

ABB Drives for HVAC

ACH550 7.5 to 550 HP with Harmonic Filter

ABB is in the business of serving your HVAC Drive needs. When adding a drive to a power system in a commercial facility, ABB is well acquainted with mitigating harmonics. ABB has an arsenal of solutions to fit the specific needs of your particular power system. From the ACH550 and ABB's patented swinging choke technology, to harmonic filters; from multi-pulse, to ABB's ACS800 Ultra-Low harmonic Drive -- ABB has the right solution for your power system.



ABB's latest offering for harmonic mitigation is the ABB ACH550 drive with a new integrated harmonic filter option. The ACH550, with the new option, will maintain harmonic current distortion to below 7% at the input terminals of the drive. We have integrated the Harmonic Filter option into our ACH550 Packaged Drive offering using a circuit breaker or disconnect, or along with ABB's ACH550 and Eclipse Bypass, while maintaining a UL Short circuit rating of 100KAIC.

Saving Cost

- Reduce site installation costs with an integrated design
- Eliminate complexity of adding a harmonic filter to a drive with bypass
- Extend the drive's warranty when commissioned by an ABB Certified Start Up technician

Highlights

- Compact & slim design
- UL508A labeled with 100 KAIC SCCR
- Current distortion limited to less than 7%, while improving true power factor
- Unique Harmonic Filter Design virtually eliminates the possibility of leading power factor interfering with other equipment at light loads
- Voltage drop on the ACH550 DC Bus is less than 2% at full load
- Harmonic filter operates only when needed: it operates in drive mode; however, it does not operate in bypass mode, allowing the motor to start without incident.
- Standard ACH550 options available
- Option is covered by ABB's Certified Start Up warranty providing a 24/30 warranty

Voltage and power range

- 3-phase, 208 to 240 V, 7.5 to 100Hp
- 3-phase, 480 V, 7.5 to 550Hp
- 3-phase, 500 to 600 V, 15 to 150Hp

Options

- Fieldbus adapters
- Panel mounting kits
- 3 Relay extension module (OREL-01)
- 115/230 V Digital Input Interface card (OHDI-01)
- Fieldbus Adapters
 - LonWorks
 - Profibus
 - DeviceNet
 - Ethernet
 - ControlNet
 - BACnet IP to MS/TP router
- DriveWindow Light

ACH550 Drives Models where the Harmonic Filter (+E211) may be included:

- ACH550- PCR / PDR + E211
 - NEMA 1, 12 & 3R Enclosures
 - 3 Phase, 480 V, 7.5 to 550 HP
 - 3 Phase, 208 to 240 V, 7.5 to 100 HP
 - 3 Phase, 600 Vn 15 to 150 HP (available as engineered solution)
 - Circuit Breaker (PC)
 - Fused disconnect (PD)

- ACH550- BCR / BDR + E211
 - NEMA 1, 12 & 3R Enclosures
 - 3 Phase, 480 V, 7.5 to 400 HP
 - 3 Phase, 208 to 240 V, 7.5 to 100 HP
 - 3 Phase, 600 V, 15 to 150 HP (available as engineered solution)
 - E-Clipse Bypass with Input Circuit Breaker (BCR)
 - E-Clipse Bypass with Non-Fused Input Disconnect (BDR)

Input power connection	
Voltage and Power Range	3-phase, 208 to 240 V, +/-10% 3-phase, 480 V, +/-10% 3-phase, 500 to 600V, +/-10%
Frequency	48 to 63 Hz
Power Factor	0.98 at nominal load
Harmonic Content with E211 harmonic Filter	Typically 5 to 7% TDD at drive input terminals
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	
Voltage signal	0 (2) to 10 V, 250kΩ, single-ended
Current signal	0 (4) to 20 mA, Rin = 100 Ω
Potentiometer reference value	10 V, 10 mA, 1 to 10 kΩ
Two analog outputs	
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 VAC/30 V DC
Maximum switching current	8 A at 24 VDC or 250 VAC, or 0.4 at 120 VDC
Maximum continuous current	2 A RMS
Serial communication	
Four Resident Serial Communication Protocols	Johnson Controls N2 Bus Siemens Buildings Technologies FLN (P1) Modbus RTU BACnet (MS/TP)
Product compliance	
240V products	UL, cUL
480V products	UL, cUL
600V products	UL, cUL
Environmental limits	
Protection class	UL Type 1 or 12 or 3R (NEMA 1 or NEMA 12 or NEMA 3R)
Ambient temperature (Operating)	0 to 40°C (5 to 104°F) 40 to 50°C (104 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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