Canadian Pricebook

ABB Low Voltage Drives
HVAC Drives
ACH550 - ACS320

Power and productivity
for a better world™

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ACH550

ACS320

TERMS AND CONDITIONS OF SALE

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These terms and conditions of sale shall apply to all services, equipment, goods or products manufactured, distributed or sold by ABB Inc. (“Seller”) unless otherwise agreed in writing by the Seller and the Purchaser.

1. ACCEPTANCE OF CONDITIONS
The Purchaser, upon receipt of the Seller's acknowledgement of an order, or upon receipt in whole or in part of the shipment sold under an order, or upon payment in whole or in part for the equipment, workmanship, goods, products, and the license of software, related materials supplied hereunder, ("Equipment") or rendition of services ("Services") or both shall be deemed an unconditional acceptance by Purchaser of these terms and conditions. Any deletions from, alterations or modifications or additions to the terms and conditions of this order, shall not be binding unless they are expressed in writing and signed by both the Seller and the Purchaser's authorized representatives.
2. DELIVERY
2.1 Equipment sold hereunder unless agreed otherwise shall be delivered Ex Works (… named place) as per Incoterms 2000, depending on specified means of transportation. Delivery dates specified in any quote are approximate, unless specified as binding. Delivery performance is dependent upon prompt receipt from the Purchaser of all specifications, final approved drawings and any other details essential to the proper execution of the Purchaser's order.
2.2 Upon notification of readiness of Equipment by Seller to Purchaser, Purchaser shall promptly take delivery of the Equipment. Purchaser's delay to take delivery of the Equipment shall result in Purchaser paying storage, maintenance and associated charges and Seller shall invoice Purchaser as if shipment or other performance had been made as originally scheduled. Such storage, handling maintenance shall be performed at Purchaser's cost and risk. Failure of Purchaser to take prompt delivery shall result in payment terms tied to such delivery becoming due immediately and payable. The Warranty Period hereinafter defined will begin upon such notification of readiness.
2.3 Unless otherwise agreed upon between the parties, Purchaser shall have the sole responsibility of choosing the carrier and routing from Seller's manufacturing facilities to the final destination.
3. FORCE MAJEURE
The Seller shall not be liable for delays in the execution of its obligations due to causes beyond its reasonable control including but not limited to acts of God, acts of the Purchaser, fires, strikes, labour disturbances, floods, epidemics, quarantine restrictions, war, insurrection or riot, acts of a civil or military authority, compliance with priority orders or preference ratings issued by any Government, acts of Government authorities with respect with to revocation of export or reexport permits/licenses, freight embargoes, car shortages, wrecks or delays in transportation, unusually severe weather, or inability to obtain necessary labour, materials or manufacturing facilities or supplies or delays of sub-contractors. In the event of any such delay, the date of shipment will be extended for a minimum of time equal to the period of the delay. The contract of sale will in no event be subject to cancellation by the Purchaser, due either to delay in delivery or to any other cause, without the prior written consent of the Seller. In the case of cancellation, cancellation charges judged adequate by Seller shall apply.
4. WARRANTIES
4.1 The Seller warrants that during the warranty period hereinafter defined the Equipment sold shall be free from defects in material and workmanship and shall be of the kind and quality designated or described in the specifications.
4.2 If within eighteen (18) months from the date of notification of readiness of shipment or twelve (12) months from date of first use by Purchaser or the end user, whichever date occurs first, the Equipment does not meet the warranties specified above, the Seller agrees to correct any defect, at its option, either by repairing any defective parts, or by making available Ex Works, repaired or replacement parts, provided the Purchaser notifies the Seller promptly of any such defects.
4.3 The cost of removal of the defective Equipment from its related system, site and/or ancillary equipment, and the cost of its reinstallation in such system, site and/or ancillary equipment, including all transportation costs to and from Seller's plant or repair shop, shall be borne exclusively by the Purchaser. The Purchaser shall not return or dispose of any Equipment or part thereof with respect to which it intends to make a claim under the foregoing warranty, without the Seller's express prior written authorization.
4.4 Seller warrants that it shall repair or replace, at its option and Ex Works, software products which fail in manner which significantly and adversely affects operating performance to conform to Seller's published software product description applicable to the specific software version as delivered to the Purchaser, provided Seller receives written notification of any such failure to conform within ninety (90) days from the readiness of shipment software. Seller does not warrant that the functions contained in the software will operate in combinations which may be selected for use by the Purchaser, or that the software products are free from errors.
4.5 Where Seller supplies Services, Seller warrants that it shall reperform Services which are found to have been performed other than in a professional manner and in accordance with sound, generally accepted and professional practices in effect at the time of performance, provided Seller receives written notification of the defect within thirty (30) days from date of such performance.
4.6 Any repair, replacement or re-performance pursuant to the foregoing warranties pursuant hereto shall not renew or extend the warranties. The foregoing warranties shall be void to any deficiency or defect resulting from, the Equipment being improperly installed or cared for, operated under abnormal conditions or contrary to specifications or instructions of Seller, normal wear and tear, modifications or alterations made by Purchaser or a third party without Seller's consent.
4.7 THE EXPRESS WARRANTIES SET FORTH IN THIS ARTICLE ARE EXCLUSIVE AND NO OTHER WARRANTIES OF ANY KIND, WHETHER STATUTORY, ORAL, WRITTEN, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY. THE PURCHASER'S EXCLUSIVE REMEDIES AND THE SELLER'S ONLY OBLIGATIONS ARISING OUT OF OR IN CONNECTION WITH DEFECTIVE EQUIPMENT OR SERVICES OR BOTH, WHETHER BASED ON WARRANTY, CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, SHALL BE THOSE STATED HEREIN.
5. INSURANCE, CHARGES & PROPER CARE
So long as sums shall remain owing by Purchaser to Seller hereunder, Purchaser shall exercise proper care in the possession and use of the Equipment and shall keep same at all times in good repair and free of all liens, options, taxes, charges, pledges, privileges and encumbrances. Purchaser shall insure Equipment against loss, destruction or theft for the full value of the replacement purchase price of the Equipment.
6. TITLE & RISK
6.1 The title to and property in the Equipment sold hereunder and any substitutions or additions thereto and the right to possession thereof, whether attached to realty or otherwise, shall pass from the Seller to the Purchaser when the full purchase price of the Equipment has been paid. Upon failure to make any payment as herein provided, the whole purchase price and any note or security given on account therefore shall forthwith become due

TERMS AND CONDITIONS OF SALE - Continued

and payable and the Seller may immediately enter the premises where the Equipment is located and take possession of and remove the same as its personal property, and may retain any or all partial payments already received as a rental charge for the use of the Equipment without affecting any further or other claims which Seller may have against the Purchaser.
6.2 Equipment sold hereunder shall be at the Purchaser's risk on delivery to it as specified in Article 2 above, and the loss or destruction of all or part of said Equipment shall not release Purchaser from any obligations of payment hereunder.
7. LIMITATION OF LIABILITY
7.1 Modifications or adjustments to Purchaser's processes or equipment which is made by Purchaser upon the good faith recommendations of Seller shall be made at Purchaser's risk. In no event shall Seller be liable for conditions of Purchaser's site.
7.2 The liability of the Seller, its agents, directors, officers, subcontractors, suppliers, for all claims, actions, judgements, expenses related to or resulting from any loss or damage arising out of performance or non-performance of obligations in connection with the design, manufacture, sale, delivery, storage, of the Equipment shall in no case exceed Seller's net unit price Ex Works of such Equipment or part thereof involved in a claim. Where Seller sells Services, the liability of the Seller, its agents, directors, officers, employees, subcontractors, suppliers for all claims, actions, judgment, expenses related to or resulting from any loss or damage arising out of performance or non-performance of Services, shall in no case exceed in the aggregate the amount paid by the Purchaser to Seller for the Services performed under the order.
7.3 No such claim shall be asserted against the Seller, its agents, directors, officers, employees, subcontractors, suppliers, unless the injury, loss or damage giving rise to the claim is sustained prior to the expiration of the period of warranty herein and no suit or action thereon shall be instituted or maintained unless it is filed in a court of competent jurisdiction within one year after the date the cause of action accrues.
7.4 In no event shall Seller be liable for loss of profit and for any indirect, special, incidental or consequential damages of any nature or kind including but not limited to delays, loss of revenue, loss of use, loss of data, loss of production, costs of capital or costs of replacement power, even if Seller has been advised of the possibility of such damages.
7.5 The limitations set forth in this Article 7 shall apply and be effective with respect to any claim, cause of action, or legal theory whatsoever including, but not limited to, contract or warranty (including performance guarantees) or breach thereof, indemnity, tort (including negligence), strict liability.
8. PRICES & PAYMENT TERMS
8.1 Prices are valid thirty (30) days from date of quotation by Seller. Price adjustment clauses, if applicable, will be stated at the time of quotation and a copy will be included as part of these Terms and Conditions, in an Appendix thereto.
8.2 All prices are Ex Works unless otherwise specified in writing by Seller. Prices quoted do not include federal, provincial, local or any other taxes, charges, levies and duties, and if same are applicable these shall be promptly paid by the Purchaser. Purchaser shall reimburse Seller any late payment penalty.
8.3 In cases where Seller's price includes taxes, charges, levies and duties, in the event of any changes in any taxes, charges, levies or duties, imposed under any federal, provincial municipal or local legislation or authority, after the date of submitting of Seller's tender or quotation and applicable to Equipment sold hereunder, the Seller's sale price shall be adjusted to reflect such increases or decreases. Any penalty or interest charge levied against the Seller due to the Purchaser's late payment shall be to Purchaser's account.
8.4 Price information published in catalogues, bulletins or price lists is not a definite quotation or offer to sell.
8.5 Seller reserves the right to adjust prices on any order for any alterations or changes authorized or made by the Purchaser subsequent to acceptance of the order.
8.6 All prices are in Canadian Dollars unless otherwise specified.
8.7 Payment shall be made direct to Seller's office in accordance with the conditions stated in the order. Unless otherwise specified, payment shall be due net thirty (30) days from the date of sending of the relevant invoice by the Seller, and time is of the essence in Purchaser's execution of any payment hereunder. Any late payment shall bear interest at the rate set by the Seller from time to time which is one and a half percent (1.5%) per month, eighteen percent per annum (18%), at the date of issue, calculated and due on a monthly basis.
8.8 Where Seller supplies Services, in the event of a request by Purchaser for additional specialist services, the services will be invoiced at the current per diem per person rate for those services. Associated travel and living costs will be added to those invoices. For extended hours (beyond 8 hours/daily), the rate for specialist services will change to an hourly rate person at one and a half (1.5) times the equivalent rate based on the per diem. Similarly, weekend and holiday requirements will be charged at two (2) times the hourly rate. All prices/rates quoted are valid for ninety (90) days from proposal date. Otherwise, prices are subject to change without notice. Travel and lodging will be billed at actual cost plus a ten percent (10%) administration charge.
9. PATENT INFRINGEMENT
The Seller will, at Seller's expense, defend any suit which may be brought against the Purchaser based on a claim that any Equipment or part furnished under contract constitutes an infringement of any letter patent (provided the Seller is notified promptly of such suit and copies of all papers therein are promptly delivered to Seller) and the Seller agrees to pay all judgments and costs recovered for any reasonable costs or expenses incurred in the defence of any such claim or suits. In case said Equipment or any part is held to constitute infringement and the use of the Equipment or part is enjoined, the Seller shall, at its own expense, either procure for the Purchaser the right to continue using the Equipment or part; or replace with non-infringing Equipment; or modify it so that it becomes non-infringing; or remove the Equipment and refund the purchase price and the transportation and installation costs thereof. The foregoing states the entire liability of the Seller for patent infringement by the Equipment or any part thereof. This provision shall not apply to any equipment or part which is manufactured by Seller or third parties, to Purchaser's design or specifications. The Seller assumes no liability for any such infringement and the Purchaser agrees to defend any suit against Seller for alleged infringement arising through the manufacture and sale of Equipment made to Purchaser's design or specifications and to indemnify and hold Seller harmless from any liability arising from any such infringement.
10. DAMAGES & LOSS CLAIMS
10.1 Seller shall carefully pack all Equipment sold hereunder and the Seller shall assume no responsibility for damage after having received "in good order" receipts from the carrier at Seller's works.
10.2 All claims for loss, damage and delay in transit are to be transacted by the consignee directly with the carrier. Claims for shortages or incorrect equipment must be made in writing to the Seller within fifteen (15) days after receipt of the shipment. Failure to give such notice shall constitute unqualified acceptance and a waiver by the Purchaser of all claims for shortages or incorrect equipment.
11. CHANGES
Seller reserves the right to make changes in design or to add any improvement on Equipment or other goods at any time, without incurring any obligations to install same on equipment or goods previously purchased or leased. Any changes caused or requested by Purchaser affecting the Equipment or otherwise affecting the scope of work must be accepted by Seller and resulting adjustment to price, schedule, or both, mutually agreed in writing.
12. TESTING & ACCEPTANCE OF GOODS
12.1 Testing of the Equipment before shipment is carried out in accordance with Seller's test procedures and at Seller's cost. Additional tests shall be agreed upon specifically between Seller and Purchaser and shall be charged to the Purchaser.
12.2 The Purchaser shall examine the Equipment upon taking possession of same and shall inform Seller immediately in

TERMS AND CONDITIONS OF SALE - Continued

writing of all defects and deficiencies for which Seller is responsible. If Purchaser omits to so notify Seller within fifteen (15) days of Purchaser's possession of the Equipment, same shall be deemed to have been accepted.
12.3 Acceptance tests are carried out only if they have been agreed upon in writing by the Seller. As far as circumstances allow, such tests will be carried out in Seller's factory. If, for reasons beyond Seller's control, the acceptance tests cannot be carried out within the specified time, the qualities to be determined by these tests shall be deemed proved.
12.4 If it is found from one of the aforementioned tests that the Equipment does not fulfil the terms of the order, the Purchaser shall make available to Seller suitable opportunity to remedy any deficiency.
12.5 The Purchaser shall have no other rights than the rights outlined above, in case of delivery of deficient equipment.
13. TECHNICAL DOCUMENTS
13.1 Technical documents, such as drawings, descriptions, illustrations and the like, and all weight data, shall serve as an approximate indication only, provided they have not been expressly specified as binding. Seller reserves the right to make any alterations considered necessary.
13.2 All plans, drawings, technical specifications, documents, software, microfilm, data, or proprietary information relating to the Equipment sold, distributed or manufactured hereunder shall be treated in confidence by the Purchaser, who shall ensure the confidentiality thereof. They remain Seller's exclusive property and may be neither copied nor reproduced nor communicated to a third party in any way whatever nor used for manufacture of the Equipment, or parts thereof. They may be used only for operation and maintenance of the Equipment, under terms and conditions specified by the Seller.
13.3 All documents submitted with tenders that do not result in an order shall be returned to Seller on request.
14. SOFTWARE
14.1 Where Seller supplies a system program, Seller hereby grants to Purchaser a revocable non-transferable and non-exclusive license to use the computer software packages, related materials, and the intellectual property contained therein, furnished hereunder (collectively, the “Program”) for the limited use described herein and in the other documents transmitted to Purchaser by Seller. This license shall remain in effect unless terminated by Seller due to Purchaser's breach of the provisions of the license.
14.2 The Program shall be used only in connection with Seller's Equipment. Purchaser shall have no right to use, print, display modify or disclose the Program nor duplicate or copy the Program, with the exception that one copy may be made for security purposes.
14.3 The Program is proprietary to Seller and this license allows the Purchaser only the limited right to use the Program, and nothing contained herein shall be deemed to convey any title to or ownership in the Program to the Purchaser.
15. DELAYS
Where Seller supplies Services, if there is a delay in the engineering or servicing due to any cause beyond the reasonable control of contractor, then the Purchaser shall pay the Seller all additional charges with respect to the delay, including but not limited to temporary relocation of contractor's personnel performing under this order.
16. RESPONSIBILITY OF PURCHASER
16.1 The operation of the Equipment is within the exclusive control of the Purchaser and the Purchaser shall indemnify and save the Seller harmless from any and all expense and liability (including attorney's fees) incurred by or imposed upon the Seller based upon injury to persons (including death) or damage to property (including the Equipment) resulting from the Purchaser's tests, cleaning, operation, or maintenance of the Equipment of from modifications to the Equipment by the Purchaser or by third parties.
16.2 The Seller’s Service Representative(s) are not authorized to supervise operation nor are they authorized or licensed to operate the Equipment and therefore neither the Seller not its representative(s) shall be deemed to have any responsibility for the operation of the Equipment.
16.3 Purchaser agrees to provide Seller with safety practices at site where Services will be performed and identify any potential health hazards or other hazardous working conditions. Seller agrees to comply with identified safety practices and applicable laws and regulations at such site.
Purchaser shall be responsible for any influencing deficiencies at Purchaser's site, including, but not limited to input signals of poor quality, different environmental conditions, improper application engineering, process problems or difficulties and delays.
17. CANCELLATION
17.1 Where Seller supplies Services, either party may cancel a portion or all of this agreement with written notice one hundred and twenty (120) days in advance only under the following conditions:
17.2 Where Seller supplies Services, during the notification period, Seller will continue to deliver the full scope of supply; and
17.3 Where Seller supplies Services, Purchaser will continue to pay the rate defined in the agreement during the one hundred and twenty (120) day period; and
17.4 Cancellation of this agreement by Purchaser for any reason will result in a twenty percent (20%) cancellation charge unless Seller and Purchaser have agreed to any other amount in an addendum to this Agreement.
18. EXPORT CONTROLS
18.1 Purchaser represents and warrants that the Equipment and Services provided hereunder and the "direct product" thereof are intended for civil use only and will not be used, directly or indirectly, for the production of chemical or biological weapons or of precursor chemicals for such weapons, or for any direct or indirect nuclear end use. Purchaser agrees not to disclose, use, export or re-export, directly or indirectly, any information provided by Seller or the "direct product" thereof as defined in the applicable Export Control Regulations, except in compliance with such Regulations.
18.2 If applicable, Seller shall file for an export license, but only after appropriate documentation for the license application has been provided by Purchaser. Purchaser shall furnish such documentation within a reasonable time after order acceptance. Any delay in obtaining such license shall suspend performance of this Agreement by Seller. If an export license is not granted or, if once granted, is thereafter revoked or modified by the appropriate authorities, this Agreement may be canceled by Seller without liability for damages of any kind resulting from such cancellation. At Seller’s request, Purchaser shall provide to Seller a Letter of Assurance and End-User Statement in a form reasonably satisfactory to Seller.
19. GENERAL
19.1 Purchaser shall not assign this contract or any part thereof without the written consent of the Seller.
19.2 Any order received by the Seller is subject to credit approval and may be cancelled if the Purchaser's credit standing is not satisfactory to Seller.
19.3 This Agreement and any order or contract placed hereunder shall be interpreted according to the laws of the Canadian Province in which the Purchaser has placed the order under this Agreement, or failing such, the Province of Quebec; the Courts of the Canadian Province in which the Purchaser has placed the order under this Agreement shall have jurisdiction in any matter relating to same, but Seller shall also have access to the jurisdiction of the Courts of the residence of the Purchaser.
19.4 No terms of Purchaser's purchase order shall apply to this contract, even if subsequent to the terms and conditions hereof, unless agreed in writing by an authorized representative of the Seller.
19.5 No penalties or liquidated damages shall apply pursuant to the inexecution of Seller's obligations hereunder, unless accepted in writing by Seller’s authorized representative.
19.6 These terms and conditions shall supersede and abrogate all previous communications, obligations, commitments or agreements, oral or written, expressed or implied, between the Purchaser and the Seller, in relation to this Agreement and all provisions under the United Nations Convention on Contracts for the International Sale of Goods.
19.7 Purchaser and Seller acknowledge having specifically requested that this Agreement and all related documents and correspondence be drafted in English.
19.8 Any addenda or appendices to this Agreement, to be applicable to any order hereunder, must be signed by both Purchaser’s and Seller’s respective authorized representatives.
19.9 The invalidity in whole or in part of any part of this Contract shall not affect the validity of the remainder of the Contract.
19.10 Either party’s failure to enforce any provisions hereof shall not be construed a waiver of party’s right thereafter to enforce each and every such provision.

TERMS AND CONDITIONS OF SALE - Continued

Terms & Conditions for minumum order billing & Freight allowed Policy

Terms & Conditions		Business Online orders	Non-Business Online orders
Minimum Billing		$250.00 CAD	$500.00 CAD
Handling fee If minimum billing not met		$50.00 CAD	
Pick-up hours	**Hours**	Business days, between **1PM** and **3 PM** est.	
	Notice	Book order prior to **10 AM** est.	Book order prior to **9 AM** est.
Freight Terms[2]	**ACS55 ACS150 ACS3x0**	**Freight Prepaid via ground[1]** $250.00 CAD Minimum order value	**Freight Prepaid via ground[1]** $1000.00 CAD Minimum order value
	ACS8x0-x1/x4/11/31 ACS550/ACH550 (Frame R1-R6)	**Freight Prepaid via ground[1]** $1000.00 CAD Minimum order value	**Freight Prepaid via ground[1]** $1500.00 CAD Minimum order value
	ACS8x0-02/04 ACS550/ACH550 (Frame R7- R8)	**FOB Lachine, Quebec**	**FOB Lachine, Quebec**
	ACS800-x7	**FOB 1st International Airport in Canada.**	**FOB 1st International Airport in Canada.**
	DCS800 Frame D1-D5	**Freight Prepaid via ground[1]** $1000.00 CAD Minimum order value Check availability before ordering	**Freight Prepaid via ground[1]** $1500.00 CAD Minimum order value Check availability before ordering
	DCS800 Frame D6-D7 Cabinet DC Drives	Cannot be ordered on BOL	**FOB 1st International Airport in Canada.** Check availability before ordering
	Options	**Freight Prepaid via ground[1]** $250.00 CAD Minimum order value	**Freight Prepaid via ground[1]** $1000.00 CAD Minimum order value
Express order	**Express Shipping**	For garanteed same day shipping. Book order prior to 3 PM est.	For garanteed same day shipping. Book order prior to 1 PM est.
	Express fee	$50.00 CAD	$100.00 CAD

[1] Ground transportation prepaid to 1st destination in Canada except for Yukon, North West Territories and Nunavut. Those destinations are FOB Lachine, Quebec.
[2] Drop shipment and air freight available. Cost covered by the purchaser.

ACH550 Pricing List Overview

How to use these Price Pages

The ACH550 family of drives was designed to meet virtually every customer's application requirements. These Price Pages were developed to allow quick and easy selection of Standard ACH550 products.

Discount Schedule

Each section of this pricebook has a discount schedule indicated in the corner of the tables or pages. This discount schedule (DS-xxx) indicates the multiplier that is applicable for this table or page. You can find your multipliers in the document **''Channel Partner Discount Schedule''**

DISCOUNT SCHEDULE → **DS-H550**

HP[2]	Material Description	Amps[3]	Base Drive Frame
1	ACH550-VDR-03A3-4	3.3	R1
1.5	ACH550-VDR-03A3-4	3.3	R1
2	ACH550-VDR-04A1-4	4.1	R1
3	ACH550-VDR-06A9-4	6.9	R1
5	ACH550-VDR-08A8-4	8.8	R1

If options are ordered as Factory installed Plus codes, then drive's discount schedule will apply to options.

For pricing on configurations that are not in this pricebook, please send your request to : **drives.rfq@ca.abb.com**

Application Considerations

Because of the variety of uses for the ACH550, those responsible for the application and control of these drives must satisfy themselves that all necessary steps have been taken to insure that they meet all performance and safety requirements regarding national and local laws, regulations, codes and standards. Unless otherwise noted, ACH550 products found in these price pages are designed to meet NEMA (National Electrical Manufacturers Association) standards. ACH550 products also carry third party approvals through UL and cUL. Approval for installation in a CE first environment, restricted distribution is also provided with the 480V ACH550 and these products carry the CE mark. These listings are based on standard product and any exceptions to this will be noted in the appropriate section.

Selecting the Correct Drive Capacity

All ACH550 drives are current rated devices. The HP ratings provided are for reference only and are based on typical 4-pole motors at nominal voltages (NEC Table 430-150). If full motor torque is required, ensure the drive has a continuous current rating equal to, or greater than, the full load amp rating of the motor.

Standard Documentation

All ACH550 drives are shipped with a User's Manual. The user's manual contains all necessary dimensional and installation drawings, generic wiring drawings, and all programming instructions.

Delivery

ABB is a worldwide AC Drive manufacturing organization. As a result, some items may not be manufactured in the United States. Lead-times for ACH550 products are based on where the drive is manufactured and the size of the drive. Wall mount ACH550 drives through 200HP are typically manufactured in the United States. These ACH550s, without installed modifications, are forecast with availability's ranging from stock to two (2) weeks. Free standing floor mount ACH550 drives from 250 to 550 HP with input voltage of 480 VAC are manufactured in our US or European Manufacturing Facility. Lead times for these products, without installed modifications, are from stock to two (2) weeks. All ACH550s with installed options are scheduled and manufactured based upon manufacturing capacity. Please consult the factory when lead times for ACH550 products with installed options are required. For current lead times of all products, please contact your local ABB Sales Representative or log in to the www.abb-drives.com website.

Hardware Description

The ACH550 is available in several mounting configurations. A brief description and photo are provided to facilitate model selection and understanding of what is offered with each standard product.

ACH550 Drive Features

Standard Features

UL, cUL, CSA labeled and CE marked on -UH construction type
UL, cUL labeled on -VxR, -BxR, -Cx and -PxR construction types
EMI/RFI Filter (1st Environment, Restricted Distribution)
Start-Up Assistants
Maintenance Assistants
Diagnostic Assistants
Real Time Clock
- Includes Day, Date and Time

Operator Panel Parameter Backup (read/write)
Full Graphic and Multilingual Display
- for Operator Control, Parameter Set-Up and Operating
- Data Display:
  - Output Frequency (Hz)
  - Speed (RPM)
  - Motor Current
  - Calculated % Motor Torque
  - Calculated Motor Power (kW)
  - DC Bus Voltage
  - Output Voltage
  - Heatsink Temperature
  - Elapsed Time Meter (reset able)
  - KWh (reset-able)
  - Input / Output Terminal Monitor
  - PID Actual Value (Feedback) & Error
  - Fault Text
  - Warning Text
  - Three (3) Scalable Process Variable Displays
  - User Definable Engineering Units

Two (2) Programmable Analog Inputs
Six (6) Programmable Digital Inputs
Two (2) Programmable Analog Outputs
Up to six (6) Programmable Relay Outputs (Three (3) Standard)
Adjustable Filters on Analog Inputs and Outputs
Mathematical Functions on Analog Reference Signals
All Control Inputs Isolated from Ground and Power
Four (4) Resident Serial Communication Protocols
- BACnet (MS/TP)
- Johnson Controls N2
- Siemens Buildings Technologies FLN (P1)
- Modbus RTU

Input Speed Signals
- Current 0 (4) to 20 mA
- Voltage 0 (2) to 10 VDRC
- Increase/Decrease Reference Contacts (Floating Point)
- Serial Communications

Start/Stop
- 2 Wire (Dry Contact Closure)
- 3 Wire (Momentary Contact)
- Application of Input Power
- Application of Reference Signal (PID Sleep/Wake-Up)
- Serial Communications

Start Functions
- Ramp
- Flying Start
- Premagnetization on Start
- Automatic Torque Boost
- Automatic Torque Boost with Flying Start
- Auto Restart (Reset) – Customer Selectable and Adjustable

Stop Functions
- Ramp or Coast to Stop
- Emergency Stop
- DC Braking / Hold at Stop
- Flux Braking

Accel/Decel
- Two (2) sets of Independently Ramps
- Linear or Adjustable 'S' Curve Accel/Decel Ramps

HVAC Specific Application Macros
Separate Safeties (2) and Run Permissive Inputs
Damper Control
Override Input (Fire Mode)
Timer Functions
- Four (4) Daily Start/Stop Time Periods
- Four (4) Weekly Start/Stop Time Periods
- Four Timers for Collecting Time Periods and Overrides

Seven (7) Preset Speeds
Supervision Functions
Adjustable Current Limit
Electronic Reverse
Automatic Extended Power Loss Ride Through (Selectable)
Programmable Maximum Frequency to 500 Hz
PID Control
- Two (2) Integral Independent Programmable PID Setpoint Controllers (Process and External)
- External Selection between Two (2) Sets of Process PID Controller Parameters
- PID Sleep/Wake-Up

Motor Control Features
- Scalar (V/Hz) and Vector Modes of Motor Control
- V/Hz Shapes
  - Linear
  - Squared
- Energy Optimization
- IR Compensation
- Slip Compensation
- Three (3) Critical Frequency Lockout Bands

Preprogrammed Protection Circuits
- Overcurrent
- Short Circuit
- Ground Fault
- Overvoltage
- Undervoltage
- Input Phase Loss
- Output Device (IGBT) Overtemperature
- Adjustable Current Limit Regulator
- UL508C approved Electronic Motor Overload (I^2T)

Programmable Fault Functions for Protection Include
- Loss of Analog Input
- Panel Loss
- External Fault
- Motor Thermal Protection
- Stall
- Underload
- Motor Phase Loss
- Ground Fault

5% Equivalent Input Impedance
- 5% Equivalent Impedance with Internal Reactor(s)
- Patented Swinging Choke Design for Superior Harmonic Mitigation in frame sizes (R1 to R6)

Available Options

3 Relay Extension Module (OREL-01)
115/230 V Digital input Interface Card (OHDI-01)
Fieldbus Adapter Modules
- LonWorks
- Profibus
- DeviceNet

DriveWindow Light Start-up, Operation, Programming and Diagnostic Tool
Fan Replacement Kit

ACH550 Drive Specifications

Input Connection

Input Voltage (U_1) ..... 208/220/230/240 VAC 3-phase +/-10%
208/220/230/240 VAC 1-phase +/-10%
380/400/415/440/460/480 VAC 3-phase +/-10%
500/575/600 VAC 3-phase +/- 10%
Frequency: ..... 48 - 63 Hz
Line Limitations: ..... Max +/-3% of nominal phase to phase input voltage
Fundamental Power Factor (cosφ): ..... 0.98 at nominal load
Connection: ..... U_1, V_1, W_1 (U_1, V_1 ,1-phase)

Output (Motor) Connection

Output Voltage: ..... 0 to U_1, 3-phase symmetrical, U_2 at the field weakening point
Output Frequency: ..... -500 to 500 Hz
Frequency Resolution: ..... 0.01 Hz
Continuous Output Current:
Variable Torque: ..... 1.0 * I_{2N} (Nominal rated output current, Variable Torque)
Short Term Overload Capacity:
Variable Torque: ..... 1.1 * I_{2N}, (1 min/10 min)
Peak Overload Capacity:
Variable Torque: ..... 1.35 * I_{2N}, (2 sec/1 min)
Base Motor Frequency Range: ..... 10 to 500 Hz
Switching Frequency: ..... 1, 4, 8 or 12 kHz
Acceleration Time: ..... 0.1 to 1800 s
Deceleration Time: ..... 0.1 to 1800 s
Efficiency: ..... 0.98 at nominal power level
Short Circuit Withstand Rating: ..... 100,000 AIC (UL) w/o fuses
Connection: ..... U_2, V_2, W_2

Enclosure

Style: ..... UL (NEMA) Type 1, Type 12, or Type 3R
UL Plenum Rated Type 1, Type 12

Agency Approval

Listing and Compliance: ..... UL, cUL, CE, EN 61800-3 (2004)

Ambient Conditions, Operation

Air Temperature: ..... 0^0 to 40^0C (32^0 to 104^0F), above 40^0C the maximum output current is de-rated 1% for every additional 1^0C (up to 50^0C (122^0F) maximum limit.
Relative Humidity: ..... 5 to 95%, no condensation allowed, maximum relative humidity is 60% in the presence of corrosive gasses
Contamination Levels:
IEC: ..... 60721-3-1, 60721-3-2 and 60721-3-3
Chemical Gasses: ..... 3C1 and 3C2
Solid Particles: 3S2
Installation Site Altitude: ..... 0 to 1000 m (3300 ft) above sea level. At sites over 1000 m (3300 ft) above sea level, the maximum power is de-rated 1% for every additional 100 m (330 ft). If the installation site is higher than 2000 m (6600 ft) above sea level, please contact your local ABB distributor or representative for further information
Vibration ..... Max 3.0 mm (0.12 in) 2 to 9 Hz, Max 10 m/s² (33 ft/s²) 9 to 200 Hz sinusoidal

Ambient Conditions, Storage (in Protective Shipping Package)

Air Temperature: ..... -40^0 to 70^0C (-40^0 to 158^0F)
Relative Humidity: ..... Less than 95%, no condensation allowed
Vibration Tested to (IEC 60068-2-6): ..... In accordance with ISTA 1A and 1B specifications
Bump Tested to (IEC 60068-2-29): ..... Max 100 m/s² (330 ft/s²) 11 ms (Tested 500 times each axis, each pole; 3000 times total)

Ambient Conditions, Transportation (in Protective Shipping Package)

Air Temperature: ..... -40^0 to 70^0C (-40^0 to 158^0F)
Relative Humidity: ..... Less than 95%, no condensation allowed
Atmospheric Pressure: ..... 60 to 106 kPa (8.7 to 15.4 PSI)
Vibration Tested to (IEC 60068-2-6): ..... Max 3.0 mm (0.14 in) 2 to 9 Hz, Max 15 m/s² (49 ft/s²) 9 to 200 Hz sinusoidal
Bump Tested to (IEC 60068-2-29): ..... Max 100 m/s² (330 ft/s²) 11 ms (Tested 500 times each axis, each pole; 3000 times total)
Shock Tested to (IEC 60068-2-27)
R1: ..... 76 cm (30 in)
R2: ..... 61 cm (24 in)
R3: ..... 46 cm (18 in)
R4: ..... 31 cm (12 in)
R5 & 6: ..... 25 cm (10 in)

ACH550 Drive Specifications (continued)

Analog Inputs

Quantity	Two (2) programmable
Voltage Reference:	0 (2) to 10 V, 250kOhm, single ended
Current Reference:	0 (4) to 20 mA, 100Ohm, single ended
Potentiometer:	10 VDRC, 10 mA (1K to 10KOhms)
Input Updating Time	8 ms
Terminal Block Size	2.3mm² / 14AWG

Reference Power Supply

Reference Voltage	+10 VDRC, 1% at 25°C (77°F)
Maximum Load	10 mA
Applicable Potentiometer	1 kOhm to 10 kOhm
Terminal Block Size	2.3mm² / 14AWG

Analog Outputs

Quantity	Two (2) programmable current outputs
Signal Level	0 (4) to 20 mA
Accuracy	+/- 1% full scale range at 25°C (77°F)
Maximum Load Impedance	500 Ohms
Output Updating Time	2 ms
Terminal Block Size	2.3mm² / 14AWG

Digital Inputs

Quantity	Six (6) programmable digital inputs
Isolation	Isolated as one group
Signal Level	24 VDRC, (10V Logic 0)
Input Current	15 mA at 24 VDRC
Input Updating Time:	4 ms
Terminal Block Size	2.3mm² / 14AWG

Internal Power Supply

Primary Use	Internal supply for digital inputs
Voltage:	+24 VDRC, max 250 mA
Maximum Current:	250 mA
Protection:	Short circuit protected

Relay Outputs

Quantity	Three (3) programmable relay (Form C) outputs
Switching Capacity:	6A at 30VDRC or 250VAC
Max Continuous Current:	2A RMS
Contact Material:	Silver Cadmium Oxide (AgCdO)
Isolation Test Voltage	4 kVAC, 1 minute
Output Updating Time	12 ms
Terminal Block Size	2.3mm² / 14AWG

Protections

Single Phase	Protected (input & output)
Overcurrent Trip Limit:	3.5 x I_{2N} instantaneous
Adjustable Current Regulation Limit:	1.1 x I_{2N} (RMS) max.
Overvoltage Trip Limit:	1.30 x U_N
Undervoltage Trip Limit:	0.65 x U_N
Overtemperature (Heatsink):	+115°C (+239°F)
Auxiliary Voltage:	Short Circuit Protected
Ground Fault:	Protected
Short Circuit:	Protected
Microprocessor fault:	Protected
Motor Stall Protection:	Protected
Motor Overtemperature Protection (I^2t):	Protected
Input Power Loss of Phase:	Protected
Loss of Reference:	Protected
Short Circuit Current Rating:	100,000 RMS symmetrical Amperes
Input Line Impedance:	Swinging choke 5% equivalent R1-R6, 3% equivalent R8

Product Description

The ACH550 is available in several configurations. A brief description and illustration are provided to facilitate model selection and understanding of what is offered with each standard product.

ACH550-UH — Base Drive

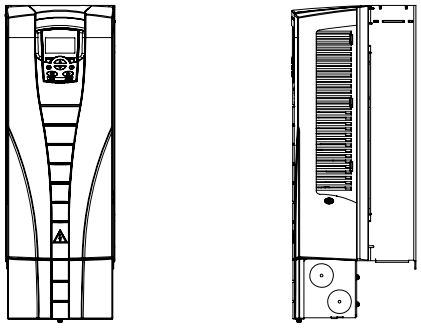
The ACH550 Drive is available from 1 to 100 HP in 208/230V, 1 to 550 HP in 480V, and 2 to 150 HP in 600V input voltages. The ACH550 Drive has eight frame sizes (R1 to R8). The ACH550 Drive is wall mounted from 1 to 200 HP (R1 to R6) and floor mounted from 250 to 550 HP (R8). The ACH550 Drive comes in a standard UL Type 1 (NEMA 1) or optional UL Type 12 (NEMA 12) enclosure and has a control panel for user interface, parameter adjustment and drive operation mounted on the front of the drive.

Wall mounted ACH550-UH

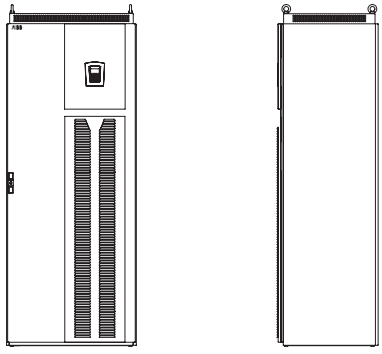
The front section of the wall mounted ACH550-UH contains the electronics, power and control wire terminals. The rear section forms a cooling channel. The two section construction allows the unit to be installed protruding through a wall, or through the rear wall of a customer supplied enclosure using additional hardware (R1 to R4), placing the rear section in a cooling air duct to minimize the heat inside the cabinet. In standard installations, the drive is mounted directly onto a wall and uses the provided conduit box. Conduit openings (knock-outs) are provided for bottom and side conduit entry. For mounting inside a customer-supplied cabinet, the conduit box may be removed.

Floor Mounted ACH550-UH

The floor mounted ACH550-UH contains all of the electronics, power and control wire terminals in a single enclosure with heatsink and cooling paths internal to the enclosure. In standard installations, the drive is mounted on the floor in a freestanding arrangement. A conduit entrance panel is provided at the top of the enclosure for conduit entry and exit.



Wall Mount (R1 - R6)



Floor Mount (R7 - R8)

ACH550-VCR & ACH550-VDR — ACH550 Drive w/ Vertical E-Clipse Bypass

The ACH550 with ABB E-Clipse Bypass is an ACH550 HVAC Drive with an advanced, communications capable, bypass motor starter.

The ACH550 with Vertical E-Clipse Bypass is the most eco¬nomical form of the ABB E-Clipse Bypass package. The ACH550 with Vertical E-Clipse Bypass is wall mountable in a vertically integrated UL Type 1 (NEMA 1) enclosure and is available from 1 to 25 HP in 208/230V, 1 to 60 HP in 480V and 2 to 60 HP in 600V input voltages.

The ACH550 ABB E-Clipse Bypass

The ACH550 with ABB E-Clipse Bypass provides a non-fused input disconnect switch or circuit breaker with door mounted and interlocked operator (padlockable in the OFF position), a bypass starter, electronic motor overload protection, a local programming and operator keypad with LCD display and indicating lights, and provisions for external control connections, and serial communications capability. Certain configurations (+F267) also provide a drive service switch.

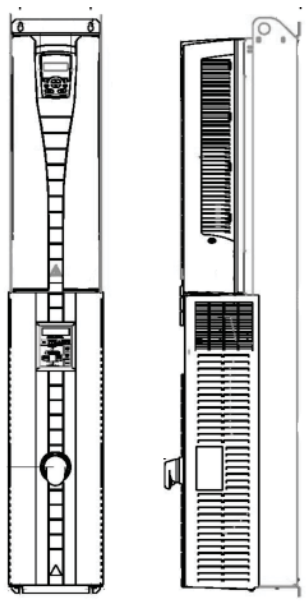
The ACH550 with E-Clipse Bypass includes two contactors. One contactor is the bypass contactor, used to connect the motor directly to the incoming power line in the event that the ACH550 is out of service. The other contactor is the ACH550 output contactor that disconnects the ACH550 from the input power and the motor when the motor is operating in the Bypass mode. The drive output contactor and the bypass contactor are interlocked to prevent “back feeding,” which occurs if line voltage is applied to the ACH550 output terminals.

The ACH550 with ABB E-Clipse bypass is a microprocessor-controlled “intelligent” system which features programmable Class 20 or 30 overload curves, programmable underload (broken belt) and overload trip or indication. Also included as standard features are single-phase protection in bypass mode, programmable manual or automatic transfer to bypass, fireman’s override, smoke control, damper control, no contactor chatter on brown-out power conditions and serial communications. Should a drive problem occur, fast acting fuses exclusive to the ACH550 drive path disconnect the drive from the line prior to clearing upstream branch circuit protection, maintaining bypass capability.

The damper control circuit closes a dry contact upon a start command to open a damper such as an outdoor air damper, fire damper, isolation damper, etc. before the motor is allowed to operate in drive mode or bypass mode regardless of the source of the run command. When the damper is fully open, a normally open dry contact from the damper end-switch closes and allows the motor to operate.

Up to four dedicated inputs are provided for safety interlocks such as firestats, smoke detectors, etc. The safety interlock inputs may also be linked to plain English keypad diagnostic indications to be displayed on the Control Panel LCD. The unit may be set-up to display any of the following diagnostics

(*continued on next page*)



Wall Mount (R1 - R4)

ACH550-BCR & ACH550-BDR — ACH550 Drive w/ E-Clipse Bypass

The ACH550 with ABB E-Clipse Bypass is an ACH550 HVAC Drive with an advanced, communications capable, bypass motor starter.

The ACH550 with E-Clipse Bypass is available from 1 to 100 HP in 208/230V, 1 to 400 HP in 480V, and 2 to 150 HP in 600V input voltages. The ACH550 with E-Clipse Bypass is wall mounted from 1 to 200 HP and floor mounted from 250 to 400 HP. The ACH550 with E-Clipse Bypass is housed in a standard UL Type 1 (NEMA 1) or optional UL Type 12 (NEMA 12) enclosure or UL type 3R (NEMA 3R).

(*continued from previous page*)

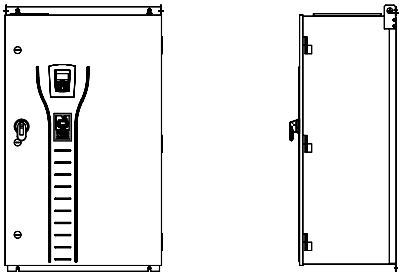
upon opening of a digital input: Vibration Switch; Firestat; Freezestat; Over Pressure; Vibration Trip; Smoke Alarm; Safety Open; Low Suction; Start Enable; Run Enable; Damper End Switch; Valve Open Proof; or Pre-Lube Cycle. When any of these contacts open, the motor stops (in drive or bypass mode) and the damper is commanded to close. Although it is not a recommend sequence of operation, this run permissive circuit may also be controlled via serial communications.

The ACH550 with ABB E-Clipse bypass has two Override modes of operation for critical control situations. The Smoke Control Override accepts a normally open dry contact that forces the motor to run in bypass and ignores all keypad inputs. In Smoke Control Override mode, the system acknowledges high priority digital inputs such as overpressure safeties and damper end-switch run permissive proofs, and disregards other, low priority digital inputs. Smoke Control Override (Override 1) response is not field programmable. The unit will go into smoke Override mode whenever the Override 1 input is closed.

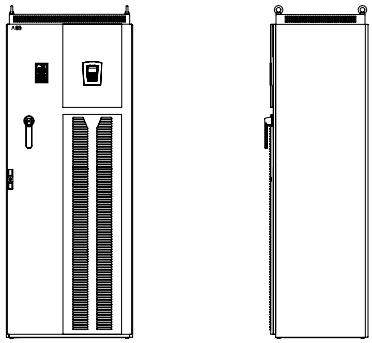
The second mode, Override 2, is fully programmable. Override 2 default programming is designed for “Run to Destruction” operation. However, the end user can program the unit to acknowledge some external inputs while ignoring others; ignore all external inputs; or acknowledge all external inputs. This mode is fully programmable to allow the user to program the response of the unit to match his local AHJ.

All ABB E-Clipse bypass units have the following Embedded Fieldbus (EFB) protocols included as standard: Modbus RTU; Johnson Controls N2; Siemens Building Technologies FLN (P1); and BACnet (MS/TP). The ABB E-Clipse bypass is BACnet Testing Labs (BTL) listed as an Applications Specific Controller (B-ASC).

The ACH550 with ABB E-Clipse bypass allows control and monitoring of both Drive and Bypass over serial communications. Users can control and monitor over 45 points of bypass information via the communications protocols. Serial communication capabilities include; bypass run-stop control; the ability to force the unit to bypass; and the ability to control all relay outputs. The BAS system can monitor measured data such as current (in amps), kilowatt hours (resettable), operating hours (resettable), and bypass logic board temperature. The BAS is also capable of monitoring status data such as bypass relay output status, and digital input status. Bypass override, diagnostic, warning and fault information is also transmitted over serial communications with remote system (drive or bypass) fault reset possible as well. The BAS system is also capable of determining if the motor is running (or selected to run) from the drive or bypass; as well as the status of the Drive and Bypass H-O-A switches over serial communications.



Wall Mount (R1 - R6)



Floor Mount (R8)

ACH550-CC & ACH550-CD

The ACH550-CC and CD are complete Drive with Bypass Packages that include an ACH550 Variable Frequency Drive, a bypass function that allows the motor to be run at full voltage in the event the drive is shut down for service and a main disconnect means. Complete, pre-engineered packages reduce time, effort and the cost of installing the popular drive bypass option.

The bypass function is configured entirely of standard industrial control components. It includes two electrically interlocked contactors, a motor overload relay, a control power transformer with primary and secondary fusing, and cover mounted Drive-Off-Bypass selector switch, BYPASS pilot light and EXTERNAL/MOL FAULT pilot light.

Bypass is accomplished by means of the two contactors. One is the bypass contactor used to connect the motor directly to the power line. The other is the output contactor that disconnects the motor from the drive output when operating in the bypass mode. This prevents the “back feeding” that would occur if line voltage were applied to the drive output terminals. The drive output contactor and the bypass contactor are electrically interlocked to prevent simultaneous operation.

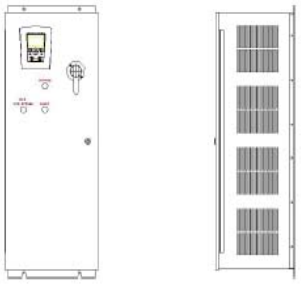
Motor overload protection in the bypass mode is provided by a motor overload relay connected in both the drive and bypass modes of operation. For motor full load currents through 80 amperes, the Motor Overload Relay is an adjustable trip, bimetallic overload relay with a class 20 trip characteristic. Above 80 amperes, the Motor Overload Relay is an adjustable trip electronic overload relay with selectable class 10, 20 or 30 trip characteristics.

ACH550 Drive W/ Bypass Packages include either an input disconnect switch (ACH550-CD) or circuit breaker (ACH550-CC) with a door mounted external operating handle that is interlocked with the enclosure door and lockable in the OFF position with up to three padlocks. The multi-lingual, alphanumeric drive control panel is mounted on the door of UL Type 1 and UL Type 12 enclosures, and on the drive within UL Type 3R enclosures. An optional drive service switch (+F267) isolates the drive from the power source for service and provides superior functionality to a three-contactor arrangement.

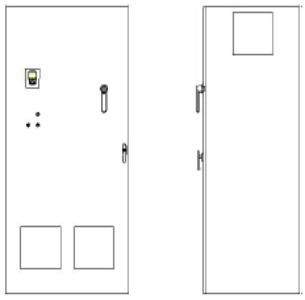
Fast acting, current limiting drive input fuses are provided as standard. Faster than circuit breakers and most other fuses, the drive fuses are included to limit damage and allow for possible drive repair if a short circuit or ground fault should develop in the drive input bridge. For drives at the higher ratings, it is generally more economical to repair rather than replace the drive. Drive fuses are also intended to provide for immediate operation of the bypass function after such a fault.

Drive W/ Bypass Packages are available in UL TYPE 1 and UL TYPE 12 enclosures through 100 HP at 208/240V, 200 HP at 480V and 150 HP at 600V. For outdoor applications, UL TYPE 3R enclosed packages are available through 100 HP at 208/240V, 200 HP at 480V, and 150 HP at 600V. UL TYPE 3R enclosures are sheet steel construction with a tough powder coat paint finish for corrosion resistance, and include a 100 watt, thermostatically controlled space heater and thermostatic control of the force ventilated cooling system as standard.

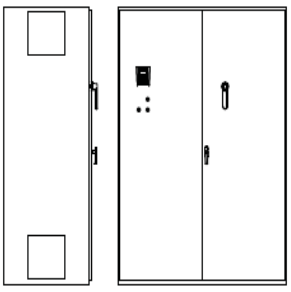
ACH550 Classic Bypass



Wall Mount (R1 - R6)



Floor Mount (R6)



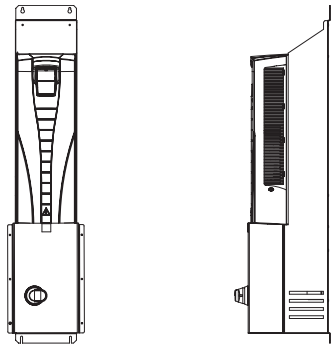
Floor Mount (R8)

ACH550-PCR & ACH550-PDR

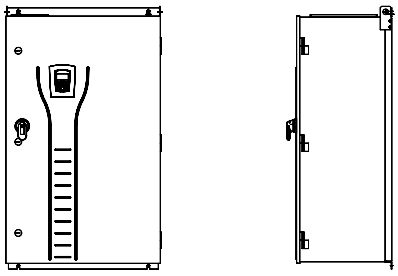
ACH550 Drive Pack

The ACH550 Drive Pack is an ACH550 Drive packaged with either an input disconnect switch and fast acting fuses (ACH550-PDR) or an input circuit breaker (ACH550-PCR). The ACH550 Drive Pack is available from 1 to 100 HP at 208/240V, 1 to 550 HP at 480V, and 2 to 150 HP at 600V. The ACH550 Drive Pack is wall mounted from 1 to 200 HP and floor mounted from 250 to 550 HP. The ACH550 Drive Pack comes in a standard UL Type 1 (NEMA 1) or optional UL Type 12 (NEMA 12) enclosure. The ACH550 Drive Pack provides a door-mounted operator (padlockable in the OFF position), electronic motor overload protection, local operator keypad with graphics display, and provisions for external control connections.

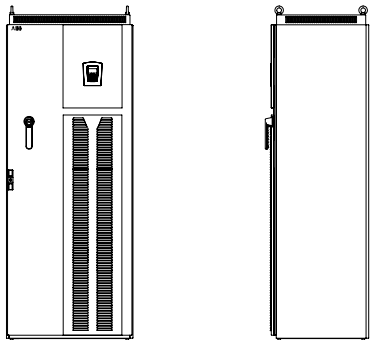
For outdoor applications, UL Type (NEMA) 3R enclosed ACH550-PCR and -PDR Drive with Disconnect packages are available from 1 to 100 HP at 208/240V, 1 to 200 HP at 480V and 2 to 150 HP at 600V. Construction is sheet steel with a tough powder coat paint finish for corrosion resistance. A 100 watt, thermostatically controlled space heater and thermostatic control of the force ventilated cooling system are standard. The operator keypad is mounted on the drive within the enclosure.



Wall Mount (R1 - R4)



Wall Mount (R5 - R6)



Floor Mount (R8)

Definition of NEMA and IEC environmental ratings

NEMA and IEC environmental ratings can be confusing at times. Below is a summary of the rating definitions and recommendations for application of each type supported by the ACS550 AC Drive product family.

NEMA 1, UL type 1

Indoor use primarily to provide a degree of protection against limited amounts of falling dirt.

IP 2 1
- (2) Protected against solid foreign objects of 12.5mm diameter and greater
- (1) Protected against vertically falling water drops

Recommendation

Installation in clean environment such as a clean room or in another enclosure with higher degree of protection

NEMA 12, UL type 12

Indoor use primarily to provide a degree of protection against circulating dust, falling dirt, and dripping non-corrosive liquids

IP 5 4
- (5) Ingress of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the apparatus or to impair safety
- (4) Water splashed against the enclosure from any direction shall have no harmful effects

Recommendation

Installation in environments with moderate to significant dust and contaminant particles. Acceptable for most applications on factory floors where dust is present but spraying liquids are not. Regular preventative maintenance for filter changing or cleaning. Inspect drive for dust or particle build up that may limit cooling in the future, clean as needed.

NEMA 3R, UL type 3R

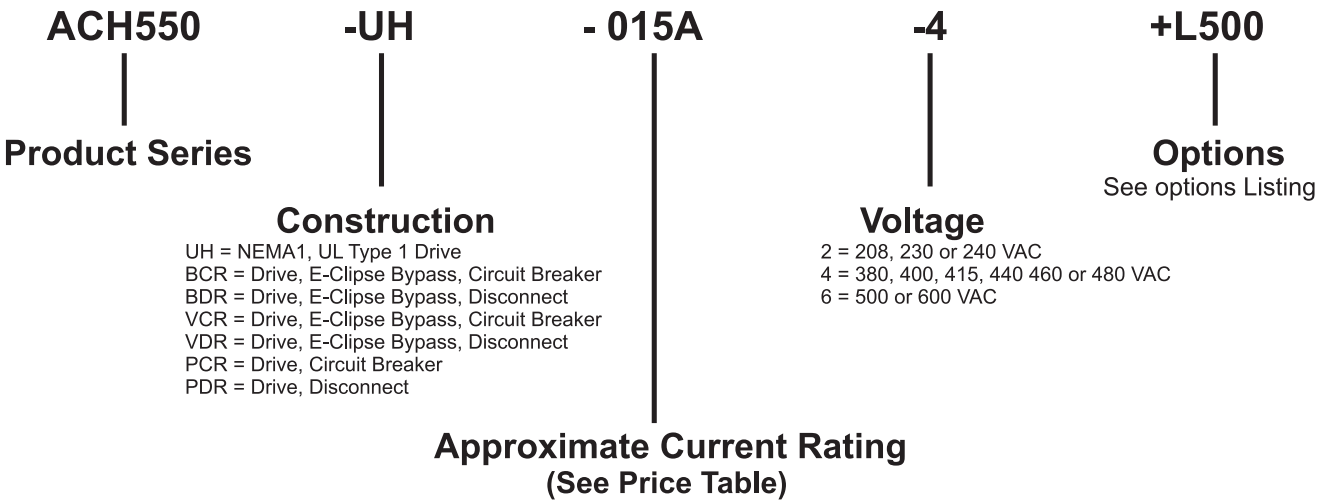
Either indoor or outdoor use to provide a degree of protection against falling dirt, rain, sleet, and snow; and that will be undamaged by the external formation of ice on the enclosure.

IP 2 4
- (2) Protected against solid foreign objects of 12.5mm diameter and greater
- (4) Water splashed against the enclosure from any direction shall have no harmful effects

Recommendation

Installation in outdoor environments where rain and other precipitates are commonly present. Also suitable for indoor installation where dripping or splashing water is present. Not recommended where significant dust and contaminant particles are present.

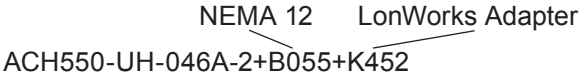
Basic Type Code Information



Ordering Information

To order an ACH550 drive, select the appropriate type code shown in the selection guide for your input voltage. This type code represents the basic drive product. For the ACH550-UH wall-mounted units, this includes the drive and the US conduit box. For the ACH550-UH floor-mounted units, this includes the free-standing drive with top entry / top exit for motor and power cables and a common mode filter for drives larger than 200 HP. To add options to these products, simply add a + at the end of the type code followed by the catalog code shown for that option.

Example: ACH550-UH-046A-2 plus a UL Type 12 (NEMA 12) enclosure and LonWorks adapter. The type code that should be indicated on the order would be:



For additional details and available options refer to the order format pages later in these price pages.

208/230V Ratings for Base Drive

3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 208V [1]

DS-H550	HP[2]	Material Description	Amps[3,4]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 40	UL Type (NEMA) 12 (+B055)	Dim. Ref. Page 41
Base Drive[5]	1	ACH550-UH-04A6-2	4.6	R1	*$1,090*	UH1-1	*$1,175*	UH12-1
	1.5	ACH550-UH-06A6-2	6.6	R1	*$1,140*	UH1-1	*$1,221*	UH12-1
	2	ACH550-UH-07A5-2	7.5	R1	$1,238	UH1-1	$1,324	UH12-1
	3	ACH550-UH-012A-2	12	R1	$1,439	UH1-1	$1,540	UH12-1
	5	ACH550-UH-017A-2	17	R1	$1,574	UH1-1	$1,684	UH12-1
	7.5	ACH550-UH-024A-2	24	R2	$1,876	UH1-2	$2,007	UH12-2
	10	ACH550-UH-031A-2	31	R2	$2,077	UH1-2	$2,223	UH12-2
	15	ACH550-UH-046A-2	45	R3	*$2,222*	UH1-3	*$2,371*	UH12-3
	20	ACH550-UH-059A-2	59	R3	*$2,457*	UH1-3	*$2,627*	UH12-3
	25	ACH550-UH-075A-2	75	R4	*$2,708*	UH1-4	*$2,989*	UH12-4
	30	ACH550-UH-088A-2	88	R4	*$3,311*	UH1-4	*$3,582*	UH12-4
	40	ACH550-UH-114A-2	114	R4	$4,421	UH1-4	$4,730	UH12-4
	50	ACH550-UH-143A-2	143	R6	$5,386	UH1-6	$5,763	UH12-6
	60	ACH550-UH-178A-2	178	R6	$6,486	UH1-6	$6,940	UH12-6
	75	ACH550-UH-221A-2	221	R6	$9,330	UH1-6	$9,983	UH12-6
	230V Ratings for Base Drive 3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 230V							
	100	ACH550-UH-248A-2	248	R6	$11,330	UH1-6	$12,123	UH12-6

NOTES

1 The rated current of the ACH550 must be greater than or equal to the rated motor current to achieve the rated motor power given in the table.

2 Horsepower is based on NEMA motor ratings for 4-pole motors (1800 rpm). Check motor nameplate current for compatibility.

3 Continuous base current with 110% overload for 1 minute / 10 minutes.
130% continuous base current available for 2 seconds / minute.
Current ratings do not change with different supply voltages.

4 For operation on single phase power, de-rate the output current by 50%.

5 All -UH models -04A6-2 through -248A-2 come with a conduit box as standard.

208/230V Ratings for Vertical E-Clipse Bypass

3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 208V [1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 42	Service Switch (+F267)
Vertical Bypass with Non-Fused Disconnect Switch	1	ACH550-VDR-04A6-2	4.6	R1	*$1,995*	VX1-1	$67
	1.5	ACH550-VDR-06A6-2	6.6	R1	$2,052	VX1-1	$67
	2	ACH550-VDR-07A5-2	7.5	R1	$2,170	VX1-1	$67
	3	ACH550-VDR-012A-2	11.8	R1	$2,371	VX1-1	$67
	5	ACH550-VDR-017A-2	16.7	R1	$2,678	VX1-1	$76
	7.5	ACH550-VDR-024A-2	24.2	R2	$2,980	VX1-2	$76
	10	ACH550-VDR-031A-2	30.8	R2	*$3,310*	VX1-3	$126
	15	ACH550-VDR-046A-2	46.2	R3	*$3,590*	VX1-3	$126
	20	ACH550-VDR-059A-2	59.4	R3	*$3,920*	VX1-3	$126
	25	ACH550-VDR-075A-2	74.8	R4	$4,483	VX1-4	$302
Vertical Bypass with Circuit Breaker	1	ACH550-VCR-04A6-2	4.6	R1	*$2,395*	VX1-1	$67
	1.5	ACH550-VCR-06A6-2	6.6	R1	$2,472	VX1-1	$67
	2	ACH550-VCR-07A5-2	7.5	R1	$2,590	VX1-1	$67
	3	ACH550-VCR-012A-2	11.8	R1	$2,791	VX1-1	$67
	5	ACH550-VCR-017A-2	16.7	R1	$3,094	VX1-1	$76
	7.5	ACH550-VCR-024A-2	24.2	R2	$3,396	VX1-2	$76
	10	ACH550-VCR-031A-2	30.8	R2	*$3,650*	VX1-3	$126
	15	ACH550-VCR-046A-2	46.2	R3	*$3,980*	VX1-3	$126
	20	ACH550-VCR-059A-2	59.4	R3	*$4,350*	VX1-3	$126
	25	ACH550-VCR-075A-2	74.8	R4	$4,761	VX1-4	$302

208/230V Ratings for E-Clipse Bypass

3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 208V [1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 43	UL Type (NEMA) 12 (+B055)	Dim. Ref. page 44	UL Type (NEMA) 3R (+B058)	Dim. Ref. page 45	AC Line Reactor (+E213)	Service Switch (+F267)
E-Clipse Bypass with Non-Fused Disconnect Switch	1	ACH550-BDR-04A6-2	4.6	R1	*$2,340*	BX1-1	*$2,414*	BX12-1	$2,694	BX3R-1	$197	$67
	1.5	ACH550-BDR-06A6-2	6.6	R1	*$2,440*	BX1-1	*$2,517*	BX12-1	$2,809	BX3R-1	$197	$67
	2	ACH550-BDR-07A5-2	7.5	R1	$2,517	BX1-1	$2,593	BX12-1	$2,894	BX3R-1	$197	$67
	3	ACH550-BDR-012A-2	11.8	R1	$2,751	BX1-1	$2,833	BX12-1	$3,162	BX3R-1	$197	$67
	5	ACH550-BDR-017A-2	16.7	R1	$3,106	BX1-1	$3,200	BX12-1	$3,572	BX3R-1	$307	$76
	7.5	ACH550-BDR-024A-2	24.2	R2	$3,457	BX1-2	$3,561	BX12-2	$3,974	BX3R-2	$307	$76
	10	ACH550-BDR-031A-2	30.8	R2	$3,809	BX1-3	$3,923	BX12-3	$4,378	BX3R-3	$307	$126
	15	ACH550-BDR-046A-2	46.2	R3	*$4,000*	BX1-3	*$4,127*	BX12-3	$4,606	BX3R-3	$336	$126
	20	ACH550-BDR-059A-2	59.4	R3	*$4,415*	BX1-3	*$4,584*	BX12-3	$5,116	BX3R-3	$416	$126
	25	ACH550-BDR-075A-2	74.8	R4	*$5,210*	BX1-4	*$5,383*	BX12-4	$6,008	BX3R-4	$584	$302
	30	ACH550-BDR-088A-2	88	R4	*$6,110*	BX1-5	*$6,519*	BX12-5	$7,276	BX3R-5*	$722	$302
	40	ACH550-BDR-114A-2	114	R4	$7,267	BX1-5	$7,776	BX12-5	$8,679	BX3R-6	$781	$470
	50	ACH550-BDR-143A-2	143	R6	$8,800	BX1-6	$9,416	BX12-6	$10,509	BX3R-6	Standard	$470
	60	ACH550-BDR-178A-2	178	R6	$9,900	BX1-6	$10,593	BX12-6	$11,823	BX3R-6		$470
	75	ACH550-BDR-221A-2	221	R6	$10,690	BX1-6	$11,438	BX12-6	$12,766	BX3R-7		$550
	230V Ratings for E-Clipse Bypass with Disconnect 3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 230V											
	100	ACH550-BDR-248A-2	248	R6	$ 12,268	BX1-6	$ 13,127	BX12-6	$14,651	BX3R-7	Standard	$759

E-Clipse Bypass with Circuit Breaker	1	ACH550-BCR-04A6-2	4.6	R1	*$2,810*	BX1-1	*$2,893*	BX12-1	$3,229	BX3R-1	$197	$67
	1.5	ACH550-BCR-06A6-2	6.6	R1	$2,868	BX1-1	$2,954	BX12-1	$3,350	BX3R-1	$197	$67
	2	ACH550-BCR-07A5-2	7.5	R1	$3,004	BX1-1	$3,094	BX12-1	$3,453	BX3R-1	$197	$67
	3	ACH550-BCR-012A-2	11.8	R1	$3,238	BX1-1	$3,335	BX12-1	$3,722	BX3R-1	$197	$67
	5	ACH550-BCR-017A-2	16.7	R1	$3,403	BX1-1	$3,505	BX12-1	$3,912	BX3R-1	$307	$76
	7.5	ACH550-BCR-024A-2	24.2	R2	$3,736	BX1-2	$3,848	BX12-2	$4,294	BX3R-2	$307	$76
	10	ACH550-BCR-031A-2	30.8	R2	$4,042	BX1-3	$4,163	BX12-3	$4,646	BX3R-3	$307	$126
	15	ACH550-BCR-046A-2	46.2	R3	*$4,260*	BX1-3	*$4,391*	BX12-3	$4,901	BX3R-3	$336	$126
	20	ACH550-BCR-059A-2	59.4	R3	*$4,640*	BX1-3	*$4,770*	BX12-3	$5,324	BX3R-3	$416	$126
	25	ACH550-BCR-075A-2	74.8	R4	*$5,480*	BX1-4	*$5,667*	BX12-4	$6,325	BX3R-4	$584	$302
	30	ACH550-BCR-088A-2	88	R4	*$6,400*	BX1-5	*$6,898*	BX12-5	$7,699	BX3R-5*	$722	$302
	40	ACH550-BCR-114A-2	114	R4	$7,561	BX1-5	$8,091	BX12-5	$9,030	BX3R-6	$781	$470
	50	ACH550-BCR-143A-2	143	R6	$9,018	BX1-6	$9,650	BX12-6	$10,770	BX3R-6	Standard	$470
	60	ACH550-BCR-178A-2	178	R6	$10,421	BX1-6	$11,150	BX12-6	$12,445	BX3R-6		$470
	75	ACH550-BCR-221A-2	221	R6	$11,646	BX1-6	$12,461	BX12-6	$13,908	BX3R-7		$550
	230V Ratings for E-Clipse Bypass with Circuit Breaker 3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 230V											
	100	ACH550-BCR-248A-2	248	R6	$13,106	BX1-6	$14,023	BX12-6	$15,652	BX3R-7	Standard	$759

208/230V Ratings for Classic Bypass

3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 208V [1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 45	UL Type (NEMA) 12 (+B055)	Dim. Ref. Page 46	UL Type (NEMA) 3R (+B058)	Dim. Ref. Page 47	AC Line Reactor (+E213)	Service Switch (+F267)
Classic Bypass with Non-Fused Disconnect Switch	1	ACH550-CD-04A6-2	4.6	R1	$2,970	CX1-1	$3,333	CX12-1	$3,944	CX3R-1	$197	$67
	1.5	ACH550-CD-06A6-2	6.6	R1	$3,076	CX1-1	$3,445	CX12-1	$3,944	CX3R-1	$197	$67
	2	ACH550-CD-07A5-2	7.5	R1	$3,252	CX1-1	$3,643	CX12-1	$4,039	CX3R-1	$197	$67
	3	ACH550-CD-012A-2	12	R1	$3,554	CX1-1	$3,981	CX12-1	$4,414	CX3R-1	$197	$67
	5	ACH550-CD-017A-2	17	R1	$3,953	CX1-1	$4,428	CX12-1	$4,836	CX3R-1	$307	$76
	7.5	ACH550-CD-024A-2	24	R2	$4,321	CX1-3	$4,840	CX12-3	$5,186	CX3R-3	$307	$76
	10	ACH550-CD-031A-2	31	R2	$4,689	CX1-3	$5,252	CX12-3	$5,713	CX3R-3	$307	$126
	15	ACH550-CD-046A-2	46	R3	$5,200	CX1-4	$5,816	CX12-5	$5,937	CX3R-5	$336	$126
	20	ACH550-CD-059A-2	59	R3	$5,550	CX1-4	$6,171	CX12-5	$6,104	CX3R-5	$416	$126
	25	ACH550-CD-075A-2	75	R4	$6,110	CX1-6	$6,807	CX12-6	$6,247	CX3R-6	$584	$302
	30	ACH550-CD-088A-2	88	R4	$7,150	CX1-9	$8,001	CX12-7	$6,796	CX3R-7	$722	$302
	40	ACH550-CD-114A-2	114	R4	$8,478	CX1-9	$9,496	CX12-7	$9,690	CX3R-7	$781	$470
	50	ACH550-CD-143A-2	143	R6	$10,186	CX1-10	$11,408	CX12-10	$12,446	CX3R-10	Standard	$470
	60	ACH550-CD-178A-2	178	R6	$11,314	CX1-10	$12,672	CX12-10	$13,966	CX3R-10		$470
	75	ACH550-CD-221A-2	221	R6	$12,217	CX1-11	$13,683	CX12-10	$15,081	CX3R-10		$550
	230V Ratings for Classic Bypass 3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 230V											
	100	ACH550-CD-248A-2	248	R6	$14,021	CX1-11	$15,704	CX12-10	$17,308	CX3R-10	Standard	$759

Classic Bypass with Circuit Breaker	1	ACH550-CC-04A6-2	4.6	R1	$3,585	CX1-1	$4,015	CX12-1	$4,482	CX3R-1	$197	$67
	1.5	ACH550-CC-06A6-2	6.6	R1	$3,647	CX1-1	$4,085	CX12-1	$4,482	CX3R-1	$197	$67
	2	ACH550-CC-07A5-2	7.5	R1	$3,820	CX1-1	$4,279	CX12-1	$4,696	CX3R-1	$197	$67
	3	ACH550-CC-012A-2	12	R1	$4,118	CX1-1	$4,612	CX12-1	$5,061	CX3R-1	$197	$67
	5	ACH550-CC-017A-2	17	R1	$4,272	CX1-1	$4,785	CX12-1	$5,178	CX3R-1	$307	$76
	7.5	ACH550-CC-024A-2	24	R2	$4,615	CX1-3	$5,169	CX12-3	$5,494	CX3R-3	$307	$76
	10	ACH550-CC-031A-2	31	R2	$4,917	CX1-3	$5,507	CX12-3	$5,943	CX3R-3	$307	$126
	15	ACH550-CC-046A-2	46	R3	$5,380	CX1-4	$6,041	CX12-5	$6,143	CX3R-5	$336	$126
	20	ACH550-CC-059A-2	59	R3	$5,890	CX1-4	$6,624	CX12-5	$6,308	CX3R-5	$416	$126
	25	ACH550-CC-075A-2	75	R4	$6,320	CX1-6	$7,096	CX12-6	$6,599	CX3R-6	$584	$302
	30	ACH550-CC-088A-2	88	R4	$7,380	CX1-9	$8,263	CX12-7	$7,094	CX3R-7	$722	$302
	40	ACH550-CC-114A-2	114	R4	$8,770	CX1-9	$9,822	CX12-7	$9,980	CX3R-7	$781	$470
	50	ACH550-CC-143A-2	143	R6	$10,385	CX1-10	$11,631	CX12-10	$12,613	CX3R-10	Standard	$470
	60	ACH550-CC-178A-2	178	R6	$11,859	CX1-10	$13,282	CX12-10	$14,554	CX3R-10		$470
	75	ACH550-CC-221A-2	221	R6	$13,252	CX1-11	$14,842	CX12-10	$16,264	CX3R-10		$550
	230V Ratings for Classic Bypass 3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 230V											
	100	ACH550-CC-248A-2	248	R6	$14,914	CX1-11	$16,703	CX12-10	$18,303	CX3R-10	Standard	$759

208/230V Ratings for Drive with Input Disconnect

3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 208V [1]

DS-H550	HP[2]	Material Description	Amps[3,4]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 48	UL Type (NEMA) 12 (+B055)	Dim. Ref. Page 49	UL Type (NEMA) 3R (+B058)	Dim. Ref. Page 50	AC Line Reactor (+E213)
Drive with Disconnect Switch and Fuses	1	ACH550-PDR-04A6-2	4.6	R1	$1,523	PX1-1	$1,630	PX12-1	$2,658	PX3R-1	$197
	1.5	ACH550-PDR-06A6-2	6.6	R1	$1,576	PX1-1	$1,682	PX12-1	$2,760	PX3R-1	$197
	2	ACH550-PDR-07A5-2	7.5	R1	$1,641	PX1-1	$1,756	PX12-1	$2,897	PX3R-1	$197
	3	ACH550-PDR-012A-2	12	R1	$1,872	PX1-1	$2,003	PX12-1	$3,267	PX3R-1	$197
	5	ACH550-PDR-017A-2	17	R1	$2,006	PX1-1	$2,147	PX12-1	$3,325	PX3R-1	$307
	7.5	ACH550-PDR-024A-2	24	R2	$2,359	PX1-2	$2,524	PX12-2	$3,591	PX3R-2	$307
	10	ACH550-PDR-031A-2	31	R2	$2,598	PX1-2	$2,780	PX12-2	$3,750	PX3R-2	$307
	15	ACH550-PDR-046A-2	46	R3	$2,811	PX1-3	$2,996	PX12-3	$3,850	PX3R-3	$336
	20	ACH550-PDR-059A-2	59	R3	$3,095	PX1-3	$3,362	PX12-3	$4,100	PX3R-3	$416
	25	ACH550-PDR-075A-2	75	R4	$3,503	PX1-4	$3,753	PX12-4	$4,826	PX3R-4	$584
	30	ACH550-PDR-088A-2	88	R4	$4,295	PX1-5	$4,595	PX12-5	$5,818	PX3R-4	$722
	40	ACH550-PDR-114A-2	114	R4	$5,596	PX1-5	$5,988	PX12-5	$7,116	PX3R-4	$781
	50	ACH550-PDR-143A-2	143	R6	$6,604	PX1-6	$7,066	PX12-6	$8,233	PX3R-6	Standard
	60	ACH550-PDR-178A-2	178	R6	$7,864	PX1-6	$8,414	PX12-6	$9,860	PX3R-6	
	75	ACH550-PDR-221A-2	221	R6	$10,330	PX1-6	$11,053	PX12-6	$12,953	PX3R-6	
	230V Ratings for Drive with Disconnect Switch and Fuses 3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 230V										
	100	ACH550-PDR-248A-2	248	R6	$12,700	PX1-6	$13,585	PX12-6	$15,920	PX3R-6	Standard

Drive with Circuit Breaker	1	ACH550-PCR-04A6-2	4.6	R1	$1,828	PX1-1	$1,956	PX12-1	$3,164	PX3R-1	$197
	1.5	ACH550-PCR-06A6-2	6.6	R1	$1,875	PX1-1	$2,008	PX12-1	$3,164	PX3R-1	$197
	2	ACH550-PCR-07A5-2	7.5	R1	$1,969	PX1-1	$2,107	PX12-1	$3,328	PX3R-1	$197
	3	ACH550-PCR-012A-2	12	R1	$2,246	PX1-1	$2,403	PX12-1	$3,754	PX3R-1	$197
	5	ACH550-PCR-017A-2	17	R1	$2,407	PX1-1	$2,576	PX12-1	$3,846	PX3R-1	$307
	7.5	ACH550-PCR-024A-2	24	R2	$2,831	PX1-2	$3,029	PX12-2	$4,297	PX3R-2	$307
	10	ACH550-PCR-031A-2	31	R2	$3,378	PX1-2	$3,614	PX12-2	$4,673	PX3R-2	$307
	15	ACH550-PCR-046A-2	46	R3	$3,800	PX1-3	$4,019	PX12-3	$4,800	PX3R-3	$336
	20	ACH550-PCR-059A-2	59	R3	$4,110	PX1-3	$4,391	PX12-3	$4,937	PX3R-3	$416
	25	ACH550-PCR-075A-2	75	R4	$4,650	PX1-4	$4,983	PX12-4	$5,802	PX3R-4	$584
	30	ACH550-PCR-088A-2	88	R4	$5,583	PX1-5	$5,974	PX12-5	$6,962	PX3R-4	$722
	40	ACH550-PCR-114A-2	114	R4	$7,275	PX1-5	$7,784	PX12-5	$8,274	PX3R-4	$781
	50	ACH550-PCR-143A-2	143	R6	$8,585	PX1-6	$9,186	PX12-6	$10,590	PX3R-6	Standard
	60	ACH550-PCR-178A-2	178	R6	$10,223	PX1-6	$10,938	PX12-6	$12,696	PX3R-6	
	75	ACH550-PCR-221A-2	221	R6	$12,850	PX1-6	$13,768	PX12-6	$16,678	PX3R-6	
	230V Ratings for Drive with Circuit Breaker 3-phase supply voltage 208, 230 or 240 V - Power ratings are valid at nominal voltage, 230V										
	100	ACH550-PCR-248A-2	248	R6	$14,729	PX1-6	$15,760	PX12-6	$18,293	PX3R-6	Standard

480V Ratings for Base Drive

3-phase supply voltage 380, 400, 415, 440, 460 or 480V - Power ratings are valid at nominal voltage, 460V [1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 40	UL Type (NEMA) 12 (+B055)	Dim. Ref. Page 41
Base Drive[6]	1	ACH550-UH-03A3-4	3.3	R1	$1,145	UH1-1	$1,225	UH12-1
	1.5	ACH550-UH-03A3-4	3.3	R1	$1,145	UH1-1	$1,225	UH12-1
	2	ACH550-UH-04A1-4	4.1	R1	*$1,285*	UH1-1	*$1,380*	UH12-1
	3	ACH550-UH-06A9-4	6.9	R1	$1,330	UH1-1	$1,423	UH12-1
	5	ACH550-UH-08A8-4	8.8	R1	$1,439	UH1-1	$1,540	UH12-1
	7.5	ACH550-UH-012A-4	12	R1	$1,590	UH1-1	$1,702	UH12-1
	10	ACH550-UH-015A-4	15	R2	$1,834	UH1-2	$1,962	UH12-2
	15	ACH550-UH-023A-4	23	R2	$2,279	UH1-2	$2,439	UH12-2
	20	ACH550-UH-031A-4	31	R3	$2,691	UH1-3	$2,879	UH12-3
	25	ACH550-UH-038A-4	38	R3	$3,236	UH1-3	$3,463	UH12-3
	30	ACH550-UH-045A-4	44	R3	$3,807	UH1-3	$4,074	UH12-4
	40	ACH550-UH-059A-4	59	R4	$4,555	UH1-4	$4,874	UH12-4
	50	ACH550-UH-072A-4	72	R4	$5,714	UH1-4	$6,114	UH12-4
	60	ACH550-UH-078A-4	77	R4	$6,688	UH1-4	$7,156	UH12-4
	75	ACH550-UH-097A-4	96	R4	$7,452	UH1-4	$7,974	UH12-4
	100	ACH550-UH-125A-4	124	R5	$9,261	UH1-5	$9,909	UH12-5
	125	ACH550-UH-157A-4	157	R6	*$10,420*	UH1-6	*$11,348*	UH12-6
	150	ACH550-UH-180A-4	180	R6	*$13,682*	UH1-6	*$14,839*	UH12-6
	200	ACH550-UH-246A-4	245	R6	$18,146	UH1-6	$19,416	UH12-6
	250	ACH550-UH-316A-4	316	R8	$21,690	UH1-8	$23,208	UH12-8
	300	ACH550-UH-368A-4	368	R8	$25,007	UH1-8	$26,758	UH12-8
	350	ACH550-UH-414A-4	414	R8	$29,332	UH1-8	$31,385	UH12-8
	400	ACH550-UH-486A-4	486	R8	*$34,222*	UH1-8	*$36,812*	UH12-8
	450	ACH550-UH-526A-4	826	R8	$37,562	UH1-8	$40,192	UH12-8
	500	ACH550-UH-602A-4	602	R8	$41,677	UH1-8	$44,595	UH12-8
	550	ACH550-UH-645A-4	645	R8	$49,907	UH1-8	$53,401	UH12-8

NOTES

1 The rated current of the ACH550 must be greater than or equal to the rated motor current to achieve the rated motor power given in the table.

2 Horsepower is based on NEMA motor ratings for most 4-pole motors (1800 rpm). Check motor nameplate current for compatibility.

3 Continuous base current with 110% overload for 1 minute / 10 minutes.
130% continuous base current available for 2 seconds / 1 minute.
Current ratings do not change with different supply voltages.

6 All -UH models -03A3-4 through -246A-4 come with a conduit box as standard.
All -UH models -316A-4 through -645A-4 come standard with US conduit openings, top entry / top exit, common mode filter for drives larger than 200 HP, and floor-standing enclosure.

480V Ratings for Vertical E-Clipse Bypass

3-phase supply voltage 380, 400, 415, 440, 460 or 480V - Power ratings are valid at nominal voltage, 460V [1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 42	Service Switch (+F267)
Vertical Bypass with Non-Fused Disconnect Switch	1	ACH550-VDR-03A3-4	3.3	R1	$2,077	VX1-1	$67
	1.5	ACH550-VDR-03A3-4	3.3	R1	$2,077	VX1-1	$67
	2	ACH550-VDR-04A1-4	4.1	R1	$2,210	VX1-1	$67
	3	ACH550-VDR-06A9-4	6.9	R1	$2,262	VX1-1	$67
	5	ACH550-VDR-08A8-4	8.8	R1	$2,371	VX1-1	$67
	7.5	ACH550-VDR-012A-4	11.9	R1	$2,523	VX1-1	$67
	10	ACH550-VDR-015A-4	15.4	R2	$2,766	VX1-2	$67
	15	ACH550-VDR-023A-4	23	R2	$3,383	VX1-2	$71
	20	ACH550-VDR-031A-4	31	R3	$3,795	VX1-3	$71
	25	ACH550-VDR-038A-4	38	R3	$4,588	VX1-3	$126
	30	ACH550-VDR-045A-4	44	R3	$5,160	VX1-3	$126
	40	ACH550-VDR-059A-4	59	R4	$5,907	VX1-4	$126
	50	ACH550-VDR-072A-4	72	R4	$7,129	VX1-4	$126
	60	ACH550-VDR-078A-4	77	R4	$8,477	VX1-4	$302

Vertical Bypass with Circuit Breaker	1	ACH550-VCR-03A3-4	3.3	R1	$2,497	VX1-1	$67
	1.5	ACH550-VCR-03A3-4	3.3	R1	$2,497	VX1-1	$67
	2	ACH550-VCR-04A1-4	4.1	R1	$2,610	VX1-1	$67
	3	ACH550-VCR-06A9-4	6.9	R1	$2,682	VX1-1	$67
	5	ACH550-VCR-08A8-4	8.8	R1	$2,791	VX1-1	$67
	7.5	ACH550-VCR-012A-4	11.9	R1	$2,942	VX1-1	$67
	10	ACH550-VCR-015A-4	15.4	R2	$3,186	VX1-2	$67
	15	ACH550-VCR-023A-4	23	R2	$3,799	VX1-2	$71
	20	ACH550-VCR-031A-4	31	R3	$4,211	VX1-3	$71
	25	ACH550-VCR-038A-4	38	R3	$4,975	VX1-3	$126
	30	ACH550-VCR-045A-4	44	R3	$5,546	VX1-3	$126
	40	ACH550-VCR-059A-4	59	R4	$6,293	VX1-4	$126
	50	ACH550-VCR-072A-4	72	R4	$7,528	VX1-4	$126
	60	ACH550-VCR-078A-4	77	R4	$8,754	VX1-4	$302

480V Ratings for E-Clipse Bypass

3-phase supply voltage 380, 400, 415, 440, 460 or 480V - Power ratings are valid at nominal voltage, 460V[1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 43	UL Type (NEMA) 12 (+B055)	Dim. Ref. Page 44	UL Type (NEMA) 3R (+B058)	Dim. Ref. Page 45	AC Line Reactor (+E213)	Ser-vice Switch
E-Clipse Bypass with Non-Fused Disconnect Switch	1	ACH550-BDR-03A3-4	3.3	R1	*$2,490*	BX1-1	*$2,567*	BX12-1	$2,865	BX3R-1	$193	$67
	1.5	ACH550-BDR-03A3-4	3.3	R1	*$2,490*	BX1-1	*$2,567*	BX12-1	$2,865	BX3R-1	$193	$67
	2	ACH550-BDR-04A1-4	4.1	R1	*$2,590*	BX1-1	*$2,668*	BX12-1	$2,978	BX3R-1	$193	$67
	3	ACH550-BDR-06A9-4	6.9	R1	*$2,685*	BX1-1	*$2,763*	BX12-1	$3,084	BX3R-1	$193	$67
	5	ACH550-BDR-08A8-4	8.8	R1	$2,751	BX1-1	$2,833	BX12-1	$3,162	BX3R-1	$193	$67
	7.5	ACH550-BDR-012A-4	11.9	R1	$2,926	BX1-1	$3,014	BX12-1	$3,364	BX3R-1	$223	$67
	10	ACH550-BDR-015A-4	15.4	R2	$3,209	BX1-2	$3,305	BX12-2	$3,689	BX3R-2	$260	$67
	15	ACH550-BDR-023A-4	23	R2	$3,925	BX1-2	$4,042	BX12-2	$4,511	BX3R-2	$336	$71
	20	ACH550-BDR-031A-4	31	R3	$4,174	BX1-3	$4,300	BX12-3	$4,799	BX3R-3	$365	$71
	25	ACH550-BDR-038A-4	38	R3	$5,047	BX1-3	$5,199	BX12-3	$5,803	BX3R-3	$365	$126
	30	ACH550-BDR-045A-4	44	R3	$5,675	BX1-3	$5,846	BX12-3	$6,525	BX3R-3	$365	$126
	40	ACH550-BDR-059A-4	59	R4	$6,498	BX1-4	$6,693	BX12-4	$7,470	BX3R-4	$432	$126
	50	ACH550-BDR-072A-4	72	R4	$7,842	BX1-4	$8,077	BX12-4	$9,015	BX3R-4	$445	$126
	60	ACH550-BDR-078A-4	77	R4	$9,325	BX1-4	$9,604	BX12-4	$10,719	BX3R-4	$445	$302
	75	ACH550-BDR-097A-4	96	R4	*$10,480*	BX1-5	*$11,013*	BX12-5	$12,292	BX3R-5*	$492	$302
	100	ACH550-BDR-125A-4	124	R5	$12,108	BX1-5	$12,955	BX12-5	$14,459	BX3R-6	Standard	$470
	125	ACH550-BDR-157A-4	157	R6	*$14,190*	BX1-6	*$15,146*	BX12-6	$16,904	BX3R-6		$470
	150	ACH550-BDR-180A-4	180	R6	*$17,860*	BX1-6	*$18,997*	BX12-6	$21,203	BX3R-6		$470
	200	ACH550-BDR-246A-4	245	R6	$22,404	BX1-6	$23,972	BX12-6	$26,755	BX3R-7		$546
	250	ACH550-BDR-316A-4	316	R8	$26,116	BX1-8	$27,944	BX12-8	Consult Factory	Consult Factory		$546
	300	ACH550-BDR-368A-4	368	R8	$30,038	BX1-8	$32,140	BX12-8				$961
	350	ACH550-BDR-414A-4	414	R8	$37,445	BX1-8	$40,066	BX12-8				$1,433
	400	ACH550-BDR-486A-4	486	R8	$44,442	BX1-8	$47,553	BX12-8				$1,566

E-Clipse Bypass with Circuit Breaker	1	ACH550-BCR-03A3-4	3.3	R1	*$2,940*	BX1-1	*$3,044*	BX12-1	$3,397	BX3R-1	$193	$67
	1.5	ACH550-BCR-03A3-4	3.3	R1	*$2,940*	BX1-1	*$3,044*	BX12-1	$3,397	BX3R-1	$193	$67
	2	ACH550-BCR-04A1-4	4.1	R1	$3,111	BX1-1	$3,205	BX12-1	$3,577	BX3R-1	$193	$67
	3	ACH550-BCR-06A9-4	6.9	R1	*$3,170*	BX1-1	*$3,270*	BX12-1	$3,650	BX3R-1	$193	$67
	5	ACH550-BCR-08A8-4	8.8	R1	$3,238	BX1-1	$3,335	BX12-1	$3,722	BX3R-1	$193	$67
	7.5	ACH550-BCR-012A-4	11.9	R1	$3,413	BX1-1	$3,516	BX12-1	$3,924	BX3R-1	$223	$67
	10	ACH550-BCR-015A-4	15.4	R2	$3,696	BX1-2	$3,807	BX12-2	$4,249	BX3R-2	$260	$67
	15	ACH550-BCR-023A-4	23	R2	*$4,280*	BX1-2	*$4,414*	BX12-2	$4,926	BX3R-2	$336	$71
	20	ACH550-BCR-031A-4	31	R3	$4,632	BX1-3	$4,771	BX12-3	$5,325	BX3R-3	$365	$71
	25	ACH550-BCR-038A-4	38	R3	$5,472	BX1-3	$5,636	BX12-3	$6,290	BX3R-3	$365	$126
	30	ACH550-BCR-045A-4	44	R3	*$5,990*	BX1-3	*$6,180*	BX12-3	$6,898	BX3R-3	$365	$126
	40	ACH550-BCR-059A-4	59	R4	*$6,785*	BX1-4	*$7,002*	BX12-4	$7,815	BX3R-4	$432	$126
	50	ACH550-BCR-072A-4	72	R4	*$8,250*	BX1-4	*$8,507*	BX12-4	$9,495	BX3R-4	$445	$126
	60	ACH550-BCR-078A-4	77	R4	$9,629	BX1-4	$9,918	BX12-4	$11,070	BX3R-4	$445	$302
	75	ACH550-BCR-097A-4	96	R4	$10,900	BX1-5	$11,663	BX12-5	$13,017	BX3R-5*	$492	$302
	100	ACH550-BCR-125A-4	124	R5	$12,452	BX1-5	$13,324	BX12-5	$14,871	BX3R-6	Standard	$470
	125	ACH550-BCR-157A-4	157	R6	*$14,590*	BX1-6	*$15,537*	BX12-6	$17,341	BX3R-6		$470
	150	ACH550-BCR-180A-4	180	R6	*$18,480*	BX1-6	*$19,703*	BX12-6	$21,991	BX3R-6		$470
	200	ACH550-BCR-246A-4	245	R6	$23,382	BX1-6	$25,019	BX12-6	$27,924	BX3R-7		$546
	250	ACH550-BCR-316A-4	316	R8	$27,207	BX1-8	$29,112	BX12-8	Consult Factory	Consult Factory		$546
	300	ACH550-BCR-368A-4	368	R8	$31,129	BX1-8	$33,308	BX12-8				$961
	350	ACH550-BCR-414A-4	414	R8	$38,330	BX1-8	$41,013	BX12-8				$1,433
	400	ACH550-BCR-486A-4	486	R8	$44,996	BX1-8	$48,146	BX12-8				$1,566

480V Ratings for Classic Bypass

3-phase supply voltage 380, 400, 415, 440, 460 or 480V - Power ratings are valid at nominal voltage, 460V[1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 45	UL Type (NEMA) 12 (+B055)	Dim. Ref. Page 46	UL Type (NEMA) 3R (+B058)	Dim. Ref. Page 47	AC Line Reactor (+E213)	Service Switch (+F267)
EClassic Bypass with Non-Fused Disconnect Switch	1	ACH550-CD-03A3-4	3.3	R1	$3,113	CX1-1	$3,487	CX12-1	$3,866	CX3R-1	$193	$67
	1.5	ACH550-CD-03A3-4	3.3	R1	$3,113	CX1-1	$3,487	CX12-1	$3,866	CX3R-1	$193	$67
	2	ACH550-CD-04A1-4	4.1	R1	$3,290	CX1-1	$3,680	CX12-1	$4,210	CX3R-1	$193	$67
	3	ACH550-CD-06A9-4	6.9	R1	$3,389	CX1-1	$3,796	CX12-1	$4,250	CX3R-1	$193	$67
	5	ACH550-CD-08A8-4	8.8	R1	$3,501	CX1-1	$3,921	CX12-1	$4,300	CX3R-1	$193	$67
	7.5	ACH550-CD-012A-4	12	R1	$3,706	CX1-1	$4,151	CX12-1	$4,390	CX3R-1	$223	$67
	10	ACH550-CD-015A-4	15	R2	$4,011	CX1-2	$4,492	CX12-2 *	$4,813	CX3R-2 *	$260	$67
	15	ACH550-CD-023A-4	23	R2	$4,567	CX1-2	$5,373	CX12-2 *	$5,888	CX3R-2 *	$336	$71
	20	ACH550-CD-031A-4	31	R3	$5,033	CX1-4	$5,637	CX12-4	$6,000	CX3R-4	$365	$71
	25	ACH550-CD-038A-4	38	R3	$5,952	CX1-4	$6,666	CX12-4	$6,760	CX3R-4	$365	$126
	30	ACH550-CD-045A-4	44	R3	$6,595	CX1-4	$7,386	CX12-5	$7,553	CX3R-5	$365	$126
	40	ACH550-CD-059A-4	59	R4	$7,426	CX1-5	$8,317	CX12-6	$8,586	CX3R-6	$432	$126
	50	ACH550-CD-072A-4	72	R4	$8,962	CX1-5	$10,037	CX12-6	$10,361	CX3R-6	$445	$126
	60	ACH550-CD-078A-4	77	R4	$10,657	CX1-5	$11,936	CX12-6	$12,322	CX3R-6	Standard	$302
	75	ACH550-CD-097A-4	96	R4	$12,030	CX1-6	$13,304	CX12-7	$12,461	CX3R-7		$302
	100	ACH550-CD-125A-4	124	R5	$13,838	CX1-7	$15,499	CX12-8	$16,000	CX3R-8		$470
	125	ACH550-CD-157A-4	157	R6	$16,880	CX1-10	$18,864	CX12-9	$16,588	CX3R-9		$470
	150	ACH550-CD-180A-4	180	R6	$20,420	CX1-10	$22,811	CX12-9	$21,238	CX3R-9		$470
	200	ACH550-CD-246A-4	245	R6	$25,605	CX1-11	$28,678	CX12-10	$29,500	CX3R-10		$546
	250	ACH550-CD-316A-4	316	R8	$29,847	CX1-12	$33,429	CX12-11	Contact Factory	Contact Factory		$546
	300	ACH550-CD-368A-4	368	R8	$34,329	CX1-13	$38,448	CX12-12				$961
	350	ACH550-CD-414A-4	414	R8	$42,794	CX1-13	$47,929	CX12-12				$1,433
	400	ACH550-CD-486A-4	486	R8	$50,791	CX1-13	$56,886	CX12-12				$1,566

Classic Bypass with Circuit Breaker	1	ACH550-CC-03A3-4	3.3	R1	$3,661	CX1-1	$4,100	CX12-1	$4,499	CX3R-1	$193	$67
	1.5	ACH550-CC-03A3-4	3.3	R1	$3,661	CX1-1	$4,100	CX12-1	$4,499	CX3R-1	$193	$67
	2	ACH550-CC-04A1-4	4.1	R1	$3,850	CX1-1	$4,312	CX12-1	$4,863	CX3R-1	$193	$67
	3	ACH550-CC-06A9-4	6.9	R1	$3,957	CX1-1	$4,432	CX12-1	$4,712	CX3R-1	$193	$67
	5	ACH550-CC-08A8-4	8.8	R1	$4,065	CX1-1	$4,553	CX12-1	$4,754	CX3R-1	$193	$67
	7.5	ACH550-CC-012A-4	12	R1	$4,238	CX1-1	$4,744	CX12-1	$4,778	CX3R-1	$223	$67
	10	ACH550-CC-015A-4	15	R2	$4,566	CX1-2	$5,114	CX12-2*	$5,436	CX3R-2*	$260	$67
	15	ACH550-CC-023A-4	23	R2	$5,059	CX1-2	$5,666	CX12-2*	$6,158	CX3R-2*	$336	$71
	20	ACH550-CC-031A-4	31	R3	$5,539	CX1-4	$6,204	CX12-4	$6,187	CX3R-4	$365	$71
	25	ACH550-CC-038A-4	38	R3	$6,412	CX1-4	$7,181	CX12-4	$7,251	CX3R-4	$365	$126
	30	ACH550-CC-045A-4	44	R3	$6,945	CX1-4	$7,768	CX12-5	$7,676	CX3R-5	$365	$126
	40	ACH550-CC-059A-4	59	R4	$8,040	CX1-5	$9,014	CX12-6	$8,659	CX3R-6	$432	$126
	50	ACH550-CC-072A-4	72	R4	$9,520	CX1-5	$10,689	CX12-6	$10,357	CX3R-6	$445	$126
	60	ACH550-CC-078A-4	77	R4	$10,957	CX1-5	$12,272	CX12-6	$12,617	CX3R-6	$445	$302
	75	ACH550-CC-097A-4	96	R4	$12,403	CX1-6	$13,891	CX12-7	$14,282	CX3R-7	Standard	$302
	100	ACH550-CC-125A-4	124	R5	$14,170	CX1-7	$15,870	CX12-8	$16,317	CX3R-8		$470
	125	ACH550-CC-157A-4	157	R6	$17,450	CX1-10	$19,645	CX12-9	$17,131	CX3R-9		$470
	150	ACH550-CC-180A-4	180	R6	$21,950	CX1-10	$24,452	CX12-9	$21,742	CX3R-9		$470
	200	ACH550-CC-246A-4	245	R6	$26,607	CX1-11	$29,800	CX12-10	$30,500	CX3R-10		$546
	250	ACH550-CC-316A-4	316	R8	$30,960	CX1-12	$34,675	CX12-11	Contact Factory	Contact Factory		$546
	300	ACH550-CC-368A-4	368	R8	$35,423	CX1-13	$39,674	CX12-12				$961
	350	ACH550-CC-414A-4	414	R8	$43,617	CX1-13	$48,851	CX12-12				$1,433
	400	ACH550-CC-486A-4	486	R8	$51,202	CX1-13	$57,346	CX12-12				$1,566

* Dimensional references change to C12-3 and CX3R-3 with the addition of the +E213 AC Line Reactor option.

480V Ratings for Drive with Input Disconnect

3-phase supply voltage 380, 400, 415, 440, 460 or 480V - Power ratings are valid at nominal voltage, 460V[1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 48	UL Type (NEMA) 12 (+B055)	Dim. Ref. Page 49	UL Type (NEMA) 3R (+B058)	Dim. Ref. Page 50	AC Line Reactor (+E213)
Drive with Disconnect Switch and Fuses	1	ACH550-PDR-03A3-4	3.3	R1	*$1,633*	PX1-1	*$1,742*	PX12-1	$2,785	PX3R-1	$193
	1.5	ACH550-PDR-03A3-4	3.3	R1	*$1,633*	PX1-1	*$1,742*	PX12-1	$2,785	PX3R-1	$193
	2	ACH550-PDR-04A1-4	4.1	R1	$1,733	PX1-1	$1,854	PX12-1	$2,900	PX3R-1	$193
	3	ACH550-PDR-06A9-4	6.9	R1	*$1,780*	PX1-1	*$1,911*	PX12-1	$3,150	PX3R-1	$193
	5	ACH550-PDR-08A8-4	8.8	R1	$1,842	PX1-1	$1,971	PX12-1	$3,250	PX3R-1	$193
	7.5	ACH550-PDR-012A-4	11.9	R1	$2,023	PX1-1	$2,164	PX12-1	$3,350	PX3R-1	$223
	10	ACH550-PDR-015A-4	15.4	R2	$2,266	PX1-2	$2,425	PX12-2	$3,580	PX3R-2	$260
	15	ACH550-PDR-023A-4	23	R2	$2,762	PX1-2	$2,955	PX12-2	$3,781	PX3R-2	$336
	20	ACH550-PDR-031A-4	31	R3	$3,173	PX1-3	$3,396	PX12-3	$4,107	PX3R-3	$365
	25	ACH550-PDR-038A-4	38	R3	$3,757	PX1-3	$4,020	PX12-3	$4,793	PX3R-3	$365
	30	ACH550-PDR-045A-4	44	R3	$4,374	PX1-3	$4,681	PX12-3	$5,530	PX3R-3.5	$365
	40	ACH550-PDR-059A-4	59	R4	$5,244	PX1-4	$5,611	PX12-4	$6,569	PX3R-4	$432
	50	ACH550-PDR-072A-4	72	R4	$6,402	PX1-4	$6,851	PX12-4	$7,691	PX3R-4	$445
	60	ACH550-PDR-078A-4	77	R4	$7,532	PX1-4	$8,059	PX12-4	$8,895	PX3R-4	$445
	75	ACH550-PDR-097A-4	96	R4	$8,628	PX1-5	$9,232	PX12-5	$10,573	PX3R-4.5	$492
	100	ACH550-PDR-125A-4	124	R5	$10,437	PX1-5	$11,167	PX12-5	$12,247	PX3R-5	Standard
	125	ACH550-PDR-157A-4	157	R6	*$12,487*	PX1-6	*$13,488*	PX12-6	$14,610	PX3R-6	
	150	ACH550-PDR-180A-4	180	R6	*$15,670*	PX1-6	*$16,724*	PX12-6	$18,295	PX3R-6	
	200	ACH550-PDR-246A-4	245	R6	$19,985	PX1-6	$21,384	PX12-6	$22,500	PX3R-6	
	250	ACH550-PDR-316A-4	316	R8	$23,529	PX1-8	$25,176	PX12-8	Contact Factory	Contact Factory	
	300	ACH550-PDR-368A-4	368	R8	$27,493	PX1-8	$29,417	PX12-8			
	350	ACH550-PDR-414A-4	414	R8	$31,600	PX1-8	$33,812	PX12-8			
	400	ACH550-PDR-486A-4	486	R8	*$35,900*	PX1-8	*$38,163*	PX12-8			
	450	ACH550-PDR-526A-4	526	R8	$39,830	PX1-8	$42,618	PX12-8			
	500	ACH550-PDR-602A-4	602	R8	$43,945	PX1-8	$47,021	PX12-8			
	550	ACH550-PDR-645A-4	645	R8	$52,175	PX1-8	$55,827	PX12-8			

Drive with Circuit Breaker	1	ACH550-PCR-03A3-4	3.3	R1	*$2,095*	PX1-1	*$2,231*	PX12-1	$3,543	PX3R-1	$193
	1.5	ACH550-PCR-03A3-4	3.3	R1	*$2,095*	PX1-1	*$2,231*	PX12-1	$3,543	PX3R-1	$193
	2	ACH550-PCR-04A1-4	4.1	R1	$2,253	PX1-1	$2,411	PX12-1	$3,600	PX3R-1	$193
	3	ACH550-PCR-06A9-4	6.9	R1	*$2,333*	PX1-1	*$2,492*	PX12-1	$3,700	PX3R-1	$193
	5	ACH550-PCR-08A8-4	8.8	R1	$2,395	PX1-1	$2,563	PX12-1	$3,800	PX3R-1	$193
	7.5	ACH550-PCR-012A-4	11.9	R1	$2,630	PX1-1	$2,814	PX12-1	$3,900	PX3R-1	$223
	10	ACH550-PCR-015A-4	15.4	R2	$2,946	PX1-2	$3,153	PX12-2	$4,077	PX3R-2	$260
	15	ACH550-PCR-023A-4	23	R2	$3,590	PX1-2	$3,842	PX12-2	$4,574	PX3R-2	$336
	20	ACH550-PCR-031A-4	31	R3	$4,125	PX1-3	$4,414	PX12-3	$5,008	PX3R-3	$365
	25	ACH550-PCR-038A-4	38	R3	$4,884	PX1-3	$5,226	PX12-3	$5,903	PX3R-3	$365
	30	ACH550-PCR-045A-4	44	R3	$5,687	PX1-3	$6,085	PX12-3	$6,860	PX3R-3.5	$365
	40	ACH550-PCR-059A-4	59	R4	$6,817	PX1-4	$7,294	PX12-4	$8,208	PX3R-4	$432
	50	ACH550-PCR-072A-4	72	R4	$8,323	PX1-4	$8,906	PX12-4	$9,543	PX3R-4	$445
	60	ACH550-PCR-078A-4	77	R4	$9,792	PX1-4	$10,477	PX12-4	$11,225	PX3R-4	$445
	75	ACH550-PCR-097A-4	96	R4	$11,216	PX1-5	$12,001	PX12-5	$13,248	PX3R-4.5	$492
	100	ACH550-PCR-125A-4	124	R5	$13,568	PX1-5	$14,517	PX12-5	$15,554	PX3R-5	Standard
	125	ACH550-PCR-157A-4	157	R6	*$15,950*	PX1-6	*$17,089*	PX12-6	$16,281	PX3R-6	
	150	ACH550-PCR-180A-4	180	R6	*$19,900*	PX1-6	*$21,431*	PX12-6	$21,036	PX3R-6	
	200	ACH550-PCR-246A-4	245	R6	$25,981	PX1-6	$27,799	PX12-6	$25,500	PX3R-6	
	250	ACH550-PCR-316A-4	316	R8	$30,588	PX1-8	$32,729	PX12-8	Contact Factory	Contact Factory	
	300	ACH550-PCR-368A-4	368	R8	$35,741	PX1-8	$38,243	PX12-8			
	350	ACH550-PCR-414A-4	414	R8	$41,079	PX1-8	$43,955	PX12-8			
	400	ACH550-PCR-486A-4	486	R8	*$46,500*	PX1-8	*$50,214*	PX12-8			
	450	ACH550-PCR-526A-4	526	R8	$51,779	PX1-8	$55,403	PX12-8			
	500	ACH550-PCR-602A-4	602	R8	$57,128	PX1-8	$61,127	PX12-8			
	550	ACH550-PCR-645A-4	645	R8	$67,827	PX1-8	$72,575	PX12-8			

600V Ratings for Base Drive

3-phase supply voltage 500, 575 or 600V - Power ratings are valid at nominal voltage, 600V[1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 40	UL Type (NEMA) 12 (+B055)	Dim. Ref. Page 41
Base Drive[7]	2	ACH550-UH-02A7-6	2.7	R2	*$1,472*	UH1-2	*$1,570*	UH12-2
	3	ACH550-UH-03A9-6	3.9	R2	*$1,535*	UH1-2	*$1,644*	UH12-2
	5	ACH550-UH-06A1-6	6.1	R2	$1,616	UH1-2	$1,729	UH12-2
	7.5	ACH550-UH-09A0-6	9	R2	*$1,885*	UH1-2	*$2,017*	UH12-2
	10	ACH550-UH-011A-6	11	R2	*$2,180*	UH1-2	*$2,324*	UH12-2
	15	ACH550-UH-017A-6	17	R2	$2,581	UH1-2	$2,762	UH12-2
	20	ACH550-UH-022A-6	22	R3	$3,052	UH1-3	$3,265	UH12-3
	25	ACH550-UH-027A-6	27	R3	$3,681	UH1-3	$3,939	UH12-3
	30	ACH550-UH-032A-6	32	R4	$4,337	UH1-4	$4,640	UH12-4
	40	ACH550-UH-041A-6	41	R4	$5,202	UH1-4	$5,566	UH12-4
	50	ACH550-UH-052A-6	52	R4	$6,528	UH1-4	$6,985	UH12-4
	60	ACH550-UH-062A-6	62	R4	$7,654	UH1-4	$8,190	UH12-4
	75	ACH550-UH-077A-6	77	R6	$8,527	UH1-6	$9,124	UH12-6
	100	ACH550-UH-099A-6	99	R6	$10,571	UH1-6	$11,311	UH12-6
	125	ACH550-UH-125A-6	125	R6	*$11,865*	UH1-6	*$12,880*	UH12-6
	150	ACH550-UH-144A-6	144	R6	$14,476	UH1-6	$15,489	UH12-6

NOTES

1 The rated current of the ACH550 must be greater than or equal to the rated motor current to achieve the rated motor power given in the table.
2 Horsepower is based on NEMA motor ratings for most 4-pole motors (1800 rpm). Check motor nameplate current for compatibility.
3 Continuous base current with 110% overload for 1 minute / 10 minutes.
130% continuous base current available for 2 seconds / 1 minute.
Current ratings do not change with different supply voltages.
7 All -UH models -02A7-6 through -144A-6 come with a conduit box as standard.

600V Ratings for Vertical E-Clipse Bypass

3-phase supply voltage 500, 575 or 600V - Power ratings are valid at nominal voltage, 600V[1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 42	Service Switch (+F267)
Vertical Bypass with Non-Fused Disconnect Switch	2	ACH550-VDR-02A7-6	2.7	R2	$2,370	VX1-2	$67
	3	ACH550-VDR-03A9-6	3.9	R2	$2,422	VX1-2	$67
	5	ACH550-VDR-06A1-6	6.4	R2	$2,548	VX1-2	$67
	7.5	ACH550-VDR-09A0-6	9	R2	$2,790	VX1-2	$67
	10	ACH550-VDR-011A-6	11	R2	$3,067	VX1-2	$67
	15	ACH550-VDR-017A-6	17	R2	$3,744	VX1-2	$71
	20	ACH550-VDR-022A-6	22	R3	$4,210	VX1-3	$71
	25	ACH550-VDR-027A-6	27	R3	$4,786	VX1-3	$71
	30	ACH550-VDR-032A-6	32	R4	$5,689	VX1-4	$126
	40	ACH550-VDR-041A-6	41	R4	$6,554	VX1-4	$126
	50	ACH550-VDR-052A-6	52	R4	$7,943	VX1-4	$126
	60	ACH550-VDR-062A-6	62	R4	$9,069	VX1-4	$126

Vertical Bypass with Circuit Breaker	2	ACH550-VCR-02A7-6	2.7	R2	$2,790	VX1-2	$67
	3	ACH550-VCR-03A9-6	3.9	R2	$2,842	VX1-2	$67
	5	ACH550-VCR-06A1-6	6.1	R2	$2,968	VX1-2	$67
	7.5	ACH550-VCR-09A0-6	9	R2	$3,144	VX1-2	$67
	10	ACH550-VCR-011A-6	11	R2	$3,421	VX1-2	$67
	15	ACH550-VCR-017A-6	17	R2	$4,101	VX1-2	$71
	20	ACH550-VCR-022A-6	22	R3	$4,572	VX1-3	$71
	25	ACH550-VCR-027A-6	27	R3	$5,202	VX1-3	$71
	30	ACH550-VCR-032A-6	32	R4	$6,075	VX1-4	$126
	40	ACH550-VCR-041A-6	41	R4	$6,940	VX1-4	$126
	50	ACH550-VCR-052A-6	52	R4	$8,330	VX1-4	$126
	60	ACH550-VCR-062A-6	62	R4	$9,468	VX1-4	$126

600V Ratings for E-Clipse Bypass

3-phase supply voltage 500, 575 or 600V - Power ratings are valid at nominal voltage, 600V[1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 43	UL Type (NEMA) 12 (+B055)	Dim. Ref. Page 44	UL Type (NEMA) 3R (+B058)	Dim. Ref. Page 45	AC Line Reactor (+E213)	Service Switch (+F267)
E-Clipse Bypass with Non-Fused Disconnect Switch	2	ACH550-BDR-02A7-6	2.7	R2	$2,770	BX1-2	$2,859	BX12-2	$3,191	BX3R-2	$193	$67
	3	ACH550-BDR-03A9-6	3.9	R2	$2,860	BX1-2	$2,949	BX12-2	$3,291	BX3R-2	$193	$67
	5	ACH550-BDR-06A1-6	6.1	R2	$3,050	BX1-2	$3,143	BX12-2	$3,508	BX3R-2	$193	$67
	7.5	ACH550-BDR-09A0-6	9	R2	$3,251	BX1-2	$3,340	BX12-2	$3,728	BX3R-2	$223	$67
	10	ACH550-BDR-011A-6	11	R2	$3,520	BX1-2	$3,632	BX12-2	$4,054	BX3R-2	$223	$67
	15	ACH550-BDR-017A-6	17	R2	$4,275	BX1-2	$4,404	BX12-2	$4,915	BX3R-2	$336	$71
	20	ACH550-BDR-022A-6	22	R3	$4,821	BX1-3	$4,966	BX12-3	$5,543	BX3R-3	$365	$71
	25	ACH550-BDR-027A-6	27	R3	$5,264	BX1-3	$5,422	BX12-3	$6,052	BX3R-3	$365	$71
	30	ACH550-BDR-032A-6	32	R4	$6,257	BX1-4	$6,445	BX12-4	$7,193	BX3R-4	$365	$126
	40	ACH550-BDR-041A-6	41	R4	$7,209	BX1-4	$7,425	BX12-4	$8,287	BX3R-4	$432	$126
	50	ACH550-BDR-052A-6	51	R4	$8,341	BX1-4	$8,591	BX12-4	$9,588	BX3R-4	$466	$126
	60	ACH550-BDR-062A-6	61	R4	$9,522	BX1-4	$9,808	BX12-4	$10,947	BX3R-4	$495	$126
	75	ACH550-BDR-077A-6	77	R6	$10,505	BX1-6	$11,240	BX12-6	$12,545	BX3R-6	Standard	$302
	100	ACH550-BDR-099A-6	99	R6	$12,549	BX1-6	$13,427	BX12-6	$14,986	BX3R-6		$302
	125	ACH550-BDR-125A-6	125	R6	$13,930	BX1-6	$14,905	BX12-6	$16,636	BX3R-6		$470
	150	ACH550-BDR-144A-6	144	R6	$17,894	BX1-6	$19,147	BX12-6	$21,370	BX3R-6		$470

E-Clipse Bypass with Circuit Breaker	2	ACH550-BCR-02A7-6	2.7	R2	$3,230	BX1-2	$3,327	BX12-2	$3,713	BX3R-2	$193	$67
	3	ACH550-BCR-03A9-6	3.9	R2	$3,360	BX1-2	$3,465	BX12-2	$3,867	BX3R-2	$193	$67
	5	ACH550-BCR-06A1-6	6.1	R2	$3,442	BX1-2	$3,546	BX12-2	$3,958	BX3R-2	$193	$67
	7.5	ACH550-BCR-09A0-6	9	R2	$3,647	BX1-2	$3,756	BX12-2	$4,192	BX3R-2	$223	$67
	10	ACH550-BCR-011A-6	11	R2	$3,969	BX1-2	$4,088	BX12-2	$4,563	BX3R-2	$223	$67
	15	ACH550-BCR-017A-6	17	R2	$4,758	BX1-2	$4,900	BX12-2	$5,469	BX3R-2	$336	$71
	20	ACH550-BCR-022A-6	22	R3	$5,029	BX1-3	$5,180	BX12-3	$5,781	BX3R-3	$365	$71
	25	ACH550-BCR-027A-6	27	R3	$5,722	BX1-3	$5,893	BX12-3	$6,577	BX3R-3	$365	$71
	30	ACH550-BCR-032A-6	32	R4	$6,682	BX1-4	$6,883	BX12-4	$7,682	BX3R-4	$365	$126
	40	ACH550-BCR-041A-6	41	R4	$7,520	BX1-4	$7,743	BX12-4	$8,642	BX3R-4	$432	$126
	50	ACH550-BCR-052A-6	51	R4	$8,746	BX1-4	$9,009	BX12-4	$10,055	BX3R-4	$466	$126
	60	ACH550-BCR-062A-6	61	R4	$9,941	BX1-4	$10,239	BX12-4	$11,428	BX3R-4	$495	$126
	75	ACH550-BCR-077A-6	77	R6	$10,782	BX1-6	$11,537	BX12-6	$12,876	BX3R-6	Standard	$302
	100	ACH550-BCR-099A-6	99	R6	$12,826	BX1-6	$13,724	BX12-6	$15,317	BX3R-6		$302
	125	ACH550-BCR-125A-6	125	R6	$14,275	BX1-6	$15,274	BX12-6	$17,047	BX3R-6		$470
	150	ACH550-BCR-144A-6	144	R6	$18,415	BX1-6	$19,704	BX12-6	$21,992	BX3R-6		$470

600V Ratings for Classic Bypass

3-phase supply voltage 500, 575 or 600V - Power ratings are valid at nominal voltage, 600V[1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 45	UL Type (NEMA) 12 (+B055)	Dim. Ref. Page 46	UL Type (NEMA) 3R (+B058)	Dim. Ref. Page 47	AC Line Reactor (+E213)	Service Switch (+F267)
Classic Bypass with Non-Fused Disconnect Switch	2	ACH550-CD-02A7-6	2.7	R2	$3,550	CX1-2	$3,984	CX12-2*	$4,506	CX3R-2*	$193	$67
	3	ACH550-CD-03A9-6	3.9	R2	$3,629	CX1-2	$4,064	CX12-2*	$4,575	CX3R-2*	$193	$67
	5	ACH550-CD-06A1-6	6.1	R2	$3,761	CX1-2	$4,212	CX12-2*	$4,680	CX3R-2*	$193	$67
	7.5	ACH550-CD-09A0-6	9	R2	$4,001	CX1-2	$4,481	CX12-2*	$4,820	CX3R-2*	$223	$67
	10	ACH550-CD-011A-6	11	R2	$4,351	CX1-2	$4,873	CX12-2*	$5,221	CX3R-2*	$223	$67
	15	ACH550-CD-017A-6	17	R2	$5,225	CX1-2	$5,852	CX12-2*	$6,412	CX3R-2*	$336	$71
	20	ACH550-CD-022A-6	22	R3	$5,814	CX1-4	$6,512	CX12-4	$6,524	CX3R-4	$365	$71
	25	ACH550-CD-027A-6	27	R3	$6,209	CX1-4	$6,954	CX12-4	$7,052	CX3R-4	$365	$71
	30	ACH550-CD-032A-6	32	R4	$7,272	CX1-5	$8,145	CX12-6	$8,329	CX3R-6	$365	$126
	40	ACH550-CD-041A-6	41	R4	$8,239	CX1-5	$9,228	CX12-6	$9,527	CX3R-6	$432	$126
	50	ACH550-CD-052A-6	52	R4	$9,533	CX1-5	$10,677	CX12-6	$11,023	CX3R-6	$466	$126
	60	ACH550-CD-062A-6	62	R4	$10,882	CX1-5	$12,188	CX12-6	$12,582	CX3R-6	$495	$126
	75	ACH550-CD-077A-6	77	R6	$12,006	CX1-8	$13,447	CX12-9	$13,883	CX3R-9	Standard	$302
	100	ACH550-CD-099A-6	99	R6	$14,342	CX1-8	$16,063	CX12-9	$16,583	CX3R-9		$302
	125	ACH550-CD-125A-6	125	R6	$15,920	CX1-10	$17,830	CX12-9	$18,407	CX3R-9		$470
	150	ACH550-CD-144A-6	144	R6	$20,450	CX1-10	$22,904	CX12-9	$23,646	CX3R-9		$470
Classic Bypass with Circuit Breaker	2	ACH550-CC-02A7-6	2.7	R2	$4,090	CX1-2	$4,580	CX12-2*	$4,900	CX3R-2*	$193	$67
	3	ACH550-CC-03A9-6	3.9	R2	$4,192	CX1-2	$4,695	CX12-2*	$5,000	CX3R-2*	$193	$67
	5	ACH550-CC-06A1-6	6.1	R2	$4,321	CX1-2	$4,840	CX12-2*	$5,150	CX3R-2*	$193	$67
	7.5	ACH550-CC-09A0-6	9	R2	$4,557	CX1-2	$5,104	CX12-2*	$5,355	CX3R-2*	$223	$67
	10	ACH550-CC-011A-6	11	R2	$4,903	CX1-2	$5,491	CX12-2*	$5,837	CX3R-2*	$223	$67
	15	ACH550-CC-017A-6	17	R2	$5,760	CX1-2	$6,451	CX12-2*	$7,012	CX3R-2*	$336	$71
	20	ACH550-CC-022A-6	22	R3	$6,215	CX1-4	$6,966	CX12-4	$7,250	CX3R-4	$365	$71
	25	ACH550-CC-027A-6	27	R3	$6,705	CX1-4	$7,510	CX12-4	$7,583	CX3R-4	$365	$71
	30	ACH550-CC-032A-6	32	R4	$7,723	CX1-5	$8,650	CX12-6	$8,808	CX3R-6	$365	$126
	40	ACH550-CC-041A-6	41	R4	$8,745	CX1-5	$9,761	CX12-6	$9,548	CX3R-6	$432	$126
	50	ACH550-CC-052A-6	52	R4	$9,952	CX1-5	$11,146	CX12-6	$11,460	CX3R-6	$466	$126
	60	ACH550-CC-062A-6	62	R4	$11,312	CX1-5	$12,669	CX12-6	$13,025	CX3R-6	$495	$126
	75	ACH550-CC-077A-6	77	R6	$12,269	CX1-8	$13,741	CX12-9	$14,127	CX3R-9	Standard	$302
	100	ACH550-CC-099A-6	99	R6	$14,595	CX1-8	$16,346	CX12-9	$16,806	CX3R-9		$302
	125	ACH550-CC-125A-6	125	R6	$16,244	CX1-10	$18,193	CX12-9	$18,705	CX3R-9		$470
	150	ACH550-CC-144A-6	144	R6	$20,955	CX1-10	$23,470	CX12-9	$24,130	CX3R-9		$470

* Dimensional references change to C12-3 and CX3R-3 with the addition of the +E213 AC Line Reactor option.

600V Ratings for Drive with Input Disconnect

3-phase supply voltage 500, 575 or 600V - Power ratings are valid at nominal voltage, 600V[1]

DS-H550	HP[2]	Material Description	Amps[3]	Base Drive Frame	UL Type (NEMA) 1	Dim. Ref. Page 48	UL Type (NEMA) 12 (+B055)	Dim. Ref. Page 49	UL Type (NEMA) 3R (+B058)	Dim. Ref. Page 50	AC Line Reactor (+E213)
Drive with Disconnect Switch and Fuses	2	ACH550-PDR-02A7-6	2.7	R2	$1,870	PX1-2	$1,998	PX12-2	$2,900	PX3R-2	$193
	3	ACH550-PDR-03A9-6	3.9	R2	$1,920	PX1-2	$2,054	PX12-2	$3,050	PX3R-2	$193
	5	ACH550-PDR-06A1-6	6.1	R2	$2,019	PX1-2	$2,160	PX12-2	$3,200	PX3R-2	$193
	7.5	ACH550-PDR-09A0-6	9	R2	$2,245	PX1-2	$2,410	PX12-2	$3,450	PX3R-2	$223
	10	ACH550-PDR-011A-6	11	R2	$2,598	PX1-2	$2,769	PX12-2	$3,750	PX3R-2	$223
	15	ACH550-PDR-017A-6	17	R2	$3,132	PX1-2	$3,349	PX12-2	$3,973	PX3R-2	$336
	20	ACH550-PDR-022A-6	22	R3	$3,580	PX1-3	$3,829	PX12-3	$4,505	PX3R-3	$365
	25	ACH550-PDR-027A-6	27	R3	$4,252	PX1-3	$4,554	PX12-3	$5,293	PX3R-3	$365
	30	ACH550-PDR-032A-6	32	R4	$4,951	PX1-4	$5,334	PX12-4	$5,960	PX3R-4	$365
	40	ACH550-PDR-041A-6	41	R4	$5,890	PX1-4	$6,302	PX12-4	$7,106	PX3R-4	$432
	50	ACH550-PDR-052A-6	52	R4	$7,217	PX1-4	$7,722	PX12-4	$8,331	PX3R-4	$466
	60	ACH550-PDR-062A-6	62	R4	$8,498	PX1-4	$9,093	PX12-4	$9,810	PX3R-4	$495
	75	ACH550-PDR-077A-6	77	R6	$9,703	PX1-6	$10,382	PX12-6	$11,506	PX3R-6	Standard
	100	ACH550-PDR-099A-6	99	R6	$11,400	PX1-6	$12,219	PX12-6	$13,560	PX3R-6	
	125	ACH550-PDR-125A-6	125	R6	$13,200	PX1-6	$14,222	PX12-6	$15,200	PX3R-6	
	150	ACH550-PDR-144A-6	144	R6	$15,853	PX1-6	$16,963	PX12-6	$18,300	PX3R-6	

Drive with Circuit Breaker	2	ACH550-PCR-02A7-6	2.7	R2	$2,420	PX1-2	$2,598	PX12-2	$3,910	PX3R-2	$193
	3	ACH550-PCR-03A9-6	3.9	R2	$2,540	PX1-2	$2,709	PX12-2	$4,050	PX3R-2	$193
	5	ACH550-PCR-06A1-6	6.1	R2	$2,624	PX1-2	$2,808	PX12-2	$4,100	PX3R-2	$193
	7.5	ACH550-PCR-09A0-6	9	R2	$2,892	PX1-2	$3,094	PX12-2	$4,177	PX3R-2	$223
	10	ACH550-PCR-011A-6	11	R2	$3,252	PX1-2	$3,480	PX12-2	$4,443	PX3R-2	$223
	15	ACH550-PCR-017A-6	17	R2	$3,984	PX1-2	$4,262	PX12-2	$5,074	PX3R-2	$336
	20	ACH550-PCR-022A-6	22	R3	$4,595	PX1-3	$4,917	PX12-3	$5,524	PX3R-3	$365
	25	ACH550-PCR-027A-6	27	R3	$5,463	PX1-3	$5,845	PX12-3	$6,548	PX3R-3	$365
	30	ACH550-PCR-032A-6	32	R4	$6,374	PX1-4	$6,821	PX12-4	$7,633	PX3R-4	$365
	40	ACH550-PCR-041A-6	41	R4	$7,657	PX1-4	$8,193	PX12-4	$9,162	PX3R-4	$432
	50	ACH550-PCR-052A-6	52	R4	$9,382	PX1-4	$10,039	PX12-4	$10,756	PX3R-4	$466
	60	ACH550-PCR-062A-6	62	R4	$11,047	PX1-4	$11,820	PX12-4	$12,664	PX3R-4	$495
	75	ACH550-PCR-077A-6	77	R6	$12,614	PX1-6	$13,497	PX12-6	$14,842	PX3R-6	Standard
	100	ACH550-PCR-099A-6	99	R6	$15,271	PX1-6	$16,340	PX12-6	$17,507	PX3R-6	
	125	ACH550-PCR-125A-6	125	R6	$17,090	PX1-6	$18,372	PX12-6	$18,333	PX3R-6	
	150	ACH550-PCR-144A-6	144	R6	$20,609	PX1-6	$22,052	PX12-6	$23,627	PX3R-6	

Options Quick Reference

DS-OPT	Description	Field Kit Part No.		Installed Option Code	List Price
Input / Output Option Modules					
OREL-01	Relay Output Extension	OREL-01-KIT		+L511	**$489**
OHDI-01	115/230 V Digital Input Interface	OHDI-01-KIT		+L512	**$489**
Field Bus Adapters					
"R" type Field Bus Adapters for use with -UH and -PxR configurations					
RDNA-01	DeviceNet Adapter	RDNA-01-KIT		+K451	*$680*
RCNA-01	ControlNet Adapter	RCNA-01-KIT		+K462	*$860*
RETA-01	EtherNet Adapter	RETA-01-KIT		+K466	*$790*
RLON-01	LonWorks Adapter	RLON-01-KIT		+K452	**$610**
RPBA-01	Profibus DP Adapter	RPBA-01-KIT		+K454	**$862**
"F" type Field Bus Adapters for use with -VxR and -BxR configurations					
FDNA-01	DeviceNet Adapter	FDNA-01-KIT		+K451	**$312**
FENA-01	EtherNet Adapter	FENA-01-KIT		+K466	**$700**
FLON-01	LonWorks Adapter	FLON-01-KIT		+K452	**$475**
FPBA-01	Profibus DP Adapter	FPBA-01-KIT		+K454	**$348**
SREA-01-KIT	Ethernet Adapter (Gateway)	SREA-01-KIT		N/A	**$1750**
RBIP-01-KIT	Bacnet Router	RBIP-01-KIT		N/A	**$1750**
Control Panel and Accessories					
ACH-CP-B	HVAC Advanced Control Panel	ACH-CP-B		N/A	**$150**
OCAT-01	7 foot CAT 5 Panel Extension Cable	OCAT-01		N/A	**$75**
ACS/H-CP-EXT	Control Panel Mounting Kit	ACS/H-CP-EXT		N/A	**$85**
OPMP-01	Cabinet Panel Mounting Kit	OPMP-01		N/A	**$166**
ACS/H-CP-EXT-IP66	NEMA 4X Cabinet Panel Mounting Kit	ACS/H-CP-EXT-IP66		N/A	**$85**
Programming and Maintenance Tools					
DriveWindow Light (Win98/2000/NT4/XP) + Hardware		64691619		N/A	**$800**
OPCA-01	RJ45 to DB9 Adapter	OPCA-01		N/A	**$99**
ACH550 DEMO CASE	ACH550 Demo Case	ACH550 DEMO CASE		N/A	**$3,500**
E-CLIPSE DEMO CASE	E-Clipse Bypass Demo Case	E-CLIPSE DEMO CASE		N/A	**$3,500**
ACH550-CBT-00-100	ACH550 Computer Based Training (CBT)	ACH550-CBT-00-100		N/A	**$250**
Flange Mounting Kit for NEMA 1 Drives					
FMK-A-R1	Flange Mounting Kit for NEMA 1 ACH550 (R1 Frame)	FMK-A-R1		N/A	**$268**
FMK-A-R2	Flange Mounting Kit for NEMA 1 ACH550 (R2 Frame)	FMK-A-R2		N/A	**$346**
FMK-A-R3	Flange Mounting Kit for NEMA 1 ACH550 (R3 Frame)	FMK-A-R3		N/A	**$459**
FMK-A-R4	Flange Mounting Kit for NEMA 1 ACH550 (R4 Frame)	FMK-A-R4		N/A	**$580**
FMK-A-R5	Flange Mounting Kit for NEMA 1 ACH550 (R5 Frame)	FMK-A-R5		N/A	**$660**
FMK-A-R6	Flange Mounting Kit for NEMA 1 ACH550 (R6 Frame)	FMK-A-R6		N/A	**$760**
Flange Mounting Gasket for NEMA 12 Drives					
FMK-B-R1	Flange Mounting Gasket for NEMA 12 ACH550 (R1 Frame)	FMK-B-R1		N/A	**$55**
FMK-B-R2	Flange Mounting Gasket for NEMA 12 ACH550 (R2 Frame)	FMK-B-R2		N/A	**$65**
FMK-B-R3	Flange Mounting Gasket for NEMA 12 ACH550 (R3 Frame)	FMK-B-R3		N/A	**$75**
FMK-B-R4	Flange Mounting Gasket for NEMA 12 ACH550 (R4 Frame)	FMK-B-R4		N/A	**$85**
Miscellaneous					
	Classic Bypass Damper Control	N/A		+G349	**$200**

DS-OPT	Description	Field Kit Part No.	Catalog Code	List Price
Input/Output Options				
Relay Output Extension	The Relay Output Extension module offers three (3) Form C relay outputs numbered RO 4, 5 and 6, rated 2 A maximum current. Switching capacity is 6 A (24 VDRC resistive), 1500 VA (250 VAC), Each relay is galvanically isolated from each other (2.5 kVAC, 1 minute). Each relay is programmable,	OREL-01-KIT	+L511	$489
115/230V Digital Input Interface	The 115/230V Digital Input Interface module offers six (6) 115/230V rated relays mounted on a common board used to drive DI1 through DI6 of the ACH550. The 115/230V must be provided by the user. The module cannot be used in conjunction with any fieldbus module and is not compatible with E-Clipse Bypass Configurations.	OHDI-01-KIT	+L512	$489
Fieldbus Adapters				
DeviceNet	The DeviceNet Adapter is used for connecting the ACH550 to DeviceNet networks. DeviceNet network uses a linear bus topology. Terminating resistors are required on each end of the trunk line. Drop lines as long as 6 meters (20 feet) each are permitted, allowing one or more nodes to be attached. DeviceNet allows branching structures only on drop lines. The drive is considered as a slave in the DeviceNet network. The RDNA-01 option card fits under the cover of the ACH550 in option slot #2. on -UH and -PxR configurations. The FDNA-01 option card fits under the cover of the E-Clipse Bypass on -VxR and -BxR configurations.	RDNA-01-KIT (use with -UH and -PxR configurations)	+K451	*$680*
		FDNA-01-KIT (use with -VxR & -BxR configurations)	+K451	$312
ControlNet Adapter	The ControlNet network uses a RG-6 quad shielded cable or fiber with support for media redundancy. The RCNA-01 Adapter module supports only RG-6 quad shielded cable (coax) for the bus connection. ControlNet is flexible in topology options (bus, tree, star) to meet various application needs. The fieldbus speed is 5 Mbits/s. The RCNA-01 ControlNet Adapter module can not originate connections on its own, but a scanner node can open a connection towards it. The ControlNet protocol is implemented according to the ControlNet international specification for a Communication adapter. The RCNA-01 option card fits under the cover of the ACH550 in option slot #2 on -UH and -PxR configurations. There is no available ControlNet option card for E-Clipse Bypass configurations.	RCNA-01-KIT (ControlNet not available for E-Clipse Bypass configurations)	+K462	*$860*

Fieldbus Adapters (continued)				
LonWorks	This adapter permits the ACH550 to communicate to a LonWorks network protocol. The LonWorks modulea use the FT-X1 Free Topology Transceiver (compatible with FTT-10A transceiver) from Echelon Corporation. This is the most commonly used twisted-pair media in building automation and this architecture supports star, bus, and loop wiring. The FT-X1 transceiver connects to a twisted pair cable with a baud rate of 78 kbit/s and appears as a high impedance to the network when unpowered, hence it does not interfere with the network communications when powered down. The drive object realizes the LONMARK® Functional Profile: 'Variable Speed Motor Drive Version', 1.1. The RLON-01 option card fits under the cover of the ACH550 in option slot #2.	RLON-01-KIT (use with -UH and -PxR configurations)	+K452	$610
		FLON-01- KIT (use with -VxR & -BxR configurations)	+K452	$475
Ethernet Adapter	The RETA-01 and FENA-01 Adapter modules supports the Modbus/TCP and EtherNet/IP network protocols. Modbus/TCP is a variant of the Modbus family of simple, vendor-neutral communication protocols intended for supervision and control of automation equipment. The implementation of the Modbus/TCP server in the RETA-01 and FENA-01 modules is done according to the Modbus/TCP Specification 1.0. The Modbus/TCP protocol allows the RETA-01 and FENA-01 modules to be used as an Ethernet bridge to control the drive. The RETA-01 and FENA-01 modules support eight simultaneous IP connections. Ethernet/IP is based on the Common Industrial Protocol (CIP), which is also the framework for both the ControlNet and DeviceNet networks. Ethernet/IP uses standard Ethernet and TCP/IP technology to transport CIP communication packets. The modules fulfills all requirements for certification as an Ethernet/IP device. The RETA-01 option card fits under the cover of the ACH550 in option slot #2 on -UH and -PxR configurations. The FENA-01 option card fits under the cover of the E-Clipse Bypass on -VxR and -BxR configurations.	RETA-01-KIT (use with -UH and -PxR configurations)	+K466	*$790*
		FENA-01-KIT (use with-VxR & -BxR configurations)	+K466	$700

Fieldbus Adapters (continued)				
Profibus-DP	The Profibus Adapter is used for connecting the ACH550 to Profibus networks. The Profibus adapters are compatible with the Profibus-FMS and Profibus-DP protocols. ACH550 acts as a slave on the Profibus link. The connection is a screw connector, with a selectable Baud rate of 9.6, 19.2, 93.75, 187, 300 and 1500 Kbps. Contact Applications Engineering for approved PLC connectivity. Profibus is an open serial communication standard that enables data exchange between all kinds of automation components. The physical transmission medium of the bus is a twisted pair cable (according to the RS-485 standard). The maximum length of the bus cable is 100 to 1200 meters, depending on the selected transmission rate. Up to 31 stations can be connected to the same PROFIBUS system without the use of repeaters. The RPBA-01 option card fits under the cover of the ACH550 in option slot #2 on -UH and -PxR configurations. The FPBA-01 option card fits under the cover of the E-Clipse Bypass on -VxR and -BxR configurations.	RPBA-01-KIT (use with -UH and -PxR configurations)	+K454	$862
		FPBA-01-KIT (use with -VxR & -BxR configurations)	+K454	$348
Ethernet Adapter (Gateway)	SREA-01 is an optional device for web browser based remote interface to the ACH550 drives via ethernet. This din rail mounted adapter enables remote data acquisition through a standard web browser, utilizing an internal web server for drive configuration and access. Multiple drives (up to 10) can be connected to the Modbus-RTU network through the drive's Modbus-RTU port.	SREA-01-KIT	N/A	1750$
BACnet Router	The RBIP-01 BACnet Router is a BACnet/IP to MS/TP router. One (1) RBIP-01 router can connect up to 31 drives to a BACnet MS/TP (EIA-485) network.RBIP-01 supports BBMD (BACnet Broadcast Management Device) functionality. The router mounts inside the drive enclosure. The X1 port provides an Ethernet connection to a BACnet/Ethernet or BACnet/IP network. It can be powered from the drive's internal power supply or from an external power supply (24 V AC or 24 V DC). The routers X3 terminal provides connection to an BACnet MS/TP (EIA-485) network. The router is also equipped with bus termination resistors, network bias resistors and LED's for status indication.	RBIP-01-KIT	N/A	$1750

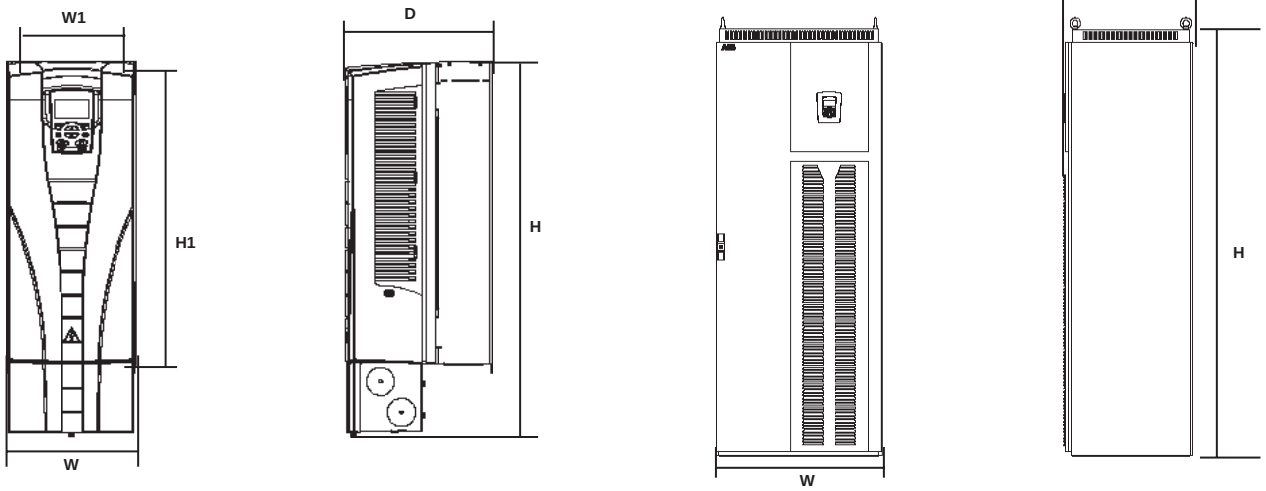
DS-OPT	Description	Field Kit Part No.	Catalog Code	List Price
Control Panel and Accessories				
Advanced Control Panel (spare/additional)	The Advanced Control Panel is supplied with the ACH550 drive as standard. To obtain additional control panels, specify this option.	ACH-CP-B	N/A	$150
Panel Extension Cable	7 foot CAT 5 patch cable allows remote operation of the standard panel or connection of the drive to a PC using the RJ45/DB9 Adapter which must be purchased separately.	OCAT-01	N/A	$75
Control Panel Mounting	Control Panel Mounting Kit for ACH550 drives allows remote mounting of the ACH550 keypad on the door of an enclosure. The kit includes a 10 ft (3 m) CAT 5 patch cable, gasket for NEMA 12, mounting hardware and drilling template. With this arrangement the panel is fixed to the mounting surface.	ACS/H-CP-EXT	N/A	$85
Cabinet Panel Mounting Kit	The Control Panel Mounting allows remote mounting of an ACH-CP-B operator Panel on a larger enclosure or remotely. The kit maintains UL Type 12 integrity of the mounting location. Adapters, 3m (10ft) cable and mounting hardware are included in this kit. With this mounting arrangement, the operator panel is removable indentical to a drive-mounted keypad.	OPMP-01		$166
NEMA 4X Cabinet Panel Mounting Kit	Allows remote mounting of the ACH-CP-B Operator Panels on a larger NEMA 4X (IP66) enclosure or remote panel. The kit maintains NEMA 4X integrity of the mounting location. All necessary hardware and a mounting template are provided in addition to a 3m panel cable. When mounted, the operator is not removable from the front of the enclosure. The operator must be purchased seperately.	ACS/H-CP-EXT-IP66	N/A	$85

DS-OPT	Description	Field Kit Part No.	Catalog Code	List Price
Programming and Maintenance Tools				
ACH550 Demo Case	Powered by 115VAC, the ACH550 DemoCase includes an ACH550 drive mounted on a panel. Included is a motor and I/O board with switches, pots, meters and LEDs permitting remote operation of the drive and motor.	ACH550 DEMO CASE	N/A	$3,500
E-Clipse Bypass Demo Case	Powered by 115VAC, the E-Clipse Bypass Demo Case includes an E-Clipse bypass keypad and a control panel with I/O switches, LEDs and serial communication connections permitting operation of the bypass and connected ACH550 drive.	E-CLIPSE BYPASS-DEMOCASE	N/A	$3,500
DriveWindow Light	DriveWindow Light is software designed for online drive commissioning and maintenance purposes. It is possible to adjust parameters, read the actual values and control the drive with DriveWindow Light instead of the drive control panel. It is also possible to follow trends and draw graphs. DriveWindow Light requires the use of a RJ45 to DB9 adapter and CAT 5 patch cable, which are provided.	64691619	N/A	$800
RJ45/DB9 Adapter	This adapter converts the drive's panel port RJ45 (CAT 5 cable connector) plug to a 9 pin RS-232 computer serial port connector for connecting the ACH550 to a PC when using DriveWindow Light 2.	OPCA-01	N/A	$99
ACH550 Computer Based Training (CBT)	Computer Based Training for the ACH550 provides instructional learning that guides the student from installation through commissioning. Application macros and their uses are explained and demonstrated in detail. Students are taken step by step through common programming exercises using an interface identical to the drive. The Drive, Serial Communications and E-Clipse Bypass are covered in the training. System Requirements: Pentium 90Mhz processor or higher (Pentium 166 or higher recommended) Microsoft Windows 95, 98, Windows NT, ME, 2000 Windows-compatible mouse or other pointing device 16 megabytes of random access memory (RAM) CD-ROM drive for installation and use 1 MB minimum free hard disk space: installation may require up to 380 MB depending on options chosen during set-up A video graphics adapter (VGA) able to display 256 colors at 640 x 480 pixel resolution (VGA capable of displaying 32,768 colors at 800 x 600 recommended) Windows compatible sound card (optional)	ACH550-CBT-00-100	N/A	$250

<table>
<tr><th>DS-OPT</th><th>Description</th><th>Field Kit Part No.</th><th>Catalog Code</th><th>List Price</th></tr>
<tr><td colspan="5">Flange Mounting Kit for NEMA 1 Drives</td></tr>
<tr><td>Flange Mounting Kits</td><td>Flange Mounting Kit for the ACH550 drives allows mounting the drive with the heatsink external to a 3rd party enclosure. Use of the flange kit requires removal of the drive cover, reducing protection to IP00. The flange kit can be used with 3rd party UL type 1 & 12 (NEMA 1 & 12) enclosures.
<table>
<tr><th>Frame Size</th><th>Field Kit Code</th><th>Price</th></tr>
<tr><td>R1 NEMA 1</td><td>FMK-A-R1</td><td>$268</td></tr>
<tr><td>R2 NEMA 1</td><td>FMK-A-R2</td><td>$346</td></tr>
<tr><td>R3 NEMA 1</td><td>FMK-A-R3</td><td>$459</td></tr>
<tr><td>R4 NEMA 1</td><td>FMK-A-R4</td><td>$580</td></tr>
<tr><td>R5 NEMA 1</td><td>FMK-A-R5</td><td>$660</td></tr>
<tr><td>R6 NEMA 1</td><td>FMK-A-R6</td><td>$760</td></tr>
</table></td><td>See Table</td><td>N/A</td><td>See table</td></tr>
<tr><td colspan="5">Flange Mounting Gasket for NEMA 12 Drives</td></tr>
<tr><td>Flange Mounting Gasket</td><td>The flange gasket is for flange mounting NEMA 12 drives.
<table>
<tr><th>Frame Size</th><th>Field Kit Code</th><th>Price</th></tr>
<tr><td>R1 NEMA 12</td><td>FMK-B-R1</td><td>$55</td></tr>
<tr><td>R2 NEMA 12</td><td>FMK-B-R2</td><td>$65</td></tr>
<tr><td>R3 NEMA 12</td><td>FMK-B-R3</td><td>$75</td></tr>
<tr><td>R4 NEMA 12</td><td>FMK-B-R4</td><td>$85</td></tr>
</table></td><td>See Table</td><td>N/A</td><td>See table</td></tr>
</table>

Miscellaneous				
Classic Bypass Damper Control	Additional components and control wiring to provide damper control function in the Classic Bypass. This function is standard in the E-Clipse Bypass.	N/A	+G349	$200

Dimensions: ACH550-UH UL Type 1 / NEMA 1 R1 through R8 Frame Size



Wall Mount (UH1-1 - UH1-6)

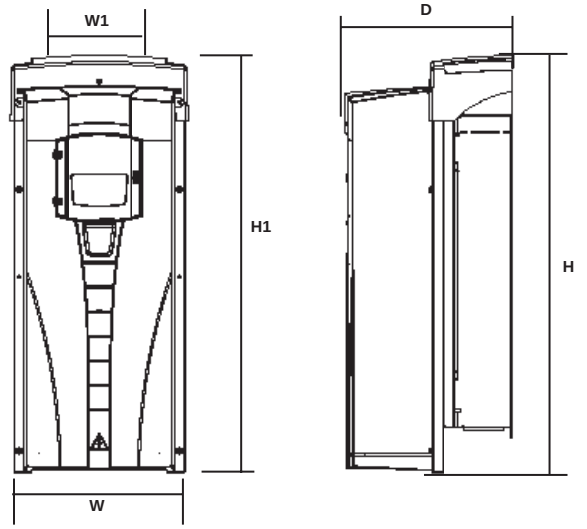
Floor Mount (UH1-8)

Dimension Reference	UL Type 1 / NEMA 1 Mounting Dimensions mm [inches]			UL Type 1 / NEMA 1 Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
UH1-1	318 [12.5]	98 [3.9]	M5 [#10]	369 [14.5]	125 [4.9]	212 [8.3]	6.5 [14]	3AUA0000001559 Sheet 1
UH1-2	418 [16.4]	98 [3.9]	M5 [#10]	469 [18.5]	125 [4.9]	222 [8.7]	9 [20]	3AUA0000001560 Sheet 1
UH1-3	473 [18.6]	160 [6.3]	M5 [#10]	583 [23]	203 [8]	231 [9.1]	16 [35]	3AUA0000001571 Sheet 1
UH1-4	578 [22.8]	160 [6.3]	M5 [#10]	689 [27.1]	203 [8]	262 [10.3]	24 [53]	3AUA0000001572 Sheet 1
UH1-5	588 [23.1]	238 [9.4]	M6 [0.25]	736 [29]	267 [10.5]	286 [11.2]	34 [75]	3AUA0000004629 Sheet 1
UH1-6	675 [26.6]	263 [10.3]	M6 [0.25]	881 [34.7]	302 [11.9]	400 [15.7]	69 [152]	3AUA0000004633 Sheet 1
UH1-8	Free Standing		Ø16 [Ø0.63]	2125 [83.7]	806 [31.7]	639 [25.2]	354 [780]	3AUA0000021150 Sheet 1

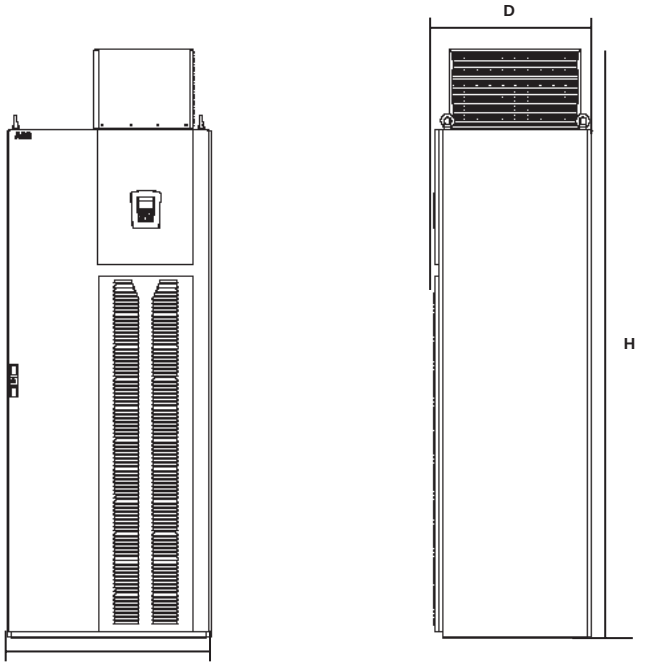
Drawing is not for engineering purposes.

Drawing is not for engineering purposes.
A larger conduit box provided on units with ratings above 200 amps extends the Height (H) dimension an additional 107 mm [4.2 inches].

Dimensions: ACH550-UH UL Type 12 / NEMA 12 R1 through R8 Frame Size



Wall Mount (UH12-1 - UH12-6)

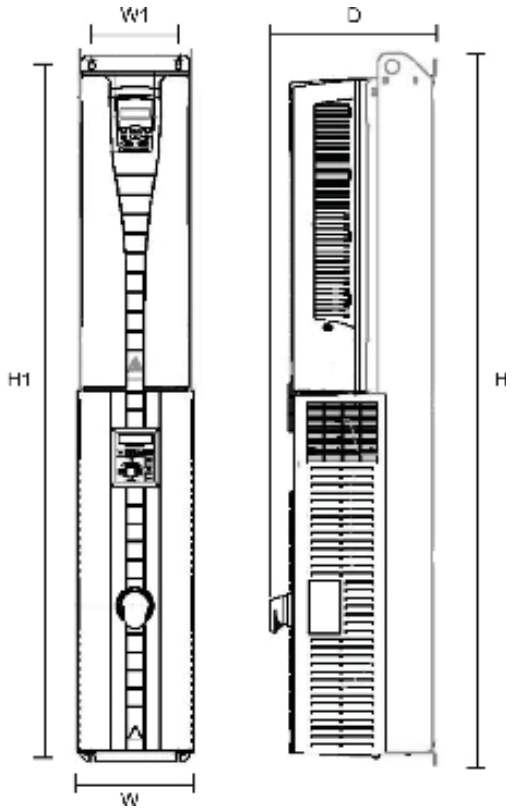


Floor Mount (UH12-8)

Dimension Reference	UL Type 12 / NEMA 12 Mounting Dimensions mm [inches]			UL Type 12 / NEMA 12 Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
UH12-1	318 [12.5]	98 [3.9]	M5 [#10]	461 [18.1]	222 [8.7]	234 [9.2]	8.2 [18]	3AUA0000004031 Sheet 1
UH12-2	418 [16.4]	98 [3.9]	M5 [#10]	561 [22.1]	222 [8.7]	245 [9.6]	11.2 [25]	3AUA0000004032 Sheet 1
UH12-3	473 [18.6]	160 [6.3]	M5 [#10]	629 [24.8]	267 [10.5]	253 [10]	18.5 [41]	3AUA0000004029 Sheet 1
UH12-4	578 [22.8]	160 [6.3]	M5 [#10]	760 [29.9]	267 [10.5]	284 [11.2]	26.5 [58]	3AUA0000004043 Sheet 1
UH12-5	588 [23.1]	238 [9.4]	M6 [0.25]	816 [32.1]	369 [14.5]	309 [12.1]	38.5 [85]	3AUA0000004634 Sheet 1
UH12-6	675 [26.6]	263 [10.3]	M6 [0.25]	984 [38.7]	410 [16.1]	423 [16.6]	86 [190]	3AUA0000004635 Sheet 1
UH12-8	Free Standing		Ø16 [Ø0.63]	2377 [93.6]	806 [31.7]	639 [25.2]	375 [827]	3AUA0000021151 Sheet 1

Drawing is not for engineering purposes.

Dimensions: ACH550-Vx UL Type 1 / NEMA 1 R1 through R4 Frame Size

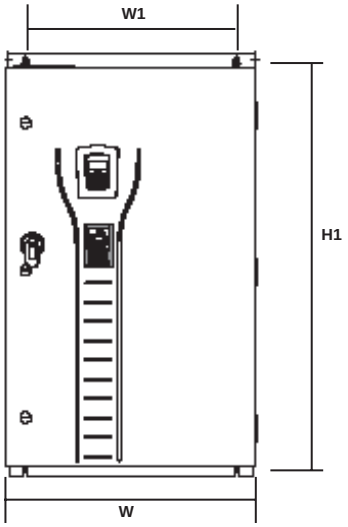


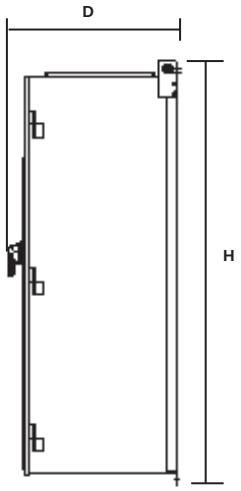
Wall Mount (VX1-1 - VX1-4)

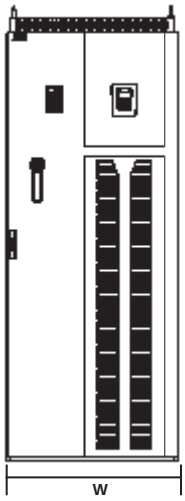
Dimension Reference	UL Type 1 / NEMA 1 MountingDimensions mm [inches]			UL Type 1 / NEMA 1 Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
VX1-1	1004 [39.5]	98 [3.9]	M6 [0.25]	1021 [40.2]	136 [5.4]	256 [10.1]	15 [33]	3AUA0000016371 Sheet 1
VX1-2	1103 [43.4]	98 [3.9]	M6 [0.25]	1120 [44.1]	136 [5.4]	262 [10.3]	18 [40]	3AUA0000016372 Sheet 1
VX1-3	1180 [46.5]	160 [6.3]	M6 [0.25]	1211 [47.7]	214 [8.4]	278 [10.9]	32 [71]	3AUA0000016373 Sheet 1
VX1-4	1285 [50.6]	160 [6.3]	M6 [0.25]	1316 [51.8]	214 [8.4]	307 [12.1]	42 [93]	3AUA0000016374 Sheet 1

Drawing is not for engineering purposes.

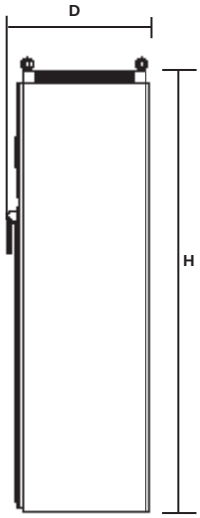
Dimensions: ACH550-BxR UL Type 1 / NEMA 1 R1 through R8 Frame Size







Wall Mount (BX1-1 - BX1-6)

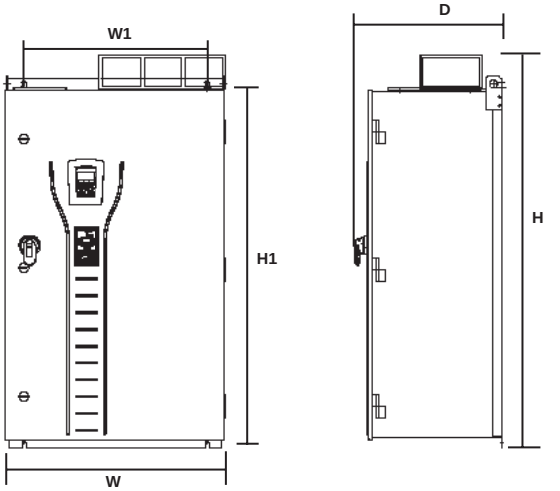


Floor Mount (BX1-8)

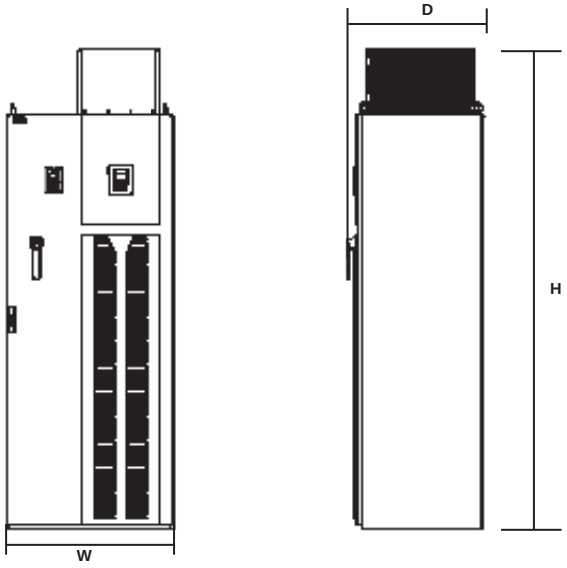
Dimension Reference	UL Type 1 / NEMA 1 Mounting Dimensions mm [inches]			UL Type 1 / NEMA 1 Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
BX1-1	810 [31.9]	320 [12.6]	M10 [0.375]	842 [33.2]	443 [17.4]	343 [13.5]	35.4 [78]	3AUA0000016375 Sheet 1
BX1-2	810 [31.9]	320 [12.6]	M10 [0.375]	842 [33.2]	443 [17.4]	343 [13.5]	38.1 [84]	3AUA0000016375 Sheet 1
BX1-3	918 [36.1]	400 [15.7]	M10 [0.375]	950 [37.4]	521 [20.5]	389 [15.3]	54.4 [120]	3AUA0000016378 Sheet 1
BX1-4	918 [36.1]	400 [15.7]	M10 [0.375]	950 [37.4]	521 [20.5]	389 [15.3]	62.6 [138]	3AUA0000016378 Sheet 1
BX1-5	1175 [46.3]	600 [23.6]	M10 [0.375]	1212 [47.7]	713 [28.1]	483 [19]	121 [267]	3AUA0000016381 Sheet 1
BX1-6	1175 [46.3]	600 [23.6]	M10 [0.375]	1212 [47.7]	713 [28.1]	483 [19]	163 [359]	3AUA0000016381 Sheet 1
BX1-8	Free Standing		Ø16 [Ø0.63]	2125 [83.7]	806 [31.7]	659 [25.9]	474 [1045]	3AUA0000016384 Sheet 1

Drawing is not for engineering purposes.

Dimensions: ACH550-BxR UL Type 12 / NEMA 12 R1 through R8 Frame Size



Wall Mount (BX12-1 - BX12-6)

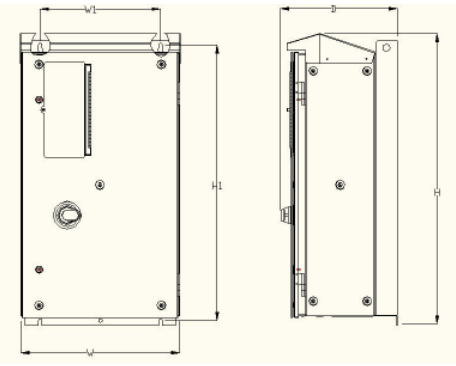


Floor Mount (BX12-8)

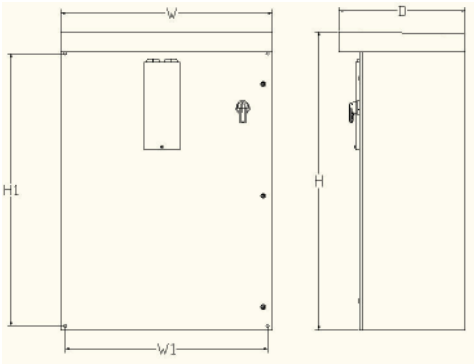
Dimension Reference	UL Type 12 / NEMA 12 Mounting Dimensions mm [inches]			UL Type 12 / NEMA 12 Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
BX12-1	810 [31.9]	320 [12.6]	M10 [0.375]	842 [33.2]	443 [17.4]	343 [13.5]	35.4 [78]	3AUA0000016376 Sheet 1
BX12-2	810 [31.9]	320 [12.6]	M10 [0.375]	842 [33.2]	443 [17.4]	343 [13.5]	38.1 [84]	3AUA0000016376 Sheet 1
BX12-3	918 [36.1]	400 [15.7]	M10 [0.375]	950 [37.4]	521 [20.5]	389 [15.3]	54.4 [120]	3AUA0000016379 Sheet 1
BX12-4	918 [36.1]	400 [15.7]	M10 [0.375]	950 [37.4]	521 [20.5]	389 [15.3]	62.6 [138]	3AUA0000016379 Sheet 1
BX12-5	1175 [46.3]	600 [23.6]	M10 [0.375]	1380 [54.3]	713 [28.1]	483 [19]	121 [267]	3AUA0000016382 Sheet 1
BX12-6	1175 [46.3]	600 [23.6]	M10 [0.375]	1380 [54.3]	713 [28.1]	483 [19]	163 [359]	3AUA0000016382 Sheet 1
BX12-8	Free Standing		Ø16 [Ø0.63]	2377 [93.6]	806 [31.7]	659 [25.9]	474 [1045]	3AUA0000016385 Sheet 1

Drawing is not for engineering purposes.

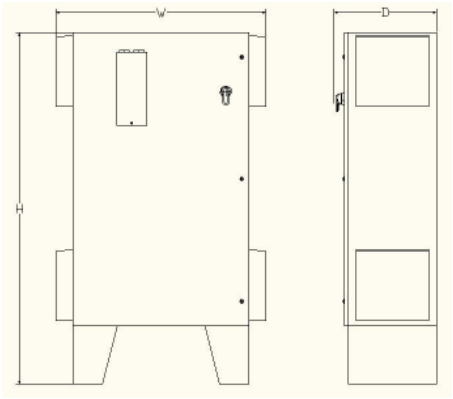
Dimensions: ACH550-BxR UL Type 3R/ NEMA 3R R1 through R8 Frame Size



Wall Mount (BX3R-1 - BX3R-4)



Wall Mount (BX3R-5 - BX3R-6)

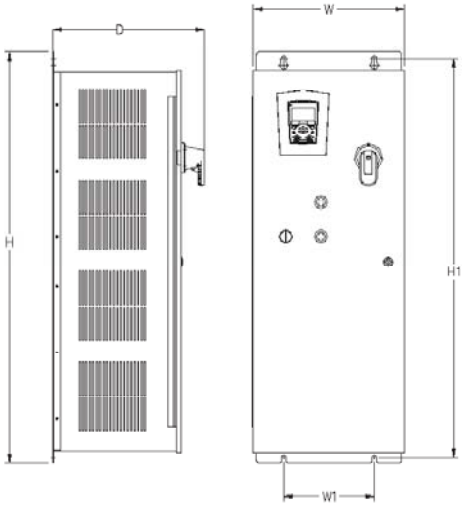


Floor Mount (BX3R-7)

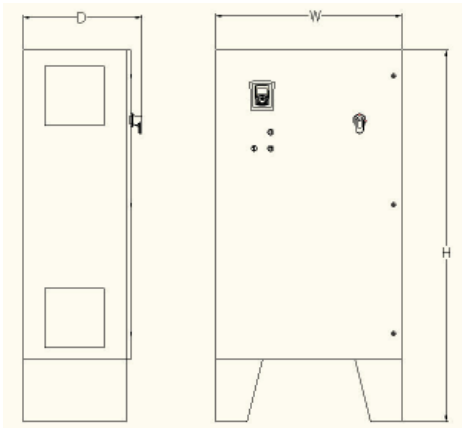
Dimension Reference	UL Type 3R / NEMA 3R Mounting Dimensions mm [inches]			UL Type 3R / NEMA 3R Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
BX3R-1	810 [31.9]	320 [12.6]	M10 [0.375]	865 [34]	452 [17.8]	343 [13.5]	58 [128]	3AUA0000016377 Sheet 1
BX3R-2	810 [31.9]	320 [12.6]	M10 [0.375]	865 [34]	452 [17.8]	343 [13.5]	61 [134]	3AUA0000016377 Sheet 1
BX3R-3	918 [36.1]	400 [15.7]	M10 [0.375]	968 [38.1]	530 [20.9]	389 [15.3]	80 [176]	3AUA0000016380 Sheet 1
BX3R-4	918 [36.1]	400 [15.7]	M10 [0.375]	968 [38.1]	530 [20.9]	389 [15.3]	88 [194]	3AUA0000016380 Sheet 1
BX3R-5	876 [34.5]	724 [28.5]	M10 [0.375]	991 [39]	762 [30]	394 [15.5]	96.8 [213]	3AUA0000060123 Sheet 2
BX3R-6	1181 [46.5]	876 [34.5]	M10 [0.375]	1295 [51]	914 [36]	546 [21.5]	185.5 [409]	3AUA0000060124 Sheet 2
BX3R-7	Free Standing		Ø14.2 [Ø0.56]	1829 [72]	1092 [43]	533 [21]	251.4 [554]	3AUA00000603R5 Sheet 2

Drawing is not for engineering purposes.

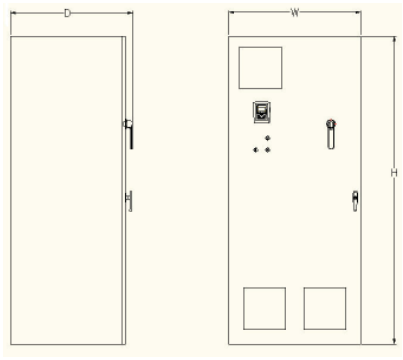
Dimensions: ACH550-Cx UL Type 1 / NEMA 1 R1 through R8 Frame Size



Wall Mount (CX1-1 - CX1-8)



Wall Mount (CX1-9 - CX1-11)

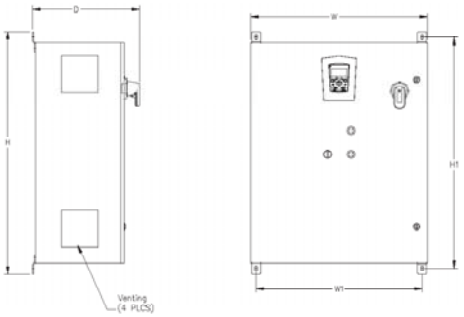


Floor Mount (CX1-12- CX1-13)

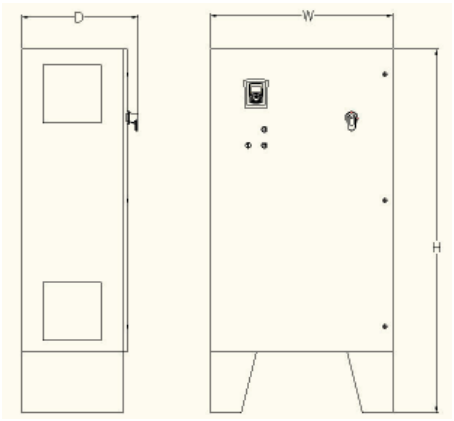
Dimension Reference	UL Type 1 / NEMA 1 Mounting Dimensions mm [inches]			UL Type 1 / NEMA 1 Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
CX1-1	920 [36.2]	208 [8.2]	M10 [0.375]	948 [37.3]	348 [13.7]	349 [13.7]	35 [77]	3AUA0000012797 Sheet 3
CX1-2	920 [36.2]	208 [8.2]	M10 [0.375]	948 [37.3]	348 [13.7]	349 [13.7]	37 [82]	3AUA0000012797 Sheet 3
CX1-3	1352 [53.2]	254 [10]	M10 [0.375]	1380 [54.3]	414 [16.3]	371 [14.6]	49 [108]	3AUA0000012798 Sheet 3
CX1-4	1352 [53.2]	254 [10]	M10 [0.375]	1380 [54.3]	414 [16.3]	371 [14.6]	61 [134]	3AUA0000012798 Sheet 3
CX1-5	1352 [53.2]	254 [10]	M10 [0.375]	1380 [54.3]	414 [16.3]	371 [14.6]	76 [168]	3AUA0000012798 Sheet 3
CX1-6	1568 [61.7]	330 [13]	M10 [0.375]	1596 [62.8]	491 [19.3]	489 [19.2]	90 [198]	3AUA0000012799 Sheet 3
CX1-7	1568 [61.7]	330 [13]	M10 [0.375]	1596 [62.8]	491 [19.3]	489 [19.2]	119 [262]	3AUA0000012799 Sheet 3
CX1-8	1568 [61.7]	330 [13]	M10 [0.375]	1596 [62.8]	491 [19.3]	489 [19.2]	154 [340]	3AUA0000012799 Sheet 3
CX1-9	Free Standing		Ø14.2 [Ø0.56]	1883 [74.1]	889 [35]	527 [20.7]	126 [278]	3AUA0000012800 Sheet 3
CX1-10	Free Standing		Ø14.2 [Ø0.56]	1883 [74.1]	889 [35]	527 [20.7]	190 [419]	3AUA0000012800 Sheet 3
CX1-11	Free Standing		Ø14.2 [Ø0.56]	1829 [72]	914 [36]	584 [23]	247 [545]	3AUA0000024944 Sheet 3
CX1-12	Free Standing		N/A [N/A]	2134 [84]	914 [36]	848 [33.4]	579 [1276]	3AUA0000013236 Sheet 3
CX1-13	Free Standing		N/A [N/A]	2134 [84]	1524 [60]	848 [33.4]	662 [1459]	3AUA0000013223 Sheet 3

Drawing is not for engineering purposes.
CX1-9 and CX1-11 are wall mount configurations with 12 inch high mounting feet. Feet are removable.
CX1-13 enclosure is double door construction.

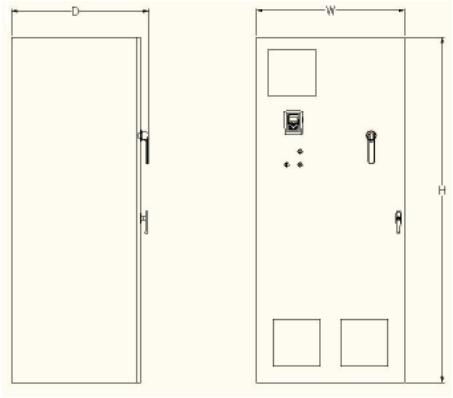
Dimensions: ACH550-Cx UL Type 12 / NEMA 12 R1 through R8 Frame



Wall Mount (CX12-1 - CX12-9)



Wall Mount (CX12-10)

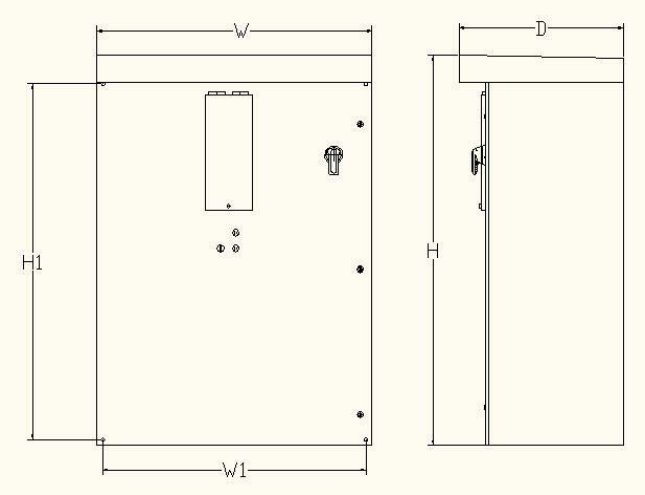


Floor Mount (CX12-11 - CX12-12)

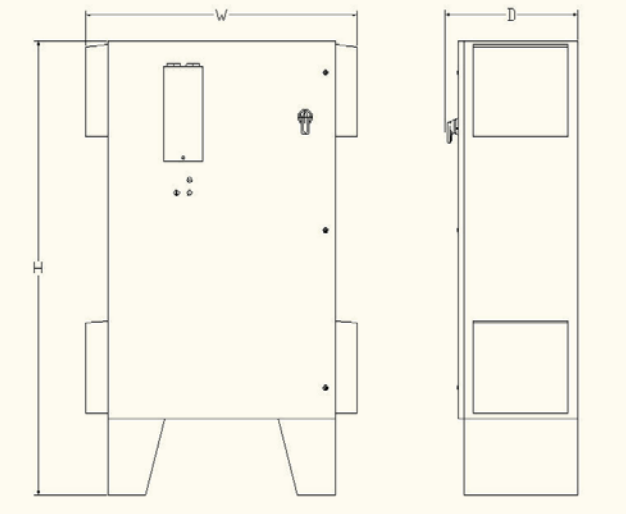
Dimension Reference	UL Type 12 / NEMA 12 Mounting Dimensions mm [inches]			UL Type 12 / NEMA 12 Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
CX12-1	648 [25.5]	419 [16.5]	M10 [0.375]	686 [27]	457 [18]	369 [14.5]	36 [79]	3AUA0000012801 Sheet 3
CX12-2	648 [25.5]	419 [16.5]	M10 [0.375]	686 [27]	457 [18]	369 [14.5]	38 [84]	3AUA0000012801 Sheet 3
CX12-3	800 [31.5]	572 [22.5]	M10 [0.375]	838 [33]	610 [24]	369 [14.5]	51 [112]	3AUA0000012802 Sheet 3
CX12-4	800 [31.5]	572 [22.5]	M10 [0.375]	838 [33]	610 [24]	369 [14.5]	64 [141]	3AUA0000012802 Sheet 3
CX12-5	953 [37.5]	724 [28.5]	M10 [0.375]	991 [39]	762 [30]	369 [14.5]	78 [172]	3AUA0000012803 Sheet 3
CX12-6	953 [37.5]	724 [28.5]	M10 [0.375]	991 [39]	762 [30]	369 [14.5]	93 [205]	3AUA0000012803 Sheet 3
CX12-7	1257 [49.5]	876 [34.5]	M10 [0.375]	1304 [51.4]	914 [36]	572 [22.5]	118 [260]	3AUA0000012804 Sheet 3
CX12-8	1257 [49.5]	876 [34.5]	M10 [0.375]	1304 [51.4]	914 [36]	572 [22.5]	147 [324]	3AUA0000012804 Sheet 3
CX12-9	1257 [49.5]	876 [34.5]	M10 [0.375]	1304 [51.4]	914 [36]	572 [22.5]	182 [401]	3AUA0000012804 Sheet 3
CX12-10	Free Standing		Ø14.2 [Ø0.56]	1829 [72]	914 [36]	584 [23]	247 [545]	3AUA0000012805 Sheet 3
CX12-11	Free Standing		N/A [N/A]	2134 [84]	914 [36]	848 [33.4]	579 [1276]	3AUA0000013237 Sheet 3
CX12-12	Free Standing		N/A [N/A]	2134 [84]	1524 [60]	848 [33.4]	662 [1459]	3AUA0000013224 Sheet 3

Drawing is not for engineering purposes.
CX12-10 is a wall mount configurations with 12 inch high mounting feet. Feet are removable.
CX12-12 enclosure is double door construction.

Dimensions: ACH550-Cx UL Type 3R / NEMA 3R R1 through R6 Frame Size



Wall Mount (CX3R-1-CX3R-6)

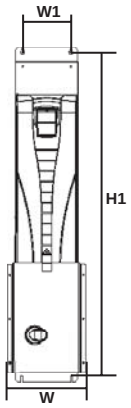


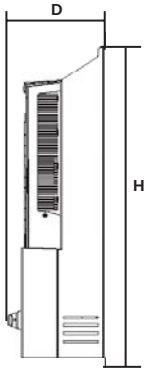
Floor Mount (CX3R-7)

Dimension Reference	UL Type 3R / NEMA 3R Mounting Dimensions mm [inches]			UL Type 3R / NEMA 3R Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
CX3R-1	571.5 22.5	419.1 16.5	M10 0.375	685.8 27	457.2 18	342.9 13.5	37.4 82	3AUA0000060121 Sheet 3
CX3R-2	571.5 22.5	419.1 16.5	M10 0.375	685.8 27	457.2 18	342.9 13.5	39.9 88	3AUA0000060121 Sheet 3
CX3R-3	723.9 28.5	571.5 22.5	M10 0.375	838.2 33	609.6 24	342.9 13.5	65.9 145	3AUA0000060122 Sheet 3
CX3R-4	876.3 34.5	723.9 28.5	M10 0.375	990.6 39	762 30	393.7 15.5	96.8 213	3AUA0000060123 Sheet 3
CX3R-5	1181.1 46.5	876.3 34.5	M10 0.375	1295.4 51	914.4 36	546.1 21.5	121.4 268	3AUA0000060124 Sheet 3
CX3R-6	1181.1 46.5	876.3 34.5	M10 0.375	1295.4 51	914.4 36	546.1 21.5	150.5 332	3AUA0000060124 Sheet 3
CX3R-7	1181.1 46.5	876.3 34.5	M10 0.375	1295.4 51	914.4 36	546.1 21.5	185.5 409	3AUA0000060124 Sheet 3
CX3R-8	Free Standing		M10 0.375	1828.8 72	1092.2 43	524.6 20.7	251.4 554	3AUA0000060125 Sheet 3

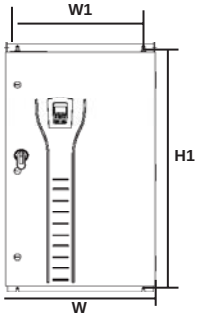
Drawing is not for engineering purposes.

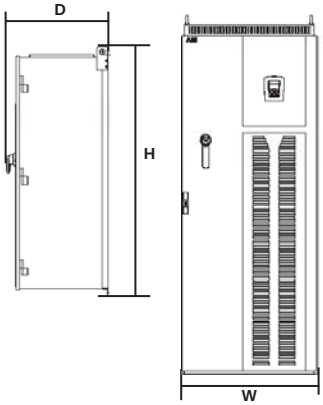
Dimensions: ACH550-PxR UL Type 1 / NEMA 1 R1 through R8 Frame Size



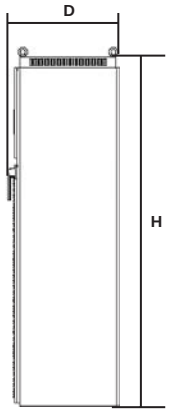


Wall Mount (PX1-1 - PX1-4)





Wall Mount (PX1-5 - PX1-6)

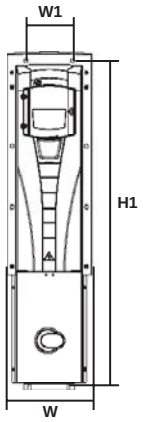


Floor Mount (PX1-8)

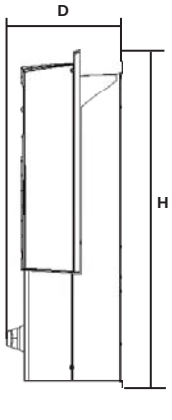
Dimension Reference	UL Type 1/ NEMA 1 Mounting Dimensions mm [inches]			UL Type 1 / NEMA 1 Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
PX1-1	712 [28]	98 [3.9]	M6 [0.25]	729 [28.7]	198 [7.8]	283 [11.2]	15 [33]	3AUA0000008216 Sheet 1
PX1-2	812 [32]	98 [3.9]	M6 [0.25]	829 [32.6]	198 [7.8]	295 [11.6]	19 [42]	3AUA0000008218 Sheet 1
PX1-3	983 [38.7]	160 [6.3]	M6 [0.25]	1013 [39.9]	260 [10.2]	304 [11.9]	34 [75]	3AUA0000008220 Sheet 1
PX1-4	1117 [44]	160 [6.3]	M6 [0.25]	1147 [45.2]	260 [10.2]	332 [13.1]	43 [95]	3AUA0000008221 Sheet 1
PX1-5	1175 [46.3]	600 [23.6]	M10 [0.375]	1212 [47.7]	713 [28.1]	483 [19]	121 [267]	3AUA0000021148 Sheet 1
PX1-6	1175 [46.3]	600 [23.6]	M10 [0.375]	1212 [47.7]	713 [28.1]	483 [19]	163 [359]	3AUA0000021148 Sheet 1
PX1-8	Free Standing		Ø16 [Ø0.63]	2125 [83.7]	806 [31.7]	659 [25.9]	360 [794]	3AUA0000021152 Sheet 1

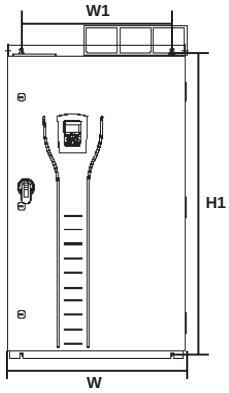
Drawing is not for engineering purposes.

Dimensions: ACH550-PxR UL Type 12 / NEMA 12 R1 through R8 Frame Size

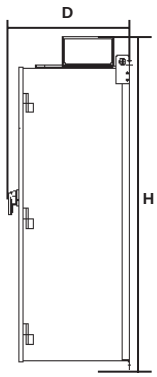


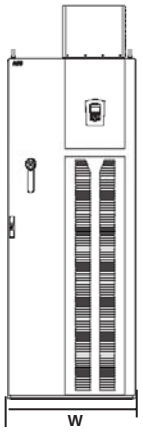
Wall Mount (PX12-1 - PX12-4)

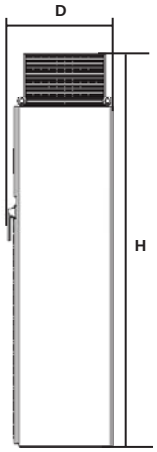




Wall Mount (PX12-5 - PX12-6)





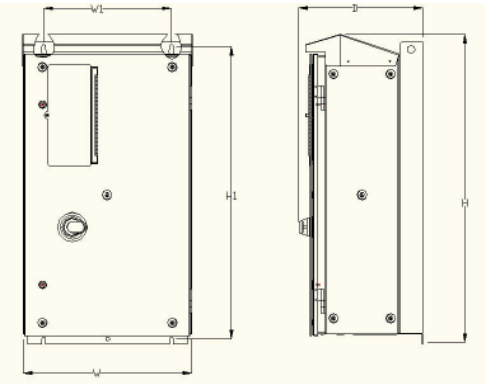


Floor Mount (PX12-8)

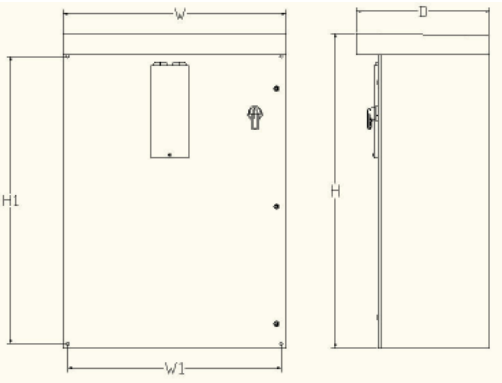
Dimension Reference	UL Type 12/ NEMA 12 Mounting Dimensions mm [inches]			UL Type 12 / NEMA 12 Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
PX12-1	712 [28]	98 [3.9]	M6 [0.25]	744 [29.3]	221 [8.7]	283 [11.2]	17 [37]	3AUA0000008216 Sheet 2
PX12-2	812 [32]	98 [3.9]	M6 [0.25]	844 [33.2]	221 [8.7]	295 [11.6]	21 [46]	3AUA0000008218 Sheet 2
PX12-3	983 [38.7]	160 [6.3]	M6 [0.25]	1030 [40.6]	267 [10.5]	304 [11.9]	36 [79]	3AUA0000008220 Sheet 2
PX12-4	1117 [44]	160 [6.3]	M6 [0.25]	1163 [45.8]	267 [10.5]	332 [13.1]	45 [99]	3AUA0000008221 Sheet 2
PX12-5	1175 [46.3]	600 [23.6]	M10 [0.375]	1380 [54.3]	713 [28.1]	483 [19]	121 [267]	3AUA0000021149 Sheet 1
PX12-6	1175 [46.3]	600 [23.6]	M10 [0.375]	1380 [54.3]	713 [28.1]	483 [19]	163 [359]	3AUA0000021149 Sheet 1
PX12-8	Free Standing		Ø16 [Ø0.63]	2377 [93.6]	806 [31.7]	659 [25.9]	380 [838]	3AUA0000021153 Sheet 1

Drawing is not for engineering purposes.

Dimensions: ACH550-PxR UL Type 3R / NEMA 3R R1 through R6 Frame Size



Wall Mount (PX3R-1 - PX3R-4)



Wall Mount (PX3R-5 - PX3R-6)

Dimension Reference	UL Type 3R / NEMA 3R Mounting Dimensions mm [inches]			UL Type 3R / NEMA 3R Dimensions and Weights mm [inches] kg [lbs]				
	H1	W1	Mounting Hardware	Height (H)	Width (W)	Depth (D)	Weight	Dimension Drawing
PX3R-1	810 [31.9]	320 [12.6]	M10 [0.375]	865 [34]	452 [17.8]	343 [13.5]	58 [128]	3AUA0000016377 Sheet 1
PX3R-2	810 [31.9]	320 [12.6]	M10 [0.375]	865 [34]	452 [17.8]	343 [13.5]	61 [134]	3AUA0000016377 Sheet 1
PX3R-3	918 [36.1]	400 [15.7]	M10 [0.375]	968 [38.1]	530 [20.9]	389 [15.3]	80 [176]	3AUA0000016380 Sheet 1
PX3R-4	918 [36.1]	400 [15.7]	M10 [0.375]	968 [38.1]	530 [20.9]	389 [15.3]	88 [194]	3AUA0000016380 Sheet 1
PX3R-5	876 [34.5]	724 [28.5]	M10 [0.375]	991 [39]	762 [30]	394 [15.5]	92.3 [203]	3AUA0000060123 Sheet 2
PX3R-6	1181 [46.5]	876 [34.5]	M10 [0.375]	1295 [51]	914 [36]	546 [21.5]	179.1 [395]	3AUA0000060124 Sheet 2

Drawing is not for engineering purposes.

ACS320 Overview

An extension to the ABB standard drives family is a series of drives specifically designed for variable torque applications such as pumps and fans. The specific design includes a powerful set of features whichbenefit pump and fan applications including built-inPID controllers and PFC (pump and fan control) that varies the drive's performance in response to changes in pressure, flow or other external data.These features, combined with pre-programmed application macros, an intuitive user interface and several assistant screens, speed up the installation, parameter setting and commissioning of the drive.

ACS320 Product Features and Highlights

Pump and fan features − such as pump and fan control (PFC and Soft PFC) macros
− Energy optimizer
− Load analyzer for optimized dimensioning of the drive, motor and process
− FlashDrop tool for fast parameter setting
− Unified height and depth
− Full output current at 50 °C ambient
− Short parameter menu view
− Cooling Fan Control
− Pump Cleaning
− Underload (Broken-belt)
− Pump protection
− Sleep function
− Pipefill (precharge)
− Built-in energy counters, energy saved displayed in local currency.

Embedded Fieldbus Protocols

− Modbus RTU (EIA-485)
− Johnson Controls N2
− Siemens Building Technology FLN(P1)
− BACnet (MS/TP)

Options

− Basic and Advanced control panels
− FlashDrop tool for fast cold configuration
− MREL-01 Relay output extension module
− SREA-01 Ethernet adapter
− FlashDrop (MFDT-01) (Version 1.2 or later)
− NEMA 1 Enclosure Kit (MUL1-R1 / -R3 / -R4)
− NEMA 4x Cabinet Panel Mounting (ACS/H-CP-EXT-IP66)
− DriveWindows Light®-based Start-up & Programming Tool (Version 2.9 or later)
− Relay Output Module (3 additional Form C relays) (MREL-01)

Voltage and power range

− 3-phase, 200 to 240 V ± 10%: 0.37 to 11 kW (0.5 to 15 hp)
− 3-phase, 380 to 480 V ± 10%: 0.37 to 22 kW (0.5 to 30 hp)

Applications

− Booster pumps
− Submersible pumps
− Exhaust Fans
− Supply and return fans
− Condenser Fans
− Fume Hood Fans

ACS320 Product Features and Specifications

Product Features
UL, cUL and CE, C-Tick, GOST-R
Full output current at 50ºC ambient temperature
Optional Full Graphic and Multilingual Display with real time clock (Advanced Control Panel) (+J400)
Optional Basic Control Panel (+J404)
Embedded Modbus RS-485
Blank Cover (as standard)
Start-Up, Maintenance and Diagnostic Assistant
Scalar Control
Two (2) Programmable Analog Inputs
Five (5) Programmable Digital inputs
One (1) Programmable Analog Output
One (1) Programmable Form C Relay Output
(3 more relay output available as an option (MREL-01)
One (1) Programmable Digital Output (pulse train output)
Input Speed Signals
Two (2) Current 0 (4) - 20 mA, 0 (2) - 10VDC
Bipolar voltage reference with external power supply
Pulse Train Input
Start/Stop
2 wire control (dry contact closure)
3 wire control (momentary dry contacts)
Adjustable Current Limit
Nine (9) Supervision Functions
Electronic Reverse
Power Loss Ride-Through
DC Injection Braking
DC Magnetizing Start (provides maximum starting torque)
Seven (7) Preset Speeds
Three (3) Critical Speed Lockout Bands
Two (2) Independently Adjustable Accel and Decel Ramps
U/f curves: linear, squared, user defined
Ramp to Stop or Coast to a Stop
Maximum Frequency Programmable up to 500 Hz
Integral Programmable PID Setpoint Controller
Coated Boards
RoHS (Verify RoHS label)
Built-in EMC Filter
Unified height and depth
Programmable Fault Functions
AI<Min (A1,2 loss)
Panel Loss
External Fault 1, 2
Motor Thermal Protection
Motor Stall Protection
Communications Fault
Over / Undervoltage

Pump & Fan Specific Features:
Pump & Fan Control Macros
Soft Pump & Fan Control
Pump Protection Features
Pump Cleaning
On/Off Cooling Fan Control
Software controlled phase inversion
Energy Optimizer
Energy Efficiency tools
Load Analyzer

Preprogrammed Protections:
Overvoltage (Intermediate Circuit) 1.3 *input voltage
Undervoltage (Intermediate Circuit) 0.65 * input voltage
Short Circuit
Input Phase Loss and output mis-wiring
Overcurrent
Ambient temperature
Drive overtemperature
DC over / undervoltage
Motor over temperature
Overspeed
Underload
Motor Phase Loss

Input Connection

Input Voltage (U1, V1, W1)	208/220/230/240Vac 3-phase +/-10%, (0.5 to 15 Hp) 380/400/415/440/460/480Vac 3-phase +/-10% (0.5 to 30 hp)
Input Frequency	48 to 63 Hz, maximum rate of change 17%/second
Line Imbalance	Max +/-3% of nominal phase to phase input voltage
Fundamental Power Factor	0.98 (at nominal load)
Connection	Terminals U1, V1, W1

Output Connection

Output Voltage	0 to U1, 3-phase symmetrical, Umax at the field weakening point
Output Frequency	0 to 500 Hz
Frequency Resolution	0.01 Hz

Continuous Current

I_{1N}	continuous rms input current (for dimensioning cables and fuses) at ambient temperature of +40 °C
I_{LD}	continuous output current at max ambient temperature of +50 °C. 10% overloadability for one minute every ten minutes.
I_{2N}	maximum continuous output current at ambient temperature of +40 °C. No overloadability, derating 1% for every additional 1 °C up to 50 °C.
I_{2max}	maximum instantaneous output current. Available for two seconds every ten minutes at start-up, or as long as allowed by the drive temperature.
P_N	typical motor power. The kilowatt ratings apply to most IEC 4-pole motors. The horsepower ratings apply to most NEMA 4-pole motors.
R0…R4	ACS310 is manufactured in frame sizes R0…R4. Some instructions and other information that only concern certain frame sizes are marked with the symbol of the frame size (R0…R4)

Short Term Overload Capacity	1.1 * ILD (at least 1 min / 10 min)
Field Weakening Point	10 to 500 Hz

Switching Frequency
Derate according to the switching frequency used (see parameter *2606* SWITCHING FREQ) as follows:

Switching frequency	Drive voltage rating	
	U_N = 200…240 V	U_N = 380…480 V
4 kHz	No derating	No derating
8 kHz	Derate I_{2N} to 90%.	Derate I_{2N} to 75% for R0 or to 80% for R1…R4.
12 kHz	Derate I_{2N} to 80%.	Derate I_{2N} to 50% for R0 or to 65% for R1…R4 and derate maximum ambient temperature to 30 °C (86 °F).
16 kHz	Derate I_{2N} to 75%.	Derate I_{2N} to 50% and derate maximum ambient temperature to 30 °C (86 °F).

ACS320 Product Features and Specifications

Output Connection (continued)

Ambient Conditions, Operation

Air Temperature	-10°C (14°F) to 50°C (122°F), no frost allowed
Relative Humidity	5 to 95%, no condensation allowed, maximum relative humidity is 60% in the presence of corrosive gasses
Contamination Levels IEC 60721-3-3	
Chemical Gasses	3C2
Solid Particles	3S2
Installation Site Altitude	0 to 1000 m (3300 ft) above sea level. At sites from 1000 m to 2000 m (3300 ft to 6600 ft) above sea level, the maximum power is derated 1% for every additional 100 m (330 ft).

Ambient Conditions, Storage & Transportation (in Protective Shipping Package)

Air Temperature	-40° to 70°C (-40° to 158°F)
Relative Humidity	Less than 95%, no condensation allowed
Atmospheric Pressure	70 to 106 kPa (10.2 to 15.4 PSI)

Cooling Information

Cooling	Frame size R0 has natural convection cooling. Frame sizes R1…R4 are provided with an internal fan. The air flow direction is from top to bottom.
Power Loss	Approximately 3% of rated power

Analog Inputs

Two (2) Programmable Analog Inputs

Current Reference	
Unipolar	0 (4) to 20 mA, Rin= 100 ohm
Bipolar	-20 mA to 20 mA, Rin= 100 ohm
Voltage Reference	
Unipolar	0 (2) to 10 V, Rin > 312 kohm
Bipolar	-10 V to 10 V, Rin > 312 kohm
Resolution	0.1%
Accuracy	+/-1%

Reference Power Supply

Voltage	+10 VDC, +/-1% at 25oC (77°F)
Maximum Load	10 mA
Applicable Potentiometer	1 kohm to 10 kohm

Analog Outputs

One (1) Programmable Current Output

Signal Level	0 (4) to 20 mA
Accuracy	+/-3% Full Scale Range at 25°C (77°F)
Maximum Load Impedance	500 ohms

Digital Inputs

Five (5) Programmable Digital Inputs

Signal Level	12-24 VDC, with internal or external supply.
Type	PNP and NPN
Input Current	15 mA at 24 VDC
Input Update Time	8 ms, +/- 1ms
Frequency Input	Pulse Train 0 to 16 KHz (X1A:16 only)
Internal 24 VDC Supply for Digital Inputs	
Voltage	24 VDC, +/- 10%
Maximum Current	200 mA

Relay Outputs

One (1) Programmable Relay Output

Type	NO + NC
Switching Voltage	12-250VAC / 30VDC
Maximum Switching Current	0.5A / 30VDC; 5A / 230 VAC
Maximum Continuous Current	2 Amps RMS

Digital Outputs

One (1) Programmable Digital Output

Type	
Transistor Output PNP	
Maximum Switching Voltage	30VDC
Maximum Switching Current	100 mA / 30 VDC, short circuit protected
Frequency	10 Hz ... 16 kHz
Resolution	1 Hz
Accuracy	0.2%

Embedded Protocols

Cable impedance 100…150 ohm	Shielded twisted pair,
Termination	Trunk line, drop lines allowed
Isolation	Bus interface isolated from the drive
Transfer Rate	1.2 … 76.8 kbit/s
Communication Type	Serial, Asynchronous, Half Duplex
Protocol	Modbus RTU (EIA-485), N2, FLN (P1), BACnet (MS/TP)

Protections

Single Phase	Input Protected
Overvoltage Trip Limit	1.3 * Input Voltage
Undervoltage Trip Limit	0.65 * Input Voltage
Overtemperature	Protected
Auxiliary Voltage	Short Circuit Protected
Microprocessor Fault	Protected
Motor Stall Protection	Protected
Motor Overtemperature	Protected (I2t)

ACS320

240Vac Ratings
3-phase supply voltage 208, 230 or 240 V.

DS-MD350 Type Codes below include Blank Panel only	Ratings P_N Hp	Ratings P_N kW	Ratings 50°C (122°F) I_{LD} [1] A (110% Overload)	Ratings 40°C (104°F) I_{2N} [2] A	Frame Size	IP20 with Blank Panel List Price	IP20 with Basic Panel List Price (+J404)	IP20 with HVAC Advanced Panel List Price (+J400)
3-Phase U_n = 200…240V (200, 208, 230, 240V)								
ACS320-03U-02A6-2	0.5	0.37	2.4	2.6	R0	$312	$377	$462
ACS320-03U-03A9-2	0.75	0.55	3.5	3.9	R0	$345	$410	$495
ACS320-03U-05A2-2	1	0.75	4.7	5.2	R1	$388	$453	$538
ACS320-03U-07A4-2	1.5	1.1	6.7	7.4	R1	$407	$472	$557
ACS320-03U-08A3-2	2	1.5	7.5	8.3	R1	$476	$541	$626
ACS320-03U-10A8-2	3	2.2	9.8	10.8	R2	$565	$630	$715
ACS320-03U-19A4-2	5	4.0	17.6	19.4	R2	$831	$896	$981
ACS320-03U-26A8-2	7.5	5.5	24.4	26.8	R3	$1,100	$1,165	$1,250
ACS320-03U-34A1-2	10	7.5	31.0	34.1	R4	$1,379	$1,444	$1,529
ACS320-03U-50A8-2	15	11.0	46.2	50.8	R4	$1,803	$1,868	$1,953

1) I_{LD} continuous output current at max ambient temperature of +50°C (122°F). 110% overloadability for one minute every ten minutes.
2) I_{2N} maximum continuous output current at ambient temperature of +40°C (104°F). No overloadability, derating 1% for every additional 1°C up to 50°C.

480Vac Ratings
3-phase supply voltage380, 400, 415, 440 or 480V

DS-MD350 Type Codes below include Blank Panel only	Ratings P_N Hp	Ratings P_N kW	Ratings 50°C (122°F) I_{LD} [1] A (110% Overload)	Ratings 40°C (104°F) I_{2N} [2] A	Frame Size	IP20 with Blank Panel List Price	IP20 with Basic Panel List Price (+J404)	IP20 with HVAC Advanced Panel List Price (+J400)
3-Phase U_n = 380…480V (380, 400, 415, 440, 460, 480V)								
ACS320-03U-01A3-4	0.5	0.37	1.2	1.3	R0	$522	$587	$672
ACS320-03U-02A1-4	0.75	0.55	1.9	2.1	R0	$619	$684	$769
ACS320-03U-02A6-4	1	0.75	2.4	2.6	R1	$608	$673	$758
ACS320-03U-03A6-4	1.5	1.1	3.3	3.6	R1	$638	$703	$788
ACS320-03U-04A5-4	2	1.5	4.1	4.5	R1	$635	$700	$785
ACS320-03U-06A2-4	3	2.2	5.6	6.2	R1	$712	$777	$862
ACS320-03U-09A7-4	5	4.0	8.8	9.7	R1	$948	$1,013	$1,098
ACS320-03U-13A8-4	7.5	5.5	12.5	13.8	R3	$1,194	$1,259	$1,344
ACS320-03U-17A2-4	10	7.5	15.6	17.2	R3	$1,322	$1,387	$1,472
ACS320-03U-25A4-4	15	11.0	23.1	25.4	R3	$1,588	$1,653	$1,738
ACS320-03U-34A1-4	20	15.0	31.0	34.1	R4	$2,103	$2,168	$2,253
ACS320-03U-41A8-4	25	18.5	38.0	41.8	R4	$2,553	$2,618	$2,703
ACS320-03U-48A4-4	30	22.0	44.0	48.4	R4	$3,080	$3,145	$3,230

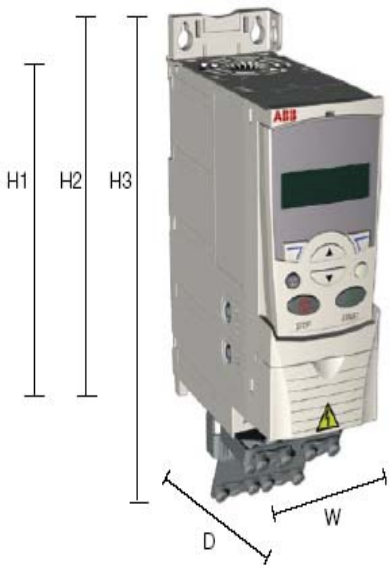
1) I_{LD} continuous output current at max ambient temperature of +50°C (122°F). 110% overloadability for one minute every ten minutes.
2) I_{2N} maximum continuous output current at ambient temperature of +40°C (104°F). No overloadability, derating 1% for every additional 1°C up to 50°C.

Note:
To order a Configured ACS320 drive, select the appropriate type code from this page. To add options, simply add a [+] to the end of the type code followed by the plus code of the desired option. Configured Options are shown on the Configured Options Pages.

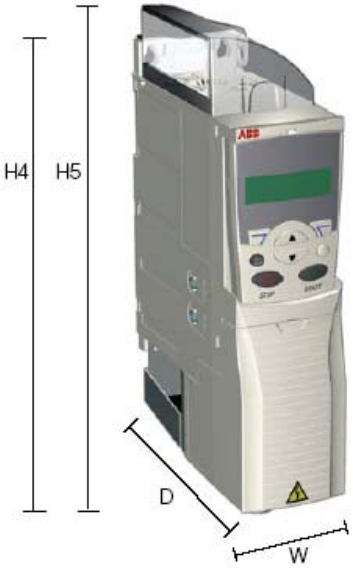
Example:ACS320 -03U-10A8-2+J400 means add the HVAC Advanced Operator Panel

- A blank panel is provided as standard. Specify +J404 (Basic Panel) or +J400 (HVAC Advanced Panel) when an operator panel is required.
- The ACS320 is compatible with the Basic panel Rev. M or later.
- The ACS320 is compatible with the HVAC Advanced control panel Rev. M or later.

ACS320 Dimensions



Cabinet Mounted Drives (UL Open)



Wall Mounted Drives (NEMA 1) - using MUL1-R1 or MUL1-R3 option

Frame Size	Dimensions and weights IP20 (cabinet) /UL Open												Noise
	H1		H2		H3		W		D		Weight		Noise Level
	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb	dBA
R0	169	6.65	202	7.95	239	9.41	70	2.76	161	6.34	1.1	2.4	50
R1	169	6.65	202	7.95	239	9.41	70	2.76	161	6.34	1.3/1.2[1]	2.9/2.6[1]	60
R2	169	6.65	202	7.95	239	9.41	105	4.13	165	6.5	1.5	3.3	60
R3	169	6.65	202	7.95	236	9.29	169	6.65	169	6.85	2.5	5.5	60
R4	181	7.13	202	7.95	244	9.61	261	10.24	169	6.65	4.4	9.7	60

[1] U_N= 200…240 V: 1.3 kg / 2.9 lb, U_N= 380…480 V: 1.2 / 2.9 lb.

Frame Size	Dimensions and weights NEMA 1										Noise
	H4		H5		W		D		Weight		Noise Level
	mm	in	mm	in	mm	in	mm	in	kg	lb	dBA
R0	257	10.12	280	11.02	70	2.76	169	6.65	1.5	3.3	50
R1	257	10.12	280	11.02	70	2.76	169	6.65	1.7/1.6[1]	3.7/3.5[1]	60
R2	257	10.12	282	11.1	105	4.13	169	6.65	1.9	4.2	60
R3	260	10.24	299	11.7	169	6.65	177	6.97	3.1	6.8	60
R4	270	10.63	320	12.60	260	10.24	177	6.97	4.99	11	60

[1] U_N= 200…240 V: 1.7 kg / 3.7 lb, U_N= 380…480 V: 1.6 / 3.5 lb.

H1= Height without fastenings and clamping plate.
H2= Height with fastenings but without clamping plate.
H3= Height with fastening and clamping plate.
H4= Height with fastenings and NEMA 1 connection box.
H5= Height with fastenings, NEMA 1 connection box and hood.
W= Width
D= Depth

DS-OPT	**ACS320 Stock Options** (These options will be shipped separately from drive shipping package)			Compatibility notes **X= compatible**
Name	Description	Field Kit Code	Field Kit List Price	ACS320
Advanced Control Panel (HVAC)	The Advanced Control Panel includes a full graphic, backlit display capable of displaying three Actual Signal values or bar graphs. The Alpha-Numeric display supports thirteen languages. A Real Time Clock is also included. Hand-Off-Auto functions are provided.	ACS-CP-B	**150$**	**Rev X or Later**
Basic Control Panel	The Basic Control Panel includes a single line numeric backlite LCD display.	ACS-CP-C	**65$**	**Rev M or Later**
Cabinet Panel Mounting Platform	Control Panel Mounting Platform allows remote mounting of the keypad on a larger enclosure or remote panel. The kit maintains UL Type 12 integrity of the mounting location. Adapters, 3 m cable and mounting hardware are included in this kit. With this mounting arrangement, the keypad is removable from the panel in a fashion identical to a drive-mounted keypad	OPMP-01	**166$**	**X**
Control Panel Mounting Kit	Control Panel Mounting Kit for ACS320 drives allows remote mounting of the ACS320 keypad on the door of an enclosure. The kit includes a 3 m CAT5 patch cable, gasket for NEMA 12, mounting hardware and drilling template.	ACS/H-CP-EXT	**85$**	**X**
NEMA 4X Cabinet Panel Mounting Kit	Allows remote mounting of the ACS-CP-X Operator Panels on a larger NEMA 4X (IP66) enclosure or remote panel. The kit maintains NEMA 4X integrity of the mounting location. All necessary hardware and a mounting template are provided in addition to a 3 m panel cable. When mounted, the operator is not removable from the front of the enclosure. The operator panel must be purchased separately.	ACS/H-CP-EXT-IP66	**85$**	**X**
RJ45/DB9 Adapter	This adapter converts the drive's panel port RJ45 (CAT 5 cable connector) plug to a 9 pin RS-232 computer serial port connector for connecting the ACS320 to a PC.	OPCA-01	**99$**	**X**
DriveWindow Light 2.x	DriveWindow Light is software designed for online drive commissioning and maintenance purposes. It is possible to adjust parameters, read the actual values and control the drive with DriveWindow Light instead of the drive control panel. It is also possible to follow trends and draw graphs. An RJ45 to DB9 adapter cable is provided to permit connection between the panel port and a PC.	64691619	**800$**	**Version 2.9 or Later**
NEMA 1 Enclosure Kit	This option provides the necessary hardware to modify the ACS310,ACS320 and ACS350 drive from the standard fingersafe protected chassis to NEMA 1 protection capable of landing conduit. MUL1-R1 kit is used with frame sizes R0 through R2 and MUL1-R3 is used with frame size R3, and MUL-R4 is used with frame size	MUL1-R1 MUL1-R3 MUL1-R4	**90$** **90$** **120$**	**X**
Relay ouput extension module	The relay output extension module is an interface for connecting three (3) form C relays outputs. The MREL-01 is supported from software version 2.57C and onwards for the ACS320.	MREL-01	**175$**	**X**
Ethernet Adapter (Gateway)	SREA-01 is an optional device for web browser based remote interface to the ACS350, ACS310 , ACS320, ACS550 and ACS800 drives ethernet. The din rail mounted adapter enables remote data aquisition through a standard web brouser, utilising an internal web server for drive configuration and access. Multiple drives (up to 10) can be connected to the Modbus -RTU network through the drive's Modbus-RTU port. The ACS350 and ACS550 can also be connected through the control panel port, although and additional RS-485 converter is needed for each drive if several drives are connected by their panel port	SREA-01-KIT	**1750$**	**X**
Flashdrop	FlashDrop is a powerful palm sized tool for fast and easy parameter selecting and setting. It gives the possibility to hide selected parameters to protect the machine. Only the parameters needed in the application are shown. The tool can copy parameters between two drives or between a PC and a drive. Includes DrivePM (Drive parameter manager) which is a tool to create, edit and copy parameter sets for FlashDrop. The parameter sets can consist of all parameters (incl. motor parameters and ID run results) or only a set of the user parameters.	MFDT-01	**720$**	**Version 1.2 or Later**
DriveBrowser	DriveBrowser software is designed for online drive commissioning and maintenance purposes. DriveBrowser uses a computer's standard Ethernet port to connect to an EtherNet/IP or Modbus-TCP network. It is compatible with the ACS320, ACS350, ACS550, ACH550 and ACS800* drives (*ACS800 standard control program). Drives require configuration and connection to an EtherNet/IP or Modbus-TCP network. DriveBrowser supports Microsoft Windows operating systems (Windows NT4, 2000, XP & Vista). • Configure network connections • Parameter editing and monitoring • Upload/download drive parameter files, save, print • Compare files • Trending up to four signals • Drive Control for commissioning and test	3AUA0000041141	**1750$**	**Version 2.9 or Later**

Notes

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