

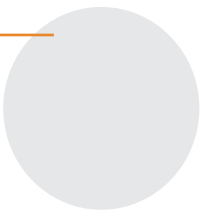
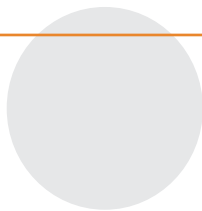


# INDUSTRIAL SOLUTION OVERVIEW

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SENSOR SOLUTIONS FOR A SAFER,  
CLEANER, MORE ELECTRIFIED AND  
CONNECTED WORLD

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# ABOUT SENSATA TECHNOLOGIES

Sensata Technologies is a leading industrial technology company that develops sensors, sensor-based solutions, including controllers and software, and other mission-critical products to create valuable business insights for customers and end users. For more than 100 years, Sensata has provided a wide range of customized, sensor-rich solutions that address complex engineering requirements to help customers solve difficult challenges in the automotive, heavy vehicle & off-road, industrial and aerospace industries.

For more information, please visit Sensata's website at

[www.sensata.com](http://www.sensata.com)

## OUR INDUSTRIAL PRODUCT SOLUTIONS

The synergy of leading brands and years of proven expertise in extremely demanding industrial markets allow us to provide you with the **highest level of quality, service, technical expertise and worldwide support** to improve safety, efficiency and comfort in your automation, food and beverage, building equipment, heating, air conditioning, energy and infrastructure, material handling and medical applications.

### PRODUCT LINES

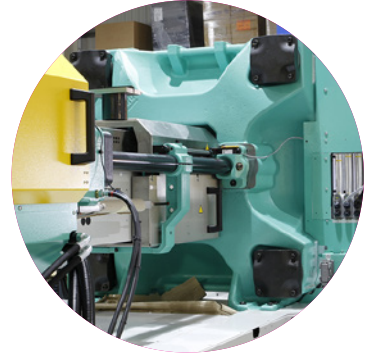
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# PRESSURE SENSORS & SWITCHES

Broad portfolio of pressure products based on a variety of proven technologies. From pressure sensors that offer ranges from 1 inch H<sub>2</sub>O to 10,000psi or vacuum up to 700bar, to our highly reliable pressure switches with a wide range from 0 – 2000 psi or 0 – 140 bar, our pressure solutions provide the configurability and performance needed for demanding industrial applications.



## APPLICATIONS

- Air conditioning
- Refrigeration
- Pumps
- Heating (boilers)
- Air compressors
- Ventilation (VAV)
- Medical (gas equipment)
- Material handling
- Plastic machinery
- Machine tools
- Beverage dispensing



# SWITCHES

## SH switches for HVAC

**PS80**  
Automatic reset pressure switch designed to meet the unique challenges of R744/CO<sub>2</sub>-based air conditioning and refrigeration equipment.

**20PS**  
Compact, hermetic and environmentally sealed switch utilizing a snap-acting stainless steel diaphragm that reverses its curvature when pressurized to a customer specified actuation pressure.

## SIA switches for industrial applications

**25PS**  
Pressure switch family of products based on Sensata's Klixon® snap acting disc designed for direct control of electric motors and other demanding load applications requiring high current switching.

## SS specialty switches

**29PS**  
Manual reset, single pole, single throw, snap acting pressure switch with a broad assortment of port fittings and electrical connections.



## HP high pressure

**PTE7100/PTE7300 NEW**  
Using Sensata's industry leading silicon MEMS strain gauge technology (MSG), this hermetic high pressure sensor is ideal for industrial applications including HVAC, boilers, pumps, injection molding, off-road vehicles and other hydraulic and pneumatic applications.

## MP mid pressure

**P1A**  
Highly modular sensor design with multiple standard and customized configurations.

**116CP/126CP NEW**  
Housed in a small and innovative plastic package ideal for boilers, pumps, and other light industrial application measuring 0-16 bar gage (0-220 psig).

## LP low pressure

**P992**  
Rugged packaged differential pressure sensors with backward compatible mounting configurations covering 1 up to ±5"H<sub>2</sub>O.

**P1J/K**  
Panel board mounted pressure sensor with analog (P1K) or digital (P1J) output and internal temperature compensation covering 1 up to ±5"H<sub>2</sub>O.

## HL hydrostatic level

Hydrostatic level sensors provide stable, reliable and repeatable measurements in situations when other level sensing technologies are impractical or not accurate enough. These sensors use piezoresistive technology and a microprocessor based amplifier removing the need for adjustments.

Sensata offers both external mount threaded and submersible hydrostatic level sensors.

**2CP5**  
Durable, compact and cost-effective design for long-term stability in highly demanding applications. 0-750 psi.

**2HMP**  
Cost-effective sensor with hermetic and case-isolated construction.

**35CP**  
Ideal for general industrial applications where long-term reliability and accuracy is a must.

**P993 PCB Mount Package**  
This series of pressure sensors incorporates a silicon capacitive sensing element in a compact package.

## FIND THE RIGHT PRESSURE PRODUCT

Sensata pressure sensors offer a broad range of mating connectors, overmolded electrical connections as well as pressure sensors with digital switching and monitoring capabilities.



# POSITION SENSORS & ENCODERS

Our comprehensive Encoders and Position Sensors line includes incremental and absolute encoders, hall effect sensors, rotary and linear potentiometers as well as inclinometers and draw wire solutions. Reliable and rugged products that are designed for use in standard industrial to heavy duty and hazardous area applications.



## APPLICATIONS

- Motor feedback
- Lift trucks
- Cranes
- Metal processing
- Aerial work platforms
- Oil & gas rig equipment
- Elevators & escalators
- Wind turbines
- Access control



# ENCODERS

## INC incremental



**DHK5; DHM5; DH05**  
58mm through-shaft, blind-shaft and shafted optical encoder featuring high resolution and up to IP67 protection.



**H20; HS20; H25; HS25**  
2.0" and 2.5" shafted and through-shaft optical and magnetic encoders with enhanced protections and rugged-heavy duty features.



**LP Series**  
90 mm encoders with a low profile design; built to withstand extreme temperatures, shock and vibration, and wet and dirty environments.

## ABS absolute



**MHK5; MHM5; MH05**  
58mm encoder with multiple output options including SSI, CANopen, Profinet, Profibus, EtherNet/IP, EtherCAT, PowerLink, DeviceNet, Modbus and Parallel.



**CHK5; CHM5; CH05**  
58mm High Performance single turn absolute encoder up to 15 bits. Options for IP67 and 100° C operation + Bus Outputs.



**PHM9; PHU9**  
90mm compact through-shaft rotary encoder available with a variety of interface capabilities (CANopen, Profibus, and more), ATEX Zone 2 rating for hazardous environments, and stainless steel housing option.

## SE special environment



**Explosion proof: LP series**  
90 mm incremental and absolute encoders with a low profile hollow shaft design; designed for direct operation in hazardous areas.



**NEW FEATURES**  
**Functional safety: DSK5; DSM5; DS05**  
Designed for use in the highest industrial safety related applications up to SIL3/PLe, Cat. 4 with analog or digital electronic outputs.



**IP69K rated: AXM5**  
58mm shafted stainless steel (316) rotary encoder rated to IP69K for use in corrosive and washdown environments.

# SENSORS

## HE hall effect



**ACW4; TCW4; HCW4**  
Encapsulated, 50mm non contacting, incremental, single-turn and multi turn position sensor; analog, SSI, CANopen, IO-Link interface, magnet holder option fits shafts up to 14mm.



**9960 series**  
Blind shaft 51mm non-contacting sensor features 7 termination options and 24 active electrical angles.  
Up to IP69K rating.



**9360 series**  
Shafted 42mm rotary non-contacting sensor with 360° rotation and dual outputs. Programmable versions available.

## PM potentiometers



**9850/9860 series**  
Low profile rotary potentiometer with simple installation, long repeatable and high linearity, and repeatable accuracy. Dual-output option.



**6300 series**  
Linear potentiometer for hydraulic or pneumatic cylinder position sensing. Available in lengths from 50 mm to 1,000 mm.



**9600 series**  
Spring return linear position sensor provides excellent life at 1 million full cycles. Available in three sizes.

## IDW inclinometers & draw wire solutions



**T-Series Inclinometer**  
Sturdy and compact design with an aluminium alloy housing that uses the latest MEMS technology for precise angle measurement. Analog or CANopen output.



**CD series**  
Available in a variety of incremental, absolute and potentiometric output options. Measuring range from 700 to 50,000 mm.

## SPECIALIZED SENSOR SUPPORT

Sensata | BEI Sensors also offers encoder accessories to complete your motion control installation including mechanical hardware, cable assemblies, mating connectors, power supplies and more.

# FLOW AND LEVEL SENSING SOLUTIONS

Level Sensors and Flow Switches are used in a wide variety of industries and applications. Usually the aim is to avoid overflow that would cause potentially hazardous situations, so accuracy and reliability are of paramount importance. Our Level Sensors are designed, tested and manufactured to the highest standards and trusted by our customers to measure and mitigate risk in applications as diverse as blood dialysis treatment, storage and transport of volatile fuel and food-safe vending machines.

## APPLICATIONS

- Alternative Energy
- Chemical Process
- Industrial
- Food & Beverage
- Medical
- Military & Aerospace
- Transportation
- Utilities & Smart Grid
- Oil & Gas



# FLOW SENSORS / LEVEL SENSORS

FS

flow sensors



## Industrial Standard Flow Switches

- Offered in a variety of sizes to fit a wide range of industry standard pipes
- European standard 15mm and 22mm tube and American 1/2" and 3/4" NPT thread or zconnections
- Temperature rated to 85°C (185°F)
- WRAS and NSF approvals
- Low pressure drop



## Ultrasonic Flowmeters

- With non-invasive technology, ultrasonic flowmeters are unaffected by contaminants and automatically compensated for variations in temperature and viscosity
- LED indication of status
- No moving parts
- Low pressure drop



## Inline and paddle flow switches

- A choice of inline or paddle switch options
- For loads up to 4A inductive
- 0.6 or 3.0 l/min turn on flow rate
- Adjustable time delay for pump stop of 0-10 seconds
- Automatic shut down on flow stop

LS

level sensors



## Float Switches

- Vertical and horizontal, internal and external mounting
- Available in PPS, Polypropylene, Nylon and PVDF body material
- WRAS and NSF approved variants. UL recognised, File No E171218
- Maximum working temperature up to 120°C
- User configurable N/O or N/C



## Optical Level Sensors

- Low cost general purpose liquid level sensors
- High reliability optical sensing
- Internal and external mounting options
- High and low output versions



## Standard and Custom ATEX Approved Products

- ATEX certified for use in Zones 1 and 2
- Flange or screwed mount for installation from outside the tank
- IP68 Stainless Steel terminal enclosure
- Multi-level switching options



## Cable End Sensors

- Cable mounted, N/O or N/C configurable
- Direct switching, 10 or 20A resistive
- WRAS approved variants
- Use in depths up to 100 metres



## Hydrostatic Level Sensors

- Pressure ranges from 0.5mWG to 100mWG – 50mBar to 10 Bar
- Temperature range: -20 to +60°C
- Level accuracy: <0.1% FS BFSL
- Dual independent 4-20mA outputs
- Stainless steel, piezo-resistive pressure sensor

## DISCOVER MORE...

Sensata's Cynergy3 brand has both flowmeters and flow switches amongst its range of measuring instruments.

# WIRELESS SENSORS AND SYSTEMS

Industry 4.0 revolution, in which machines are becoming more intelligent and intuitive, is increasing the need for sensing solutions with the ability to communicate with one another in a secure and wireless manner. Sensata's broad portfolio of sensors, transmitters, receivers and gateways enables Smart Factories, Remote Asset Monitoring, and Digital Transformation using components that transform the physical world into data that provides actionable insights. Data collection and analysis result in tangible benefits to customers including reduced operational costs, increased productivity and overall optimized performance of their manufacturing operations.



## APPLICATIONS

- Vibration Analysis for
  - Electric Motors
  - Pumps
  - Industrial Compressors
  - Gearboxes
  - Wind Turbines
  - HVAC
  - Control Valves
  - Transformers
- Solar & Renewable Energy
- Remote Asset Monitoring
- Railways
- Building Monitoring

# INDUSTRIAL IOT SOLUTIONS

## IWPS industrial wireless pressure sensors



### Wireless Industrial Pressure Sensor

- Up to 500m line-of-site range
- Five year battery life at 10 second transmission update rate
- Simple DIL switch pairing with the single or five channel receiver
- Pressure ranges from -1 to +400 bar gauge (-15 to +5800 psi gauge)
- Low pressure ranges from 0-15 psi
- Piezo-resistive stainless steel sensor element (low Pressure)
- Rugged ceramic sensor element (high Pressure)

## IWTT industrial wireless temperature transducers



### Industrial Wireless Temperature Transducer (BSP mount)

- K or J Type Thermocouples or PT100 RTD Sensor
- Up to 500m line-of-site range (depending on receiver)
- Five year battery life at 10 second transmission update rate
- 6mm stainless steel sheath

## IWT industrial wireless transmitters



### Industrial Wireless Transmitters

- Up to 500m line-of-site range (depending on receiver)
- Five year battery life at 10 second transmission update rate
- Simple DIL switch pairing with the single or five channel receivers



### Simple DIL switch pairing with single or five channel receivers



- IWDigT Switched or Pulsed Input
- IWTT Node K or J Type Thermocouples or PT100 RTD Sensor Input
- IWmAT 4-20 mA input
- IWVT Voltage input
- IWCTT AC Current Transformer Input
- IWTRhT Temperature & Relative Humidity
- IWTxT 4-20 mA Input with Sensor Supply Voltage
- IWLoadT Load Cell/Strain Gauge
- IWtTilt Inclinometer

## WAM wireless asset monitoring sensor



### Sensata Software

- Incorporates a sensor fusion consisting of vibration, temperature, humidity, acoustic emission, speed, magnetic flux
- Asset anomaly detection
- Embedded predictive analytics
- Global roaming cellular connection
- End-to-end data encryption
- IP68 industrial design
- 5 minute installation

## G gateways and receivers

### IOT Gateway



- Receives data from all IWT transmitters
- Includes 2G/3G/4G IoT Cellular Modem
- Other inputs include 4-20mA and digital inputs, I<sup>2</sup>C & SPI sensors
- Battery or 12/24Vdc powered



### Wireless to Serial or Ethernet Gateway

- 2.4GHz Wireless to Comms Gateway
- Allows remote sensors to be incorporated into an Ethernet or RS232/485 network



### Wireless to Serial or Ethernet Gateway

- Easy monitoring of wireless networks using any PC
- Free of charge monitoring & logging software



### Wireless to USB Gateway

- Single channel or five-channel receivers
- Pairs with any IWT wireless transmitter
- User-selectable 1-5V or 4-20mA receiver output
- Clean contact output for process, low battery or loss of signal alarm function

## DISCOVER MORE...

Sensata's Industrial IoT portfolio takes the accuracy, reliability and durability of our established range of wired sensors and adds the convenience of wireless connectivity and security.



# RELAYS

Sensata's Crydom brand is a market leader with the widest range of off-the-shelf solid state relays and contactors, as well as custom-designed solid state switching solutions. Cynergy3 relays contain cutting edge technology, using copper, rhodium and tungsten to create accurate, durable and reliable Reed switches.

Compact high voltage relays from Sensata's Gigavac brand, using either a vacuum or gas dielectric, are suitable for applications up to 70kVdc.



## APPLICATIONS

- Professional cooking ovens
- Laboratory ovens
- Warehouse lighting
- Professional coffee makers
- Plastic machinery
- Deep fat fryers
- Vending machines
- Power distribution panels
- Packaging equipment
- Elevators & lifts

# SOLID STATE RELAYS



PM

panel mount



**EL series**  
Mini-puck solid state relay.  
Ratings of up to 30 Amps @ 280 VAC or 20 Amps @ 100 VDC.



**NOVA22 PM67 series**  
67.5mm 3-phase solid state relay Ratings from 35 up to 75 Amps per phase @ 600 VAC  
Optional Over Temperature protection.



**Series 1**  
Crydom's signature family of solid state relays.  
Ratings from 10 to 125 Amps @ 24-280 VAC or 48-530 VAC.



**NOVA22 PM22 series**  
Half-puck solid state relay  
Ratings of 25, 50 and 95 Amps @ 660 VAC.

PCB

pcb mount



**ASO series**  
Mini-SIP solid state relay.  
Ratings up to 2 Amps @ 12-280 VAC.  
DC control voltage.



**CX series**  
SIP solid state relay.  
Ratings of 5 Amps @ 12-280 VAC or 48-660 VAC.  
AC or DC control voltage.



**MP series**  
SIP solid state relay.  
Ratings up to 4 Amps @ 280 VAC or 3 Amps @ 60 VDC.  
DC control voltage.

DIN

din rail mount



**SeriesOne DR**  
Compact solid state relay.  
Ratings of 3 to 12 Amps @ 280 VAC/600 VAC or 3 to 24 Amps @ 100 VDC.  
Class I, Div 2 rated, for use in hazardous locations.



**NOVA22 DR22 series**  
22.5mm solid state relay.  
Ratings of 20, 30 and 35 Amps @ 48-600 VAC or 1-200 VDC. Available in contactor or relay configuration. Available with back-to-back SCR or cost-effective TRIAC output.



**NOVA22 DR67**  
67.5mm 3-phase solid state relay Ratings from 25 up to 75 Amps @ 600 VAC.

PI

plug-in mount



**CN series**  
Thin SSR for high density applications.  
Ratings of 2 Amps @ 280 VAC or 6 Amps @ 100 VDC.  
Pluggable into standard relay sockets.



**ED Series**  
Industry standard plug-in package.  
Ratings of up to 5 Amps @ 24-280 VAC or 10 Amps @ 1-100 VDC.  
DIN Rail or PCB mount sockets available.

# HIGH VOLTAGE RELAYS



HVR

high voltage relays



**GIGAVAC High Voltage Relays**  
Compact high voltage relays from GIGAVAC, using either a vacuum or gas dielectric, are suitable for applications up to 70kVdc.



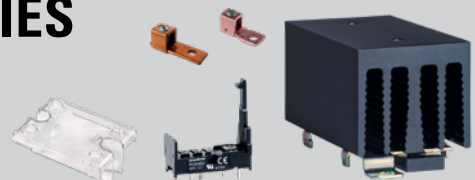
**Cynergy3 High Voltage Reed Relays**  
Industry experts in the design and manufacture of reed relays offering high performance, quality and value to customers, suitable for applications up to 15kVdc. UL approved models.



**Cynergy3 Radio Frequency Reed Relays**  
These relays contain cutting edge technology, using Rhodium contacts to provide low stable contact resistance in applications up to 20A, 2-32 MHz.

## EXTENSIVE LINE OF ACCESSORIES

Besides offering many other SSR series beyond those shown above, Sensata | Crydom also offers a wide range of accessories.



# CONTACTORS AND FUSES

GIGAVAC's EPIC® sealing technologies provide the ultimate in power switching contactors and relays. From high power DC contactors that can withstand environmental extremes, to competitive PCB mount contactors, with technologies ranging from epoxy and ceramic sealed switches to hermetically sealed manual disconnect switches, we offer competitive sealed solutions to fill your power switching needs.

And our high voltage fuses enable high levels of protection for your advanced battery systems.

## APPLICATIONS

- Electric Vehicles
- Renewable Energy
- Material Handling
- Military Vehicles
- Battery packs
- Charging stations
- Power Distribution Units (PDU)



# THE WORLD'S LEADING CONTACTOR MANUFACTURER



## FS fuses and switches



### Fuses and Switches

- Pyro & Electromagnetic
- Passive and Active Versions
  - Up to 1500V
  - Fast Acting, No Thermal Aging
  - fuse-contactor pairing and testing services



### Battery Disconnect Switches

- Hermetic Manual Disconnect
- 12V to 1000V
  - Up to 600A Continuous Duty

## C contactors



### GV Series

- Commercial Contactors
- 12V to 1000V
  - Up to 600A
  - Ideal for High Volume Applications



### GX/MX Series

- Specialized Contactors
- 12V to 800V
  - Up to 1000A Continuous Duty
  - Options for Integrated Sensing and Military Applications



### GIGAVAC MiniFACTORS™

- Compact Sealed Contactors
- 12V to 1500V
  - Up to 80A Continuous Duty
  - UL Recognized Versions



### HX Series

- High Voltage Contactors
- UL Recognized up to 1500V
  - Tested up to 3000V
  - Up to 1000A Continuous Duty

## S solutions



### Custom Solutions

- Application Specific Designs
- Purpose Engineered Products
  - Simple Modifications to Full Value Added Packages



### PCB Solutions

- Cost Effective Installation
- Power Distribution Solutions
  - 12V to 1000V
  - Up to 600A Continuous Duty

## CERTIFICATIONS

GIGAVAC sealed power contactors and battery disconnect products are CE approved, conforming to all relevant European requirements. They are built in our ISO900, IATF16949 and ISO14001 certified California factory. Many of our contactors are UL Certified in addition to being compliant with other worldwide certifications.

# MOTORS & ACTUATORS

Precision linear and rotary voice coil actuators (VCAs) and brushless DC motors (BLDCs) for producing, sensing and controlling motion in the medical, industrial, aerospace and defense markets. Proprietary magnetic design technologies are used to produce custom products where performance, precision, and reliability are critical.

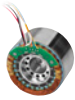
## APPLICATIONS

- Ventilators
- Oxygen concentrators
- Unmanned aerial vehicles (UAV)
- Fast steering mirrors
- Mass spectrometers
- Chromatography
- Military /aero gimbals
- Downhole drilling
- Centrifuges



## BLDC

### brushless DC motors



#### Frameless BLDC motors

Can be fully integrated within customer assemblies, resulting in the highest ratio of torque to volume performance. Available in standard cylindrical and pancake or "torquer" designs.



#### Housed BLDC motors

The most reliable and cost effective BLDC motor solutions for some of the most demanding applications. Shipped ready for integration with minimal assembly time.



# ADVANCED MAGNETICS FOR MOTION CONTROL

## LVCA

### linear voice coil actuators



#### Cylindrical frameless VCAs

The most cost effective and versatile models of linear VCAs with the longest operational life. Available in both moving coil and moving magnet designs.



#### Cylindrical semi-housed VCAs

Improves upon the frameless VCA design by adding a shaft and self-aligning bushings. Precision shaft with multiple options available.



#### Cylindrical housed VCAs

Fully encapsulated and among the easiest VCA's to integrate into a customer's system. Available with magnet springs and/or latches and different shaft options.

## RVCA

### rotary voice coil actuators



#### Rotary VCAs

Ideal for high acceleration applications that require angular movement. Arc-segment and cylindrical designs available.

## DK

### VCA developer's kit



#### Developer's kit

Self-contained kit including a VCA with built-in feedback sensor and a programmable controller with software and cables. Available with 7 different VCA models coupled with 4 different servo drives.

## CUSTOM DESIGN CAPABILITIES

Sensata | BEI Kimco also offers custom brushless DC motor and voice coil actuator designs and is dedicated to providing the best solution for our partner's motion control application.



# MOTOR PROTECTORS

We offer the newest in protection devices, such as breakthrough low-power combo starter protectors, as well as some extremely long-lived products such as the 90-year-old  $\frac{3}{4}$ -inch Klixon motor protector, a standard around the world. So, where might you find us?

**In your home** – The typical household has well over 30 of our products in places like refrigerators, washers and dryers, garbage disposals, recessed lighting, power tools and batteries, exhaust fans, and air conditioning units

**At work** – Our devices protect lighting from overheating and keep commercial and industrial equipment operating safely while keeping work environments comfortable

**In your car** – We're used in windshield wiper motors, seat adjustments, diesel fuel heaters, sunroof motors, window lifts, and air pumps.



## APPLICATIONS

- Home appliances "white good"
- Automotive DC motors (window lifts, wipers, seat adjusters)
- Domestic heating (boilers, panel heaters)
- Home and garden tools
- Refrigeration/HVAC (compressor controls)
- Electrical generators
- Industrial exhaust gas
- Power distribution units
- Commercial food equipment
- Industrial process control

# OVERLOAD AND OVERHEATING PROTECTION / THERMOSTATS/ TEMPERATURE MANAGEMENT

MP

motor protectors

## Appliance protectors

Bimetal motor protectors used in appliance applications. Used to protect against motor overheating, caused by locked rotor or running overload conditions. A broad variety of models and series is available.



- A broad variety of models and series available, like for ex. 7AM, 15AM, 17AM, 8CM series and more.

## Auto DC Motor Protectors

Electro-mechanical motor protector for automotive applications based on the Klixon® bimetal snap-action disc. These products operate as a current and thermal sensitive power cut-out for all automotive accessory motor applications.



- **5AP Motor Protector:** Thermal motor protection reacting to both current and temperature; Wide variety of standard thermal configuration; Terminal material provides trouble-free welding
- **6AP Motor Protector:** Operates in wide temperature and current ranges, while providing consistent performance characteristics and excellent reliability.

## Compressor Motor Protectors

Hermetically sealed bimetal protectors used to protect against AC motor overheating, caused by locked rotor or running overload conditions in single phase or three phase compressor applications.



- 15HM/16HM Single Phase Series Motor Protectors
- 34HM/35HM/37HM Three Phase Series Motor Protectors



## Thermostats and Thermal Cut-Outs

Sub-miniature bimetal thermostats built to provide reliable sensing and switching in a single compact device. RoHS compliant, positive snap action, single pole / single throw, subminiature bimetallic thermostats providing fast, positive responses with excellent repeatability.

- **1NT/3NT Thermostats**  
Small and easy to mount, reliable, high temperature thermostats, widely used in many industrial applications as a regulating switch and over temperature control.

## Starting Relays and Combos

Bimetal enabled Relay and PTC used for motor starting and to protect against AC motor overheating, caused by a locked rotor or running overload conditions.



- 5SPL Low power combo starter/Motor protector
- LPC3 Low power starter/Motor protector
- Terminal Board LPC3 Starter/Motor protector
- ASCOM Starter/Motor protector = 6SP?
- EUCOM Starter/Motor protector = 8EA
- 11SP Combo starter/Motor protector
- 5SP Combo starter/Motor protector



## Phenolic Motor Protectors

Single and three-phase phenolic motor protectors are equipped with a bimetallic snap acting disc, on which the contacts are mounted, and through which the current flows. Manual reset versions are also available for applications where automatic restarting may be hazardous to equipment or operations.

TS

temperature sensors

## 5024 EGR Temperature Sensors

10K Ohm NTC SS Probe Sensor with Integrated Connector. Compact and economical, suitable for the harshest environmental conditions.



## 3000 Series

The 3000 series offers the advantage of today's best temperature sensing technology in standard, low-cost probe assemblies that ensure the technology performs accurately and reliably in demanding applications.



## DARTS Temperature Sensors

The DARTS series is a line of thin film platinum RTD based temperature sensors ideal for demanding air conditioning, refrigeration and industrial applications.



## Cynergy3 ITT(U) Series

A range of wired programmable industrial temperature probes using K- or J-type thermocouples, or PT100 RTD sensor elements, for measuring the widest temperature ranges.



## DISCOVER MORE...

Sensata offers rugged industrial thermostats and temperature sensors with a wide range of form factors and connection options to supply a solution for many industrial applications. A multitude of package designs for harsh and challenging environments span a range of -70° to 850°C.

# CIRCUIT BREAKERS

Our broad portfolio includes highly configurable, customizable, circuit breakers based on precise hydraulic-magnetic technology.

GFCI and ELCI Modules that when coupled with our Circuit Breakers provide both protection to equipment and electrical shock in high-risk environments, such as Marine and Power Generation.

Modular power distribution modules specifically designed to be compatible with our Circuit Breakers, facilitate the design and installation for your specific application.



## APPLICATIONS

- Rail
- Telecom/Datacom
- Military and Defense
- Construction machinery
- Medical Equipment
- Marine
- Power Supply units
- Forestry machinery
- Diesel generators
- Commercial coffee grinders

# A BROAD PORTFOLIO OF HYDRAULIC-MAGNETIC CIRCUIT BREAKERS, SWITCHES, GFCI/ELCI MODULES, AND MODULAR DISTRIBUTION PRODUCTS



**Circuit Breakers and Power Switches**  
Hydraulic-magnetic circuit breakers and switches for applications from 0.1 to 1,000A.



**Modular Distribution Systems**  
Easy-to-use plug and play, scalable, electrical power bus modules.



**Linegard GFCI/ELCI**  
Linegard™ ground fault circuit interrupters (GFCI) and equipment leakage circuit interrupters (ELCI)

- PGFM Series GFCI Ground Fault Protection Sensing Module



**High Voltage Fuses**

- DC Fuses for EV, Energy Storage & Charger
- High Speed Fuses for Industrial Power Supply and UPS
- SMD Fuses for Electronic Device & Battery
- SMD Fuses for High Power Application
- Cartridge Fuses for DMI
- 10x38 Midget Fuse
- Cartridge Fuses for Industrial Power
- Cartridge Fuses for HVDC, Air Conditioner & Household Appliances
- Photovoltaic and Telecom Protection



**Precision Circuit Breakers**  
Broad portfolio of single pole or three pole versions from 1/2amp to 100amps. Temperature non-compensated and thermal.

- Aircraft circuit breakers (temperature compensated)
- Aircraft circuit breakers (non-temperature compensated)
- Thermal circuit breakers



**Automotive Circuit Breakers**

Designed for wire harness protection in 12Volt automotive applications. These devices are available both as a cycling (SAE Type 1) or non-cycling (SAE Type 2) device; used as an alternative to standard fuses for the protection of circuits that may experience momentary overloads.

- EXT200/500 Thermal Circuit Breakers
- Maxi Breaker Series Miniature Circuit Breaker
- Mini 100 Circuit Breaker

## DISCOVER MORE...

Protect valuable equipment and personnel with our high-quality solutions.

Our broad portfolio includes highly configurable, customizable breaker families that offer stable trip performance, reliable operation and high power density in an array of shapes and sizes to facilitate mechanical integration.

# OPERATOR CONTROLS

Sensata designs and manufactures advanced operator controls and integrated systems with embedded diagnostics meeting strict product safety standards in Material Handling and Mobile Elevating Work Platforms that simplify operation, increase reliability, and improve efficiency.



## APPLICATIONS

- Lift Trucks
- Mobile Elevating Work Platforms
- Telehandlers
- Cranes
- Hoists
- Mast Climbers



# RELIABLE OPERATOR CONTROLS & INTEGRATED SYSTEMS

## CS control systems

Control systems for specific Rough terrain and Slab scissor lifts. Systems consist of platform control systems and electronic control systems used as building block elements able to connect a variety of digital and analog machine interfaces.



**K100 Series**  
Control system for rough terrain scissor lift.



**K500 Series**  
Control system for slab scissor lift.



**M700 Pump controller**  
High-power hydraulic pump controller that can provide fully programmable control of DC series wound motors.

## JS joysticks

Combining hall effect technology with high mechanical strength, flexibility and a unique sensing design for high performance. Made to accommodate both standard and custom-designed multifunction grips.



**AJ3 Series**  
Small, heavy-duty design ideal for industrial applications.



**AJ4 Series**  
Robust design ideal for extreme, heavy-duty applications.



**AJN Series**  
Robust & flexible design, ideal for extreme, heavy-duty applications.



**SAL Series**  
Robust single axis design ideal for replacement of hydraulic control levers.

## MG multifunction grips

Ergonomic shape and operation make them ideal for mounting on hydraulic levers, electronic joysticks, pilot hydraulic joysticks, hydrostatic levers and more.



**Ball grip**  
Small and large ball variants.



**S2 Series**  
Standard design with 1 rocker switch and/or 1 trigger switch.



**S3/S4/S4E/S6/S7 Series**  
Basic joystick grip with different flexible designs and customization.



**SK Series**  
Flexible design with up to 11 definable switch functions.

## R rockers

Designed for easy implementation on armrest or panel mounted fingertip control assemblies and enabling proportional control with an ergonomic design. They are short circuit protected and fully customizable.



**AR3 Series**  
3 standard actuator shape variants. Ideal solution for proportional control in a grip/handle design.



**SR3 Series**  
SR3 Switch rocker with 3 standard actuator shape variants. Ideal solution for proportional control in a grip/handle design.



**AR5 Series**  
Fingertip design. Ideal solution for panel assemblies and armrest applications.

## CUSTOMIZING YOUR MACHINES

Sensata provides complete integrated control systems for industry leading OEM's of material handling and aerial access equipment. Based on our standard product and technology building blocks, we can develop integrated control systems, armrest solutions and switch assemblies to fit your specific machine and application requirements.



## Contact us now

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