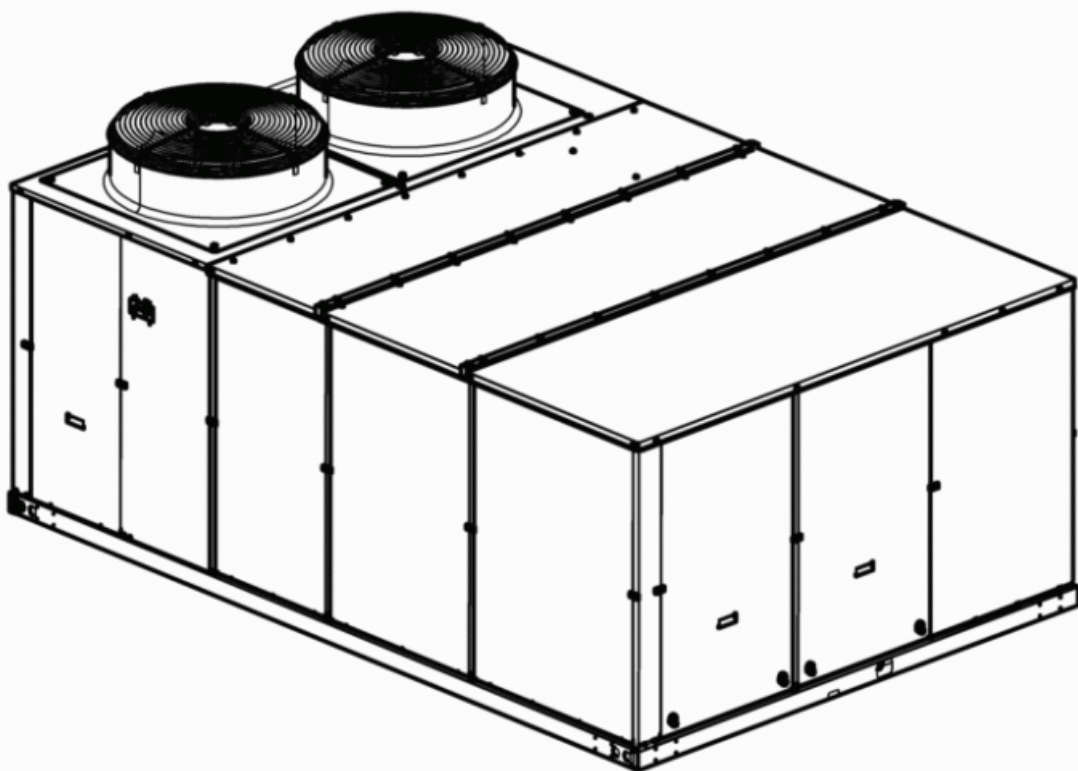




BY JOHNSON CONTROLS

Enthalpy sensors (Optional)



Options and Accessories, Installation manual

Ref.: N-40260_EN 0508



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Enthalpy sensors (Optional)

1.1 General Information

Allows for the fitting of enthalpy sensors in installations requiring enthalpy control of the return and outside air through the economiser.

1.2 General measurements

Enthalpy sensor

Measurements in mm.

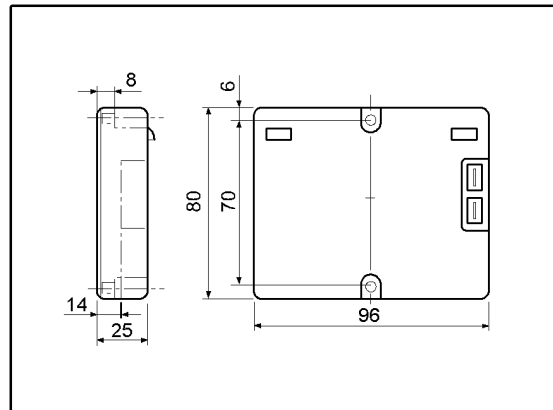
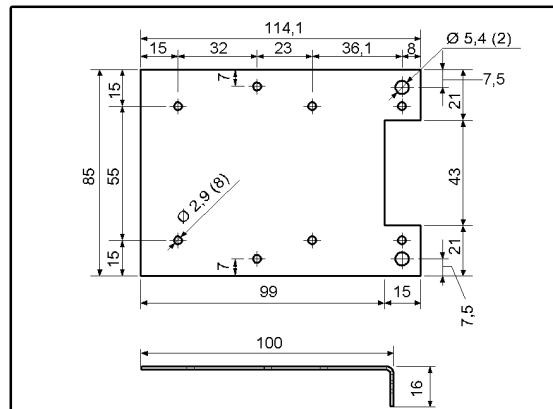
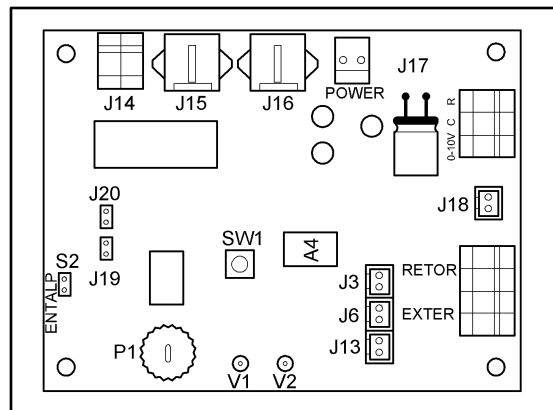


Plate support

Measurements in mm.



Economiser control board



1.3 Technical specifications

This accessory includes the following components:

- 1 Enthalpy sensors (C7400A).
- 2 Plate supports for the sensors.
- 3 Connection cables for the sensors.
- 4 Securing flanges, cables and screws.

1.4 Assembly

The enthalpy sensors are fitted to the separator panel on the side of the economiser.

Fit one enthalpy sensor in the holes made on the return side and another on the outside using the screws supplied.

Pass the red and white wires from the economiser control board to the sensors and connect them according to the wiring diagram.

Fit the ENTALP bridge to control board A4.

Disconnect the outside sensor **B17** and keep the return sensor **B15 connected**.

The enthalpy sensors must be located so that their terminals + (red wire) and S (white wire) are on the right and the two small sensor deflectors are at the top.

1.5 Operations

Favourable conditions in enthalpy mode are when the outside enthalpy is at least 5% below the return enthalpy and the outside temperature is below 20 °C.

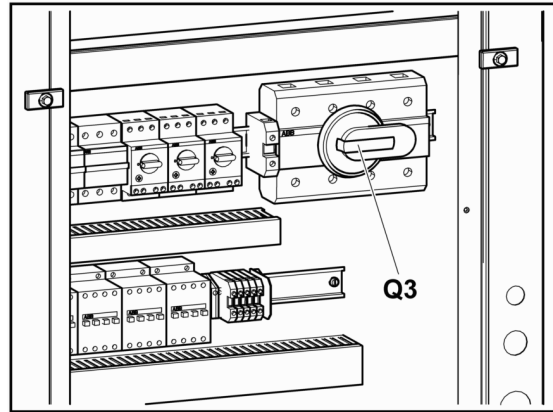
1.6 Installation



NOTE

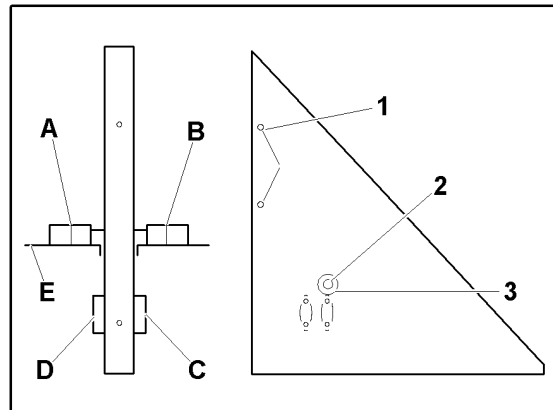
Bear in mind the current regulations in the country where the equipment is to be installed. On all accounts, the national regulations established must be respected.

- 1 Disconnect the power supply to the air conditioning unit.
- 2 Remove the access panel to the return air filters and the panels on the outside and return side.



- 3 Fit the enthalpy sensors on the separator panel and connect the cables supplied according to the wiring diagram.

- A. Return temperature sensor
 - B. Outside temperature sensor
 - C. Enthalpy sensor (OA) optional
 - D. Enthalpy sensor (RA) optional
 - E. Support
1. Holes for flanges
 2. Cable ducting hole
 3. Bushing



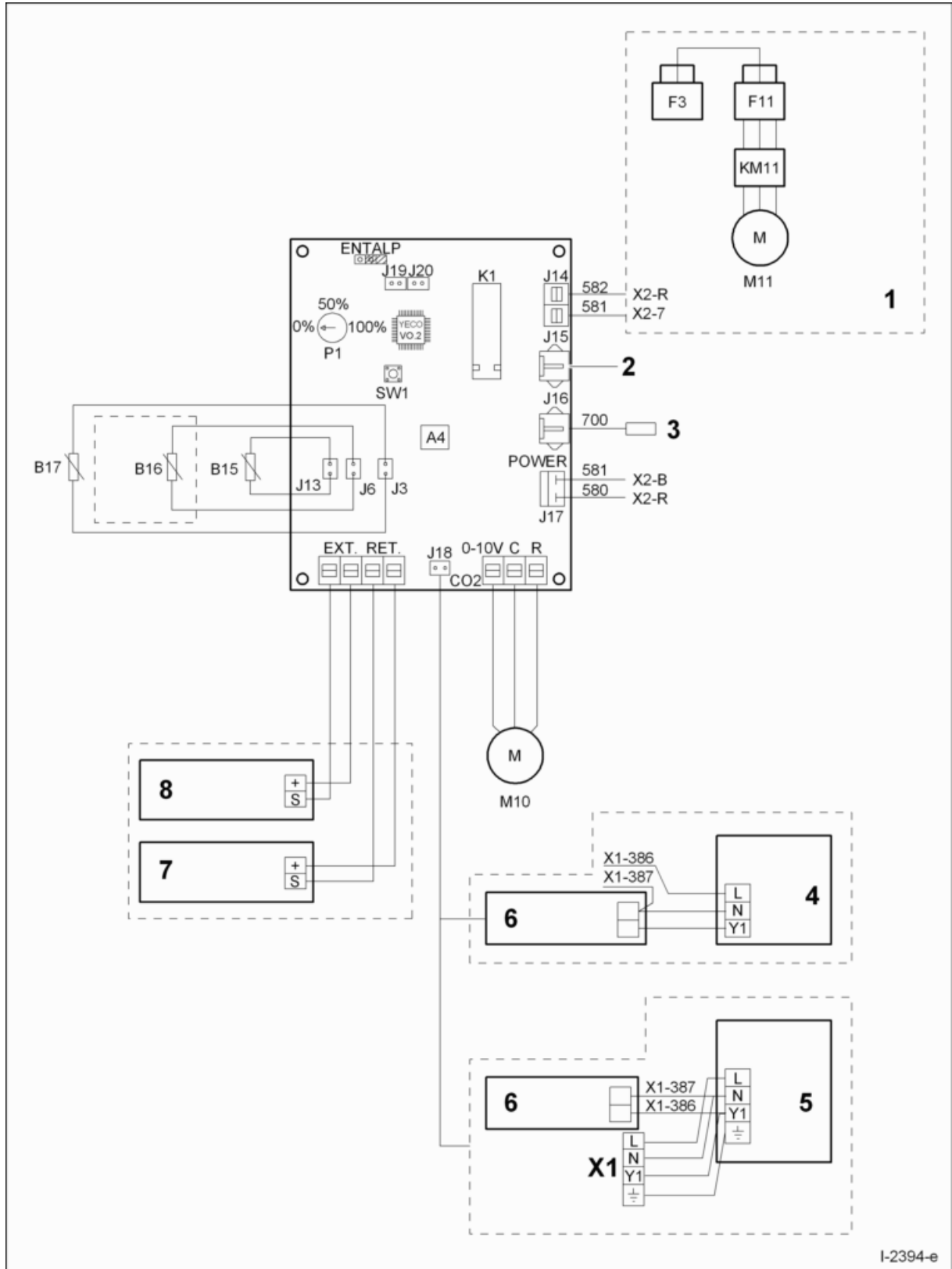
- 4 Disconnect the outside sensor **B17** (connector J3) and keep the return sensor **B15** (connector J13) connected on board A4 (economiser).
- 5 Fit the ENTALP bridge (S2) on control board A4 to select operating with enthalpy sensors.
- 6 Connect the electricity supply to the air conditioning unit.
- 7 Check that the green LED on board A4 remains lit and press the test button on the YKN2 Open board (A1) for more than three seconds to search for and configure accessories. When the search and configuration process starts, the red LED on the board will light up and will remain on until the operation is completed. Once switched off, check that the green LED (V1) on board A4 is flashing to indicate that the accessory has been configured.
- 8 The outside temperature must be below 20 °C to check correct electrical operations. Otherwise, cool the outside sensor connected to the YKN2 Open board (A1). Make a cold request from the thermostat or from the YKtool. Then cool the enthalpy sensor on the outside. The yellow LED (V2) must light up and the outside damper must open. Finally, cool the enthalpy sensor on the return side. The yellow LED (V2) must switch off and the return damper must open. Incident 4, 1, 5 is indicated if the enthalpy sensors are faulty.
- 9 Check that the cables are firmly secured to their connection terminals.



CAUTION

- **Loose connection terminals produce overheating of cables and terminals. The unit is working incorrectly and there is a risk of fire.**
- **Do not turn on the general switch on the unit or start the unit until all installation work has been completed.**

1.7 Wiring diagram



1.7 Wiring diagram

1.	F11	Optional <ul style="list-style-type: none"> • Reg. 1 A (090, 120, 150). • Reg. 1.4 A (180, 240, 300). • Reg. 1.4 A (180, 240, 300).
	KM11	A1 to X2-7 (Cable 583) A2 to X2-B
	M11	Exhaust fan
	X2-R	24 VAC Phase-R switching
	X2-7	to A1 from KM11
2.	Accessories	
3.	Accessories	
4.	Air quality sensor, optional, fitted on return (inside machine)	
	L	Black
	N	Blue
	Y1	Brown
5.	Air quality sensor, optional, fitted on ambient (machine exterior)	
	L	Black
	N	Blue
	Y1	Brown
	$\frac{\perp}{\text{---}}$	Yellow-Green
6.	Air quality board (green)	
7.	Enthalpy sensor C7400A return, optional	
	+	Red
	S	White
8.	Enthalpy sensor C7400A outside, optional	
	+	Red
	S	White
B15	Return sensor (black)	
B16	Discharge sensor, optional depending on model (yellow)	
B17	Inside sensor (white)	
M10	Damper	
	0-10 V	Grey
	C	Black
	R	Red
X1	Cables to be installed on site (not supplied)	

Data and measurements subject to changes without prior notice.
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