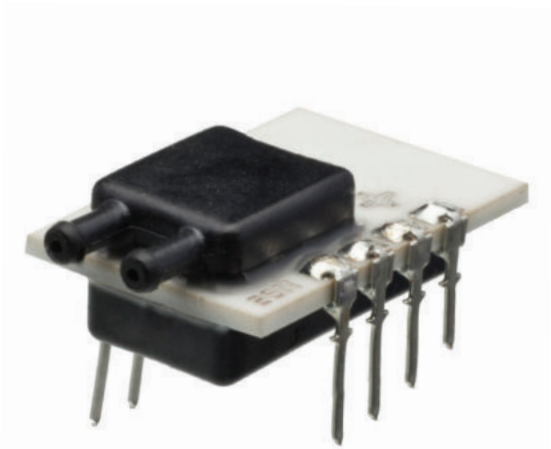




Sensata

Solutions Guide



Innovative, Field-Proven Components

Sensata's engineers deliver solutions to tough industrial challenges through continuous advances in sensing technology. Explore TTI's broad and deep inventory of Sensata, Airpax, BEI and Crydom components and find the parts you need to bring innovation to your industry.

 **Sensata** Technologies • Airpax • BEI Sensors • Crydom • Kavlico

Reach your local sales team: sales@de.ttiinc.com

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Common Applications



Industrial Equipment



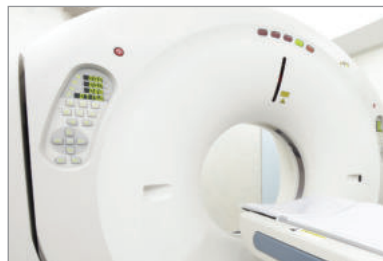
Defense



Aerospace



Off-Highway



Medical



Construction



Energy



Automotive



Food and Beverage

Solid-State Relays



Panel Mount Solid-State Relays – Designed to easily mount on flat panels or heat sinks. Sensata-Crydom offers a broad range of ratings and sizes of panel mount SSRs.

DIN Rail Solid-State Relays – “Ready-to-use” SSRs are designed to fit on a standard 35mm symmetrical DIN Rail. Both AC and DC output options are available.

PCB Mount Solid-State Relays – Mount directly onto PCBs and are ideal in applications that require a small, power-dense package.

Sensata-Crydom is the world's leading manufacturer of solid-state relays (SSRs). Not only do they offer the widest selection of off-the-shelf relays, contactors and related products, most Sensata-Crydom products are agency approved by UL, CSA, VDE and TUV; many also conform to IEC/European standards and directives, and carry the CE mark. Sensata-Crydom relays are used in a wide range of applications worldwide, from professional cooking ovens to laboratory ovens, as well as industrial lighting, machinery, elevators and lifts.

Plug-in Solid-State Relays – Designed to install quickly and easily in industry-standard relay sockets.

Heat Sinks – Passively transfer the heat generated by an electronic device. Sensata offers heat sinks designed for use with single-phase and three-phase solid state relays, suitable for mounting one, two or three SSRs handling combined load currents ranging from 10A to 100A.

Solid-State Relays by Mounting Type



PANEL



DIN RAIL



PCB



PLUG-IN

AC OUTPUT					
Voltage (Volts)	Single	690	660	660	280
	Dual	660	600	280	
	3-Phase	530	600	280	
Current (Amps)	Single	150	65	40	5
	Dual	50	6	15	
	3-Phase	75	75	15	
DC OUTPUT					
Voltage (Volts)		1000	250	200	100
Current (Amps)		160	30	20	5

Pressure Sensors






From refrigeration to food and beverage processing applications, Sensata offers a broad portfolio of pressure-sensing solutions. Sensata pressure-sensing components are available in ranges from 0 to 2,000 PSI (0 to 140 bar), while their range of mating connectors includes overmolded electrical connections and sensors with digital switching and

monitoring capabilities. Explosion-proof and intrinsically safe options are also available.

Sensata also supplies sensor support products including couplings, brackets, adapters, covers, and cables/mating connectors. Their components offer agency certifications that other suppliers don't, including UL, cUL, CE, RoHS and REACH.

Low Pressure ←

→ Mid Pressure ←

Series	P1J P1K	P992 P993	P4055	116CP 126CP	P1A
Picture					
Pressure Range	0-1" H ₂ O	0-1" H ₂ O	0-15 PSI	0-100 PSI	0-200 PSI
Pressure Reference	Differential	Differential	Gage, Absolute, Sealed	Gage, Absolute, Sealed	Gage, Absolute
Hermetic/Case Isolated	No	No	No	No	No
Technology	PRT (MEMS) SI Capacitive (MEMS)	SI Capacitive (MEMS)	PRT (MEMS)	Capacitive Sensing Element	Capacitive Sensing Element
Housing Material	N/A	N/A	Brass	Fiber Reinforced PPA	Stainless Steel
Electrical Connector	PCB Through-hole Terminal Pins	PCB Through-hole Terminal Pins, Leadwires	Packard Metri-pack 150	RAST 2.5 3 Pin RAST 2.5 4 Pin RAST 2.5 3 Pin Alternate	18mm EN 175301-803-A003MS 4 pole M12 4 pole according to IEC 61076-2-101 Packard Metri-Pack 150, 3 pole
Sensor Output	Digital (SPI, I2C) Ratiometric	Ratiometric	Ratiometric	Ratiometric	Ratiometric, 4-20mA, Vreg
Input	2.7-5.5V 5V	5V	5V	5V	5V, 9-30V, 8-30V, 14-30V
Current Consumption	<2.5mA 4mA max	4mA max	5 mA max	8mA	<600mW, <25mW
Accuracy Rating (Total Error Band)	±0.05% FS [0°C - 60°C] ±5% FS [-20°C - 0°C] ±5% FS [+60°C - +85°C]	±2% FS [+10°C - +40°C] ±3% FS for 0-1" Range [+10°C - +40°C]	±2% FS [-20°C - +100°C] ±3% FS [-40°C - +125°C]	±1.5% FS [+2°C - +90°C]	±1% FS [-30°C - +120°C]
Ingress Protection	N/A	N/A	IP67	*	IP65, IP67, IP69
Agency Approval/Certifications	RoHS	RoHS	RoHS, CE, UL	RoHS, CE, REACH Drinking Water Safe, RoHS, CE, REACH	CE, RoHS, UL


Pressure Switches – Devices that mechanically react to a system's media based on a predetermined value. Pressure switches are primarily used as indicators and are a lower-cost alternative to sensors. Sensata offers pressure switches designed to work with various media and on a variety of surfaces.

Capacitive Sensing Elements (CSE) – Use the capacitive field created by a rise in pressure to provide data. They are ideal for applications between 0 to 750

PSI (0 to 50 bar).

Micro-Electromechanical Systems (MEMs) – Sensors that utilize piezo-resistive technology mounted to a silicon base which shifts according to the pressure being applied. These units are ideal for applications where pressure measures from 0 to 10 inches H₂O.

High Pressure

112CP	2CP5	60CP 70CP	2HMP	P4000	P4000
					
0-650 PSI	0-750 PSI	0-750 PSI	0-750 PSI	0-750 PSI	0-5000 PSI
Absolute, Sealed	Gage, Absolute, Sealed	Gage, Absolute, Sealed	Absolute, Sealed	Absolute, Sealed	Absolute, Sealed
No	No	No	Yes	Yes	Yes
Capacitive Sensing Element + Thermistor	Capacitive Sensing Element	Capacitive Sensing Element	PRT (MEMS)	PRT (MEMS)	PRT (MEMS)
Brass, Plated Steel	Brass, Plated Steel	Brass, Plated Steel, Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
4 Pin AMP Micro-Quadlok System™ Connector	Packard Metripack 150	Packard Metripack 150	Packard Metripack 150	Packard Metripack 150 DEUTSCH M12	Packard Metripack 150 DEUTSCH M12
Ratiometric and 10KΩ @ 25°C	Ratiometric	Ratiometric	Ratiometric	Ratiometric	Ratiometric
5V	5V	4-20mA, Vreg	5V	5V	5V
8mA	7mA	5V 6 to 30V 7mA (Vs*-6)/0.02 ohms	8mA	3mA	3mA
±1.7% FS [0°C - +85°C]	±1.0% FS [-20°C - +85°C] ±1.5% FS [-40°C - +125°C]	±1.0% FS [-20°C - +85°C] ±1.5% FS [-40°C - +125°C] ±1.5% FS [-40°C - +85°C]	±1% FS [-25°C - +125°C]	±1.5% FS [0°C - +125°C] ±2.0% FS [-40°C - +125°C]	±1.5% FS [0°C - +125°C] ±2.0% FS [-40°C - +125°C]
IP65	IP65	IP65	IP67	IP67	IP67
RoHS, REACH	RoHS, REACH, UL	RoHS, REACH	RoHS, UL	RoHS, REACH, UL	RoHS, REACH UL (Up to 750 PSI)

Position Sensors and Encoders

Sensata-BEI Sensors specializes in speed and position sensors for extreme applications. Serving the industrial, military, aerospace and off-highway markets, Sensata-BEI Sensors provides an extensive range of products from standard off-the-shelf to completely customized solutions for challenging applications. Backed by decades of experience, Sensata-BEI Sensors designs sensors that offer uncompromising quality, performance and reliability.



Optical Sensors – Includes incremental encoders (capable of measuring position, speed and distance), single-turn absolute encoders (measuring displacement across 360 degrees from a stated point) and multi-turn encoders (measuring the degree of rotation and track the total number of revolutions).

Encoders – Include optical and magnetic components that convert motion into a series of electronic pulses. Deliver either rotation speed feedback or measurements; typically based on rotary motion from a mechanical device like the shaft of a motor.



Optical Sensors

Model	Body	Shaft/Bore Size	Terminations	Resolution (Max)	Mechanical Speed RPM (Max)	Standard Operating Temp °C	Extreme Environment Options
Rotary Incremental Absolute Encoders	2.0 – 4.57"	0.24 – 1.75"	Connector, Cable, TB, Conduit	1,024 – 80,000	3,000 – 30,000	-40 – +100	W, D, ET, CW, HA, HV
Rotary Single-Turn Absolute Encoders	2.28 – 4.57" (58 – 116mm)	0.24 – 1.18" (6 to 30mm)	Connector, Cable, Conduit	13 – 16 bits	3,000 – 12,000	-20 – +90	W, D, ET
Rotary Multi-Turn Absolute Encoders	2.28 – 4.29" (58 – 109mm)	0.24 – 1.18" (6 – 30mm)	Connector, Cable, Terminal Box	12 – 16 bits	3,000 – 6,000	-40 – +85	D, ET

Magnetic Encoder



Model	Body	Shaft/Bore Size	Terminations	Resolution (Max)	Mechanical Speed RPM (Max)	Standard Operating Temp °C	Extreme Environment Options
Rotary Incremental Encoders	1.18 – 2.28" (30 – 58mm)	0.16 – 0.39" (4 – 10mm)	Connector, Cable	1,024	6,000	-40 – +100 (at 5Vdc)	W, D, ET, HV
Rotary Single-Turn Encoders	1.18 – 2.28" (30 – 58mm)	0.16 – 0.39" (4 – 10mm)	Connector, Cable	12 Bits	6,000	-40 – +85	D, ET, HV

Output Options

A	Analog (4-20mA, 0-10V, etc.)	Profi	Profibus
BCD	Binary Coded Decimal	PWM	Pulse Width Modulation
CAN	CANopen	S/C	Sin/Cos
D	Digital	SSI	Serial Synchronous Interface
DN	DeviceNet	TB	Terminal Box
GC	Grey Code	X	Excess Gray Code
NB	Natural Binary		

Extreme Environment Options

CW	Corrosive/Washdown
D	Dirty/Dusty
ET	Extended Temperature
HA	Hazard Area
HS	High Shaft Load
HV	High Shock/Vibration
W	Wet

Hall Effect Sensors – Similar to magnetic encoders, these components use magnetic fields to generate proximate position, speed or rotational information applications. Due to their design parameters, these sensors can offer a more cost-effective solution.



Hall Effect Sensor

Body	Shaft/Bore Size	Terminations	Resolution (Max)	Range of Motion	Standard Operating Temp °C	Spring Return	Linearity	Extreme Environment Options
37 – 82mm	4.6 – 20.3mm	Connector, Cable	12x13 Bit	0° – 360°	-30 – +125	CW, CCW	0.60%	D, ET, HS, HV

Potentiometers – Use a partially-conductive sensing element in conjunction with a wiper to determine the position of an object. They are mainly used for providing feedback when a human operator is involved.

Inclinometers – Utilize an artificial horizon to provide angle, elevation or depression readings.

Electronic Interface and Wireless Modules – Help overcome barriers in applications that require position sensors. These modules aid, manipulate or adjust the signals sent from encoders to various other controls or operations.



Rotary Potentiometer



Package Size	Number of Outputs/Type	Termination	Drive Interface	Range of Motion	Standard Operating Temp °C Linearity	Life	Supply Voltage	Extreme Environment Options
22.225 to 76.20mm	1 – 8	Solder Terminals, Metri Pack, Terminal Board	Solid Shaft, Flatted or Blind Shaftkey	85° – 358°	-40 – +125 2%	2x10 ⁶ – 50x10 ⁶	0.5W – 7W not to exceed 400V	ET

Linear Potentiometer



Termination	Linearity (%)	Range of Motion	Standard Operating Temp °C Linearity	Life	Extreme Environment Options
Flying Lead, Printed Circuit Pin, Mil-C-5105 Style Connector, Solder Lug	+/- .35 up to 2	.5 to 24"	Max ratings: -55 – +300 °C	1 x 10 ⁶	ET, SH/V

Circuit Breakers







Sensata-Airpax is a leading global manufacturer of hydraulic-magnetic circuit protection components, offering a range of current ratings from 0.020A to 1,200A as well as a number of configurations. Sensata-Airpax products are agency-approved by UL, VDE, TUV and CCC; they display the CE mark and conform with various IEC/European standards and directives. These products also comply with legal and environmental regulations including RoHS and REACH. Sensata-Airpax is the only supplier of mil-qualified, hydraulic-magnetic circuit breakers.

UL489 Listed Circuit Breakers – Specifically intended to provide service entrance, feeder and branch circuit protection for wiring. They are designed to provide short circuit, overcurrent and overvoltage protection in accordance with the National Electrical Code.

UL1077 Supplementary Circuit Protectors – Add overcurrent or short circuit protection within electrical equipment/appliances; these components do not provide the branch circuit overcurrent protection required by the National Electrical Code.

MIL-Qualified Circuit Breakers – MIL-C-39019 and MIL-C-55629 qualified circuit breakers which have been tested to standards written exclusively for their use and regulation.

Product	Description	Poles	Current & Voltage Rating	Interrupting Capacity	Approvals
 <p>IAL Series</p>	<ul style="list-style-type: none"> • IEL Versions Meet IEC Spacing Requirements for Installation in Equipment that must Comply with IEC 601 and 950 and VDE 0730, 0804 and 0805 • Multi-pole Options with Multi or Single Handle • Auxiliary Switch Options • Snap-In Mounting Option • Mid-Trip Handle Option • Dual Frequency Delay Option • Various Actuator Options 	6 Max	<ul style="list-style-type: none"> • 100A Max at 65 VDC • 70A Max at 80 VDC • 50A Max at 250 VDC • 50A Max at 300 VDC • 70A Max at 240 VAC, 50/60 Hz • 50A Max at 277 VAC, 50/60 Hz • 50A Max at 277/480 VAC, 50/60 Hz • 50A Max at 250 VAC, 400 Hz 	<ul style="list-style-type: none"> • 5000A, 240 VAC, 50/60 Hz • 1500A, 250 VAC, 400 Hz • 7500A, 80 VDC • 2000A, 240 VAC, 50/60 Hz (VDE) • 2000A, 415 VAC, 50/60 Hz (VDE) • 4000A, 80 VDC (VDE) • 1200A, 277/480 VAC, 50/60 Hz • 5000A, 250 VDC • 1000A, 300 VDC 	<ul style="list-style-type: none"> • UL Recognized • CSA Certified • VDE Approved (IEL) • CE Compliant (IEL) • CCC Approved • UL 1500 Certified • QPL to MIL-PRF- 55629
 <p>LEL Series</p>	<ul style="list-style-type: none"> • LEL Versions Meet IEC Spacing Requirements for Installation in Equipment that must Comply with IEC 601 and 950 and VDE 0730, 0804 and 0805 • Multi-Pole Options with Multi or Single Handle • Auxiliary Switch Option • Snap-In Mounting Option • Mid-Trip Handle Option • Dual Frequency Delay Option • Various Actuator Options 	3 Max	<ul style="list-style-type: none"> • 100A Max at 80 VDC • 50A Max at 125 VAC, 50/60 Hz • 80A Max at 120/240 VAC, 50/60 Hz • 100A Max at 80 VDC (VDE) • 50A Max at 250 VAC (VDE) 	<ul style="list-style-type: none"> • 50000A, 80 VDC • 5000A, 125 VAC • 5000A, 120/240 VAC 50/60 Hz • 2000A, 80 VDC • 2000A, 250 VAC, 50/60 Hz (VDE) • 10000A, 120/240 VAC, 50/60 Hz 	<ul style="list-style-type: none"> • UL 489 Listed • CSA Certified • VDE Approved • CE Compliant • CCC Approved
 <p>IELR Series</p>	<ul style="list-style-type: none"> • Meets IEC Spacing Requirements for Installation in Equipment that must Comply with IEC 601 and 950 and VDE 0730, 0804 and 0805 • Designed to Mount on Standard 35mm DIN Rails 	4 Max	<ul style="list-style-type: none"> • 70A Max at 80 VDC • 70A Max at 250 VAC, 50/60 Hz • 50A Max at 80 VDC (VDE) • 50A Max at 250 VAC, 50/60 Hz (VDE) • 30A Max at 415 VAC, 50/60 Hz (VDE) 	<ul style="list-style-type: none"> • 7500A, 80 VDC • 5000A, 250 VAC, 50/60 Hz • 2000A, 277 VAC, 50/60 Hz (VDE) • 2000A at 250 VAC, 50/60 Hz (VDE) • 2000A at 415 VAC, 50/60 Hz (VDE) • 4000A at 80 VDC (VDE) 	<ul style="list-style-type: none"> • UL Recognized • CSA Certified • VDE Approved (IELR) • CE Compliant
 <p>209 Series</p>	<ul style="list-style-type: none"> • Front or Back Connected Terminal Styles • E-frame Style Model Complies with UL 489 • 249 Power Selector Breaker System is Listed as a Branch Circuit Breaker per UL 489 • Complies with International Requirements • 279 Complies with UL 489A 	6 Max	<ul style="list-style-type: none"> • 100A Max at 160 VDC • 125A Max at 125 VDC • 77A Max at 600 VAC • 100A Max at 347/600 VAC • 100A Max at 120, 240, 277, 480 VAC • 100A Max, 125 VDC, 240/415 VAC (VDE) 	<ul style="list-style-type: none"> • 5000A • 10000A • 4000A (VDE) 	<ul style="list-style-type: none"> • UL 489 Listed • UL 489A Listed (279) • UL Recognized • CSA Certified • VDE Approved • UL1500 Certified • CCC Approved • CE Compliant

Product	Description	Poles	Current & Voltage Rating	Operating Temperature	Approvals*
IAR Series 	<ul style="list-style-type: none"> • 1U (1RU) Hydraulic Magnetic Circuit Breaker • Low-profile Design • Auxiliary Switch Option Available for Alarm Signaling 	2	<ul style="list-style-type: none"> • 50A Max at 80 VDC/250 VAC • 30A Max, 120/240 VAC (2 Poles) 	<ul style="list-style-type: none"> • 5000A, 65 VDC • 5000A, 80 VDC • 2000A, 250 VAC • 5000A, 120/240 VAC (2 poles) • 5000A, 80 VDC (2 Poles) 	<ul style="list-style-type: none"> • C-UL Recognized • UL1077 Recognized • UL489A Listed • TUV Approved
SNAPAK® 	<ul style="list-style-type: none"> • Compact Magnetic-Hydraulic Circuit Protector • Aesthetically Pleasing for Front Panel Mounting • Toggle, Rocker, Push-Pull and Push-to-Reset Actuation Options 	2	<ul style="list-style-type: none"> • 7.5A Max at 50 VDC/250 VAC • 30A Max at 32 VDC/120 VAC • 25A Max at 120/240 VAC (Two Poles) • 20A Max at 250 VAC (50/60 Hz, at 500AIC) • 20A Max at 65 VDC (Two Poles, at 500AIC) 	<ul style="list-style-type: none"> • 1000A 	<ul style="list-style-type: none"> • UL Recognized • CSA Certified • TUV Approved • CE Compliant • CCC Approved
AP Series 	<ul style="list-style-type: none"> • QPL to MIL-PRF-39019 • Sealed Magnetic-Hydraulic Circuit Protection • Can Withstand 100G Shock Repeatedly • Ideal for Use in Class 1, Div. 2 Groups A, B, C AND D Hazardous Locations 	3	<p>AP Ratings</p> <ul style="list-style-type: none"> • 20A Max at 50 VDC/240 VAC <p>UP Ratings (1 Pole Only)</p> <ul style="list-style-type: none"> • 20A Max at 50 VDC • 15A Max at 120 VAC • 7.5A Max at 240 VAC 	<p>AP ratings</p> <ul style="list-style-type: none"> • 500A, 50 VDC, 120 VAC • 300A, 240 VAC <p>UP Ratings</p> <ul style="list-style-type: none"> • 1000A, 50 VDC, 240 VAC 	<ul style="list-style-type: none"> • MIL-PRF-M39019 • UL Recognized (UP Type Only) • FM Approved (UP Type Only)
IPA Series 	<ul style="list-style-type: none"> • Compact Magnetic-Hydraulic Circuit Protection • Quick-Connect, Screw, PC Board Mount Terminals • Auxiliary Switch Options • Multi-Pole Options with Multi or Single Handle 	4	<ul style="list-style-type: none"> • 30A Max at 65 VDC/240 VAC • 20A Max at 80 VDC (300 AIC) • 25A Max at 250 VAC, 50/60 Hz • 15A Max at 250 VAC, 400 Hz • 25A Max at 65 VDC/250 VAC, (TUV) • 15A Max at 250 VAC, 400 Hz (TUV) 	<ul style="list-style-type: none"> • 1000A 	<ul style="list-style-type: none"> • UL 489A Listed (CPA) • UL Recognized • CUR Recognized • TUV Certified • CE Compliant • CCC Approved (Pending)
IAG Series 	<ul style="list-style-type: none"> • IEG Versions Meet IEC Spacing Requirements for Installation in Equipment that must Comply with IEC 601 and 950, and VDE 0730, 0804 and 0805 • Multi-pole Option with Multi or Single Handle • Auxiliary Switch Option • Mid-trip Handle Option • Snap-In Mounting Option • Dual Frequency Delay Option 	6	<ul style="list-style-type: none"> • 50A Max at 80 VDC • 50A Max at 240 VAC • 30A Max at 277 VAC, 50/60 Hz • 30A Max at 250 VAC, 400 Hz • 30A Max at 125 VAC, 50/60 Hz • 30A Max at 120/240 VAC, 50/60 Hz 	<ul style="list-style-type: none"> • 5000A, 240 VAC, 50/60 Hz • 1500A, 250 VAC, 400 Hz • 7500A, 80 VDC (IEG) • 5000A, 80 VDC (CEG) • 2000A, 250 VAC, 50/60 Hz (VDE) • 4000A, 80 VDC (VDE) • 5000A, 125 VAC, 50/60 Hz (LEG) • 5000A, 120/240 VAC, 50/60 Hz (LEG) 	<ul style="list-style-type: none"> • UL 489 Listed (LEG) • UL 489A Listed (CEG) • UL Recognized • CSA Certified • VDE Available • CE Compliant • CCC Approved • UL 1500 Certified • QPL to MIL-PRF-55629
LEGA Series 	<ul style="list-style-type: none"> • LEGA is a New "Low Depth" Version of our Standard IAG Series Hydraulic Magnetic Circuit Breaker 	6	<ul style="list-style-type: none"> • 50A max at 80 VDC • 50A max at 240 VAC • 30A max at 277 VAC, 50/60 Hz • 30A max at 250 VAC, 400 Hz • 30A max at 125 VAC, 50/60 Hz • 30A max at 120/240 VAC, 50/60 Hz 	<ul style="list-style-type: none"> • 5000A, 240 VAC, 50/60 Hz • 1500A, 250 VAC, 400 Hz • 7500A, 80 VDC (IEG) • 5000A, 80 VDC (CEG) • 2000A, 250 VAC, 50/60 Hz (VDE) • 4000A, 80 VDC (VDE) • 5000A, 125 VAC, 50/60 Hz (LEG) • 5000A, 120/240 VAC, 50/60 Hz (LEG) 	<ul style="list-style-type: none"> • UL 489 Listed (LEG) • UL 489A Listed (CEG) • UL Recognized • CSA Certified • VDE Available • CE Compliant • CCC Approved • UL 1500 Certified • QPL to MIL-PRF-55629
LEJ Series 	<ul style="list-style-type: none"> • 240 VAC Hydraulic Magnetic Circuit Breaker • UL 489 Listed • Optional LEJA "Low Depth" Version 	2	<ul style="list-style-type: none"> • 20A Max at 240 VAC 	<ul style="list-style-type: none"> • 5000A, 240 VAC, 50/60 Hz 	<ul style="list-style-type: none"> • UL 489 • TUV Certified

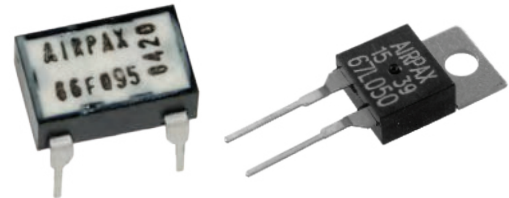
Temperature Sensors, Switches and Thermostats

Sensata thermostats and temperature switches are used to monitor the temperature of liquids, gasses or surfaces in a system, functioning as indicators or cut-offs. Temperature sensors convey temperature data into a readable electrical parameter, thus providing feedback to control systems. Thermostats react to the temperature of the environment or a system's media based on predetermined values.



Temperature Sensors

Series	Description	Temperature Sensing Range	Electrical Connector	Type of Temperature Sensor
3000	Thermistor RTD or IC Temperature Sensors. Surface, Air and Immersion Stainless Steel Packages in Standard Configurations	-40°C – +125°C	Flying Leads	NTC & RTD
5024	Thermistor RTD or IC Temperature Sensors. Surface, Air and Immersion Packages in Custom Configurations	-55°C – +300°C	USCAR Connector	NTC & RTD
DARTS	Platinum RTD Temperature Sensor. Surface, Air and Immersion Package Built for High Temperature Sensing	-40°C – +850°C	Flying Leads	NTC & RTD



Thermal Sensing and Switching Thermostats

Series	Description	Operating Temperature	Special Package	Cycle Count	Voltage	Amps (Resistive)	Agency Approvals
6600	8-Pin DIP Style, Subminiature Bimetal Thermostat, SPST, Lead-Free Construction	+40°C – +130°C	8-Pin DIP	25,000	48 VDC	1	cRUus Recognized E36687
				30,000	120 VDC	1	VDE Approval 0631/12.83
				100,000	5 VDC	.001 (Gold)	RoHS Compliant per EU Directive 2002/95/EC
6700	TO-220 Subminiature Bimetal Thermostat, SPST, Lead-Free Construction	+40°C – +130°C	Y220/TO220	20,000	48 VDC	0.5	cRUus Recognized E36687
				100,000	5 VDC	.001 (Gold)	VDE Approval 0631/12.83
							RoHS Compliant per EU Directive 2002/95/EC

Resistance Temperature Detectors (RTD) – Made with materials that correlate resistance with temperature so resistance increases evenly with temperature, providing feedback to the controller. RTDs are ideal for high-temperature applications where repeatable accuracy is a must.

Negative Temperature Coefficient Sensors (NTC) – Provide temperature feedback using a material that reduces resistance as temperature increases. NTCs are best suited for applications where temperature needs to be monitored within a small range; they are ideal for cost-conscious applications.

Fixed Temperature Thermostats – Useful in a variety of different applications, this thermostat type can be used as a regulating thermal switch, a pilot duty control switch or an over-temperature control.

Automatic Reset Thermostats – Set to a predetermined temperature range which determines when to engage a circuit or close a switch, as well as when it will automatically reset (opening the switch or disengaging).

Thermal Sensing and Switching Thermostats – Small temperature switches designed specifically for mounting on PCBs or power supplies, and built in industry-standard packaging for easy installation. Typical use cases include sounding an alarm, activating an indicator light or switching a control or emergency shutdown circuit.



Temperature Switches and Thermostats

Series	Description	Operating Temperature	Special Package	Agency Approvals
1NT		+18°C – +204°C		UL/CSA Recognized, ENEC/ENEC Recognized
3NT		-20°C – +135°C	Easy Mount Clip	UL/CSA Recognized, ENEC/ENEC Recognized
5100	Bimetal Thermostat, Stainless Steel Probe, Hermetically Sealed, SPST, Isolated Case	+1.67°C – +162.78°C	Probe/Immersion Package	UL E36687 and E66685, CSA LR25561-6 and LR25561-8
5011	1/2" Disc Bimetal Thermostat, SPST, Hermetically Sealed	+50°C – +249°C	Case Isolated, Case Grounded	RoHS Compliant per EU Directive 2002/95/EC
5003	Low-profile 1/2" Disc Bimetal Thermostat, SPST, Environmentally Sealed	+1.67°C – +162.78°C	Low Profile	RoHS Compliant per EU Directive 2002/95/EC



Hybrid Temperature/Pressure Sensors

Series	Description	Temperature Sensing Range	Electrical Connector	Pressure Sensing Range
112CP	Hybrid Temperature and Pressure Sensor Provide Both Measurements in One Package	-40°C – +135°C	4 Pin AMP Micro-Quadlok System Connector	0 – 650 PSI



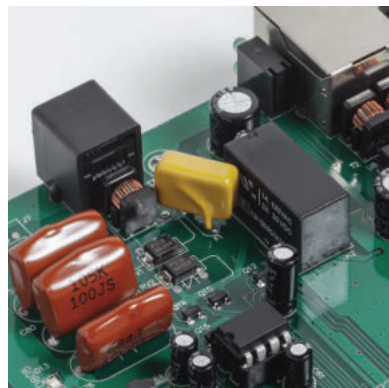
Why Buy from the Specialist in Electronic Component Distribution?

Founded in 1971, TTI has steadily grown to become the world's leading interconnect, passive, electromechanical and discrete component distributor in the industry. The company was founded on the premise that passive component purchasing could be made more efficient by offering product specialization, customer-driven service, and proprietary supply chain solutions.



Knowledgeable Product Experts

Specialization allows TTI product managers to provide much better product insight to support your manufacturing from design through production. TTI Specialists' commitment to our customers is key to our continued success.



Broader and Deeper Inventories

TTI maintains extensive component inventories, stocking more than 500,000 part numbers in North America and over 850,000 globally – that's more interconnect, passive, electromechanical and discrete inventory available than from any other source.



AIM - Advanced Inventory Management Platform

TTI's proprietary supply chain system is specifically designed for managing IP&E products and partnerships with premier manufacturers. This allows us to provide the BOM coverage necessary to deploy comprehensive solutions that reduce total cost of ownership and mitigate line down risk.

Quality and Reliability

TTI is the first distributor to have all global warehouse locations ISO registered and currently are certified to ISO 9001 with AS9100C and ISO 14001 in North America, ISO 9001, EN 9100, ISO 14001 and EN 9120 in TTI Europe and ISO 9001 in TTI Asia.

Year after year, customers rate our inventory availability, on-time delivery and accuracy among the very best in the industry – contact your local TTI Specialists via sales@de.ttiinc.com and discover why.



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