

# Economizer Sensors

## C7400A,C Enthalpy Sensor



The C7400A Enthalpy Sensor is used with the economizer logic modules with the A,B,C, and D performance curves; the C7400C sensor is used with the logic modules with the A,B,C,D, and E performance curves. The sensors combined with the economizer logic modules permit the use of outdoor air as the first stage of cooling in heating, ventilating and air conditioning (HVAC) systems.

**Application:** Enthalpy economizing

**Dimensions, Approximate:** 4.25 in high x 2.17 in wide x .81 in deep  
(108 mm high by 55mm wide x 20.5 mm deep)

**Sensor Type:** 4-20 mA output

**Color:** Gray

**Mounting:** Mounted in any position where it is exposed to freely circulating air.

- Senses and combines temperature and humidity of outdoor air.
- As enthalpy of outdoor air increases, the outdoor air damper closes to a preset minimum position.
- As enthalpy of outdoor air becomes low, the outdoor air damper opens to reduce the mechanical cooling load in the building.
- Maximum economizer savings is achieved when two C7400 Enthalpy Sensors are used for differential enthalpy changeover control.
- Compact size and lightweight construction allows easy mounting in HVAC rooftop unit. A duct mounting kit is available.
- Sensors are enclosed in a rugged, corrosion-resistant glass-fiber reinforced plastic duct-mount case.
- Provides a 4 to 20 mA output signal to Economizer Logic Module; setpoint is located on the logic module.

**Operating Temperature Range:** -40 F to 150 F (-40 C to 66 C)

**Operating Humidity Range (% RH):** 11 to 89% RH

**Electrical Connections:** Two 1/4 in. quick-connect terminals

**Approvals**

**Underwriters Laboratories, Inc:** Component Recognized

Product Number	Application Type	Maximum Ambient Temperature		Description	Used With
		(F)	(C)		
C7400A2001/U	A solid state enthalpy sensor designed to sense temperature and humidity with 5% accuracy	150 F	66 C	Solid State Enthalpy Sensor	W7210, W7212A, W7213, W7214, W7215, W7459, W7460
C7400C2007/U	A solid state enthalpy sensor designed to sense temperature and humidity with 5% accuracy	150 F	66 C	Solid State Enthalpy Sensor	W7210, W7212A, W7213, W7214, W7215, W7459, W7460

## C7400S Enthalpy Sensor



The C7400S SyLK Bus sensor is a combination temperature and humidity sensor, which is intended to be used in commercial roof top units for sensing air. The sensor is powered by and communicates on the SyLK Bus. The C7400S communicates temperature and humidity separately digitally on the SyLK Bus Communication Protocol.

**Application:** Provides Honeywell SYLK Bus signal in relation to enthalpy - 5% accuracy

**Dimensions, Approximate:** 4.25 in high x 2.17 in wide x .81 in deep  
(108 mm high by 55mm wide x 20.5 mm deep)

**Sensor Type:** 7-21Vdc

**Color:** Gray

**Mounting:** Mounted in any position where it is exposed to freely circulating air.

**Operating Temperature Range:** -40 F to 150 F (-40 C to 66 C)

**A separate controller such as the JADE™ Economizer System (Model W7220) provides power and communications on the SyLK Bus for the C7400S SyLK Bus sensor.**

- This unit mounted C7400S enthalpy sensor includes solid state temperature and humidity sensors.
- Outputs a digital communicating signal on a two-wire SyLKbus communications link, reporting the temperature and humidity separately to the controller.
- The controller determines the enthalpy (total heat), enabling economizer modes of operation when outside air enthalpy is suitable for free cooling.
- Enthalpy sensors are compatible with Honeywell economizer systems.
- When used with an economizer, the enthalpy boundary curve is programmed via the controller. When the temperature and humidity are determined to be suitable based on the relationship to the boundary, the controller allows outside air for economizing.
- Dual enthalpy sensors in outside air and return switches the controllers to economizer mode of operation anytime the outside enthalpy is less than the return air enthalpy.

**Operating Humidity Range (% RH):** 11 to 89% RH

**Electrical Connections:** 2-pin header-pin style or 2-pin card edge removable terminal blocks

**Approvals**

**Underwriters Laboratories, Inc:** Component Recognized Guide info XAPX)

Product Number	Application Type	Maximum Ambient Temperature		Description	Used With
		(F)	(C)		
C7400S1000/U	A solid state enthalpy sensor designed to sense temperature and humidity with 5% accuracy. Use with W7220 economizer control, for use in outdoor air intakes of HVAC rooftop	150 F	65 C	Solid State Enthalpy Sensor	W7220