

ABB Drives for HVAC

ACH550 5 to 200 HP Redundant Drives

ABB is in the business of serving your HVAC Drive needs. When adding a drive to a power system in a critical facility, ABB is well acquainted with keeping equipment operating reliably. ABB has an arsenal of solutions to fit the specific needs of your particular system. From the ACH550 with E-Cclipse Bypass, to custom 2N and N+1 configurations; from multiple motor protector arrays, to ACH550 Redundant Drives - ABB has the right solution for your critical facility needs.



ABB's offering for redundant HVAC Drives is a pair of ABB ACH550 drives, integrated into a NEMA rated enclosure, with all the power and control features you need for critical applications. ACH550 Redundant Drives offer single point control connections, eliminating the need to duplicate control wiring to primary and secondary systems. All redundant drive configurations include an integral input disconnect; either circuit breaker or disconnect switch. ABB offers a wide selection of power and control options for ACH550 Redundant Drives including multiple motor protectors for use with fan arrays and cooling tower cells.

Saving Cost

- Reduce site installation costs with an integrated redundant design
- Eliminate the need to incorporate the additional constraints of single-speed (60 Hz) bypass operation into the building sequence of operations.
- Minimize costly system downtime
- Eliminate complexity of duplicate wiring to individual drives.
- Extend the drive's warranty when commissioned by an ABB Certified Start Up technician

Highlights

- Single main disconnect (Circuit Breaker or Disconnect Switch), mechanically interlocked with enclosure door and lockable in the off position with up to 3 padlocks
- Drives individually fused for uninterrupted operation
- Redundant control automatically switches from Lead Drive to Redundant Drive upon a Lead Drive fault
- Electrically interlocked Drive Output Isolation Contactors
- Contactor outputs connected together for a single point motor connection at the output power terminal block
- Analog signal converter provides a single speed reference signal to both drives (0 to 10 VDC / 4 to 20 mA)
- Customer Terminal Block provides connection for:
 - 2 User Safety/Interlocks
 - External Start Signal
 - Speed Reference Signal

- Cover Control includes:
 - Lead Drive selector switch
 - AUTO/OFF/MANUAL selector switch for each drive
 - Drive Run and Fault lights for each drive
 - External Fault Light
- Drive Control Panels (keypads) accessible without opening enclosure door
- NEMA 3R enclosures include thermostatically controlled vent fans and space heater
- 100 kA short circuit current rating up to 480 VAC
- UL 508A labeled

Voltage and power range

- 3-phase, 208 to 240 V, 5 to 75Hp
- 3-phase, 480 V, 10 to 200Hp

Options

- ACH550 Base Drive Options
- Service Switch, includes switches for both drives
- Manual Motor Protectors, 15 Hp maximum each (**Note:** 50 kA short circuit current rating up to 480 VAC when adding MMPs)
- Remote Transfer – offers lead transfer between Drive 1 & Drive 2 from the customer terminal block. A VFD1/VFD2/ALT selector switch replaces the standard Lead Drive selector switch the door.
- MMP Remote Indication – terminal block signal indicates all MMPs are closed (ON),
- MMP Motor Run Lights – door mounted lights indicate individual MMPs are closed (ON).

ACH550 Drives Models where Redundant Drive (+C170) may be included:

- ACH550-PCR / PDR +C170
 - NEMA 1, 12 & 3R Enclosures
 - 3 Phase, 480 V, 10 to 200 HP
 - 3 Phase, 208 to 240 V, 5 to 75 HP
 - Circuit Breaker (PCR)
 - Disconnect Switch (PDR)

Input power connection	
Voltage and Power Range	3-phase, 208 to 240 V, -10/+15% 3-phase, 480 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	(Single speed reference signal to both drives)
Voltage signal	0 (2) to 10 V
Current signal	0 (4) to 20 mA
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 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, maximum relative humidity 60% in the presence of corrosive gas

For more information please contact:

ABB Inc.

Low Voltage Drives

New Berlin, WI 53151

USA

Phone: (800) 752-0696

Fax: (262) 785-0397

www.abb.us/drives

Power and productivity
for a better world™

