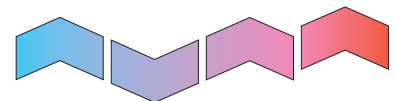
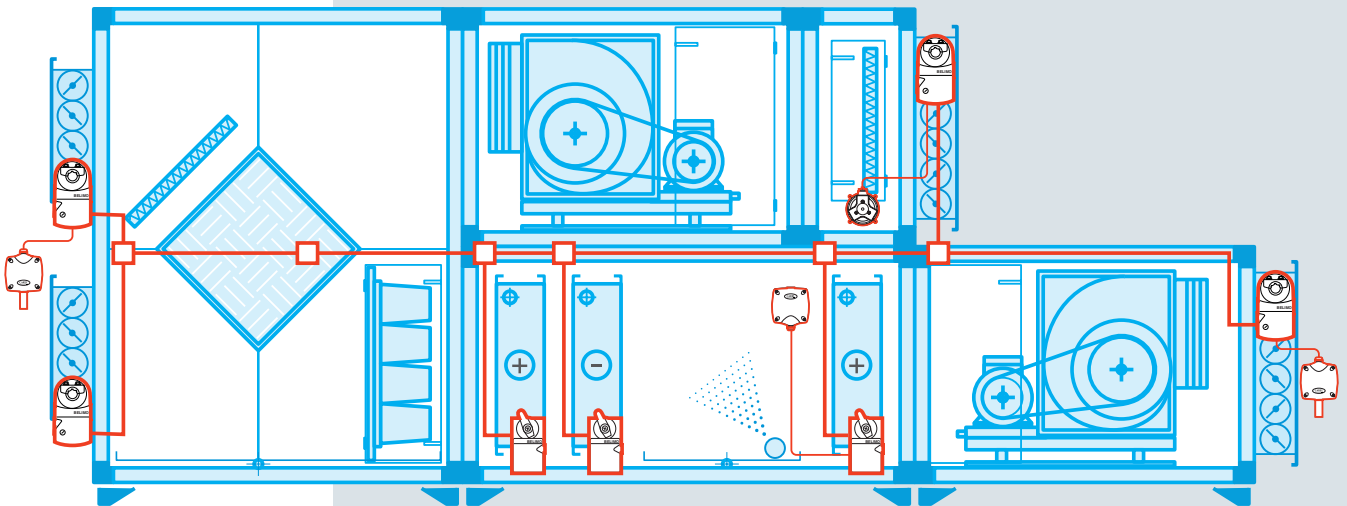
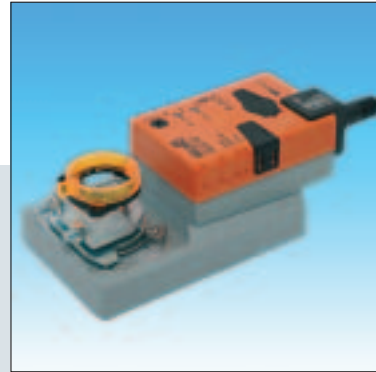


## LKP AIR HANDLING UNITS CONTROL SYSTEM



# LKP AIR HANDLING UNITS CONTROL SYSTEM

## Control System Benefits:

- Smaller controller for the same input/output.
- Smaller electrical panel.
- Up to 70% less wiring cables around the AHU.
- Reduction of commissioning time.
- Less chances of cabling faults.
- More information received from the actuators.
- Components supplied as a kit for on-site assembly.
- Reduced installation costs.

Moducel a market leader in the design and manufacture of Air Handling Equipment now offer a PCO control system (featuring CAREL and BELIMO® technology) to compliment its LKP range.

The LKP range has been extended to 65 models with air volumes up to 21 m<sup>3</sup>/s and 4 frame options to suit our clients individual needs.

## Control System

The new PCOxs Controller System has been designed to simply and flexibly satisfy the highest number of functions for the main modules of the LKP AHU. A total of 24 different pre-configured functions are available and can be selected by setting just one parameter.

The control system is housed in the main control panel containing the latest CAREL PCOxs controller which features 3 serial lines to communicate with up to 8 BELIMO® MP-Bus®

actuators which carry out the control functions from the controller to the air dampers from the temperature probes to the water valves. All carried out via the MP-Bus® which reduces cabling by up to 70%.

The PCOxs controller is able to communicate with all the supervisory systems present on the market and with all the MFT and MFT2 series actuators via the BELIMO® MP-Bus®, as well as with the other PCO sistema series controllers, via the pLAN network, making it an ideal choice for running with an existing building management system.

## Main modules managed by the standard application:

Outside air and return air mixing damper, with free-cooling, free-heating and enthalpy control.

Intake and supply fan, with inverter control (if requested).

Water heating coil.

Water cooling coil.

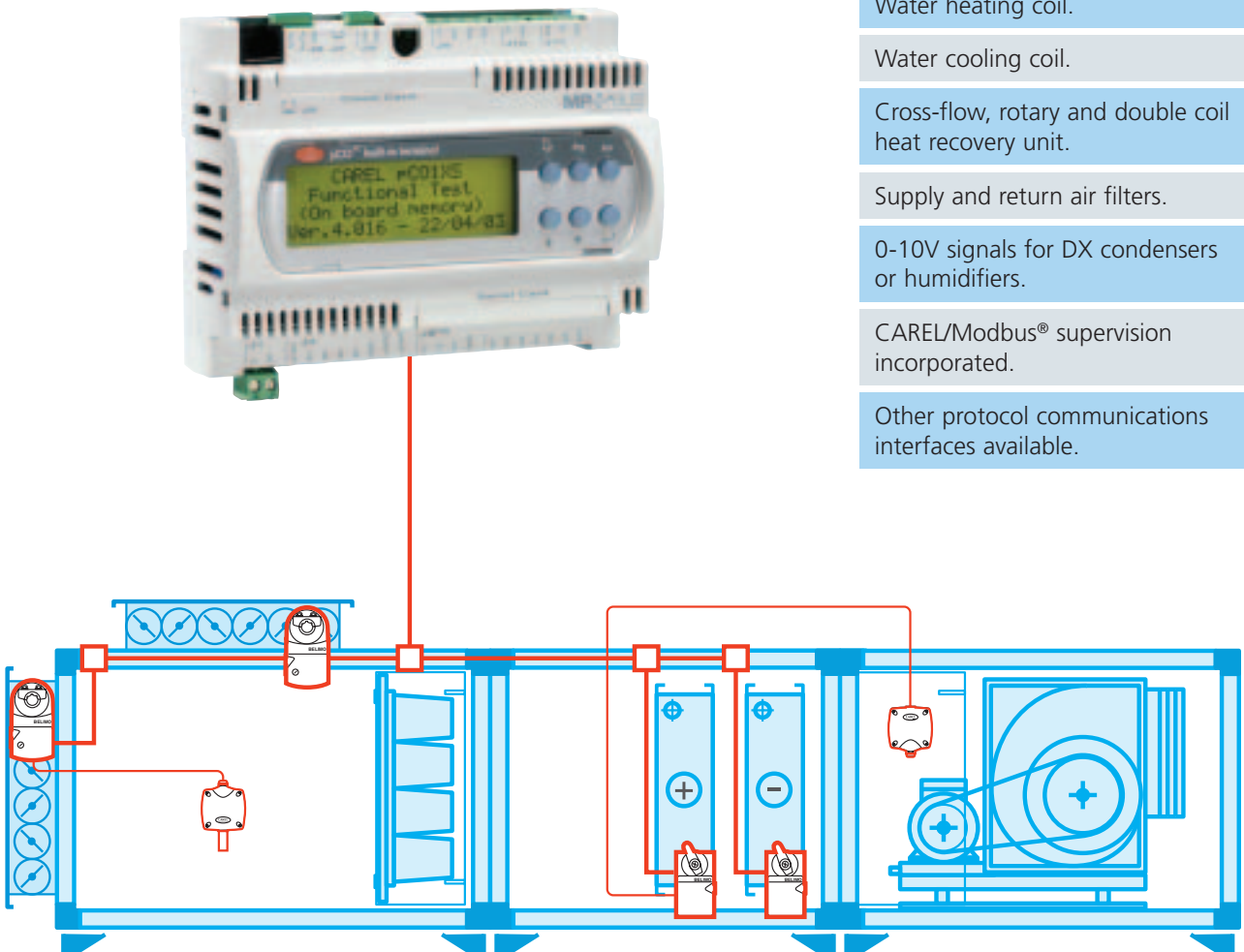
Cross-flow, rotary and double coil heat recovery unit.

Supply and return air filters.

0-10V signals for DX condensers or humidifiers.

CAREL/Modbus® supervision incorporated.

Other protocol communications interfaces available.



# CONTROL PANEL & MP-BUS®



Typical Control Panel.

## Control Panel

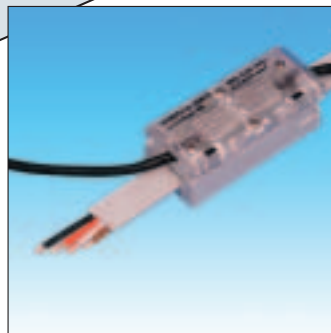
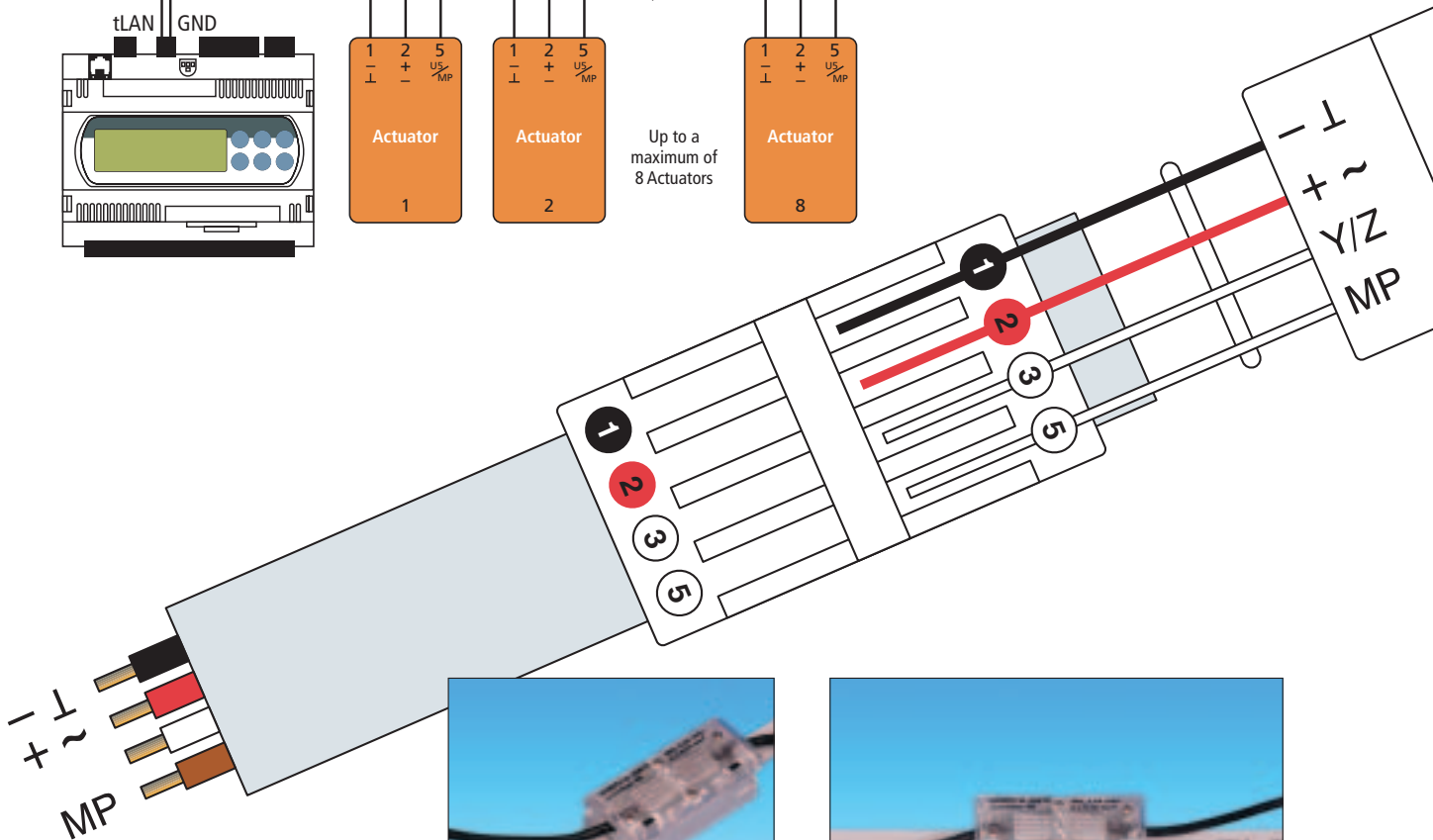
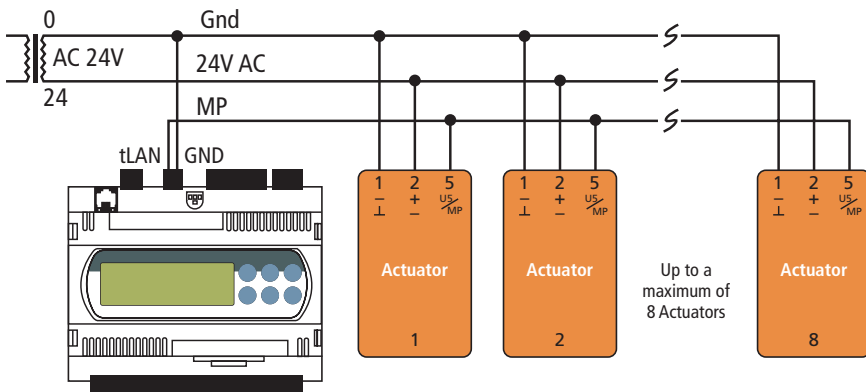
The Control Panel is of metal construction and fitted with a single door (index protection IP54) and has a door lock disconnecting switch which operates yellow and red signals.

PCO series electronics are housed in the Control Panel and have a built-in or external terminal.

The 3-phase, 400V, 50Hz power supply is fitted with an isolating transformer for the auxiliary circuit. The terminal block has auxiliary connections to probes, micro-

switches, sensors, pressure switches, etc, and has a 24V power supply to valves and dampers. Additional contactor options for auxiliary connections are included.

The Control Panel incorporates a fan run/stop signal and the fan motor is protected by either a fuse or MCBs dependent on application.



MP-Bus® Cable and Connectors.

# STANDARD WIRING vs MP-BUS® CABLING SYSTEM

1



2



3



1. Air Handling Unit using standard wiring.
2. MP-Bus® Cabling System connected to Actuators showing reduced wiring.
3. Air Handling Unit using MP-Bus® Cabling System. Cabling reduced by up to 70%.

## Our controls package includes:

- Motors wired to isolator(s), panel fitted to supply fan section all as standard. Inverter(s) fitted to fan section(s) if requested.
- If unit is supply and extract, power wiring from extract fan isolator to panel is supplied as a kit for site installation by others.
- Duct sensors and damper actuators where applicable are fitted (as standard). 3-port valves/actuators are supplied loose.
- Control wiring carried out on-site by Moducel.
- Room sensor supplied (as standard) with 15m cable for site installation by others.
- 1 day on-site commissioning.

**MODUCEL**®

## Eaton-Williams Air Conditioning

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