

The New Generation of MANDÍK Control

Control

- Temperature, humidity, CO₂ and ventilation managers
- Qualitative + quantitative temperature control
- Control to supply / room / extract temperature – selectable for each mode
- Control diagram for every operating mode
- Specific-humidity control (g/kg), Mollier h-x diagram
- Free-cooling and heat recovery always before active sources
- Adaptive source cascades – the control learns the effect of each stage; rotation by running hours, automatic backup engagement in case of a component fault
- Smart defrosts of the heat exchanger – ratio-based frost detection, no needless cycling
- Night pre-cooling – cool night air instead of morning active cooling
- Mixing: fixed ratio and a dynamic mode by CO₂ and temperature

Default configuration

- Fans: pressure / flow / speed / external – selectable for each mode
- 4× water coil – each for heating or cooling
- 3× electric heater with 10 sections each
- 3× condensing unit with 6 sections each
- 2× integrated heat pump (2 compressors per circuit)
- Heat recovery, mixing, humidifier
- Fans over Modbus RTU – ZIEHL-ABEGG, EBM-PAPST, Danfoss drives
- Easily expandable on request

Visualization

- Modern responsive web (Google Material Design) – PC, tablet, phone
- Light / dark mode
- Context help (ⓘ) for every parameter
- Local trends – no cloud or external storage
- Automatically generated unit schematics

Operation

- Four user modes with custom names
- Graphical weekly schedule
- Holiday schedule + annual calendar with holiday import
- Alarms with priorities and history
- A component fault need not disable the whole unit – as long as it can hold the required setpoints, it keeps controlling

Multiple units & access

- Overview of all units from one place – live previews, current statuses
- Multiple air handling units from a single touch panel
- Unique login for every order
- Permission levels – from viewing to service
- Audit log of changes directly in the unit

Connectivity

- Modbus TCP / RTU, BACnet IP
- Analog / digital signals
- Room devices (Belimo, HMI/RO3, CP-M-B)
- 10" touch display, Wi-Fi hotspot

Cloud

- Remote management and diagnostics from anywhere (climan.online)
- Remote software updates
- Operator certified to ISO/IEC 27001, ready for NIS2
- Encrypted HTTPS, two-factor login
- Data centres in the EU, backups to two independent locations
- On-premise option for critical infrastructure

Configuration & service

- Complete configuration with a single key import from AHUMAN
- Manual control of every component during commissioning
- Live view of all physical inputs and outputs
- Connection to zone control (OptimVent)
- Interactive setup guides

Hardware

- Linux PLC – quad-core processor, full web server
- CLIMAN expansion modules – up to 30 on a single bus
- Status LED on every input and output
- Industrial DIN-rail design

Open platform

- Freely programmable system – no closed template
- Every request can be implemented as standard in the next SW version