

ABB Drives for HVAC

ACH550, 5 to 200 HP, redundant drives



Critical facilities need reliable operation of their equipment and systems. Adding a drive should be no different. Whether an operating room or an airport, failure is not an option. Our redundant drive packages offer the best solutions for your most crucial system requirements.



Power and productivity
for a better world™



Protection for critical HVAC systems

Receive all necessary power and control features for critical applications through the redundant HVAC drives, integrated within a NEMA rated enclosure. Eliminate the need for duplicating control wiring to primary and secondary systems; the drive package offers single point control connections. All redundant drive configurations include an integral input disconnect; either circuit breaker or disconnect switch.

Saving Cost

Rid your system of complex duplicate wiring to individual drives. Through an integrated redundant design, you can reduce site installation costs and minimize costly system downtime. Eliminate the need to incorporate the additional constraints of single-speed (60 Hz) bypass operation into the building sequence of operations. You can even extend the drives warranty when commissioned by an ABB Certified Start Up technician.

Disconnecting Means

These drives are individually fused, below the main disconnect, for uninterrupted operation. The intelligent redundant control automatically switches from Lead Drive to Redundant Drive upon a Lead Drive fault. Additionally, 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.

Redundancy, for necessary functions

The packages also include electrically interlocked drive output isolation contactors, connected together for a single point motor connection at the output power terminal block. The analog signal converter provides a single speed reference signal to both drives (0 to 10 V DC / 4 to 20 mA), as well a customer Terminal Block provides connection for two user Safety/Interlocks and an external start signal. The drive's keypads

are accessible even without opening the enclosure door.

The cover controls include:

- Lead Drive selector switch
- AUTO/OFF/MANUAL selector switch for each drive
- Drive Run and Fault lights for each drive
- External Fault Light

And as safety is always a top priority, the redundant packages are rated 100 kA short circuit current up to 480 V AC and are UL 508A labeled.



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Technical data

ACH550 Redundant Drive (+C170)	
Available Enclosures	NEMA1, 12 & 3R
Main Input Disconnect	Circuit Breaker (PCR) Disconnect Switch (PDR)
Input power connection	
Voltage and power range	3-phase, 208 to 240 V, -10/+15%, 5 to 75 HP 3-phase, 480 V, -10/+15%, 10 to 200 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
Current signal	0 (4) to 20 mA
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 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
Serial communication	
Embedded Building Automation Protocols	BACnet (MS/TP) Johnson Controls N2 Siemens Buildings Technologies FLN Modbus RTU
Product compliance	
240V, 480V 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

Available Options

Service Switch	Included for both drives
Manual Motor Protectors	15 Hp maximum each Note: 50 kA short circuit current rating up to 480 V AC
Remote Transfer	Lead transfer between drives 1 & 2 from customer terminal block 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)

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

www.abb.com/drives

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