

ABB standard drives

ACS550 Adjustable Speed AC Drives

0.75 to 100 HP (240 VAC)

1 to 550 HP (480 VAC)

1.5 to 150 HP (600 VAC)

Technical Brochure



ABB

ACS550 Adjustable Speed AC Drives



ACS550 Base Drive

The ABB ACS550 AC drive combines a sophisticated microprocessor with an advanced IGBT power switching technology to deliver V/Hz, Closed Loop Flux Vector, and Sensorless Vector control of AC motors. Its Intuitive Control Panel offers numerous benefits making it the most user-friendly panel in the drives industry. The extensive library of pre-programmed application macros maximizes convenience and minimizes start-up time. This drive can handle the most demanding industrial applications in an efficient, dependable and economic manner.

Features Include

- Control Panel with
 - Start-Up, Maintenance and Diagnostic Assistants
 - Support for 15 Languages
 - Full Graphic Display
 - "Help" Button
 - Real-time Clock
- Numerous internally mountable fieldbus adapters for serial communications
- Patented Swinging Chokes for Superior Harmonic Mitigation
- Internal Option Slots for additional I/O
- RS-485 Modbus RTU Included as Standard
- Extensive Library of Pre-Programmed Application Macros
- Integral EMC Filter
- Integral Braking Chopper up to 15 HP (480 VAC, 600 VAC) and up to 10 HP (230 VAC)

Easily Integrated

- Sinking or Sourcing Input Device Logic
- Galvanically Isolated Digital I/O



Input Connection

Voltage: 3-Phase, 208 - 240 VAC, +10/-15%
3-Phase, 380 - 480 VAC, +10/-15%
3-Phase, 500 - 600 VAC, +10/-15%

Frequency: 48 ... 63 Hz
+/- 2 Hz

Output Connection

Voltage: 0 to U_{Supply}
Frequency: 0 to 500 Hz

Environmental Limits

Ambient Operating Temperature: -15° to 40°C
(5° to 104°F)

Enclosure

Type: NEMA 1, NEMA 12

Standard Control Connection

- 2 Programmable Analog Inputs (voltage or current)
- 6 Programmable Digital Inputs
- 2 Programmable Analog Outputs
- 3 Programmable Relay Outputs
- RS-485 Modbus

Options

- External Braking Resistors (R1 - R2)
- External Braking Units (R3 - R6)
- DriveWindow Light Programming and Diagnostic Software
- Fieldbus Adapter Modules: DeviceNet, Profibus, ControlNet, EtherNet/IP, Modbus/TCP, CANopen
- 115/230V Digital Interface
- Encoder Feedback Module
- 3 Relay Extension Module
- Control Panel Mounting Kit

Protection

- Overcurrent
- Overtemperature
- Microprocessor Fault
- Auxiliary Voltage
- Short Circuit Protection
- Electronic Motor Overload (UL508C - I²t)
- Ground Fault
- Overvoltage
- Undervoltage
- Microprocessor Fault
- Motor Stall
- Underload

ACS550 Adjustable Speed AC Drives



ACS550 Packaged Drive

ACS550-PC and PD packaged drives combine the ACS550 AC drives with the disconnect arrangement of your choice in one coordinated, easy to install package. Packages are available with an input disconnect switch and fast acting, current limiting fuses (ACS550-PD) or an input circuit breaker (ACS550-PC) in UL Type 1 / NEMA Type 1 or UL Type 12 / NEMA Type 12 enclosures. For easy drive programming and application monitoring, the multi-lingual, alphanumeric control panel is provided on the cover as standard. The control panel is detachable where it is desired to limit access.

Vertical Wall Mount Enclosures

Available from 1 to 25 HP at 208/240V, 1 to 60 HP at 480V and 1.5 to 60 HP at 600V, this unique construction provides a minimum footprint advantageous for use in overcrowded electrical rooms or mezzanines, or for direct mounting on machines or columns. ACS550-PD versions are furnished with a disconnect switch and fast acting, current limiting drive input fuses and ACS550-PC versions include a circuit breaker disconnect means. Input and output conduit entry is at the bottom of the enclosure.



Wall Mount Enclosures

From 30 to 75 HP at 208/240V, 75 to 150 HP at 480V and 75 to 150 HP at 600V, wall mounting enclosures are sized to accommodate the field addition of components that users frequently desire to include at these higher horsepower. Both ACS550-PD (disconnect switch) and ACS550-PC (circuit breaker) are furnished with fast acting, current limiting drive input fuses as standard. A removable conduit mounting plate is provided at the top of the enclosure.



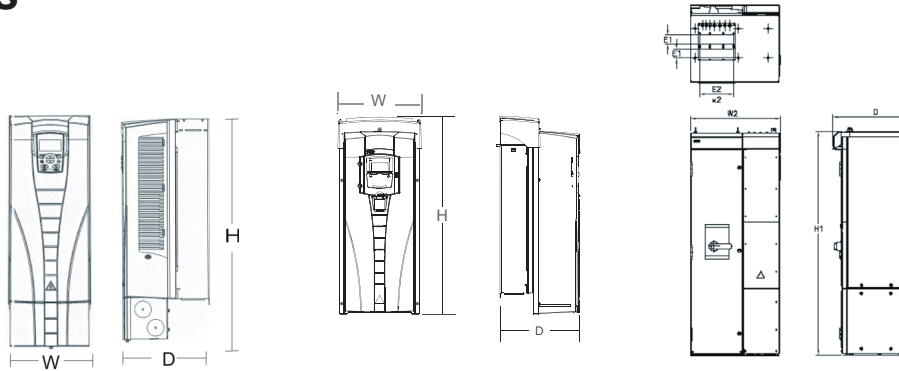
Floor Mount Enclosures

From 200 HP to 550HP at 480V, ACS550-PC enclosures are free standing and will accommodate the field installation of additional components. Where additional enclosure panel space is required, an auxiliary enclosure section is available. A molded case circuit breaker provides the disconnect means function while fast acting, current limiting drive input fuses provide short circuit protection. A removable conduit mounting plate is provided at the top of the enclosure.



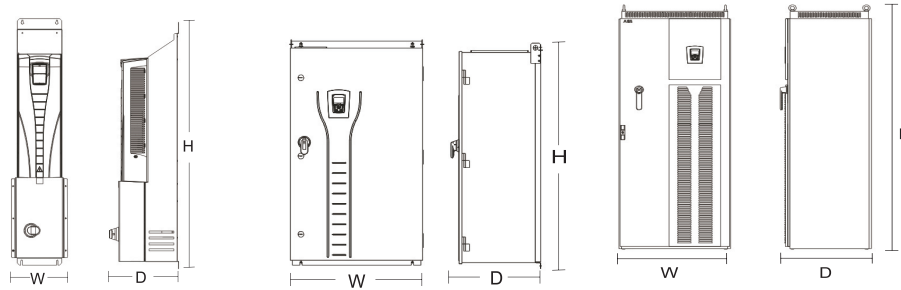
Dimensions

ACS550



NEMA 1, UL Type 1 (R1-R6) NEMA 12, UL Type 12 (R1-R6) NEMA 1, UL Type 1 (R7-R8)

Frame Size	UL Type 1, NEMA 1				UL Type 12, NEMA 12				230V HP	480V HP	600V HP
	Height in.	Width in.	Depth in.	Weight lbs.	Height in.	Width in.	Depth in.	Weight lbs.			
R1	14.5	4.9	8.3	14.3	18.4	8.4	9.2	18.1	1 - 5	1.5 - 7.5	Not Used
R2	18.5	4.9	8.7	19.8	22.1	8.4	9.6	24.7	7.5 - 10	10 - 15	2 - 15
R3	23.0	8.0	9.1	35.0	24.8	10.5	10.0	40.8	15 - 20	20 - 25	20 - 25
R4	27.1	8.0	10.3	53.0	29.9	10.5	11.1	58.4	25 - 40	30 - 60	30 - 60
R5	29.0	10.5	11.3	75.0	30.4	14.5	12.2	84.9	Not Used	75	Not Used
R6	34.9	11.9	15.8	152	36.5	16.1	16.6	190	50 - 100	100 - 150	75 - 150
R7		23.9	19.5	430						150 - 200	
R8		31.5	23.0	827						250 - 550	



Vertical Wall Mount (R1 - R4)

Wall Mount (R5 - R6)

Floor Mount (R7 - R8)

Frame Size	UL Type 1, NEMA 1				UL Type 12, NEMA 12			
	Height in.	Width in.	Depth in.	Weight lbs.	Height in.	Width in.	Depth in.	Weight lbs.
R1	28.7	7.8	11.2	28	29.3	8.7	11.2	33
R2	32.6	7.8	11.6	37	33.2	8.7	11.6	42
R3	39.9	10.2	11.9	100	40.6	10.5	11.9	103
R4	45.2	10.3	13.1	121	45.8	10.5	13.1	125
R5	47.7	28.1	19.1	266	54.0	28.1	19.1	271
R6	47.7	28.1	19.1	360	54.0	28.1	19.1	375
R7	81.3	31.7	25.9	506	91.3	31.7	25.9	551
R8	81.3	31.7	25.9	1045	91.3	31.7	25.9	837



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