

SENSATA SOLUTIONS FOR CHILLER & BOILER HVAC SYSTEMS

Background

HVAC is the Heating, Ventilating and Air Conditioning method for conditioning the indoor environment of a building, usually with the intent of keeping the occupant comfortable. A hydronic HVAC system utilizes water as the primary fluid to transfer energy throughout the building. Water has outstanding heat transfer characteristics, along with other benefits (i.e. – plentiful, non-toxic, “green,” inexpensive) that make it ideal for this purpose.

To deliver heat, the system must have a heat source, such as a boiler, and to provide cooling, the system must have a cooling

source, such as a chiller or cooling tower. The heated or cooled water is pumped throughout the building to air handling units or terminal units (or other similar), where it transfers energy with air from the ventilation system before it recirculates to the heating or cooling source. The conditioned air is then delivered to the room.

Our solutions range from the sensors that allow users to monitor their system to circuit breakers which protect the application

Solution

Sensata provides many solutions to monitor this process and make it as efficient as possible. Our solutions range from the sensors that allow users to monitor their system to circuit breakers which protect the application.

Pressure Sensors & Switches are vital to monitoring of HVAC systems. Sensata’s pressure sensors provide solutions for sensing pressure of refrigerants as well as other liquid medias as they are carried throughout the system.

Temperature Sensors & Switches are equally as important to HVAC systems as they are used to monitor the temperature of liquid medias. Sensata’s temperature sensors allow for precise, accurate temperature control.









Switches & Relays are used to turn various parts of the HVAC system on and off during operation. Our relays allow long lasting, silent operation that reduce the need for maintenance and increase the comfort of end users.

Power Control components are used to protect HVAC systems from power surges. Senata’s circuit breakers provide the high pulse tolerance and long time trip delay required to protect HVAC systems.

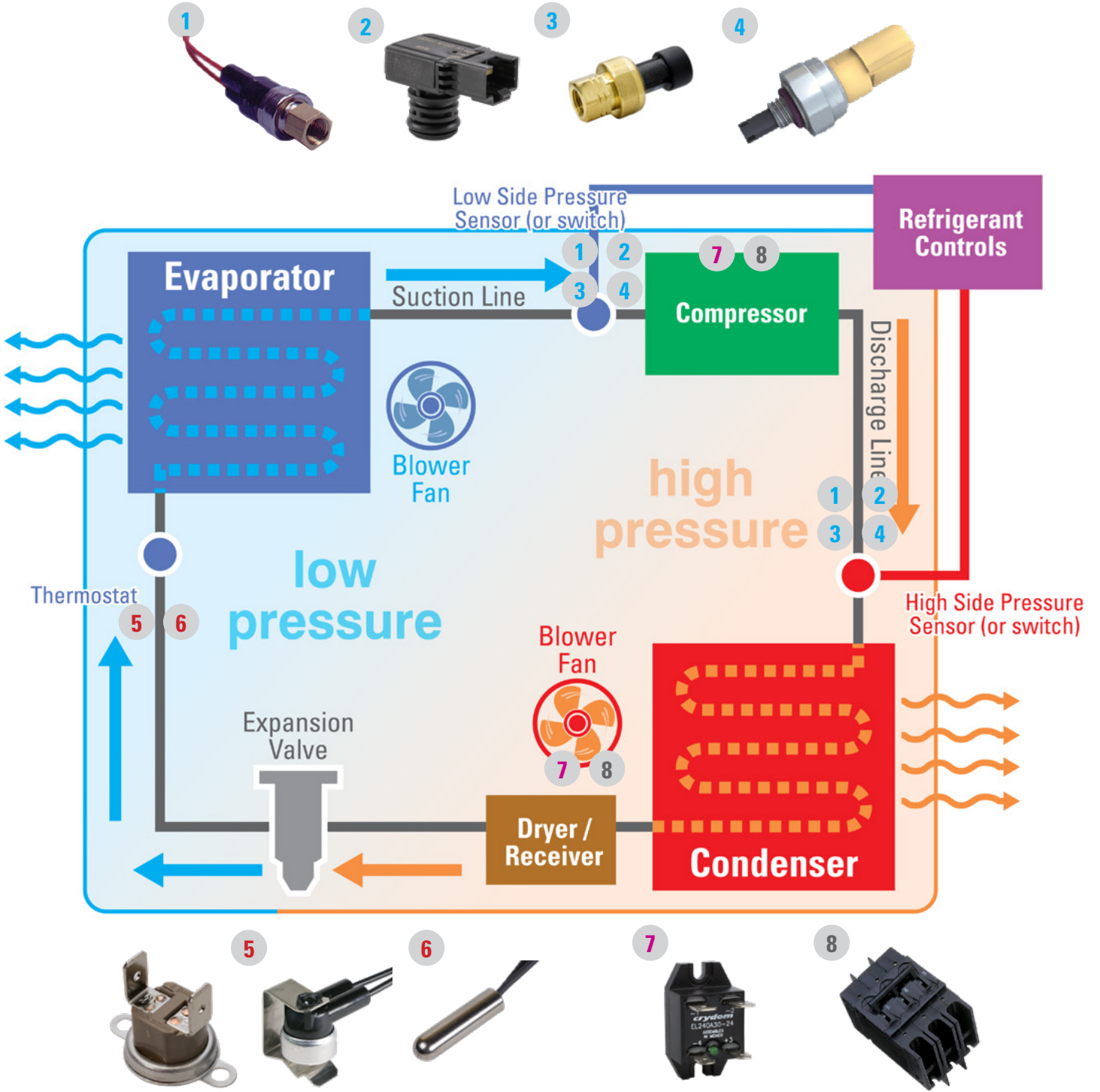




RECOMMENDED PRODUCTS

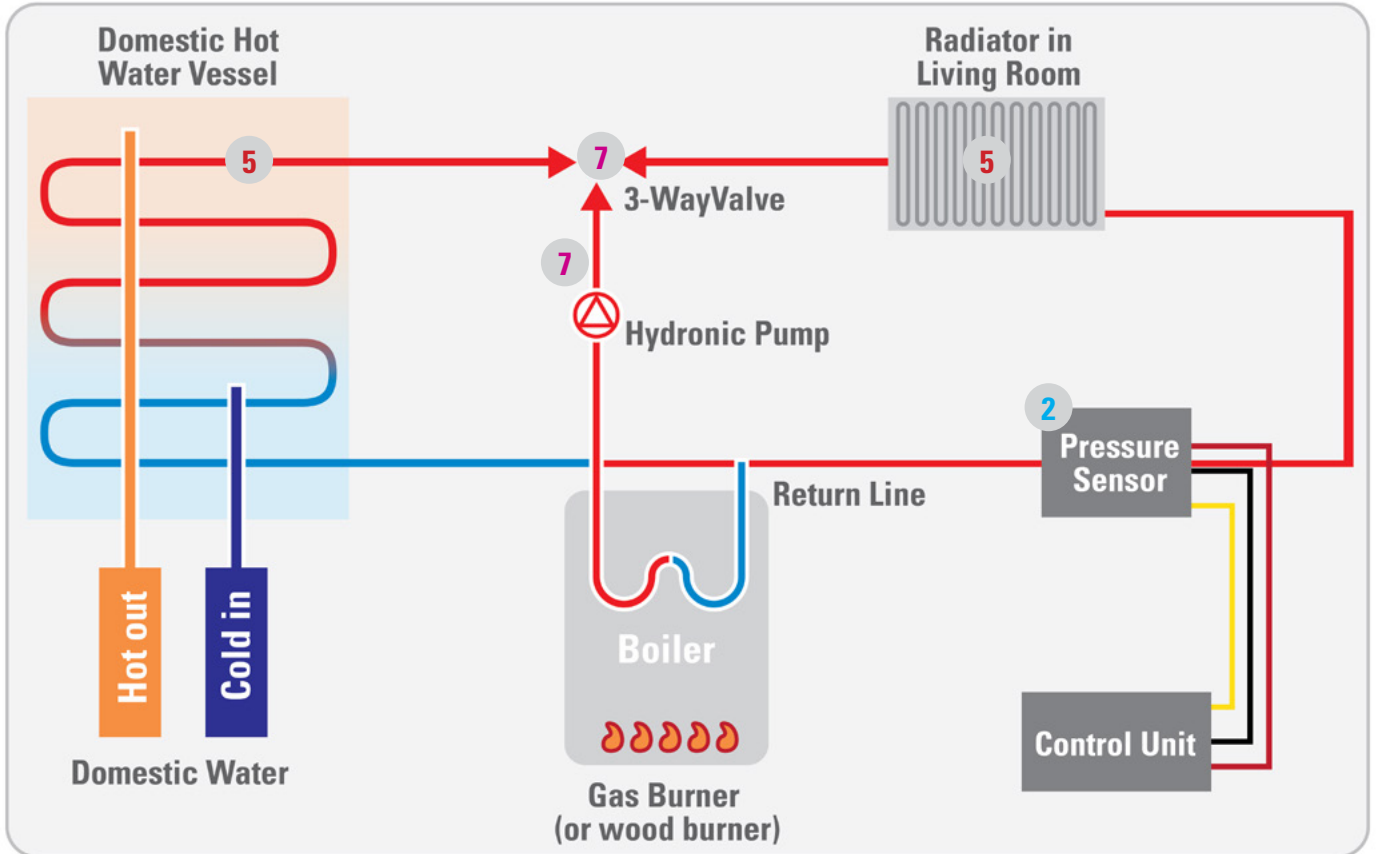
| Reference on Diagram | Product | Function | Features | Brand |
|--|--|--|--|----------------------|
| Pressure Sensors & Switches | | | | |
| 1 |  PS80 SERIES | The PS80 series is a pressure switch that can be used for monitoring the refrigerant line pressure on chiller and cold water generator applications. Its robust build allows use with a variety of refrigerants. | <ul style="list-style-type: none"> • High reliability • Environmentally sealed leads • Fixed set points | Klixon |
| 2 |  116CP SERIES | The 116CP series is a pressure sensor that specializes in sensing pressure with liquid media. In boiler applications it can be an inexpensive option for monitoring safe levels of hot water pressure due to its plastic housing. | <ul style="list-style-type: none"> • High accuracy +/-1.5%FS • REACH/RoHS compliant • 0-4 to 0-16 bar | Sensata Technologies |
| 3 |  2CP5 SERIES | The 2CP5 series can monitor pressure between the pump and return water inlet allowing for more precise information to board controls. | <ul style="list-style-type: none"> • UL recognized • Overvoltage and short circuit protected • Accurate performance over wide temperatures | Sensata Technologies |
| 4 |  112CP SERIES | The 112CP series is a combination of a pressure sensor and temperature sensor in one package. It reduces the need for multiple sensors in compact HVAC applications. | <ul style="list-style-type: none"> • 0 to 150 to 0 to 650 psi • -40°C to 135°C Temperature Rating • Precise superheat measurement | Sensata Technologies |
| Temperature | | | | |
| 5 |  1NT & 3NT SERIES | The 1NT & 3NT thermostats offer runaway thermal protection at any junction critical in HVAC applications. Due to the 3NT's mounting clip it is especially useful on in-room thermal units or on copper tubing where safety is required. | <ul style="list-style-type: none"> • -40°C to 240°C Temperature Rating • Multiple switch actions available • ISO9001: 2000 certification | Sensata Technologies |
| 6 |  3000 SERIES | The 3000 series is a probe style temperature sensor that can deliver precise, accurate temperatures of liquid medias to board level controllers for optimal temperature control and efficiencies. Ideal for smart or green HVAC applications. | <ul style="list-style-type: none"> • Available as a RTD or Thermistor • -40°C to 125°C Temperature Rating • Stainless steel probe assembly | Sensata Technologies |
| Switches & Relays | | | | |
| 7 |  EL SERIES | The EL series is a solid state relay that offers the end-user silent operation of blowers or fans on the thermal units. Ideal for medical or hotel HVAC applications where silent operation can be critical. | <ul style="list-style-type: none"> • 21mm wide package • 10A & 30A @ 24 to 280 VAC • UL & cUL Recognized, CE & RoHS Compliant, TUV certified | Crydom |
| Power Controls | | | | |
| 8 |  209 SERIES | The 209 series circuit breaker is capable of meeting the unique trip point and trip time challenges of HVAC applications. A reduced trip point allows compliance to UL and NEC requirements while also preventing nuisance trips during motor start. | <ul style="list-style-type: none"> • UL489 Listed or UL 508 Recognized • 115% trip point capable for UL and NEC requirements • High pulse tolerance and long time delay | Airpax |

HVAC SYSTEM





BOILERS SYSTEM



Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice. Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF. All products are sold subject to Sensata's terms and conditions of sale supplied at www.sensata.com SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA. Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

CONTACT US

Americas
 Pressure Sensors and Switches
 +1 (800) 350 2727
sensors@sensata.com
switches@sensata.com
 Temperature Sensors
 +1 (888) 438 2214
sensors@sensata.com
 Switches & Relays
 +1 (877) 502 5500 – Option 2
sales.crydom@sensata.com
 Power Controls
 +1 508 236 2550
power-controls-sales@sensata.com
Europe, Middle East & Africa
 Pressure Sensors and Switches
 +359 (2) 809 1826
pressure-info.eu@sensata.com

Temperature Sensors
 +31 (74) 357 8156 (Klixon+Airpax)
temperature-info.eu@sensata.com
 Switches & Relays
 +44 (1202) 416170
ssr-info.eu@sensata.com
 Power Controls
 +3 174 357 8156
info-cpe@list.sensata.com
Asia Pacific
sales.isasia@list.sensata.com
 China +86 (21) 2306 1500
 Japan +81 (45) 277 7117
 Korea +82 (31) 601 2004
 India +91 (80) 67920890
 Rest of Asia +886 (2) 27602006
 ext 2808