

# e-Bus Coupling Surface 20

Coupling unit with 2 outputs for mounting AirQualy sensor

Product reference: BC.400201-031

**e-Bus Coupling Surface 20** is a coupling unit that includes a configurable 0-10 V or 4-20 mA analogue output that can be configured to provide the value measured by any of the sensors or to perform a PI control on an air renewal damper or an air conditioning system. It also includes a micro-relay to perform a proportional control and act on any external element through an on/off control.

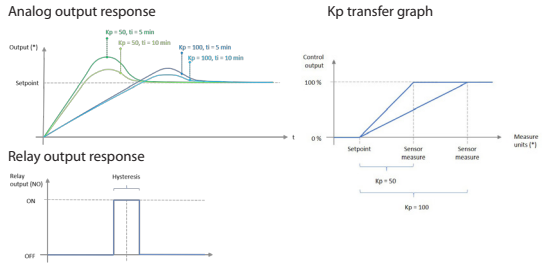
The equipment is connected to the electrical network through a power supply and provides the necessary voltage and current for the operation of the AirQualy sensor.

## Product description

The **e-Bus Coupling Surface 20** equipment is responsible for providing the necessary power to the AirQualy sensor for its operation. This product model has 2 outputs: One analogue and one relay type. The analogue output can be configured to work with 0-10 V voltage or with 4-20 mA current. The operating mode can also be configured to provide the value measured by any of the sensors, or to perform a PI control (proportional-integral) on an external element, such as an air renewal damper associated with the CO2 sensor or a climate control associated with the temperature sensor. The equipment includes a second relay-type output to perform a proportional on/off control from the value measured by any of the sensors and from a previously configured setpoint.

The equipment is powered by a power supply connected to the electrical network.

The following graphs show the operation of the two outputs:



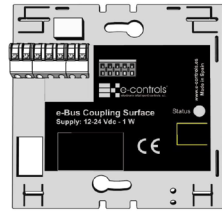
## Operation LED indicator

The equipment includes a LED indicator on the front called Status that has the following statuses:

- Normal operation: When the equipment is powered, it turns ON and after a few seconds it goes OFF.
- Air Qualy disconnected: The LED briefly flashes every two seconds.
- Configuration fault: This fault occurs if the AirQualy front panel has been configured with a different frame than the one it was connected to. In this case the LED flashes every second.
- AirQualy internal fault: The LED lights up for more than 6 seconds.

# Instructions sheet

EN



## Equipment setup

This product model is configured through the AirQualy front, using the E-Configurator APP. When creating the project in the APP, select this product model. When the project opens, click on the device bar and select the coupling unit to modify its configuration parameters. Upload the entire project to the AirQualy for operation.

## Installing the product

The unit is designed to mount directly on the surface, fixing by means of 2 screws to the holes in the equipment. The AirQualy front frame acts as a product box, being protected once it is fully installed.

The connection cables to the equipment must not have a section greater than 0.5mm<sup>2</sup>.

## Installation process:

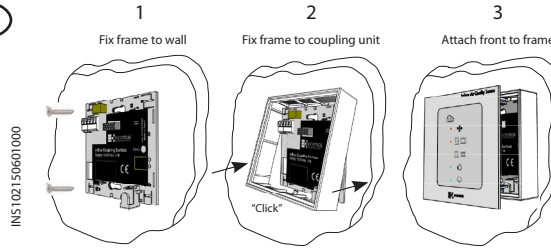
1. Pass the power supply and output cables through the hole in the coupling unit (see installation diagram).
2. Fix the e-Bus Coupling Surface device to the wall.
3. Fix the frame to the rack by the teeth on the upper part and press lightly on the lower part until you hear a "click".
4. Attach the AirQualy sensor centred on the frame, previously inserting the label supplied with the sensor, in the front of the equipment.
5. Power the equipment and wait 5 minutes to obtain a correct measurement.

## Precautions:

- Disconnect the device from the supply voltage before mounting or moving the equipment.
- Do not leave bare or wrapped cables around the equipment.
- Do not connect the device with wet hands.
- Do not open or pierce the product.
- Keep the device and cables away from moisture and dust.
- Do not expose the equipment to direct solar radiation.
- Use the equipment in pollution-free environments and in atmospheric pressure environments within the permitted levels.
- Avoid sudden blows on the equipment.
- Keep the equipment's ventilation windows clean using a cloth or with pressurised air.
- Power the equipment with the recommended power source and always with a very low voltage isolated power source.

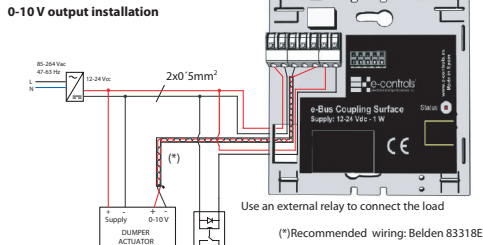
## Installing the product (continuation)

### Installation process:

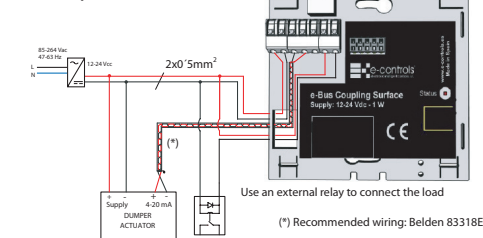


Product disassembly: See Air Qualy instruction sheet

## Installation diagram



## 4-20 mA output installation



## Technical specifications

### Power supply

Operating voltage	12-24 Vdc
Maximum consumption	1 W
Internal connector	Terminal type
NOTE: Use a FA-15W-24V power supply or equivalent	

### 0-10 V analogue output

Output range	0 to 10 V
Max current (sink/source)	15 mA
Resolution	12 bits
Maximum error	± 30mV ± 0.2%
Maximum capacity	100 nF
Protections	Overvoltage and overcurrent

### 4-20 mA analogue output

Output current	4-20 mA
Max voltage	20 V dc
R max. load	1000 Ohm @ 24 Vdc
Maximum error	± 1%

### Relay output

Contact type	Potential free
Idle state	.NA
Maximum voltage	30 Vdc
Maximum current	1 A
Duty cycles	100000 operations at 20°C, 1 Hz

### Mechanical characteristics

Dimensions	78x78x15mm
Installation type	Surface area
Weight	60 g
Connection terminals	Terminal type
Cable section	Maximum 0.50 mm <sup>2</sup>

### Working temperature

Operation	-10°C to +50 °C (14 °F to 122 °F)
Storage	-20°C to +85 °C (14 °F to 185 °F)

### Humidity (non-condensing)

Operation	10% to 90% RH at 50°C
Storage	95% RH at 50°C

### Product family standards

Automatic electrical control devices for household and similar use . . . . . EN 60730-1

### CE conformity

Mark . . . . . CE

### Security

Standard . . . . . EN 60730-1

IEC Protection . . . . . Class III

### EMC

Emissions . . . . . EN 61000-6-3

Immunity . . . . . EN 61000-6-1

## Purchase reference

**e-Bus Coupling Surface 20**, Coupling unit with relay output + 0-10 V/4-20 mA for AirQualy mounting . . . . . BC.400201-031

## Related items

**DIN rail power supply**, Input voltage 85-264 Vac, 47/63 Hz, 24Vdc output . . . . . FA-15W-24V

**Desktop mounting box**, white plastic box for mounting the AirQualy sensor on desktop . . . . . AC.000040-000

