ABB Drives for HVAC
ACH550 15 to 550 HP with Multi-Pulse

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 multi-pulse offering for harmonic mitigation is the ABB ACH550 drive in a variety of 18 pulse and 12 pulse configurations. The ACH550 12 Pulse will typically maintain harmonic current distortion below 10% at the input terminals of the drive and 18 Pulse will typically maintain harmonic current distortion below 5%. All multi-pulse configurations include an integral input disconnect; either circuit breaker or fused disconnect. ABB offers a wide selection of power and control options for the ACH550 with Multi-Pulse including E-Clipse Bypass and Soft Start E-Clipse Bypass.

Saving Cost

- Reduce site installation costs with an integrated design
- Eliminate complexity of adding external transformers, reactors, filters or traps
- Improves overall electrical system efficiency
- Extend the drive's warranty when commissioned by an ABB Certified Start Up technician

Highlights

- Single main disconnect (Circuit Breaker or Fused Disconnect Switch), mechanically interlocked with enclosure door and lockable in the off position with up to 3 padlocks
- Current distortion limited to less than 10% with 12 pulse and 5% with 18 pulse, while improving true power factor
- Individually fused multi-pulse input bridges
- Phase shifting auto-transformer and co-ordinated input bridge balance reactors
- Drive Control Panel (keypad) accessible without opening enclosure door
- NEMA 3R enclosures include thermostatically controlled vent fans and space heater
- 100 kA short circuit current rating available up to 480 VAC
- UL 508A labeled

Voltage and power range

- 3-phase, 208 to 240 V, 15 to 100 Hp
- 3-phase, 480 V, 20 to 550 Hp
- 3-phase, 500 to 600 V, 20 to 150 Hp

Options

- Standard ACH550 options
- E-Clipse Bypass
- Soft Start E-Clipse Bypass
- Motor 1 / Motor 2 Selection

Power and productivity
for a better world™

ACH550 Drives Models where Multi-Pulse may be included:

- ACH550-2BCR / 2BFR / 8BCR / 8BFR (E-Clipse Bypass)
  - NEMA 1, 12 & 3R Enclosures
  - 3-Phase, 480 V, 20 to 550 Hp
  - 3-Phase, 208 to 240 V, 15 to 100 Hp
  - Circuit Breaker (BCR)
  - Fused disconnect (BFR)

- ACH550-2PCR / 2PFR / 8PCR / 8PFR
  - NEMA 1 & 12 Enclosures
  - 3-Phase, 480 V, 20 to 550 Hp
  - 3-Phase, 208 to 240 V, 15 to 100 Hp
  - Input Circuit Breaker (PCR)
  - Fused Disconnect (PFR)

Input power connection	
Voltage and Power Range	3-phase, 208 to 240 V, -10/+15% 3-phase, 480 V, -10/+15% 3-phase, 600 V, -10/+15%
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	
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	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 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	
Embedded Building Automation Protocols	BACnet (MS/TP) Johnson Controls N2 Siemens Buildings Technologies FLN Modbus RTU
Product compliance	
240V products	UL, cUL
480V products	UL, cUL
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, maxi¬mum relative humidity 60% in the pre-sence of corrosive gas

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