

ABB Drives for HVAC

ACH550, 15 to 550 HP with multi-pulse



Clean power, for your system and the grid. Harmonic distortion can wreak havoc on sensitive equipment. When there are critical applications at stake, mitigation methods are vital. From swinging chokes to filters, and multi-pulse to ultra-low harmonic, selection is key.



Power and productivity
for a better world™



Mitigation for critical HVAC systems

Disruptions due to harmonic distortion, on a commercial facility can severely dampen productivity or even put people at risk in critical scenarios. Mitigation from an integrated, HVAC-designed solution is imperative. Our 12 pulse will typically maintain harmonic current distortion below 10% at the input terminals of the drive; the 18 pulse below 5%. All the while improving true power factor, in both designs.

Saving Cost

Eliminate complexity of adding external transformers, reactors, filters or traps, and improve overall electrical system efficiency. Through an integrated redundant design, you can reduce site installation costs and minimize costly system downtime. Extend the drive's warranty when commissioned by an ABB Certified Start Up technician.

Product Offering

ABB's multi-pulse offering for harmonic mitigation is the ABB ACH550 drive in a variety of 18 pulse and 12 pulse configurations with phase shifting transformer and co-ordinated input bridge balance reactors. Each have individually fused multi-pulse input bridges and offer a wide selection of power and control options for the package including E-Clipse Bypass and Soft Start E-Clipse Bypass.

Disconnecting Means

All multi-pulse configurations safely disconnect the package from the main input power supply through a single disconnect, which is mechanically interlocked with the enclosure door, lockable in the off position for up to three padlocks.

Enclosures for your environment

These solutions come in numerous NEMA rated enclosures, all with an accessible drive control panel (keypad), even without opening the enclosure door. Our NEMA 3R enclosures include thermostatically controlled vent fans and a space heater. Finally, they are all 100 kA short circuit current rating available up to 480 V AC and UL 508A labeled.

Technical data

Input power connection	
Voltage and power range	3-phase, 208 to 240 V, -10/+15%, 15 to 100 HP 3-phase, 480 V, -10/+15%, 20 to 550 HP 3-phase, 500 to 600 V, -10/+15%, 20 to 150 HP
Frequency	48 to 63 Hz
Power Factor	0.98 at nominal load
Output (motor) connection	
Frequency	0 to 500 Hz
Acceleration Time	0.1 to 1800 s
Deceleration Time	0.1 to 1800 s
Programmable control connections	
Two analog inputs	(Single speed reference signal to both drives)
Voltage signal	0 (2) to 10 V, 250k Ω , single-ended
Current signal	0 (4) to 20 mA, Rin = 100 Ω
Potentiometer reference value	10 V, 10 mA, 1 to 10 k Ω
Two analog outputs	0 (4) to 20 mA, load < 500 Ω
Auxiliary voltage	24 V DC, max. 250 mA (short circuit protected)
Six digital inputs	12 to 24 V DC with internal or external supply, PNP and NPN
Three relay outputs (Form C)	
Maximum switching voltage	250 V AC/30 V DC
Maximum switching current	8 A at 24 V DC or 250 V AC, or 0.4 at 120 V DC
Maximum continuous current	2 A RMS
Serial communication	
Embedded Building Automation Protocols	BACnet (MS/TP) Johnson Controls N2 Siemens Buildings Technologies FLN Modbus RTU
Product compliance	
240V, 480V, 600V products	UL, cUL
Environmental limits	
Protection class	NEMA 1, 12 or 3R
Ambient temperature (Operating)	NEMA 1 & 12 -15 to 40°C (5 to 104°F) -15 to 50°C (5 to 122°F) with derate NEMA 3R -18 to 40°C (0 to 104°F) -18 to 50°C (0 to 122°F) with derate
Relative humidity	5 to 95%, no condensation allowed, maximum relative humidity 60% in the presence of corrosive gas



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ACH550-2BCR / 2BFR / 8BCR / 8BFR

(E-Clipse Bypass)

Available Enclosures	NEMA1, 12 & 3R
Main Input	Circuit Breaker (BCR)
Disconnect	Fused Disconnect (BFR)
Options	Standard ACH550 options Soft Start in Bypass Motor 1 / Motor 2 Selection

ACH550-2PCR / 2PFR / 8PCR / 8PFR

Available Enclosures	NEMA1, 12 & 3R
Main Input	Circuit Breaker (BCR)
Disconnect	Fused Disconnect (BFR)
Options	Standard ACH550 options Soft Start in Bypass Motor 1 / Motor 2 Selection

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

www.abb.com/drives

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