



Series 285S/N

Flange Mount Non-Contacting Position Sensor

- Compact 45 mm x 22 mm size
- Hall-effect technology
- Extended rotational life (10 Million cycles)
- Wide temperature range (-40°C to +125°C)
- Precision linearity ($\pm 0.5\%$ and $\pm 0.25\%$ options)
- Dust & water protection (IP50, 54 and 67 options)
- Single and dual output

Applications

- Actuator motor position feedback
- Medical treatment chair and patient platform position feedback
- Flow valve position feedback
- Foot pedal and twist throttle controls
- Steering and lift & shuttle controls



Ordering Information

Series	Shaft Type	Shaft Length	Shaft Trim	Bearing Style	Output Type	Linearity	Operating Voltage	IP Rating	Rotation Angle	Termination																																																					
285	S	C	F	S	A	A	B	4	C	1																																																					
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Electrical Specifications

Sensor Function

Parameter	Condition & Remarks	Min	Typical	Max	Unit
Output	Analog				
Independent Linearity		-0.5		+0.5	%
Hysteresis	V _{sup}			0.2	%
Output Voltage	V _{sup}	5%		95	%
Output Overvoltage Limits		-6		+18	VDC
Output Current		-8	+1	+8	mA
Output Load		5	10		kΩ
Input Voltage		-10	5	+10	VDC
Supply Voltage Absolute Limits		-18		+18	VDC
Supply Current			10	15	mA
Resolution	12 BIT at 360°				
Dielectric Strength	1 minute			750	VDC
Insulation Resistance	500 VDC	1000			MegΩ
Electrostatic Discharge (ESD)	HBM	-4		+4	kV

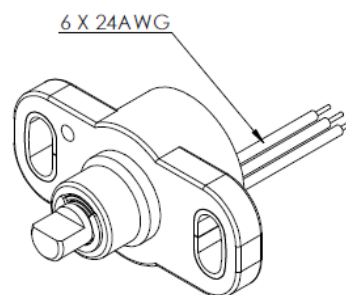
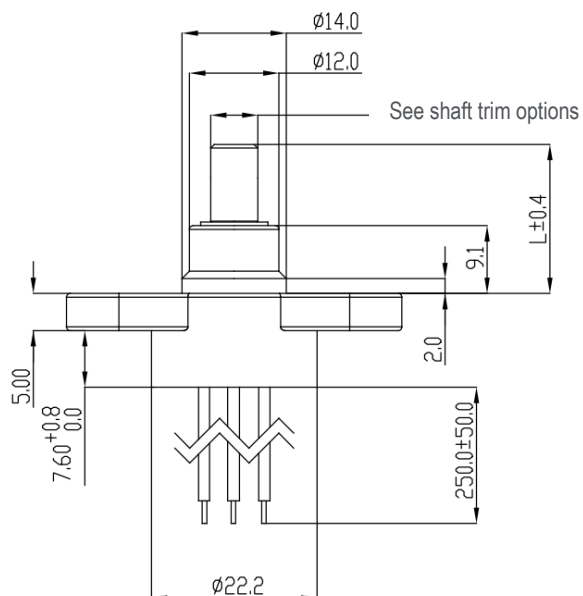
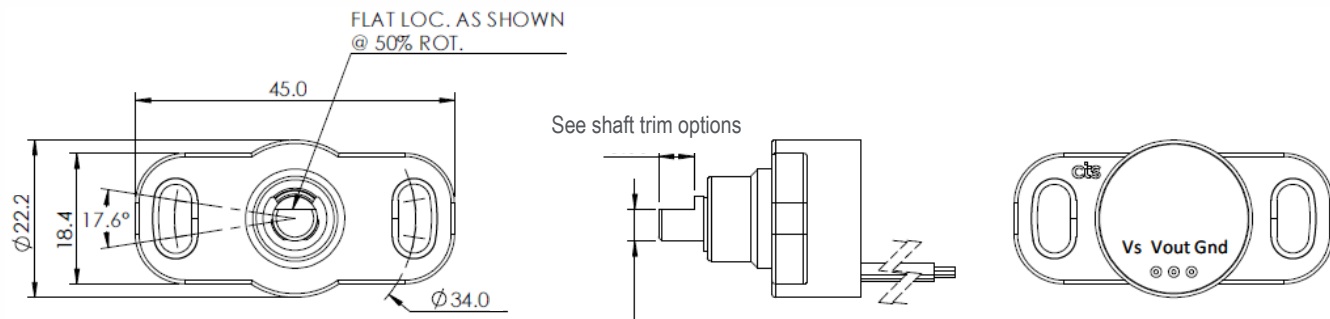
Mechanical and Environmental

Parameter	Condition & Remarks	Min	Typical	Max	Unit
Operating Temperature Range		-40		+125	°C
Storage Temperature Range		-40		+140	°C
Rotational Life		10,000,000			cycles
Rotational Torque			72		gf-cm
Static Stop Strength		40			in-oz
Total Mechanical Travel					
Without Stops	360° continuous				
With End Stops	320°, 270°, 200°				
Operating Speed	120 RPM max.				
Vibration	30 Gs, 50 to 500 Hz				
Panel Nut Tightening Torque	25 in-lb maximum				
IP Rating	50, 54 or 67				
Push and Pull Shaft Strength	13.6 kgf for 10 seconds				
Soldering Condition	Maximum manual temperature, 350°C for 5 seconds				
Marking	CTS logo, part number, date code				
Packaging	Standard anti-static bulk packaging				
Weight	21 gm				

*All testing is performed at room ambient conditions except as noted. Users should verify device actual performance in their specific applications
This product is compliant to RoHS3 Directive 2011/65/EU & 2015/863 Amendments of Annex II on 31 March 2015.
Custom and value-added options available on request. Please contact your sales representative for additional information.*

Mechanical Specifications

Series 285S Flange Mount, Single Output, with Shaft



DESIGNATION	COLOR
Vs	Red
Vout	White
Gnd	Green

TOLERANCE UNLESS OTHERWISE
SPECIFIED

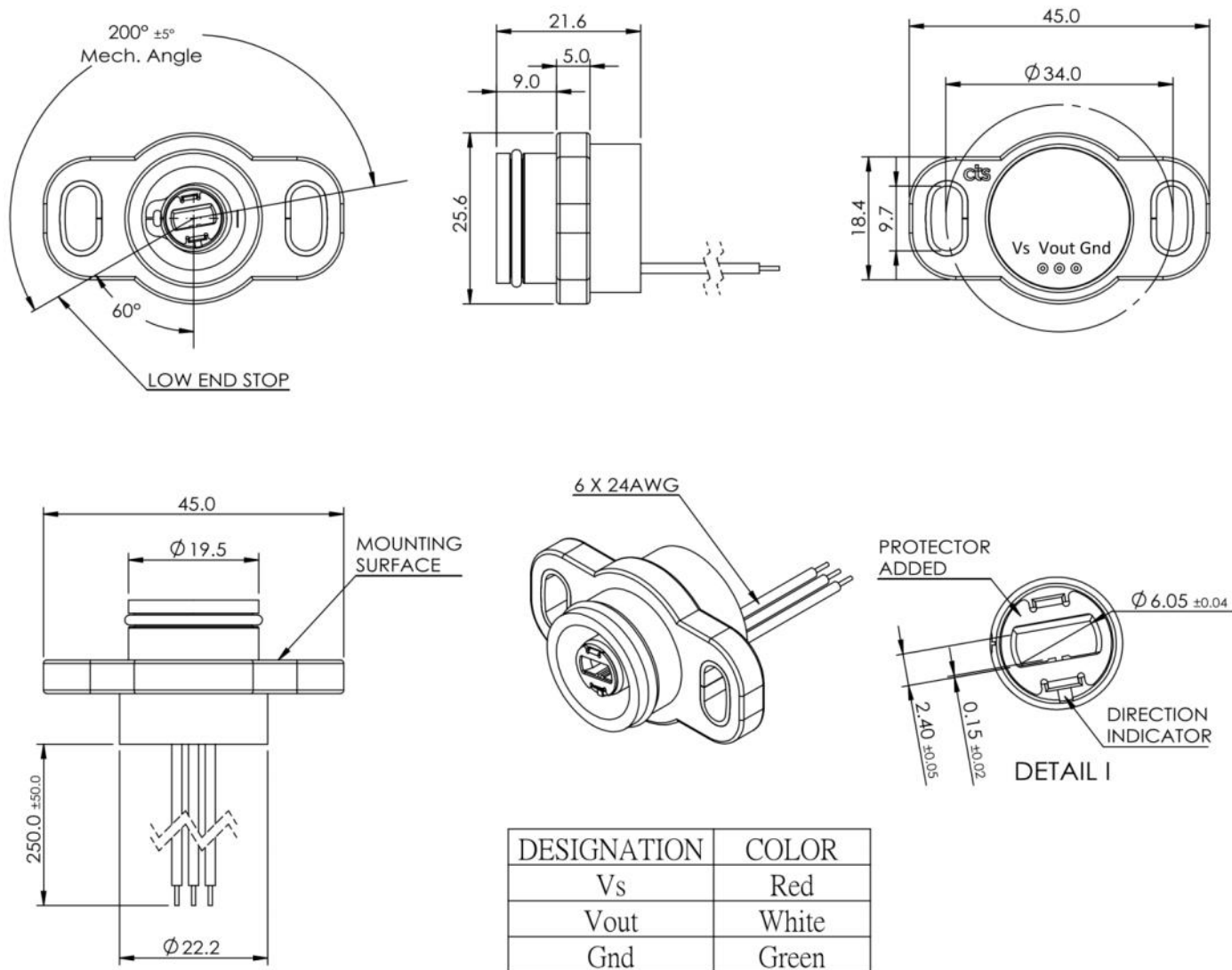
.X (1 PLACE) : ± 0.3

.XX (2 PLACE) : ± 0.13

ANGLE : $\pm 3^\circ$

Mechanical Specifications

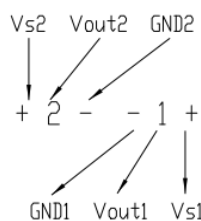
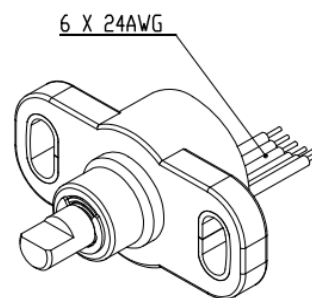
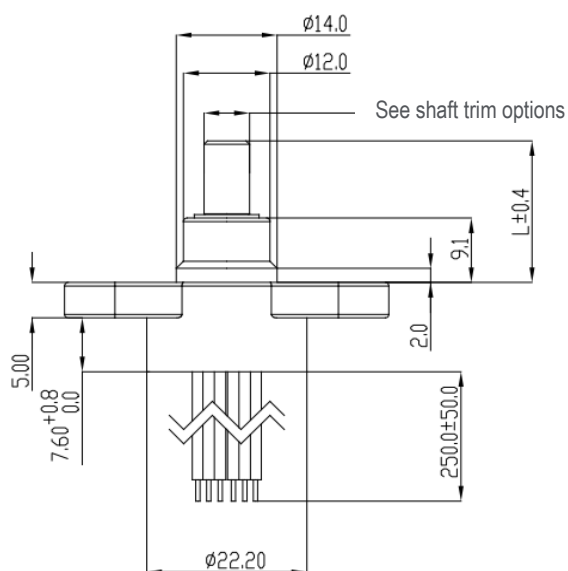
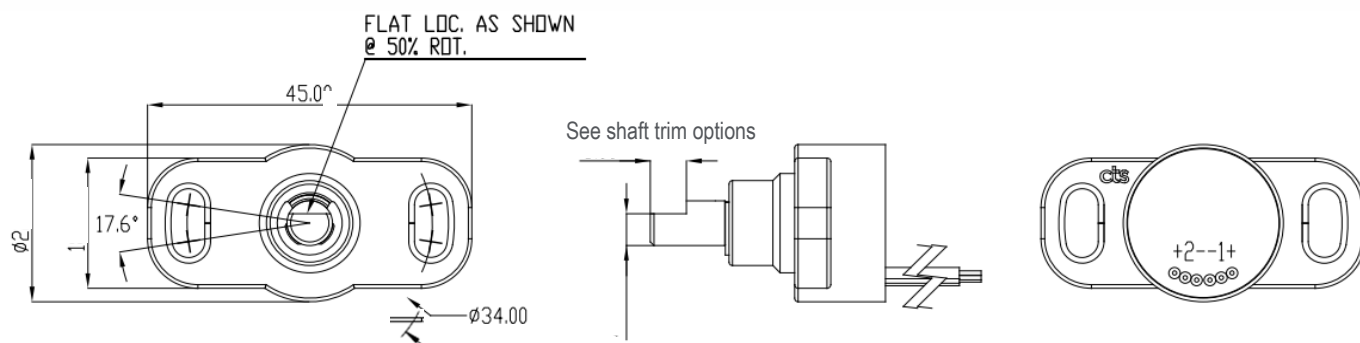
Series 285N Flange Mount, Single Output, Shaftless



TOLERANCE UNLESS OTHERWISE
SPECIFIED
.X (1 PLACE) : ± 0.3
.XX (2 PLACE) : ± 0.13
ANGLE : $\pm 3^\circ$

Mechanical Specification

Series 285S Flange Mount, Dual Output, with Shaft



DESIGNATION	COLOR
Vs1	Red
Vout1	Blue
Gnd1	Black
Vs2	Yellow
Vout2	White
Gnd2	Brown

TOLERANCE UNLESS OTHERWISE
SPECIFIED

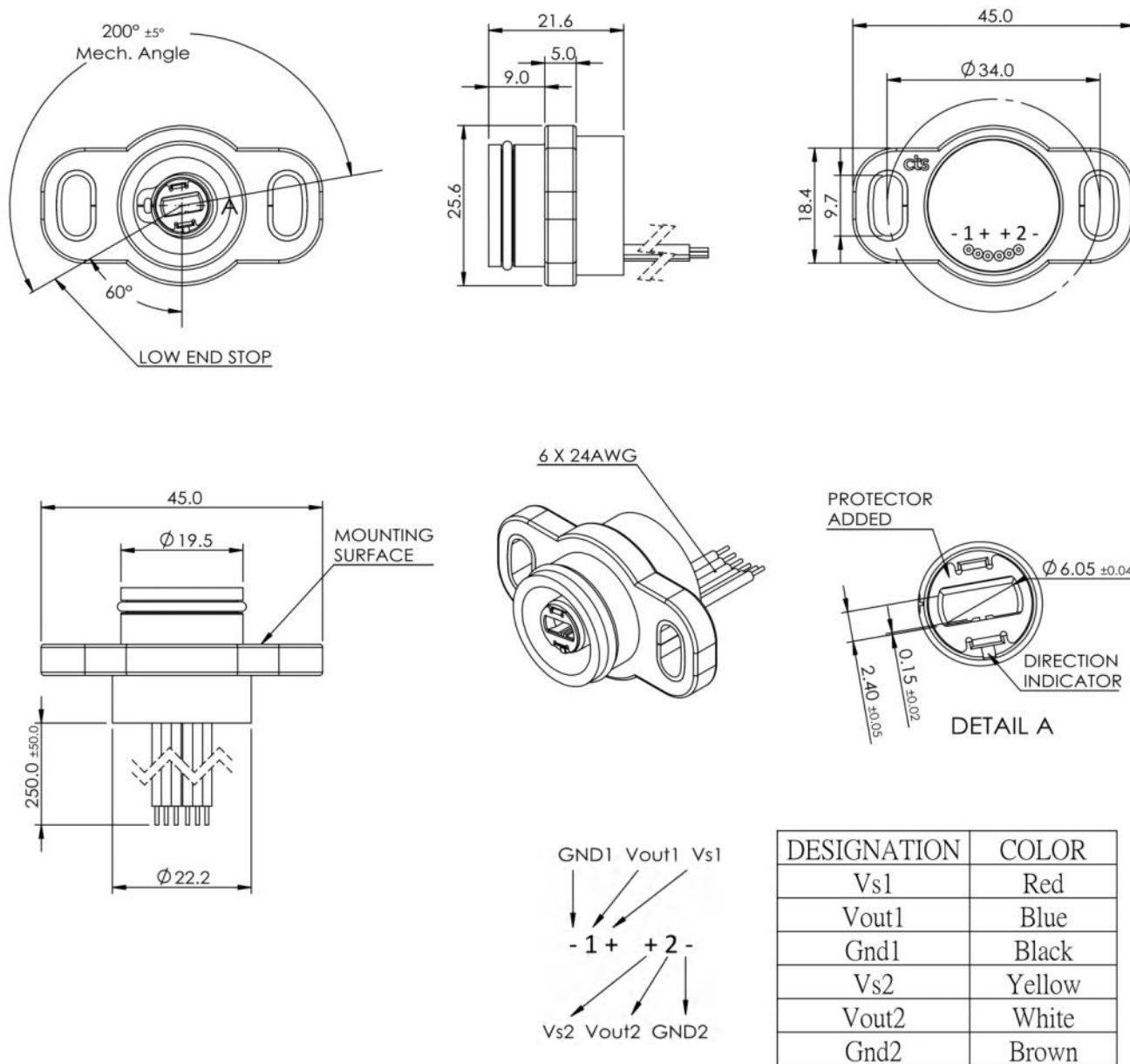
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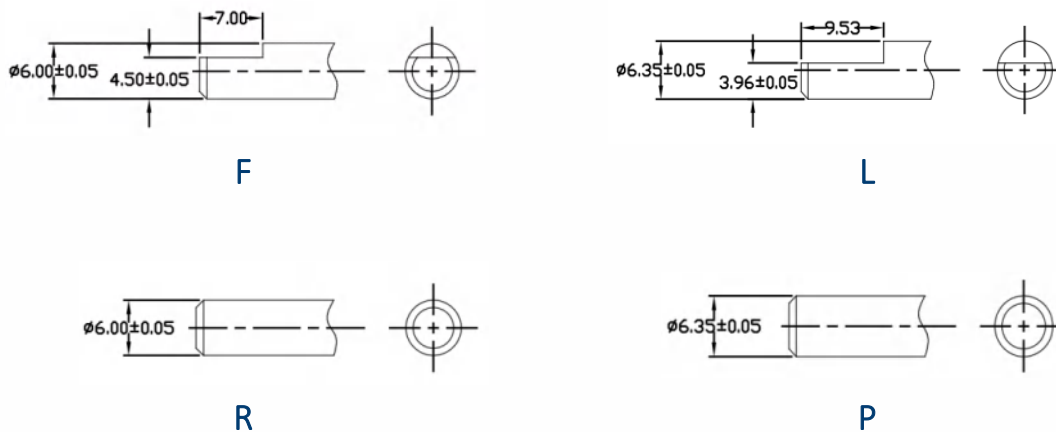
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Series 285N Flange Mount, Dual Output, Shaftless



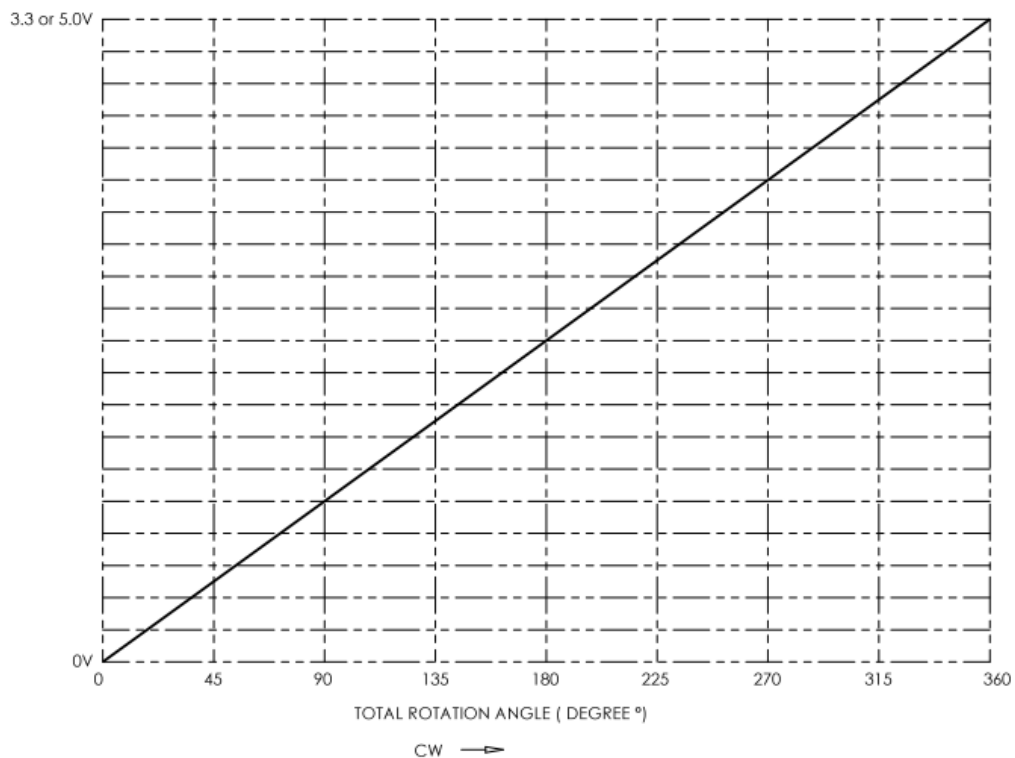
TOLERANCE UNLESS OTHERWISE
SPECIFIED
.X (1 PLACE) : ± 0.3
.XX (2 PLACE) : ± 0.13
ANGLE : ± 3°

Shaft Trim Options



Electrical Specification

Series 285 Flange Mount w/Shaft Single Output Graph



Series 285 Flange Mount Shaftless Dual Output Graph

