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resistive control products and solutions from

POTENTIOMETERS ENCODERS TRIMMERS CUSTOM POSITION SENSING FIXED RESISTORS CUSTOM ELEMENTS INDUSTRIAL COMMERCIAL

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CLAROSTAT

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Take Your Pick

from the cream Mechanical and Optical Encoders. Potentiometers. Variable and Fixed Resistors. Attenuators. Of the crop. Trimmers. Trimming Potentiometers. Custom Position Sensing Elements.

This catalog features the best of the best. The most popular resistive control innovations and position sensing solutions. And this is just the beginning. Hybrid products and custom solutions addressing specific application are also available from the world leader in resistive technology.

The New Clarostat: The Short Story

From its inception as a family business in the 1920's, Clarostat achieved recognition for technological pioneering and manufacturing leadership. Innovations with conductive plastic potentiometers and resistive controls sustained Clarostat's reputation in the industry for decades. Relocating to the Southwest in the early 80's, Clarostat was subsequently acquired by BTR, a leading global engineering company. Strategically aligned within the BTR Sensors Systems Group, business units representing the gamut of sensor technologies, Clarostat has translated this significantly increased access to technology and resources into benefits for customers.

Clarostat continues to partner with OEM's who seek improved control and cost solutions. Custom, turn-key, value-add options, low minimums, engineering support and fast delivery set Clarostat apart. Carefully re-thought quality policies, more new products, intense technology initiatives and fresh alliances with vendors and BTR extended family members promise to propel the New, 70-year-old Clarostat decades into the next millenium.

The New Solution

Our engineers excel in exploiting Clarostat's proven core resistive technology to provide effective, efficient, low cost solutions that successfully meet the competitive challenges facing OEMs

Custom Position Sensing Element: The Answer to Effective, Low-cost Control

What is the composition of a position element?

The position element is the essence of the resistor control, determining its performance characteristics. The element is composed of a base substrate of PC board material, Kapton, ceramic or plastic. A resistance print on the substrate is most often Conductive Plastic resin (CP) or Cermet. The shape of the element varies, as dictated by a specific application.

CP-printed Sensor elements typically have a significantly longer life and cost less than their Cermet counterparts. Conductive Plastic is composed of carbon particles suspended in an epoxy resin. This composition makes CP a viable option in any operational temperature up to 150° C. Other advantages include the withstanding of up to 1 million wiper cycles, 10 million

dither strokes (machine vibrations) and lower electrical noise. CP element life can be increased tentimes with specially designed wipers and lubrication.

Cermet is a mixture of glass frit and metal oxides fired onto a ceramic substrate at 850°C, melting the glass. This process yields a surface highly resistant to fluids, with the exception of certain acids, and withstands temperatures up to 300°C. Cermet has 10 times the wattage capabilities of CP, but element life is typically limited 50,000 cycles and 100,000 dithers unless extended somewhat by special design. Noise with Cermet is found to be 5 to 10 times higher than with CP.

Why custom position sensing elements when standard potentiometers exist?

Designers employing value engineering often specify only the basic components to be combined in a single housing. The cost of the potentiometer housing, shaft and other components goes away. Usually, these custom control packages are internal to some system instead of a front panel control.

The CP or Cermet element permits expanded design freedom, space savings and cost control not always possible with self-contained units. Working with customer engineering, Clarostat now designs, prototypes and produces complete assemblies shipped to the OEM and incorporated into the system or product. This subassembly may include a portion of the molded product housing, a custom-designed position sensing element, contacts, wiring, cables, terminals, shaft or shaft opening. Multiple existing components in automotive and machine controls can now be consolidated to reduce manufacturing and repair costs.

	Resistive Element	Power (watts)	Resistive Range (ohms)	Tolerance	Resistance Taper (Law)	Body Dimension	Shaft	Bushing	Terminals
) РОТЕ	NTIOMETERS	MOD	ULAR						
388	Conductive plastic	0.5	100-5 meg	±10%	Linear Non -Linear	1/2" sq.	Plain, Slotted Flatted Knurled 1/8" &1/4" dia Metal	Plain Locking 1/4" dia 3/8" dia Metal	Solder hook PC
389	Cermet	1.0	100-5 meg	±5%	Linear Non-Linear	1/2" sq.	Plain, Slotted Flatted Knurled 1/8" &1/4" dia Metal	Metal	Solder hook PC
	Note: 389 Series ava	ilable wit	th rotary, mo	mentary and a	Iternate action	switches. Ove	er 100 styles, co	onfigurations av	ailable.
Mod Pot 70	Cermet Carbon composition	2.0 1.0	100-5 meg 50-10 meg	±5%, ±10%	Linear Non-Linear	5/8" sq.	Plain, Slotted Flatted 1/8" dia 1/4" dia	Plain Locking 1/4" dia 3/8" dia Metal	Solder lug PC
diam.	Conductive plastic	0.5	100-1 meg				Metal	Motal	
dep	Note: Mod Pot 70 Se Over 100 styles, conf			l Straight-T at	tenuator and w	vith rotary, alter	nate action swit	ches.	I
Mod Pot 72	Cermet Carbon composition	1.0 0.5	100-5 meg 50-10 meg	±5%, ±10%	Linear Non-Linear	5/8" sq.	Plain, Slotted Flatted 1/4" dia	Plain Locking 3/8" dia. Metal	Solder lug PC
- Free	Conductive plastic	0.25	100-1 meg				Metal		
•									
408	Conductive plastic	0.5	100-5 meg	±10%, ±20%	Linear Non-Linear	1/2" sq.	Plain, Slotted Flatted Knurled 1/8" &1/4" dia	Plain Locking 1/4" dia. 3/8" dia.	Solder hook PC
409	Cermet	1.0	100-5 meg	±10%, ±20% ±5%	Linear Non-Linear	1/2"sq	Plain, Slotted Flatted Knurled 1/8" &1/4" dia Metal	Plain Locking 1/4" dia. 3/8" dia. Metal	Solder hook PC
	Note: 409 Series ava	ilable wit	h rotary, mo	mentary and al	ternate action	switches.			
392	Conductive Plastic	0.5	100-5 meg	±10%, ±20%	Linear Non-Linear	1/2" dia.	Plain, Slotted Flatted 1/8" dia. Plastic, Metal	Plain 1/4" dia. Metal	Solder hook PC
DISCONTINUED 382	Conductive Plastic	0.5	100-5 meg	±10%, ±20%	Linear Non-Linear	1/2" dia.	Slotted Flatted 1/8" dia. Metal	Plain Locking 1/4" dia. Metal	Solder hook PC
G(RV6)GS	Carbon composition	0.5	100-5 meg	±10%, ±20%	Linear Non-Linear	1/2" dia.	Plain, Slotted Flatted 1/8" dia. Metal	Plain Locking 1/4"dia. Metal	Solder lug PC
0(110)05	Note: G(RV6) and GS	Series a	available with	SPST rotary s	witch (GS).				

	Resistive Element	Power (watts)	Resistive Range (ohms)	Tolerance	Resistance Taper (Law)	Body Dimension	Shaft	Bushing	Terminals
POTE	NTIOMETERS	BOAR	RD WASH	ABLE					
W(RV6)WR	Carbon composition	0.5	100-5 meg	±10%, ±20%	Linear Non-Linear	1/2" dia.	Plain, Slotted Flatted 1/8" dia. Metal	Plain Locking 1/4"dia. Metal	Solder lug PC
	Note: W (RV6) and V	VR Series	s available in	radial-lead ver	sion with optic	onal rotary swit	ch.		
SP	Cermet	1.0	50-1 meg	±5%, ±10%	Linear Non-Linear	3/8" dia.	Plain, Slotted Flatted 1/8" dia. Metal	Plain 1/4" dia. Metal	Solder lug PC
Type 2000	Conductive plastic	0.25	250-1 meg	±10%, ±20%	Linear Non-Linear	5/8"	Plain, Slotted 1/4" dia. Plastic, Metal	Threaded Unthreaded 3/8" dia. Plastic Metal	PC in 2 plains
Type 2000	Resistive Pow Element (wat	er R	sistive ange hms) Tole	Resist Tap erance (Lav	er Indepen			Bushing	Terminals



Liement	(matto)	(unins)	Toteranoc	(Law)	Lincarry	Dimension	onart	Dusning	Terminais
Wirewound	2.0	5-50K	±5%	Linear Non-Linear	±2%	1 1/8" dia.	Plain Slotted Flatted 1/4" dia. Metal	Plain Locking 3/8" dia. Metal	Solder lug
Wirewound	4.0	1-50K	±5%	Linear Non-Linear	±1%	1 11/16" dia.	Plain Slotted Flatted 1/4" dia. Metal	Plain Locking 3/8" dia. Metal	Solder lug
Note: Series 4	13 and 58 a	5-20K	AE switches	Linear	low L and T	attenuators. 3/4" dia.	Plain	Plain	Solder lua

Wirewound	1.5	5-20K	±5%	Linear	±5%	3/4" dia.	Plain Slotted 1/8" dia. Metal	Plain Locking 1/4" dia. Metal	Solder lug
							Wotar	Wotar	

		Resistive Element	Power (watts)		Tolerance	Resistance Taper (Law)	Body Dimension	Shaft	Bushing	Terminals
) POTE	NTIOMETERS	INDU	STRIAL						
Contraction of the	470	Conductive plastic	0.5	150-5 meg	±10%, ±20%	Linear Non-Linear	15/16" dia.	Plain, Slotted Flatted Knurled 1/4" dia. Metal	Plain Locking 3/8" dia. Metal	PC Solder lug Wire-wrap
53		Conductive plastic	2.0	50-5 meg	±10%, ±20%	Linear Non-Linear	1" dia.	Plain, Slotted Flatted Knurled 1/4 " dia. Metal	Plain Locking 3/8" dia. Metal	Solder lug
	-	Note: 53 Series avail	able with	rotary switc	hes.					
	RV4) RV7)	Carbon composition	2.25	50-5 meg	±10, ±20%	Linear Non-Linear	1.156" dia.	Plain, Slotted Flatted 1/4" dia. Metal	Plain Locking Watertight 3/8 " dia. Metal	Solder lug
	-	Note: J Series availab	ole as Bri	dged-T, Brid	ged-H, L and S	traight-T atten	uators.	+ +		+
The second se	380	Conductive plastic	2.0	50-5 meg	g life version o ±10%, ±20%	Linear Non-Linear	1" dia.	Plain, Slotted Flatted Knurled 1/4" dia. Metal	Plain Locking 3/8" dia. Metal	Solder lug
		Note: 380 Series ava	ilable wit	h rotary swit	ches. 100,000	cycle life.				
S.	381	Conductive plastic	1.0	100-5 meg	±10, ±20%	Linear Non-Linear	5/8" dia.	Plain, Slotted Flatted Knurled 1/8" dia. Metal	Plain Locking 1/4" dia. Metal	Solder lug Wire wrap
-		Note: 381 Series ava	ilable wit	h rotary mor	nentary and all	ernate action s	switches.			
E	485	Conductive plastic	2.0	50-5 meg	±10, ±20%	Linear Non-Linear	1" dia.	Plain, Slotted Flatted Knurled 1/4" dia. Metal	Plain Locking 3/8" dia. Metal	Solder lug
550	15	Note: 485 Series has	rotationa	l life of +1,0	00,000 cycles.	·		. 1		•
		Clara	stat ni	rovides N	Ail-spec p	roducts in	cludina, I	but not lim	ited to th	ne follow [:]
Mili	tary	units			his catalo					
Mili	-	units	displa		his catalo		-	Trimme		Resistor

Industrial	Board Washable	Wirewound	Irimmer	Resistor
Series 53(RV4) Series J(RV4) Series 382(RV6), 392(RV6) G (RV6) and W(RV6)	Series 392 (RV6 & RV8) Series 382(RV6) G (RV6) W(RV6)	Series 43 (RA20) Series 58(RA30)	Series R(RJ11)	Series RW

Encoders

	Style	Pulses per Revolution	Body Dimension	Input Power	Operating Speed	Rotational Life	Shaft	Bushing	Terminal Configuration
	ENCODERS	OPTICAL	,						
600E	Incremental	128	1 1/8" dia.	5Vdc @ 30 mA	300 RPM to 3000 RPM	10 million revolutions	Plain 1/4" dia. Metal	Plain 3/8" dia. Metal	Cable PC Cable & Connector
690E	Incremental	128	1" squared	5Vdc @30 mA	200 RPM to 3000 RPM	10 million revolutions	Plain 1/4" dia. Metal	Single Flatted 3/8" dia. Metal	Pins (vert. mount) Cable/connector Custom Cable

ENCODERS MECHANICAL



	MECHAN	ICAE						
2-bit gray code	4, 6	1/2" square	5Vdc @5 mA	30 RPM maximum	100,000 revolutions	Slotted Flatted 1/8" dia. Metal	Plain 1/4" dia. Metal	PC
2-bit gray code 4-bit gray code	4, 6, 9 12, 16 electrical positions	7/8" square	5Vdc @5 mA	50 RPM maximum	100,000 revolutions	Flatted Plain 1/4" dia. Plastic	Double Flat Plain 3/8" dia. Plastic	PC

•	Resistive Element	Power (watts)	Resistive Range (ohms)	Tolerance	Resistance Taper (Law)	e Independent Linearity	Body Dimension	Shaft	Bushing	Terminals
42JA	Wirewound	3.0	50-100K	±5%	Linear	±5%	2" dia.	Plain 1/4" dia. Metal	Plain 3/8" dia. Metal	Screws
42-900				Sa	me as 42JA	with 1/2" rear-	shaft extensior	1.		
62	Wirewound 10 turn	2.0	100-100K	±5%	Linear	±1/4%	7/8" dia.	Slotted 1/4" dia. Metal	Plain 3/8" dia. Metal	Solder lug
73	Wirewound 10 turn	2.0	100-100K	±5%	Linear	±1/4%	7/8" dia.	Slotted 1/4" dia. Metal Plastic	Plain 3/8" dia. Metal	Solder lug

	Resistive Element	Power (watts)	Resistive Range (ohms)	e Tolerance	Resistance Taper (Law)	Body Dimension	Shaft	Bushing	Termina	als
О РОТ	ENTIOMETE	RS ■ (COMMER	CIAL						
574	Conductive plastic	0.5	100-2.5 me	eg ±10, ±20%	Linear Non-Linear	0.830mm sc	I. Slotted Flatted 1/4" dia. Plastic	Plain 3/8" dia. Plastic	3 in I Center PC in 2 p 3 configu	tap planes,
575	Conductive plastic	0.5	100-2.5 me	eg ±10, ±20%	Linear Non-Linear	0.830mm x 1.03mm	Slotted Flatted 1/4" dia. Plastic	Plain 3/8" dia. Plastic	3 in I Center PC in 2 p 3 configu	[,] tap planes,
576	Conductive plastic	0.5	100-2.5 meg	±10, ±20%	Linear Non-Linear	0.830mm x 1.03mm	Slotted Flatted 1/4" dia. Plastic	Plain 3/8" dia. Plastic	3 in l Center PC in 2 p 3 configu	[.] tap olanes,
	Note: 576 Se	ries has a	dded rotatio	nal life up to 2 m	illion cycles.					
580	Conductive plastic	0.1	200-2.5 me	2g ±20%	Linear	9.90 mm x 9.50mm x	Plain, Slotted Flatted Knurled 4.0mm dia. Metal	Plain M7	3 in I PC	
	Note: 580 Seri	ies availat	le with rotar	y, momentary ar	id alternate act	tion switches.	<u> </u>	1	Į	
590	Conductive plastic	0.5	100-5 me	g ±10, ±20%	Linear Non-Linear	1/2" sq. Metal	Plain, Slotted Flatted Knurled 1/4" & 1/8" dia. Metal	Plain Locking 1/4 " dia. 3/8" dia. Metal	PC B-24-5 sup Solder Type A I Type C I	port plate hook Vlount
	Note: 590 Seri	ies availat	l ole with rotar	y, momentary ar	id alternate act	tion switches.			51.5.5	
Sensing nents	Conductive plastic Cermet	Variable	10-10 me	g ±5, ±10, ±20%	Linear Non-Linear	Per Request	NA	NA	Per Rec	quest
vitche						Se	ries Operatio SWITCHES		ating U 1-PULL	lsed wit
une	2						J SPDT		nA-30Vdc	Series
	Series	Ope	eration	Rating	Used witl					388/389
				Ŭ			SWITCHES			Quiling
	53-10 53-20	D	PST PST	3A-125Vac 3A-125Vac	Series 53 Series 53		2,4,0,0 p0	200mA	@ 100 Vac @ 250 Vac @ 25 Vac	Series 388/389
	53-21 (Mod) SWE-10		DP 3 PST	3A-125Vac/dc 3A-125Vac	Series 53 Series 470		SWITCHES	■ PUSH	MOMENT	ARY
	SWE-13 SWE-20	S	PST PST	15A-10Vdc 3A-125Vac	Series 470 Series 470)) B	JM SPDT DJ SPST	250r	nA-30Vdc nA-28Vdc	Series 388/38
	SWE-21 (Mod) 1	DP :	3A-125Vac/dc	Series 470					

Resistors

	Resistive Element	Power (watts)	Resistive Range (ohms)	Tolerance	Terminal Style	Packaging
	ESISTORS	/ITREOUS				
VPR	Wirewound	VPR5F = 5-8 VPR10F = 10-12 VPR20H = 20	1-25K 0.4-50K 0.4-100K	±5% (±10% below 1 ohm)	Lug and lead	Individually boxed
УК	Wirewound	VK100N = 100 VK160W = 160-175 VK200W = 200-225	1-100K 1-100K 1-100K	±5%	Radial lug	Individually boxed
VPA	Wirewound Adjustable	VP10FA = 12 VP25KA = 25 VP50KA = 50	1-10K 1-25K 1-100K	±10%	Radial lug	Individually boxed
VC	Wirewound	VC3D = 3-3.25 VC5E = 5-6.50 VC10F = 10-11	0.1-10K 0.1-25K 0.1-50K	±5% (±10% below 1 ohm)	Axial lead	10 per box Tape and reel
VP	Wirewound	VP25K = 25 VP50K = 50	1-100K 1-250K	±5%	Radial lug	Individually boxed

	. (:M
R	A	5

СМС	Wirewound	CMC5 = 5 CMC10 = 10	.1-2.5K .5-5K	±1%	Chassis mountable axial lug	Individually boxed
No.		CMC25 = 25 CMC50 = 50	.1-10K .1-25K			

•	
SC/RW	

Wirewound SC1A/RW70U = 1.0 SC3D/RW79U = 3.0 SC5E/RW74U = 5.0 .1-3K .1-10K .1-25K $\pm 1\%$ Axial lead 10 pe Tape al avail	
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•	Style	Resistive Element	Power Rating (watts)	Resistive Range (ohms)	Tolerance
CR CR	Rheostat	Wirewound	CR12.5 = 12.5 CR25 = 25 CR50 = 50	1-10К 1-10К 1-10К	±10%

Trimmers

	Resistive Element	Number of Turns	Power Rating (watts)	Resistance Range (ohms)	Tolerance	Body Dimension L x W x H (inches)	Terminal Configuration
343	Cermet	20	0.75	10-2 meg	±10%	0.75 x 0.19 x 0.25	PC
363	Cermet	Single	0.5	10-2 meg	±20%	0.375 sq. x 0.190	PC in 3 configurations
364	Cermet	25	0.5	10-2 meg	±10%	0.375 sq. x 0.190	PC in 4 configurations
080	Wirewound	Single	3.0	5-5K	±20%	0.770 dia.	PC
Type F	Carbon composition	Single	0.25	100-5meg	±10%, ±20%	0.500 dia x 0.531	PC Solder lug
Type N	Carbon composition	3	0.25	100-2.5 meg	±10%, ±20%	1.250 x 0.250 x 0.359	PC
Type R	Carbon composition	25	0.25	100-2.5 meg	±10%, ±20%	1.250 x 0.250 x 0.359	PC in 2 configurations
Type S	Cermet	Single	0.5	50-1 meg	±10%	0.375 dia. x 0.375	PC in 2 configurations
Type Y	Carbon composition	Single	0.25	100-5 meg	±10%, ±20%	0.500 dia x 0.359	PC Solder lug

Clarostat provides a variety of stock and custom Attenuators. Options and features include ULapproved, long rotational life, low to high power, versatile, circuit board mountable and compact units to meet specific design requirements. For a complete listing or for engineering assistance, call our Applications Engineers at the toll-free number below.

In this catalog, refer to the following: *Modular* MOD POT 70 and 72, *Wirewound* Series 43 and 58, *Board Washable* Series 2000 and *Industrial* Series J. Also, Type BT hot-molded, adjustable attenuators featuring 0.500" diameter, PC pin terminals, operation to 35 MHz, compact, board mountable (not shown).

Consult factory for specific tapers Tolerances not included

Attenuators

ials & Knobs

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	Style	Resistive Element	Power Rating (watts)	Resistive Range (ohms)	Tolerance
) DECA	DE BOX				
240C	Table top	Wirewound	225 Max	1-999K	±2%, ±5%

	Series	Style	Housing	Brake Lever
O DIALS ■		NTRIC SC	ALE	
	411		Black anodized	No
CHECK /	1411	10-turn,	Black plastic	No
C. Como	412	1 inch dia.,	Black anodized	Yes
	1412	accepts	Black plastic	Yes
-	461	1/4" dia.	Clear anodized	No
100	1461	shaft.	Gray plastic	No
1.438	462		Clear anodized	Yes
162	1462		Gray plastic	Yes
30				

	Style	Diameter	Color	Diameter
•				
HD	Saw-cut indicator	HD-50= .500" HD-75= .750" HD-90= .925"	1= clear 2= black 3= matte clear 4= matte black	
JD	Sraight knurl, top and side indicator	JD-50= .500" JD-75= .750" JD-90= .925"	1= clear 2= black 3= matte clear 4= matte black	

Knob

The CLAROSTAT POWER RESISTOR DECADE is the essential tool in electronic and electrical design, testing and repair...for controlling known or unknown resistances...selected or determined under active operational conditions.

It provides a power resistor of any required resistance from 1 to 999,999 ohms in 10hm increments. The ohmage is selected by six dials, and the value is read directly - in sequence - from the dials, simplifying the selection of known or unknown resistance for use in working circuits.

	Series	Style	Number of Turns
DIALS ■	DIGITAL R	EADOUT	
	DR300 DR400	1.75 inch long x 1 inch wide, brake lever, accepts 1/4" diameter shaft.	10 100

	Series	Style	Housing
) DIALS ■ CONCENTR	RIC SCAL	E/DIGITAL REA	DOUT
316-11 316-12	316-11 316-12	10-turn, 7/8 inch diameter, brake lever, accepts 1/4" diameter shaft.	Clear anodized Black anodized

Style	Knob Diameter	Color	Shaft Diameter

DD	Straight knurl, side indicator	DD-50= .500" DD-75= .750" DD-90= .925"	1= clear 2= black 3= matte clear 4= matte black	5= .250" 6= .125"
DDS	Skirted, arrowhead on skirt	DDS-50= .500" DDS-75= .750" DDS-90= .925"	1= clear 2= black 3= matte clear 4= matte black	5= .250" 6= .125"

Consult factory for specific tapers Tolerances not included Shaft

If **Your** application needs to transform a mechanical movement into an electrical signal, we can help.

New Thru-hole **Position Sensors**

> A mobile RV stove functions more efficient when the gas/air mixture is optimized. A feedback pot attached to the gas valve knob allows the controller to set the optimum airflow for the desired flame setting.

- In agricultural heavy machinery, the position of a control lever is sensed electrically, rather than requiring a direct mechanical connection to control the implement, for a more compact and user-friendly interface between the operator and the implement. A feedback sensor on the implement provides the controller information regarding the implement's position. The controller can then take corrective action when necessary.
- In some industrial valve controls, a position sensor is integrated with a microcontroller to translate a joystick position into serial digital data modulated onto a master control bus. Previously, the valve control manufacturer assembled a separate potentiometer, control module and housing. Clarostat now provides the entire electronic control system in an extremely compact integrated package.



Sensing element with CP ink on substrate

- For a fuel level sensor in a gasoline tank, the custom-designed element, (often called a "fuel card") is mounted at the pivot point of a toilet bowl type float. The float moves up and down as a function of the amount of fuel in the tank. The pivot arm is attached to a mechanism that moves a wiper contact across the resistor surface, translating the float position into an electrical signal that causes the meter on the dashboard to indicate fuel capacity.
- Manufacturers of the windshield wiper delay control on the steering arm of most cars purchase the resistor element and assemble it with various switch features into a decorative package. Instead, Clarostat can provide the complete assembly, ready to install.
- Many lever or handle controls, joy stick controllers, vane adjusters and valve actuators can use a much less costly and easier to assemble electrical position sensing connection to eliminate a direct cable from the lever to the mechanical device or to provide feedback to a computer controller.
- The movement of an electronic gas foot pedal rotates a wiper contacting a resistance element. A computer controller reads the input, causing a motor to rotate the butterfly assembly in the carburetor. A second sensor element is attached to the motor to feed back its position so the controller can constantly track the position of the motor with respect to the gas pedal.
- For some transmission assemblies, a position sensing element tracks the movement of the shift lever in the car. As it is shifted, a motor arrangement in the transmission changes the gears as required, eliminating the direct cable connection. These new systems are highly reliable and the weight reduction and ease of assembly provide substantial cost reduction for the end consumer.

Let us help you design your position sensing solution at no extra charge.* And ask about our Value-Add options.

Wiper contact

*Subject to terms and volume

Courtesy of Steven Engineering, Inc. • 230 Ryan Way, South San Francisco, CA 94080-6370 • General Inquiries: (800) 670-4183 • www.stevenengineering.com



CLAROSTAT also makes these exceptional industrial and commercial sensor products

OptoSwitch®

- Slotted Optical Switches
- Reflective Optical Switches
- Optical Couplers
- Hall Effect Sensors
- Custom Motion Sensors
- Custom Position Sensors

SKAN-A-MATIC®

- Thrubeam Photoelectric Sensors
- Reflective Photoelectric Sensors
- Proximity (Diffuse) Photoelectric Sensors
- Fiber Optic Sensors
- Liquid Level Sensors
- Hostile Environment Sensors
- Self-contained Photoelectric Sensors
- Dynamic Scanning Light Curtain



www.clarostat.com