ABB drives for HVAC
ACH580, 0.75 to 250 kW
Effortlessly simplified climate control

Climate control has to be intelligent and reliable to provide maximum energy efficiency. That's what our HVAC drives deliver: effortlessly simplified comfort, on your terms.

Ventilation for operating theaters. Pumping for chilled and hot water loops. Climate control for buildings, data centers and refrigeration systems. Everything counts in HVAC.

Comprehensive climate control

The ACH580 drive sets new standards both in simplicity and reliability, and ensures a smooth operation of your HVAC systems. Built-in features reduce on-site commissioning time, add value to existing control systems and provide easy diagnostics and troubleshooting.

The control panel's straightforward settings menu allows you to program the drive based on your applications, not based on technical jargon. Sleep and timed functions are embedded to ensure that the drive doesn't run when you don't need it to.

The ACH580, with offering of wall-mounted and cabinet-built drives, integrates easily into your facility and the power grid in different environments. Multiple PID control loops make control of processes approachable. The drive comes with control override, multi-pump control and motor preheat functionality.

Installation into clean rooms, or dusty and wet environments, is made possible thanks to the drive's robust construction from IP21 up to IP55. Protection against internal contaminants is accomplished by having all circuit boards with coating as standard.

The ultra low harmonic drive variant ensures a pollution-free electric supply and enables the motor to be run at full voltage even in situations where the network voltage is reduced.

Precise and reliable energy efficiency

The built-in energy calculators, including used and saved kWh, CO_2 reduction and money saved, help the user monitor and fine-tune processes to ensure optimal energy use. Additionally, the ACH580 offers motor control for higher efficiency IE3/IE4 PM motors and IE4 SynRM motors. The drive will catch the motor on a spinning fan or pump and utilize the precise amount of energy needed to get it moving to the application's needs.

This is the innovation behind our common, all-compatible architecture: it's designed to simplify operation, optimize energy efficiency and maximize output.

Technical data	
Input voltage (U1)	3 phase, 380 to 480 V AC +10/-15%
Fundamental power factor (cosφ)	0.98 with 6-pulse variant at nominal load, 1.00 with ultra low harmonic variant at nominal load
Output voltage/frequency	0 to U1 supply voltage, higher output voltage is possible with the ultra low harmonic variant, 3-phase symmetrical; -500 to 500 Hz
Air temperature/relative humidity (operation)	Wall-mounted: -15 to +50 ℃; 5 to 95% no condensation allowed* Cabinet-built: 0 to +50 ℃; 5 to 95% no condensation allowed*
Installation site altitude	Rated current 0 to 1000 m; reduced loadability 1000 to 4000 m*
Degree of protection	Wall-mounted: IP21 or IP55; cabinet-built: IP21, IP42 or IP54
Analog inputs/outputs	
Quantity	Two (2) programmable inputs and two (2) programmable outputs
Voltage/current range	0 to 10 V; 0 to 20 mA; selectable via drive software
Digital inputs	
Quantity, signal level	Six (6) programmable digital inputs; support 12 to 24 V DC and AC signals; support of PTC sensors via single digital input
Relay outputs	
Quantity/type	Three (3) form C relays; up to 250 V AC; 30 V DC; with 2A switching capacity
Communication	
Embedded fieldbus	BACnet MS/TP, Modbus RTU and N2 embedded as standard; EIA-485 connection
Fieldbus adapters	BACnet/IP, LonWorks, PROFIBUS, PROFINET, EtherCAT®, Modbus TCP, EtherNet/IP™ are available as plug-in options
Compliance	
Standards	EN 61800-5-1:2007; IEC/EN 61000-3-12; EN61800-3: 2004 + A1: 2012 Category C2 (1st environment restricted distribution); Safe torque off (EN 61800-5-2) as standard; CE approval; UL approval; EAC approval

* Please refer to the technical manual for differences between specific drive types

For more information contact your
local ABB representative or visit:

www.abb.com/drives

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