Efficient Plug & Play AHU Control

KNOW HOW CREATES

HVAC
CONTROLS & DRIVES
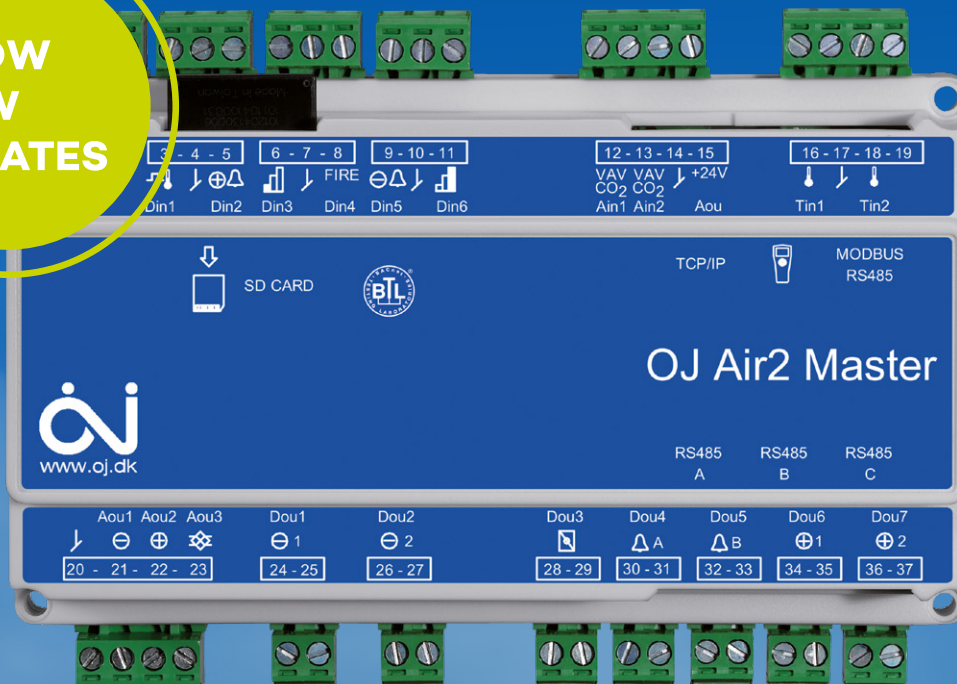
OJ Air2

Control system for air handling units

OJ ELECTRONICS

Full Control From One Provider

KNOW HOW CREATES

3 - 4 - 5	6 - 7 - 8	9 - 10 - 11	12 - 13 - 14 - 15	16 - 17 - 18 - 19

FIRE

Din1 Din2 Din3 Din4 Din5 Din6 VAV VAV +24V CO₂ CO₂ Ain1 Ain2 Aou Tin1 Tin2

SD CARD   BTL   TCP/IP   MODBUS RS485

OJ Air2 Master

www.oj.dk

RS485 A   RS485 B   RS485 C

Aou1 Aou2 Aou3   Dou1   Dou2   Dou3   Dou4   Dou5   Dou6   Dou7

20 - 21 - 22 - 23	24 - 25	26 - 27	28 - 29	30 - 31	32 - 33	34 - 35	36 - 37

OJ Air2 Master

The OJ Air2 controller was developed specifically for ventilation systems – which is evident from details such as the attractive user interface.

Get it all in one place

At OJ Electronics, we have spent four decades providing and perfecting control for air handling units. So we know that different settings require different things. With OJ Air2, you can get it all.

The OJ Air2 range makes your air handling unit more efficient, more effective and easier to handle for everyone involved. What is more, you can get everything you need from the OJ Air2 series: everything fits perfectly together.

Pick what you want

The OJ Electronics range is about choice, too. If you want the full benefit of sophisticated control and simple handling, you can install the complete range in your system. But you can also scale your system to match project specifications, picking out specific products and control features to give your clients exactly the level of functionality and control they need.

Our developers work for you

Innovation should be driven by real needs – responding to real-life challenges. That is why we always invite customers to tell us what they would like to see in their AHU control. And we use our five decades of experience to regularly update all solutions as new technology and new customer input becomes available.

That's how we – and you – stay on the cutting edge of AHU control. Recent examples include compressor drive and OJ Air Cloud®. You still benefit from our engineers' development work after installation: new software features are released regularly.
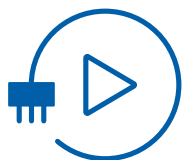

Just Plug & Play

Installation is a simple matter of plug & play: the combination of QuickPlug™ Modbus and built-in software ensures that OJ Air2 saves valuable installation time.
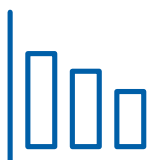

Touch control panel with no secrets

The OJ-AIR2-HMI-35T unit is a major upgrade for OJ Air2 – offering logical and intuitive menus.

Plug & Play

All elements in the OJ Air2 range fit together perfectly: the QuickPlug™ Modbus technology makes cabling and installation a breeze. But the Plug & Play philosophy goes further than that: With OJ Air2 controls inside, your air handling unit is in itself transformed into a single preinstalled Plug & Play-unit for remarkably easy installation on-site.
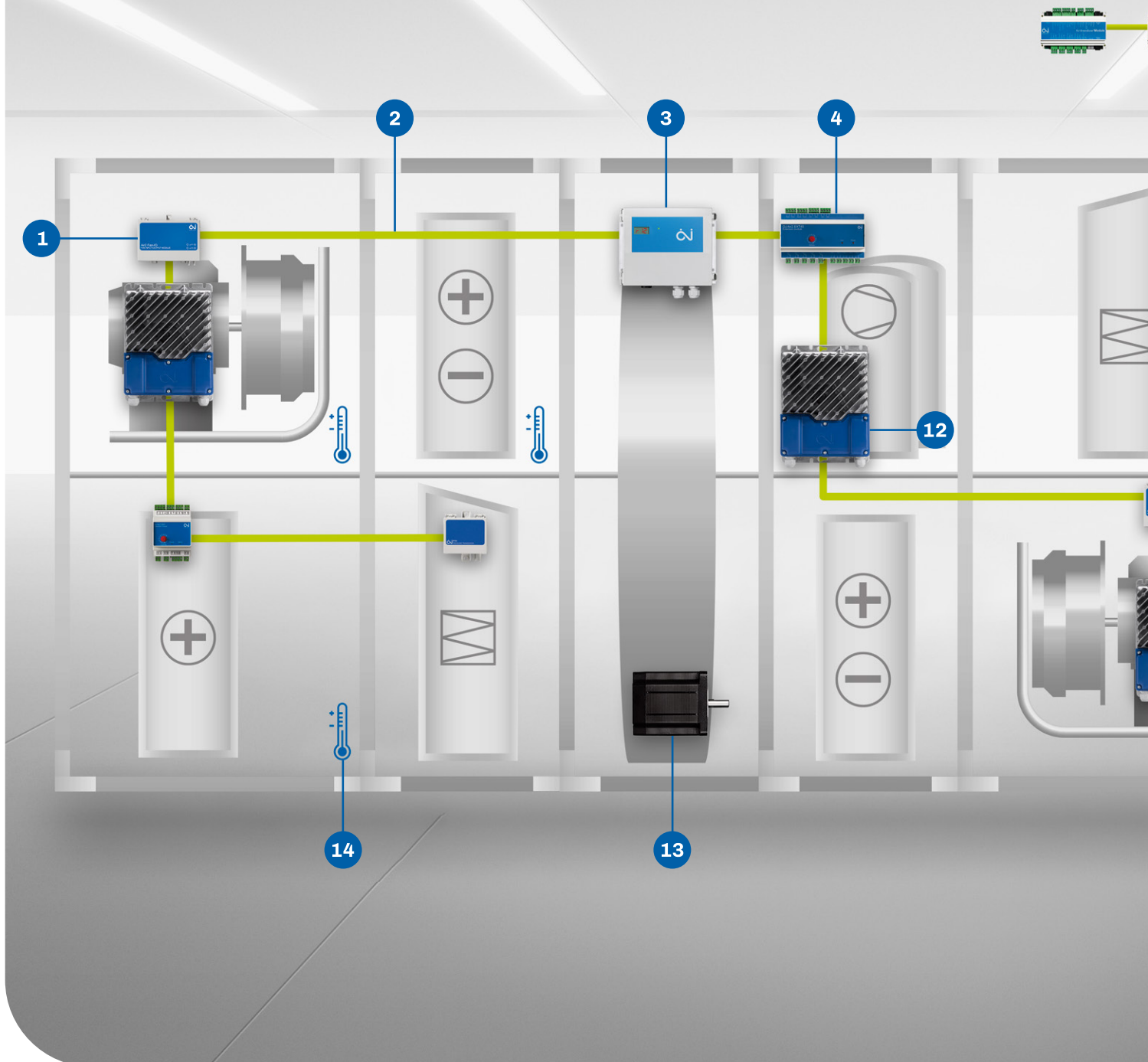
Energy savings

Energy savings have dual benefits: saving money while helping to save the planet. The OJ Air2 controls minimise energy consumption in many ways, e.g. through efficient interaction with heat pumps. Most recently, our work with reversible heat pumps reflects our ongoing dedication to bringing you energy savings.
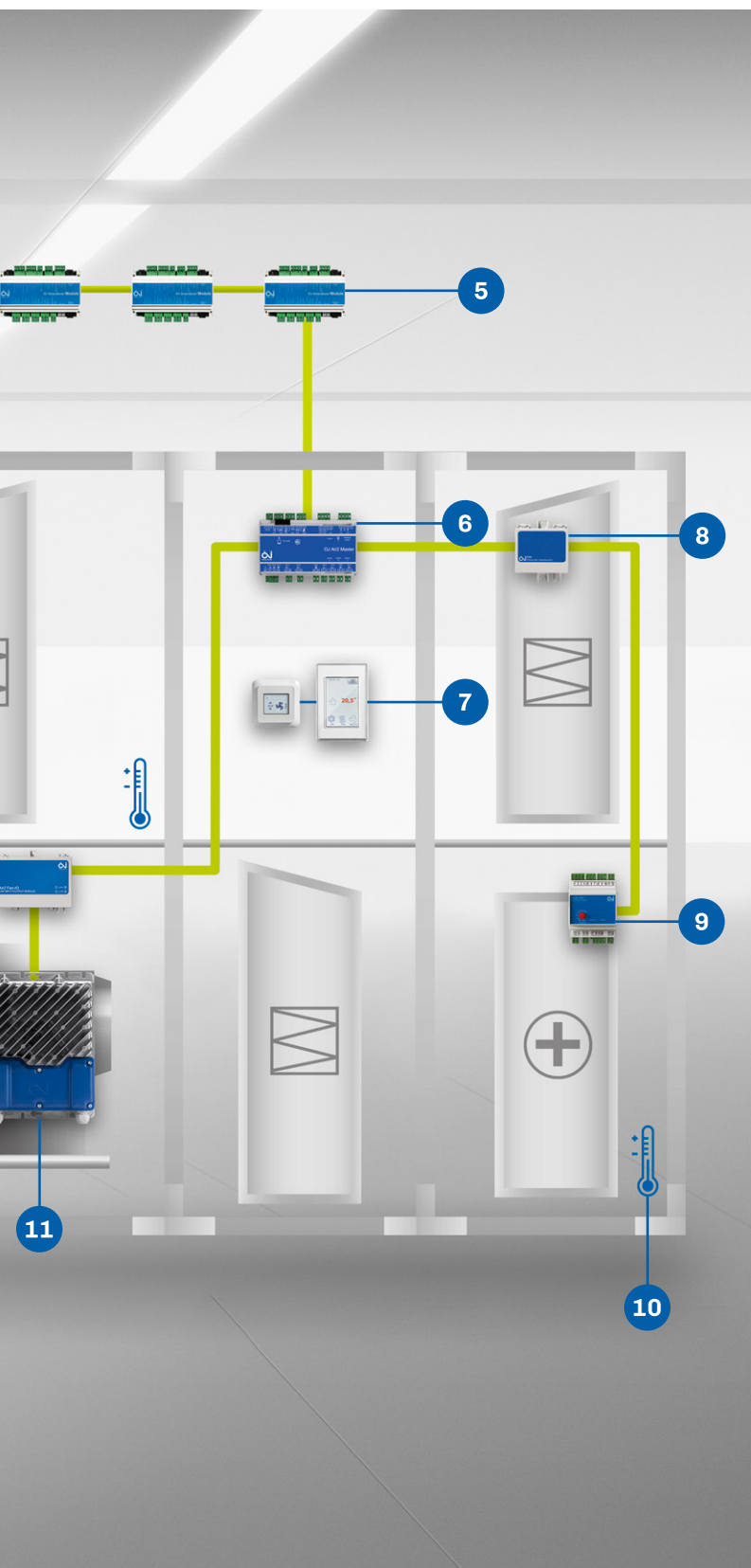
Reliable solution

At OJ, we have specialised in AHU control for many years. We know how important it is for our customers that their systems just keep working – and with an OJ Air2 solution, they do. Not only are all the components of superior, lasting quality; they also fit together perfectly in ways that allow them to handle every situation.

Complete Control.
The Way You Want It.

The OJ Air2 range is very extensive

It gives you everything you need for full AHU control. In fact, it allows you to choose between millions of possible applications. The individual pieces are obviously very diverse, but still share certain characteristics – such as easy installation, much simpler cabling with QuickPlug™ Modbus technology, and intuitive operation.

1. **PRESSURE TRANSMITTER & IO INTERFACE**

2. **QUICKPLUG™ MODBUS**

3. **DRIVE FOR ROTARY HEAT EXCHANGER**

4. **IO EXTENSION MODULE**

5. **ZONE MODULE**

6. **OJ AIR2 AHU CONTROLLER**

7. **TOUCH CONTROL PANELS**

8. **PRESSURE TRANSMITTER**

9. **IO EXTENSION MODULE**

10. **SUPPLY AIR TEMPERATURE SENSOR**

11. **VENTILATION DRIVE**

12. **COMPRESSOR DRIVE**

13. **STEPPER MOTOR**

14. **TEMPERATURE SENSOR**
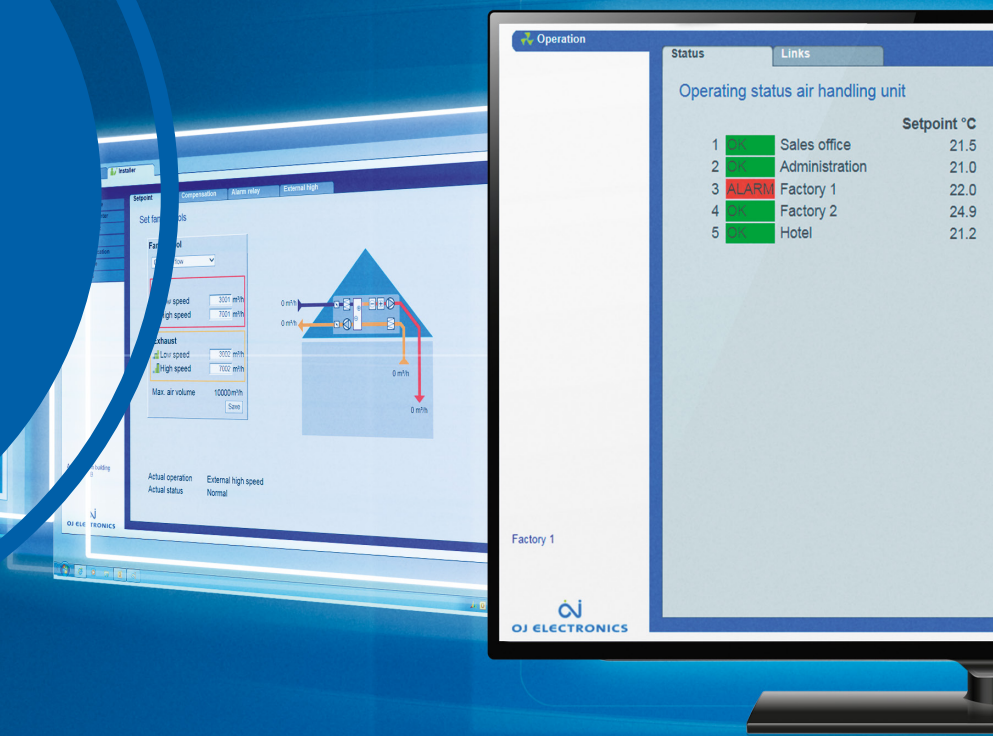
Tick the Boxes You Want. And You're Done.

The OJ Air2 web interface comes pre-programmed with all the functions your system needs – including, for example, five different forms of heat recovery. All you need to do to set up your system is to tick the boxes next to the functions you want – the software takes care of the rest. Nothing could be simpler.

Up to four user levels – from expert adjustments to daily operation

The built-in web interface enables system administrators to set up to four user levels, allowing you to control who

Portal

The built-in web interface gives you an instant overview of the current operation status of your OJ Air2 units: a green highlight means everything is fine, while a red high light warns you of any alarms. Easy access - simply click to enter the webpage for the relevant system. Up to five units are listed as standard; more can be added on demand.

Factory

As a system designer, the user-friendly web interface lets you configure your AHU at the factory simply by ticking the relevant boxes and saving a file containing your customised application and system parameters.

Installer

Installers have access to performing final on-site checks and tests – and to setting user-specific parameters such as energy optimisation as well as fan, temperature and humidity control.

has access to what functions. We usually say that everyday users learn the functions they need in a few minutes, installers learn all they need to know in an hour, service crew in a day – and factory specialists gain full insight in just two days. You decide who gets to do what; sample levels are shown below.

Saving costs on connectivity

The OJ Air2 range is designed for truly simple connectivity: Small and medium-sized plants can be managed using just the built-in web interface, which means you won't need to spend anything at all on BMS integration.

For larger plants, integration in custom-made building management system is supported by built-in connectivity protocols.

OJ Air Cloud® solution

To make things even easier, OJ Air2 also supports the OJ Air Cloud® solution. This keeps everyone updated in real time, allowing for easy troubleshooting and planning: what you see, they see. You also get API functionality, allowing you to create your own user interfaces for large-scale systems. The result? Low BMS integration costs – and efficient performance.

Current °C	Current operation
23.2	Manual stop
36.5	External high speed
17.0	Alarm stop
23.0	Manual low speed
25.6	Manual high speed

Users

Facility managers operate the system via the web interface or touchscreen display. The user-friendly design gives them all the control they need to ensure supreme indoor climate and minimum energy consumption.

Service

Users at this level have access to system overviews and component status data, allowing them to instantly identify any components in need of service, check the situation and take efficient steps to remedy it.

System Configuration the Way You Want It

FAN CONTROL

- Constant pressure VAV
- True constant flow CAV
- Extract air slave
- Supply air slave
- Constant VOC/CO2
- Fan optimiser
- Fan optimiser slave
- OJ GreenZone™ zone control
- OJ GreenZone™ slave
- Constant motor speed
- High-speed setpoint
- Medium-speed setpoint
- Low-speed setpoint
- Outdoor temperature
- Back up fans

TEMPERATURE CONTROL

- Constant supply air
- Constant extract air
- Constant room temperature
- Constant supply air/ extract air difference
- Recirculation

HUMIDITY CONTROL

- Steam humidification
- Dehumidification
- Dew point controlled dehumidification

OJ AIR CLOUD®

OJ AIR CLOUD®

- Have instant error notification
- Troubleshoot via cloud
- Enjoy full remote support
- Reduce service cost
- Minimise carbon footprint

CONNECTIVITY

• Modbus TCP-IP

• Modbus RTU (RS-485)

• BacNet TCP-IP

ENERGY SAVINGS

• Reversible exhaust air heat pump

• Heat recovery

• Cold recovery

• Summer night cooling

• Free cooling

• Adiabatic cooling

• Central heat pump interface

• Decentral heat pump interface

• Modulated recirculation

• Enthalpy-controlled recirculation

• CO2-controlled recirculation

• Summer/winter compensation

• CO2 control

• PIR sensor control

• Scheduler

• Fan speed reduction

Choosing OJ Air2 for your air handling units gives you a wide range of control options. Here we list only the basics; even more are available on request. With OJ Air2 equipment inside, each unit that leaves your factory can be uniquely yours – adapted to your clients' specific needs, legislative requirements, etc.
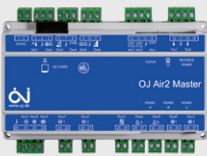
Customised features?
Talk to us

We are always happy to create customised features for our clients, including features for private-label solutions, so if you have special requirements please do not hesitate to contact us. We can help you assess whether such customisation is feasible – and how to achieve what you want to do.

Product Overview

The OJ Air2 range covers everything you need to get full control of your air handling units. Pick the specific items you need – or combine them all for unbeatable plug'n'play control.

AHU controller

Type: OJ-AIR2MASTER

- Designed for ventilation system
- Built-in web server with simple and intelligent interface
- QuickPlug™ Modbus
- Native BMS interface

Handling all communication into and out of the system, the OJ Air2 controller is a flexible controller specifically designed for ventilation systems. Naturally, it has various interfaces for peripheral units, sensors, pumps and valves, and the master's built-in web server has a uniquely simple, attractive user interface for optimum energy consumption control.

Full Remote Access

Type: OJ AIR CLOUD®

OJ Air Cloud®

- Have instant error notification
- Troubleshoot via cloud
- Enjoy full remote support
- Reduce service cost
- Minimise Carbon footprint

A cloud-based system for AHU and ventilation control. With OJ Air Cloud®, all users have full access to the same, fully updated data, making remote support, diagnostics and troubleshooting simpler and easier than ever.

Touch Control Panel 3.5"

Type: OJ-AIR2-HMI-35T

- Intuitive interface
- Colour touch screen
- Detachable
- QuickPlug™ Modbus

A 3.5" colour touch control panel designed for effortless operation of the OJ Air2 AHU controller. The panel is connected to OJ Air2 via Modbus, and can be mounted directly on the AHU or be detached for handheld operation. Two main menus: everyday operation and a password-protected installer menu.

Touch Control Panel 2"

Type: OJ-AIR2-HMI-20T

- Colour touch screen
- QuickPlug™ Modbus installation
- No DIP switch setting required
- User-friendly, intuitive operation
- Choose fan speed and temperature setpoint

These compact interfaces give everyday users simple control. Users can adjust the temperature setpoint and fan speed via the intuitive touch control panel. Installation is very simple: the unit clicks in place in seconds.

Drives for Fans / Compressors

Type: OJ-DV-XXXX, OJ-DC-xxxx

- Specially designed for fans/compressors
- -40 to +50 degrees
- 0.5 to 15kW
- QuickPlug™ Modbus

Developed specifically for ventilation applications, the OJ DV control fan speed with great efficiency. Designed for mounting inside or outside the airflow, they are maintenance-free and extremely durable. The OJ-DC Scroll Compressor Drive is an ideal solution for chillers and AHUs and use the same compact housing as our DV range.

Drive for Rotary Heat Exchangers

Type: OJ-DRHX-XXXX

- Sensorless rotation monitor
- Sensorless closed loop control
- RS485 Modbus and 0–10V control
- QuickPlug™ Modbus
- Even torque throughout the entire 1-250 rpm speed range

The stepper motor system gives you accurate, silent control of rotary heat exchangers. For use with conventional and advanced systems.

Pressure Transmitter with I/O

Type: OJ-AIR2FANIO

- Dual pressure transmitter
- Dual temperature sensor input
- Dual damper outputs
- Drive interface
- QuickPlug™ Modbus

The OJ Fan IOs measure air flow and monitor filter status. They can also control various sensors, fans and actuators for heating and cooling systems or dampers.

Extension for Ventilation

Type: OJ-AIR2EXT

- Specifically designed for ventilation systems
- Both analogue and digital inputs and outputs
- QuickPlug™ Modbus
- Fully integrated in OJ Air2

The OJ Air2 EXT-series comprise two different extension modules. Specially designed for ventilation systems, they come equipped with both digital and analogue inputs and outputs, allowing you to design more complex and energy-efficient ventilation systems.

Transmitters and Sensors

Type: PTH-, VTH-, HTH-, TTH-, ETF-XXXX

- Pressure transmitters
- Humidity transmitters
- Air-quality transmitters
- Temperature transmitters
- PT-1000 temperature sensors

The extensive range of sensors offers reliable, accurate monitoring for swift and efficient system responses.

Zone Control

Type: OJ-ZONEMODUL-A

- Standard 0–10V signals
- Controls air quality and temperature
- QuickPlug™ Modbus
- Automatic configuration

The OJ Zone Module-A is used in conjunction with standard 0-10V dampers and valves. Use Zone Module-M or MP for even more advanced control. Up to four Zone Modules can be connected directly the OJ-Air2 Master.

The OJ Way

The OJ Way is the unique tie-in of product leadership, global supply chain, perfect platforms for customisation, industry best quality processes, and a diamond partnership in one coherent package.

All processes are focused on the same general goal – to improve the climate through electronic controls - for people, planet, and partners.

In this way, we help you differentiate in the market.

KNOW HOW CREATES

OJ ELECTRONICS

OJ ELECTRONICS A/S

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