

ClimaSync Control System

For Temperature & Humidity

Air Change Precise Control Units come complete with the ClimaSync Control System, ensuring optimal performance and easy integration into any building or facility. The control logic and operational functions are tailored to meet the requirements of each project.



Communication

HMI	Touchscreen Human Machine Interfaces are available for unit operation and monitoring.
HLI	Modbus TCP/IP is available for unit operation and monitoring via High Level Interface. BACnet conversion is available.
Online	Online connectivity is available upon request.

Unit Start/Stop

Remote Switch	Unit run terminals are available for start/stop via external low level signal.
HMI/HLI	Unit start/stop can be achieved via the HMI or HLI.
Time Scheduling	Unit start/stop can be scheduled according to days of the week and time of the day.

Control Logic

Proactive Thermostat	Self-learning PID loop logic improves cooling/reheat precision over typical reactive thermostats, along with minimising compressor off-cycling.
Cooling (CHW and/ or Evaporator)	Cooling is precisely modulated to meet the required room or supply air moisture content (adjustable setpoint).
Reheat (Hot Gas Reheat)	Reheat is precisely modulated to meet the required room or supply air dry-bulb temperature (adjustable setpoint).
Supply Air Fan	Integrated Constant Volume or Pressure Control. <ul style="list-style-type: none"> Fan speed is modulated to maintain the required airflow volume or duct pressure (adjustable setpoint).
Condenser Fan	Integrated Head Pressure Control. <ul style="list-style-type: none"> Fan speed is modulated to maintain stable refrigeration pressures.
Operating Modes	Various modes of operation can be incorporated into the unit control strategy.

Monitoring

Real-time Status	Room temperature & humidity. Outside temperature & humidity. Supply temperature & humidity. Component status & speeds. Operating mode. Refrigeration pressures.
Trend Lines	Room temperature & humidity. Outside temperature & humidity. Supply temperature & humidity. Component speeds. Refrigeration pressures.
Fault Alarms	Low level alarm signals are available alongside HLI and HMI fault statuses.
Alarm History	A log of faults and when they occurred is available.

Sensors

Temperature & Humidity	
Outside Air	Available with unit.
Supply Air	Available with unit.
Room	Available with unit. Averaging logic is available for multiple sensors.

Protection Logic

Refrigeration Pressures	Refrigeration pressures are modulated to stay within the acceptable envelope.
Compressor Timing	Compressor start/stop and speed are time managed in order to prevent damage.
Compressor Lockout	Compressor lockout occurs upon successive refrigeration faults in order to prevent lasting damage.
Fault Impact Minimisation	Where possible, remaining functionality will attempt to compensate for lost functionality upon fault.