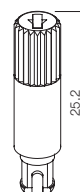
14081



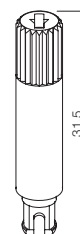
14084



14117



14187



14250

Thumbwheels

RS14 can be supplied with thumbwheels already inserted in and in different colors.



14003

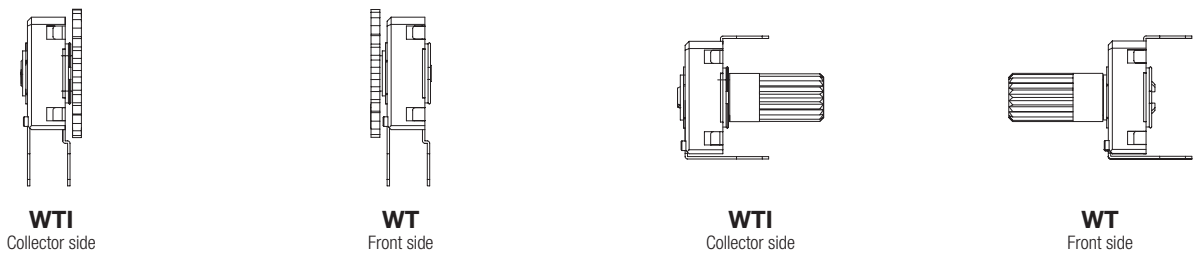
Terminals

By default, terminals are always straight for the 14mm size. ACP can provide crimped terminals (with “snap in”), to better hold the component to the board prior to soldering.



Adjustment possibilities

ACP’s RS14 can be adjusted through either the front side (WT) or the collector side (WTI):



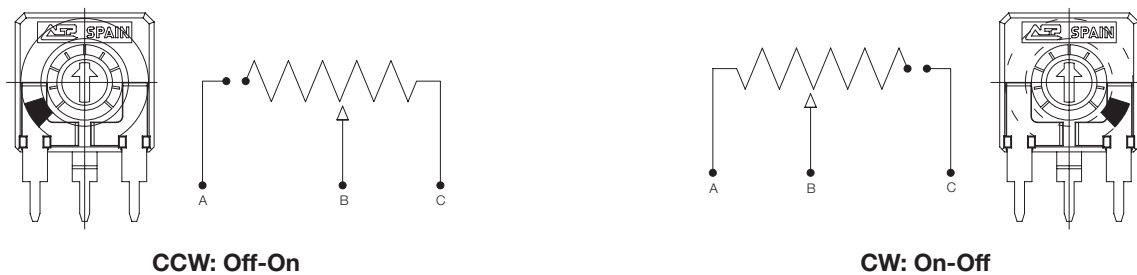
Potentiometers with cut track

The resistive element in this RS14 has an area with very high resistive values, resulting in an open circuit. Recommended for lighting regulation.

With cut at the beginning of the track CCW: Off-On.

With cut at the end of track- CW: On-Off.

Other positions on request.



Packaging

Bulk packaging: RS14s are first bagged and then introduced in boxes:

RS14 model	+ Shaft or thumbwheel inserted	Pieces per box (130 x 60 x 90)
	- (only RS14)	200 (models with * : 150)
V15 - VSMD - VSMD...CY - H0 - HC0 - H2,5 - H4 H5 - HA5 - HL5 - V12,5 - VA12,5 - VK12,5 - VR12,5 V15 - V15...CFF - V17,5* - VD7,5 - VD11*	14003, 14117, 14042	100
	14008, 14015, 14056, 14065, 14066, 14067 14072, 14073, 14081, 14084, 14187, 14250	75

Tape and reel (T&R) packaging information will be available for SMD configurations on request: 350units/reel.
Magazine packaging also available on request.

Electric Specifications

These are standard features; others can be studied on request.

Range of resistance values Lin (A)	10K Ω
Tolerance (at 23°C \pm 2°C and 50% \pm 25% RH)	\pm 30%
Variation laws	Lin (A) standard Log (B), Antilog (C) and others: cut track, areas with constant value, etc. available on request
Maximum power dissipation at 40° C. Lin (A)	0,15W
Operating temperature	-40°C ... +85°C

Mechanical Specifications

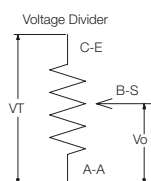
Resistive element	Carbon technology
Angle of rotation (mechanical)	265° \pm 5°
Wiper position	Middle position: 50% \pm 15°
Angle of rotation (electrical)	245° \pm 20°
Max. stop torque	10 Ncm
Max. push/pull on rotor	50 N
Wiper torque	< 1 Ncm
Mechanical life	150.000 cycles for the standard configuration (others available on request)

Test

Test // Conditions // Typical variation of Nominal Resistance

Damp heat // 500 h. at 40°C and 95% RH // \pm 20%
Thermal cycles // 16h at 85°C, plus 2h at -25°C // \pm 20%
Load life // 1.000 h. at 40°C // \pm 20%
Mechanical life // 150.000 cycles at 10 c.p.m. and 23°C \pm 2°C // \pm 20%
Storage (3 years) // at 23°C \pm 2°C // \pm 3%
Maximum linearity after mechanical life test: 4%

Electric Use



RS14 HOW TO ORDER

EXAMPLE: RS14TV15-10KA3030 WT14008-NE-V0

Standard features								Extra features							Assembled accessory			
Series	Rotor	Model	Packg	Ohm value	Taper	Tol	Life	Track	Collector	Terminals	Housing	Rotor	Wiper position	Lin	Assembly	Ref #	Color	Flam.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		16		
RS14	T	V15		-10K	A	3030									WT	14008	-NE	-V0

Standard configuration		Customized products	
Dimensions:	14mm	A drawing is requested for customized products. The code is assigned to include all special specifications.	
Protection:	IP 5 protection (dust-proof)		
Mechanical life:	150.000 cycles		
Resistance:	Carbon technology		
Color:	Green housing with white rotor	Series, rotor, model and total resistive value are given before the special code: RS14TV15 10K CODE C00111	
Packaging:	Bulk		
Wiper position:	at 50% ± 15°		
Terminals:	Straight, without snap in.		
Marking:	Resistive value marked on housing. Others on request.		
The standard configuration of the RS14 is: RS14TV15 10K A 3030			

1 - Series

RS14

2 - Rotors

T (standard) M N Z D E P F

3 - Model and pitch

V15 (standard)	VSMD	VSMD ... CY
On request:		
H0	HC0	H2,5 H4 H5
HA5	HL5	V12,5 VA12,5 VR12,5
VL12,5	VD11	VD7,5 (V15) ... CFF V17,5

4 - Packaging

	Trough-hole	SMD models
Bulk	(blank)... ⁽¹⁾	(blank)... ⁽¹⁾
T&R (Tape and reel)	(N. A.) ⁽²⁾	On request
Magazines	On request	(N. A.) ⁽²⁾

(1) If blank, standard bulk packaging is implied.
(2) N.A., Not Available.

5 - Resistance value

10K ⁽¹⁾

(1) The RS14 has 10K, linear taper and ±30% by default. Other resistive values, tolerances and tapers (log, antilog, cut tracks, constant value areas, etc) can be studied on request. Please, enclose a drawing when ordering special tapers.

6 - Resistance law / taper

Lin - Linear A ⁽¹⁾

(1) The RS14 has 10K, linear taper and ±30% by default. Other resistive values, tolerances and tapers (log, antilog, cut tracks, constant value areas, etc) can be studied on request. Please, enclose a drawing when ordering special tapers.

7 - Tolerance

±30% 3030 ⁽¹⁾

(1) The RS14 has 10K, linear taper and ±30% by default. Other resistive values, tolerances and tapers (log, antilog, cut tracks, constant value areas, etc) can be studied on request. Please, enclose a drawing when ordering special tapers.

8 - Mechanical life (cycles)

Standard configuration: 150.000cycles - (leave blank)

Long life on request: LV + the number of cycles.
ex: LV200 for 200.000 cycles LVXX: ex: LV200

11 - Crimped terminals (SNAP IN)

SNAP IN P	SNP
SNAP IN R	SNR

12 - Housing color

Standard: green. With other colors -See color chart below- CJ-color, ex., red: CJ-RO

13 - Rotor color

Standard: white. With other colors -See color chart below- RT-color; ex., red: RT-RO

14 - Wiper

Wiper position (Standard: 50% ± 15°)	(leave blank)
Initial or CCW	PI
Final or CW	PF
At 3hours: P3H, following clock positions	PXH, ex: P3H

15 - Linearity

Standard linearity 3%	(leave blank)
Independent linearity controlled below x%. Example, 2%: LN2% LNx%; ex: LN2%	
Absolute linearity controlled below x%	LAx%

17 - Flammability (according to UL-94-V-0)

Not self-extinguishable	(leave blank)
Self-extinguishable according to standard UL 94 (including all plastic parts of the potentiometer: rotor, housing and accessory. If only one part needs to be V0, please, inform)	V0

Ordering accessories not assembled:

Accessory reference - color- flammability. Ex. 14117-AZ-V0 is a blue self-extinguishable 14117 thumbwheel	XXXX-YY-__
---	------------

Color chart for rotor, housing and accessories

Black ⁽¹⁾	NE
White	BA
Neutral	IN
Transparent	TA
Red	RO
Green	VE
Yellow	AM
Blue	AZ
Grey	GS
Brown	MR

(1) Black is not an option for housings.

16 - Potentiometers with assembled accessories

Assembled from front side	WT
Assembled from collector side	WTI
Accessory Reference See list of shafts and thumbwheels available	14XXX Example: 14117
Color of shaft or thumbwheel	-YY Example, black: NE

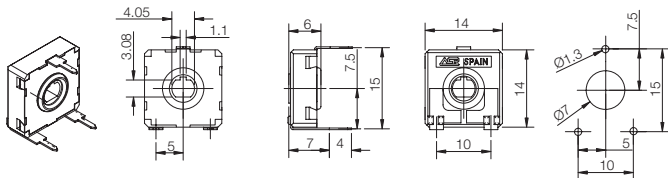
DRAWINGS RS14

Tolerances 14 mm (in mm.):

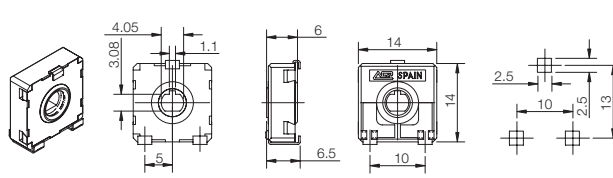
<1	±0,1
1...<10	±0,3
10...	±0,5

Model types. RS14

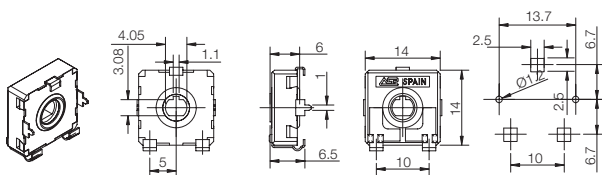
RS14V15



RS14 VSMD

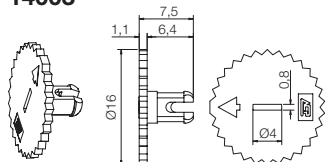


RS14 VSMD...CY



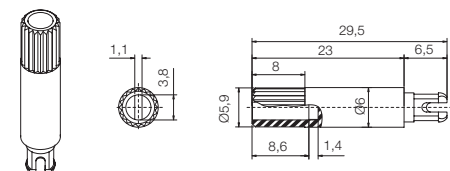
Thumbwheels. RS14

14003

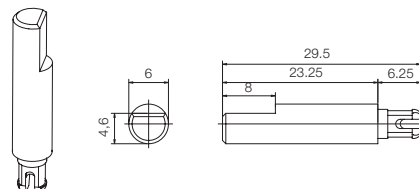


Shafts. RS14

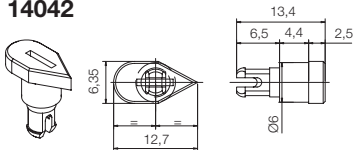
14008



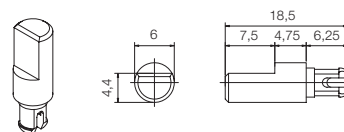
14015



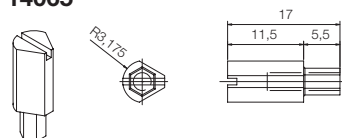
14042



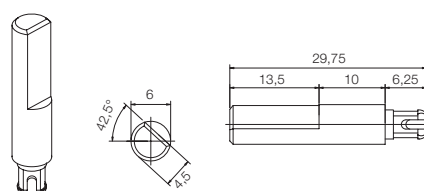
14056



14065



14066



Specifications on this catalogue are for reference only; they are subject to change without notice.

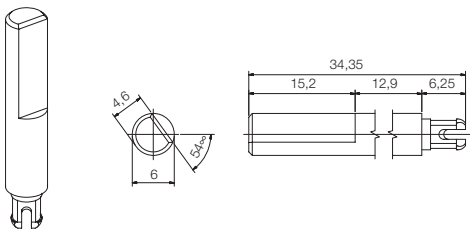
DRAWINGS RS14

Tolerances 14 mm (in mm.):

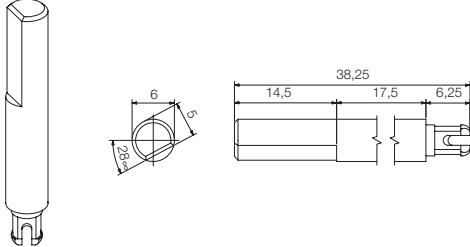
<1	±0,1
1...<10	±0,3
10...	±0,5

Shafts. RS14

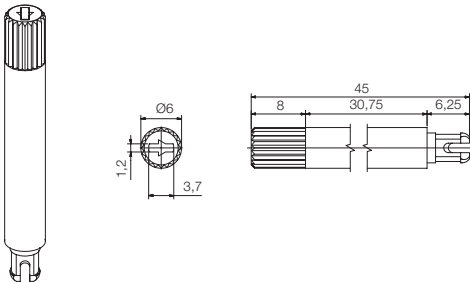
14067



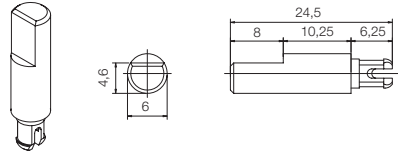
14072



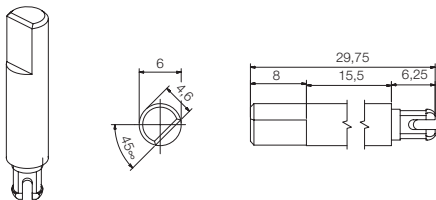
14073



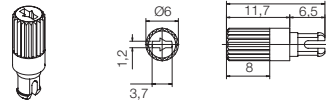
14081



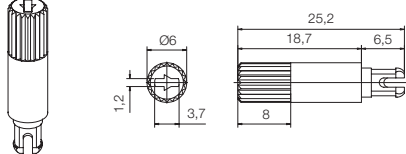
14084



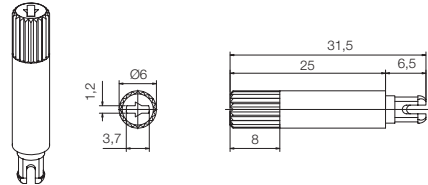
14117



14187



14250



Specifications on this catalogue are for reference only; they are subject to change without notice.