ABB Drives for HVAC
ACH550, 1 to 550 HP
NEMA/UL Type 3R Outdoor Rated Enclosed Products

Your facility is designed to withstand the elements. The outdoor applications you run are rated for the rain, cold, heat or shine. Why should your HVAC control equipment be any different? Our outdoor rated enclosures will reliably keep inclement weather at bay.

Power and productivity
for a better world™

Environmental and weather protection

Designed for peace of mind in operation in sunlight, rain, heat, cold and countless other outdoor environments. The facilities and applications you run need to have access to full output capabilities, no matter the weather outside. Derates due to extremes in temperature, solar exposure, or even worse, failures in the field due to poor environmental protection, are things of the past with the NEMA/UL Type 3R outdoor enclosure.

An enclosure for your weather

Inhibiting oxidation on the enclosure, in wet environments, is executed through a powder coated steel construction with stainless steel cabinet hardware (locks, hinge pins & rivets) for both wall and free standing mounted enclosures. Ease of use, without opening the enclosure doors for standard operations is accomplished in a couple different ways. A protective external cover allows access to both drive and bypass keypads, while in operation. On smaller wall mount units (below 75 HP, 480V), filter less air intake eliminates the need to change filters.

Direct sunlight, full output

In applications directly exposed to sunlight, dual wall solar shielding offers radiant protection and convection cooling. Extreme swings in temperature - hot and cold - are mitigated by maintaining the interior cabinet environment through thermostatically controlled cooling fans and silicone element space heaters, with a dedicated control power supply. This allows for full output current at 40°C / 104°F ambient and low temperature climate operation at -18°C / 0°F.

Saving system costs

Reduce site installation costs and minimize costly system downtime, through an integrated, outdoor-rated design. You can even extend the drive's warranty when commissioned by an ABB Certified Start-Up technician.

Applications

This package has as many pertinent applications as there are outdoor HVAC needs. However, typical applications include everything from rooftop AHUs, outdoor retrofits, cooling towers, exterior exhaust fans, to outdoor pump skids. And as safety is always a top priority, the packages are UL 508A labeled.

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Technical data

ACH550 NEMA/UL Type 3R enclosure	
Input power connection	
Available products / Voltage and power range	ACH550-PCR / PDR (Base drive) -3-phase, 208 to 240 V, -10/+15%, 1 to 100 HP -3-phase, 480 V, -10/+15%, 1 to 550 HP -3-phase, 600 V, -10/+15%, 2 to 150 HP ACH550-BCR / BDR (E-Clipse Bypass) -3-phase, 208 to 240 V, -10/+15%, 1 to 100 HP -3-phase, 480 V, -10/+15%, 1 to 400 HP -3-phase, 600 V, -10/+15%, 2 to 150 HP ACH550-2PCR / 2PFR / 8PCR / 8PFR (Multi-pulse with base drive) -3-phase, 480 V, -10/+15%, 20 to 550 HP ACH550-2BCR / 2BFR / 8BCR / 8BFR (Multi-pulse with E-Clipse Bypass) -3-phase, 208 to 240 V, -10/+15%, 15 to 150 HP -3-phase, 480 V, -10/+15%, 20 to 550 HP
Main input disconnect	Circuit Breaker (xCR) Disconnect Switch (xDR) Fused Disconnect (xFR)
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
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, 600V products	UL, cUL

Environmental limits	
Ambient temperature (Operating)	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	
Standard	All ACH550 options
Bypass	E-Clipse Bypass
Service Switch	Bypass service switch (+F267)
Line Reactor	Additional AC Line Reactor (+E213)

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

www.abb.com/drives

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