

LOW VOLTAGE AC DRIVES

ACH580-01 UL Type 4X drive, 1 HP to 30 HP

Built for extreme environments



Your facility and applications are built to endure, so why settle for less when it comes to your HVACR control equipment? Designed for extreme conditions, the ACH580 IP66/Type 4X drive offers reliability, ease of installation, and peace of mind.

Designed for harsh environments

Designed for operation in rain, heat, cold, salt spray, dust and other extreme environments, this drive is fully sealed, providing protection against external elements. Its design offers exceptional corrosion resistance to biocides typical for cooling tower applications. Additionally, the ACH580-01 is UV-resistant, and the optional sun shield makes it suitable for prolonged exposure to harsh sunlight.

Cost savings

Typical applications for this package include rooftop air handling units, cooling towers, exterior exhaust fans, outdoor pump skids and more. Mounting the drive close to your application with UL Type 4X can reduce site installation costs and minimize system downtime due to its integrated outdoor-rated UL61800-5-1 design.

Optional built-in disconnect

The ACH580-01 drive can include an optional robust input disconnect (+F254) to simplify installation.

Cabinet installation option

The flange mount option saves on cooling and cabinet space, while ensuring full Type 4X rating.

Bluetooth capability

With ABB's Bluetooth control panel for HVACR, easily commission and monitor the drive from up to 250 ft (75m) away. This not only improves convenience but also enhances safety by allowing staff to work with the drive from a safe location.



Technical data

ACH580-01 with +B063 option	
Power range	1 to 30 HP (0.75 kW to 22 kW)
Voltage	1-phase, 240 V, +10%/-15% 3-phase, 208 to 240 V, +10%/-15% 3-phase, 380 to 480 V, +10%/-15% 3-phase, 500 to 600 V, +10%/-15%
Frequency	60/50 Hz ±5%
Mains choke	DC choke
Degree of protection	UL Type 4X/IP66 Sun shield required outdoors when in direct sunlight (drive is UV resistant)
Ambient conditions	-13 to 122°F (-25 to 50 °C); non-condensing Keypad display: -20 to +50°C (-4 to 122°F) 104 to 122°F (40 to 50 °C) with derating
Compliance	UL, CSA, cUL, CE, EAC, EIP, UKCA, KC, TÜV Nord (safety functions)
Safety functions	Safe torque off (STO) according to EN/IEC 61800-5-2, SIL 3, PL e (TÜV Nord certified)
EMC	According to EMC Directive 2014/30/EU, EN 61800-3:2004 + A1 2012. Class C2 as standard
Harmonic mitigation	According to EN 61000-3-12: 2011
Control connections	Two analog inputs, two analog outputs, six digital inputs, three relay outputs, EIA-485 (BACnet MS/TP, Modbus RTU and N2), safe torque off (STO), Bluetooth via control panel
Control and communication options	
Fieldbus adapters	Modbus TCP, BACnet/IP (BTL certified), LonWorks, DeviceNet, PROFIBUS DP, Ethernet, PROFINET IO
Optional I/O extension modules	CMOD-01: External +24 V AC/DC <ul style="list-style-type: none"> • Two relay outputs • One digital output CMOD-02: External +24 V AC/DC and isolated PTC input CHDI-01: 115/230 V AC digital input <ul style="list-style-type: none"> • Six digital inputs • Two relays CAIO-01: Bipolar analog I/O extension <ul style="list-style-type: none"> • Three bipolar analog inputs • Two unipolar analog outputs
PC tools	Drive composer entry, available for free via ABB website. Drive composer pro
Control panel options	ACH-AP-H, assistant control panel ACH-AP-W, Assistant control panel Bluetooth

Dimensions and weight, UL Type 4X (IP66)

Frame size	Height	Width	Depth without	Depth with	Weight
			Disconnect	Disconnect	
R1	20.55 in	8.19 in	9.79 in	11.05 in	26 lb
	522 mm	208 mm	249 mm	281 mm	11.8 kg
R2	23.86 in	8.19 in	10.22 in	11.48 in	32 lb
	606 mm	208 mm	260 mm	292 mm	14.5 kg
R3	25.47 in	10.91 in	10.25 in	11.4 in	58 lb
	647 mm	277 mm	260 mm	289 mm	26.4 kg

For more information please contact your local ABB representative or visit:

new.abb.com/drives

new.abb.com/drives/drivespartners

<https://to.abb.com/RhworoMD>

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Highlights

Applications

- Rooftop air handlers
- Cooling towers
- Outdoor pump skids
- Exterior exhaust fans
- Outdoor chiller units

HVACR specific software

- Standard application specific primary settings
- Dedicated HVACR software features used throughout the ACH580 drive series (override, flying start, multi-pump control, freestat, resonance monitoring and more).

Hardware features

- DC choke for harmonic mitigation
- Integrated EMC C2 filter
- Coated boards
- Safe torque off (STO)
- Two option slots for expanded IO or Fieldbus communications

User interface and connectivity

- Standard Bluetooth Hand/Off/Auto control panel
 - Backup, Restore and Diagnostic functions are built into the control panel
 - Access drive remotely from a safe location
 - The Drivetune app offers the same primary settings and menus available on the drive's control panel
- RS-485 BACnet MS/TP, Modbus RTU, N2 communication terminal as standard
- The Drive Composer PC tool offers synchronized setup, commissioning, and monitoring.

Learn more from the ACH580 4X website.



Learn more from the ABB variable frequency drives, motors and PLCs for HVACR website.



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