Low voltage AC drives

ABB Water Drives
ACQ550 product selection guide

Power and productivity
for a better world™

ACQ550 product selection guide
Table of contents

ACQ550 drives
Overview

System reliability, pump efficiency and a suite of industry-specific controls enable you to successfully maintain a reliable water cycle management system.

With this in mind, we designed our variable speed AC drives specifically for Water/Wastewater environments and applications. These devices are available, as standard, for panel-mounting or factory direct NEMA 1, drip-proof NEMA 12 or outdoor-rated NEMA 3R enclosures.

A water industry start-up assistant resides within the intuitive, full graphic display panel to aid in commissioning submersible, centrifugal or positive displacement pumps. This control panel can also be mounted remotely or on the cover of the drive, and used to upload, store and download parameters in multiple drive setups.

Application control

The extensive library of pre-programmed, water-specific application macros allows rapid configuration of inputs, outputs, and parameters to maximize convenience and minimize start-up time. To simplify troubleshooting, the drive uses a real-time clock, which allows for accurate time stamps on faults, resets and more. Two integral option slots, that can be configured for additional relay outputs (i.e., drive status indications, timed or pump staging applications) or a variety of different communication bus adapters, are at your disposal.

Designed for water

The ACQ550 - which ranges from 1 to 550 HP - is well-suited to meet your needs, from the simplest pumping applications, through the most demanding.

Main features

- Enclosure classes UL type 1, 12 and 3R for different environments
- Advanced control panel permitting intuitive operation
- Patented swinging choke for superior harmonic reduction (R1-R6) and AC line reactor (R8)
- Scalar and sensorless vector control
- Integral EMC filter standard
- Built-in Modbus RTU and numerous internally mountable fieldbus adapters
- Coated boards for harsh environments
- UL, cUL, C-Tick and Gost-R approved
- Built-in brake chopper (10 HP, 230 V / 15 HP, 480 V and 600 V)
- Many assistants including start-up, drive optimizer, real-time clock, diagnostics, maintenance, serial and PID

Applications

- Variable torque for operation of centrifugal pumps or fans
- Constant torque for operation of positive displacement pumps or compressors

Capabilities

- Scalar (V/Hz) control or Open Loop Vector Control
- Floor-standing enclosures with fused disconnect or circuit breaker
- Two contactor bypass

ACQ550
Drive selection chart

ACQ550-U1	ACQ550-PC	ACQ550-PD	ACQ550-CC
			
Main attributes	**Main attributes**	**Main attributes**	**Main attributes**
Wall-mount; PID loop	Wall-mount or floor-standing enclosure; circuit breaker disconnect; PID loop	Wall-mount; main input disconnect switch; PID loop	Wall-mount or floor-standing enclosure; two contactor bypass; circuit breaker disconnect; PID loop
HP range	**HP range**	**HP range**	**HP range**
Wall-mount 1 - 200 HP	Wall-mount 1 - 200 HP Floor-standing 250 - 550 HP	Wall-mount 1 - 200 HP	Wall-mount 1 - 200 HP Floor-standing 250 - 400 HP
Voltage range	**Voltage range**	**Voltage range**	**Voltage range**
200 - 600 VAC 3-phase	200 - 600 VAC 3-phase	200 - 600 VAC 3-phase	200 - 600 VAC 3-phase
Enclosure type	**Enclosure type**	**Enclosure type**	**Enclosure type**
UL type 1 / NEMA 1 UL type 12 / NEMA 12	UL type 1 / NEMA 1 UL type 12 / NEMA 12 UL type 3R / NEMA 3R	UL type 1 / NEMA 1 UL type 12 / NEMA 12 UL type 3R / NEMA 3R	UL type 1 / NEMA 1 UL type 12 / NEMA 12 UL type 3R / NEMA 3R
Control mode	**Control mode**	**Control mode**	**Control mode**
Scalar (V/Hz); Vector	Scalar (V/Hz); Vector	Scalar (V/Hz); Vector	Scalar (V/Hz); Vector
Communications options	**Communications options**	**Communications options**	**Communications options**
Modbus RTU, DeviceNet, PROFIBUS-DP, ControlNet, CANopen, Ethernet (EIP, MB/TCP, PROFINET), EtherCat adapter, PROFINET IO	Modbus RTU, DeviceNet, PROFIBUS-DP, ControlNet, CANopen, Ethernet (EIP, MB/TCP, PROFINET), EtherCat adapter, PROFINET IO	Modbus RTU, DeviceNet, PROFIBUS-DP, ControlNet, CANopen, Ethernet (EIP, MB/TCP, PROFINET), EtherCat adapter, PROFINET IO	Modbus RTU, DeviceNet, PROFIBUS-DP, ControlNet, CANopen, Ethernet (EIP, MB/TCP, PROFINET), EtherCat adapter, PROFINET IO
Operator interface	**Operator interface**	**Operator interface**	**Operator interface**
Hand/Off/Auto keypad	Hand/Off/Auto keypad, optional start/stop switch and pilot lights	Hand/Off/Auto keypad optional start/stop switch and pilot lights	Hand/Off/Auto keypad, optional start/stop switch and pilot lights

ACQ550
Type code sheet

1 - 550 HP, wall-mount and floor-standing

A	C	Q	5	5	0	-			-					-		+			

Product code

1...6

A	C	Q	5	5	0

Product series

7...9

-		

Construction

U1 = Wall-mount 1-200 HP, type 1, with control panel ACQ-CP-AQ, 1st environment EMC filter, standard software, cable connection box, braking chopper in frame sizes R1 and R2.

PC = Wall-mount 1-200 HP/Floor-standing 250 - 550 HP, type 1, with circuit breaker, control panel ACQ-CP-AQ, 2nd environment EMC filter, standard software.

PD = Wall-mount 1-200 HP, type 1, with fused disconnect, control panel ACQ-CP-AQ, 2nd environment EMC filter, standard software.

CC = Wall-mount 1-200 HP/floor-standing 250 - 400 HP, type 1, with two contactor bypass, circuit breaker, control panel ACQ-CP-AQ, 2nd environment EMC filter, standard software.

10...14

-				

Size

	Frame size, R1	Frame size, R2	Frame size, R3	Frame size, R4	Frame size, R5	Frame size, R6	Frame size, R8
230 V	04A6, 06A6, 07A5, 012A, 017A,	024A, 031A	046A, 059A	075A, 088A, 114A		143A, 178A, 221A, 248A	
480 V	03A3, 04A1, 06A9, 08A8, 012A	015A, 023A	031A, 038A, 045A	059A, 072A, 078A, 097A	125A	157A, 180A, 246A	316A, 368A, 414A, 486A, 526A, 602A, 645A
600 V		02A7, 03A9, 06A1, 09A0, 011A, 017A	022A, 027A	032A, 041A, 052A, 062A		077A, 099A, 125A, 144A	

15...16

-	

Voltage rating

2 = 230 V 4 = 480 V 6 = 600 V

Note: Type code sheet is for reference only. Please refer to price page for exact ratings and availabilty.

ACQ550 drives
Data sheet

1.0 through 550 HP

Input connection	Input voltage (U1, V1, W1)	208/220/230/240 VAC 3-phase +10% / -15% 380/400/415/440/460/480 VAC 3-phase +10% / -15% 500/525/550/575/600 VAC 3-phase +10 / -15%
	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, UN at the field weakening point
	Output frequency	-500 to +500 Hz
	Frequency resolution	0.01 Hz
	Continuous current	1.0 * I2N (normal use) 1.0* I2hd (heavy-duty use)
	Short term overload capacity	INmax = 1.1 * I2N (1 min / 10 minutes) INhdmax = 1.5 * I2hd (1 min / 10 minutes)
	Peak overload capacity	180% of I_{2hd} for 2 seconds each minute
	Field weakening point	10 to 500 Hz
	Switching frequency	1, 4, 8 or 12kHz
	Acceleration & deceleration time	0.00 to 1800 s
	Efficiency	98% at nominal power level
	Short circuit withstand rating	100,000 AIC
	Connection	Terminals U2, V2, W2
Ambient conditions, operation	Air temperature	5° to 40°C (104°F), no frost allowed, above 40°C the maximum output current is de-rated 1% for every additional 1°C (up to 50°C (122°F) maximum limit)
	Relative humidity	5 to 95%, no condensation allowed, maximum relative humidity is 60% in the presence of corrosive gasses
	Contamination levels IEC Chemical gasses Solid particles	 60721-3-1, 60721-3-2 and 60721-3-3 3C2 3S2
	Installation site altitude	0 to 1000 m (3300 ft) above sea level. At sites over 1000 m 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 above sea level, please contact your local ABB distributor or representative for further information.
Ambient conditions, storage and 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)
	Vibration max	In accordance with ISTA 1A and 1B specifications
	Shock (IEC 60068-2-29)	Max 100 m/s2 (330 ft/s2) 11 ms
	Free fall	R1: 76 cm (30 in) R2: 61 cm (24 in) R3: 46 cm (18 in) R4: 31 cm (12 in) R5: 25 cm (10 in) R6: 15 cm (6 in)
Cooling information	Cooling method	Internal fan
	Power loss	Approximately 3% of rated power
Analog inputs	Two (2) programmable Current reference Voltage reference Accuracy Input updating time Optional isolation	 0 (4) to 20 mA, 100 Ohms, single ended 0 (2) to 10 V, 250 kOhm, single ended 12 ms 6 ms (standard application software) Available through external Module

ACQ550 drives
Data sheet

1.0 through 550 HP

Reference power supply	Voltage	+10 VDC, 1% at 25°C (77 F)
	Maximum load	10 mA
	Applicable potentiometer	1 kOhm to 10 kOhm
Analog outputs	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
Digital inputs	Six (6) programmable digital inputs	
	Isolation	Isolated as one group
	Signal level	24 VDC, (10 V Logic 0)
	Input current	15 mA at 24 VDC
	Input updating time	5 ms +/- 1ms
	Internal 24 VDC supply for digital Inputs	
	Voltage	24 VDC, +/- 10%
	Maximum current	250 mA
		Short Circuit Proof
Relay outputs	Three programmable relay outputs	
	Switching capacity	8 A at 24 VDC or 250 VAC, 0.4 A at 120 VDC
	Maximum continuous current	IC = 2 Amps RMS
	Contact material	Silver Cadmium Oxide (AgCdO)
	Isolation test voltage	4 kVAC, 1 minute
	Output updating time	100 ms
Protections	Single phase	Protected (input & output)
	Overvoltage trip limit	1.3 * V1max
	Undervoltage trip limit	0.65 * V1min
	Overtemperature	115°C (239°F) R1 - R4 and R7 & R8, 125°C (257°F) R5 & R6
	Auxiliary voltage	Short circuit protected
	Ground fault	Protected
	Microprocessor fault	Protected
	Motor stall protection	Protected
	Motor overtemperature	Protected (I2t)

ACQ550 drives, wall-mount (U1)
Frame option

ACQ550-U1

ACQ550 drives, wall-mount (U1), 230 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 200, 208 or 230 V. The power ratings are valid at nominal voltage, 208 V													
ACQ550-U1-04A6-2	4.6	1	3.5	0.75	R1	Available	UX1-1	Available	UX12-1				
ACQ550-U1-06A6-2	6.6	1.5	4.6	1	R1	Available	UX1-1	Available	UX12-1				
ACQ550-U1-07A5-2	7.5	2	6.6	1.5	R1	Available	UX1-1	Available	UX12-1				
ACQ550-U1-012A-2	11.8	3	7.5	2	R1	Available	UX1-1	Available	UX12-1				
ACQ550-U1-017A-2	16.7	5	11.8	3	R1	Available	UX1-1	Available	UX12-1				
ACQ550-U1-024A-2	24.2	7.5	16.7	5	R2	Available	UX1-2	Available	UX12-2				
ACQ550-U1-031A-2	30.8	10	24.2	7.5	R2	Available	UX1-2	Available	UX12-2				
ACQ550-U1-046A-2	46.2	15	30.8	10	R3	Available	UX1-3	Available	UX12-3	Not available	Not available	Not available	Not available
ACQ550-U1-059A-2	59.4	20	46.2	15	R3	Available	UX1-3	Available	UX12-3				
ACQ550-U1-075A-2	74.8	25	59.4	20	R4	Available	UX1-4	Available	UX12-4				
ACQ550-U1-088A-2	88	30	74.8	25	R4	Available	UX1-4	Available	UX12-4				
ACQ550-U1-114A-2	114	40	88	30	R4	Available	UX1-4	Available	UX12-4				
ACQ550-U1-143A-2	143	50	114	40	R6	Available	UX1-6	Available	UX12-6				
ACQ550-U1-178A-2	178	60	150	50	R6	Available	UX1-6	Available	UX12-6				
ACQ550-U1-221A-2	221	75	178	60	R6	Available	UX1-6	Available	UX12-6				
ACQ550-U1-248A-2	248	100	192	75	R6	Available	UX1-6	Available	UX12-6				

Notes: For operation on single phase power de-rate output current by 50%.
Available = contact your local sales office for available configurations

ACQ550 drives, wall-mount (U1), 480 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 380, 400, 415, 440, 460 or 480 V. The power ratings are valid at nominal voltage, 480 V													
ACQ550-U1-03A3-4	3.3	1.5	2.4	1	R1	Available	UX1-1	Available	UX12-1				
ACQ550-U1-04A1-4	4.1	2	3.3	1.5	R1	Available	UX1-1	Available	UX12-1				
ACQ550-U1-06A9-4	6.9	3	5.4	2	R1	Available	UX1-1	Available	UX12-1				
ACQ550-U1-08A8-4	8.8	5	6.9	3	R1	Available	UX1-1	Available	UX12-1				
ACQ550-U1-012A-4	11.9	7.5	8.8	5	R1	Available	UX1-1	Available	UX12-1				
ACQ550-U1-015A-4	15.4	10	11.9	7.5	R2	Available	UX1-2	Available	UX12-2				
ACQ550-U1-023A-4	23.0	15	15.4	10	R2	Available	UX1-2	Available	UX12-2				
ACQ550-U1-031A-4	31	20	23	15	R3	Available	UX1-3	Available	UX12-3				
ACQ550-U1-038A-4	38	25	31	20	R3	Available	UX1-3	Available	UX12-3	Not	Not	Not	Not
ACQ550-U1-045A-4	44	30	38	25	R4	Available	UX1-3	Available	UX12-3	available	available	available	available
ACQ550-U1-059A-4	59	40	44	30	R4	Available	UX1-4	Available	UX12-4				
ACQ550-U1-072A-4	72	50	59	40	R4	Available	UX1-4	Available	UX12-4				
ACQ550-U1-078A-4	77	60	65	50	R4	Available	UX1-4	Available	UX12-4				
ACQ550-U1-097A-4	96	75	77	60	R4	Available	UX1-4	Available	UX12-4				
ACQ550-U1-125A-4	124	100	96	75	R5	Available	UX1-5	Available	UX12-6				
ACQ550-U1-157A-4	157	125	124	100	R6	Available	UX1-6	Available	UX12-6				
ACQ550-U1-180A-4	180	150	156	125	R6	Available	UX1-6	Available	UX12-6				
ACQ550-U1-246A-4	245	200	192	150	R6	Available	UX1-6	Available	UX12-6				

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, wall-mount (U1), 600 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 500, 525, 575 or 600 V. The power ratings are valid at nominal voltage, 600 V													
ACQ550-U1-02A7-6	2.7	2	2.4	1.5	R2	Available	UX1-2	Available	UX12-2				
ACQ550-U1-03A9-6	3.9	3	2.7	2	R2	Available	UX1-2	Available	UX12-2				
ACQ550-U1-06A1-6	6.1	5	3.9	3	R2	Available	UX1-2	Available	UX12-2				
ACQ550-U1-09A0-6	9.0	7.5	6.1	5	R2	Available	UX1-2	Available	UX12-2				
ACQ550-U1-011A-6	11	10	9	7.5	R2	Available	UX1-2	Available	UX12-2				
ACQ550-U1-017A-6	17	15	11	10	R2	Available	UX1-2	Available	UX12-2				
ACQ550-U1-022A-6	22	20	17	15	R3	Available	UX1-3	Available	UX12-3				
ACQ550-U1-027A-6	27	25	22	20	R3	Available	UX1-3	Available	UX12-3	Not	Not	Not	Not
ACQ550-U1-032A-6	32	30	27	25	R4	Available	UX1-4	Available	UX12-4	available	available	available	available
ACQ550-U1-041A-6	41	40	32	30	R4	Available	UX1-4	Available	UX12-4				
ACQ550-U1-052A-6	52	50	41	40	R4	Available	UX1-4	Available	UX12-4				
ACQ550-U1-062A-6	62	60	52	50	R4	Available	UX1-4	Available	UX12-4				
ACQ550-U1-077A-6	77	75	62	60	R6	Available	UX1-6	Available	UX12-6				
ACQ550-U1-099A-6	99	100	77	75	R6	Available	UX1-6	Available	UX12-6				
ACQ550-U1-125A-6	125	125	99	100	R6	Available	UX1-6	Available	UX12-6				
ACQ550-U1-144A-6	144	150	125	125	R6	Available	UX1-6	Available	UX12-6				

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, wall-mount (U1)
Variant codes

Code	Variant description	Field kit*	Frame size						
			R1	R2	R3	R4	R5	R6	R8
Driveware options									
L511	Relay output extension OREL-01	OREL-01-Kit	Available						
L512	115/230 V digital input interface OHDI-01	OHDI-01-Kit	Available						
Hardware options									
L527	ACQ550 terminal jumpers	ACQ550-Jumper-Kit	Available						
Software options									
	DriveWindow Light	3AFE64532871	Available						
Fieldbus (slot #2 available for fieldbus adapters as standard)									
K451	DeviceNet adapter RDNA-01	RDNA-01-KIT	Available						
K454	PROFIBUS-DP adapter RPBA-01	RPBA-01-KIT	Available						
K462	ControlNet adapter RCNA-01	RCNA-01-KIT	Available						
K457	CANopen adapter RCAN-01	RCAN-01-KIT	Available						
K466	Ethernet (EIP, MB/TCP, PROFINET) RETA-01	RETA-01-KIT	Available						
N/A	EtherCat adapter	RECA-01-KIT	Available						
K467	PROFINET IO adapter RETA-02	RETA-02-KIT	Available						
Drive options									
	Cabinet panel mounting	OPMP-01	Available						
	RJ45/DB9 adapter	OPCA-01	Available						
	Panel extension cable	OCAT-01	Available						
	Control panel mounting	ACQ-CP-EXT	Available						
	NEMA 4X cabinet panel mounting	ACQ-CP-EXT-IP66	Available						
	Flange mounting kit R1	FMK-A-R1	Available	Not available					
	Flange mounting kit R2	FMK-A-R2	Not available	Available	Not available				
	Flange mounting kit R3	FMK-A-R3	Not available		Available	Not available			
	Flange mounting kit R4	FMK-A-R4	Not available			Available	Not available		
	Flange mounting kit R5	AC8-FLNGMT-R5	Not available				Available	Not available	
	Flange mounting kit R6	AC8-FLNGMT-R6	Not available					Available	Not available
ACQ550 demo case									
	Powered by 115 VAC, the ACQ550 demo case includes an ACQ550 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.	3AUA0000146746	Available						

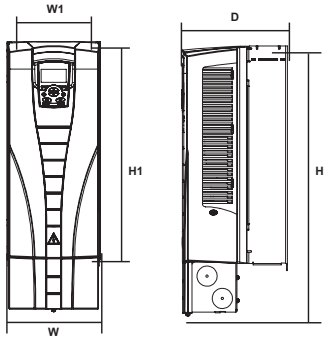
* Indicates option is available as a field mountable kit

Notes: Available = contact your local sales office for available configurations

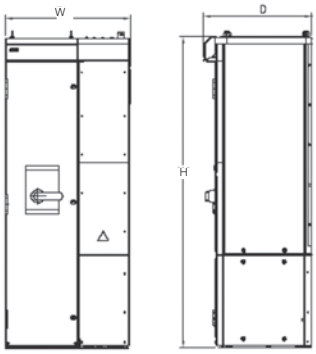
ACQ550 drives, wall-mount (U1)
Variant code descriptions

Code	Variant	Description
K451	DeviceNet adapter RDNA-01-KIT	The 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 is permitted, allowing one or more nodes to be attached. DeviceNet allows branching structures only on drop lines.
K454	PROFIBUS-DP adapter RPBA-01-KIT	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.
K457	CANopen adapter RCAN-01-KIT	CANopen is a higher layer protocol based on the CAN (Control Area Network) serial bus system and the CAL (CAN Application Layer). CANopen assumes that the hardware of the connected device has a CAN transceiver and a CAN controller as specified in ISO 11898. The CANopen Communication Profile, CiA DS 301, includes both cyclic and event driven communication, which makes it possible to reduce the bus load to minimum while still maintaining extremely short reaction times. High communication performance can be achieved at relatively low baud rates, thus reducing EMC problems and cable costs. CANopen device profiles define both direct access to drive parameter and time critical process data communication. The RCAN-01 module fulfills Cia (CAN in Automation) standard DSP 402 (Drives and Motion Control).
K462	ControlNet adapter RCNA-01-KIT	The ControlNet network uses an 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 cannot 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.
K466	Ethernet adapter RETA-01-KIT	The RETA-01 Adapter module 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 module is done according to the Modbus/TCP Specification 1.0. The Modbus/TCP protocol allows the RETA-01 module to be used as an Ethernet bridge to control the drive. The RETA-01 module supports 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 module fulfills all requirements for certification as an Ethernet/IP device.
K467	PROFINET IO adapter RETA-02-KIT	The RETA-02 module supports both Modbus/TCP and PROFINET IO 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. PROFINET IO is an open standard for industrial ethernet, intended for configuration, supervision and control of automation equipment. The RETA-02 supports 10/100 Mbps transfer rate with network connections made with CAT 5 wiring and RJ-45 connectors. Both star and bus topology options are supported.
L511	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 VDC resistive), 1500 VA (250 VAC). Each relay is galvanically isolated from each other (2.5 kVAC, 1 minute). Each relay is programmable.
L527	ACQ550 terminal jumpers Kit: ACQ550-Jumper-Kit	The jumper kit is used to enable the speed control required for submersible pumps. The kit includes 3 jumpers cut to length and a installation instructions: Install yellow wire from DI4 (Terminal 16) to RO3 NO (Terminal 27): Install light blue wire from +24 V (Terminal 10) to RO3 COM (Terminal 25). Install U-shaped wire GND (Terminal 11) to DCOM (Terminal 12).
L512	115/230 V digital input interface	The 115/230 V digital input interface module offers six (6) 115 V or three (3) 230 V rated relays mounted on a common board used to drive DI1 through DI6 of the ACQ550. The 115/230 V must be provided by the user.
N/A	EtherCAT adapter RECA-01-KIT	The adapter module supports the CANopen DSP 402 (Device Profile Drives and Motion Control) profile or the ABB Drives profile. The RECA-01 implements the EtherCAT state machine, four sync manager channels to control the access of the application memory, two watch dogs and specified EtherCAT services, addressing modes and FMMUs.

ACQ550 dimensions and weights
Wall-mount (U1)



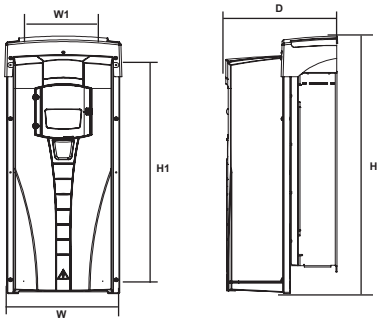
Wall-mount (UX1-1 - UX1-6)



Floor-mount (UX1-7 - UX1-8)

ACQ550-U1, NEMA 1/UL type 1

Dim	Frame	Mounting dimensions			Shipping dimensions			
		H1	W1	Mounting hardware	H	W	D	Weight
UX1-1	R1	12.5	3.9	#10	14.5	4.9	8.3	14.3
UX1-2	R2	16.4	3.9	#10	18.5	4.9	8.7	19.5
UX1-3	R3	18.6	6.3	#10	23	8	9.1	35
UX1-4	R4	22.8	6.3	#10	27.1	8	10.3	53
UX1-5	R5	23.2	9.4	0.25	29	10.5	11.3	75
UX1-6	R6	26.6	10.4	0.25	35	11.9	15.8	152
UX1-7	R7	Free standing			N/A	59.2	19.5	430
UX1-8	R8	Free standing			N/A	31.5	23	827



Wall-mount (UX12-1 - UX12-6)

ACQ550-U1, NEMA 12/UL type 12

Dim	Frame	Mounting dimensions			Shipping dimensions			
		H1	W1	Mounting hardware	H	W	D	Weight
UX12-1	R1	12.5	3.9	#10	18.1	8.4	9.2	17.6
UX12-2	R2	16.4	3.9	#10	22.1	8.4	9.6	24.3
UX12-3	R3	18.6	6.3	#10	24.8	10.1	10	37.5
UX12-4	R4	22.8	6.3	#10	29.9	10.1	11.2	57.3
UX12-5	R5	23.2	9.4	0.25	30.5	14.5	12.2	92.6
UX12-6	R6	26.6	10.4	0.25	36.4	16.1	16.7	190

ACQ550 drives, packaged disconnect (Px)
Frame options

ACQ550-PC

ACQ550-PD

ACQ550 drives, packaged circuit breaker (PC), 230 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 200, 208 or 230 V. The power ratings are valid at nominal voltage, 208 V													
ACQ550-PC-04A6-2	4.6	1.0	3.5	0.75	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PC-06A6-2	6.6	1.5	4.6	1	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PC-07A5-2	7.5	2	6.6	1.5	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PC-012A-2	11.8	3	7.5	2	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PC-017A-2	16.7	5	11.8	3	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PC-024A-2	24.2	7.5	16.7	5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PC-031A-2	30.8	10	24.2	7.5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-3	Available	
ACQ550-PC-046A-2	46.2	15	30.8	10	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	Not
ACQ550-PC-059A-2	59.4	20	46.2	15	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	available
ACQ550-PC-075A-2	74.8	25	59.4	20	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PC-088A-2	88	30	74.8	25	R4	Available	PX1-5	Available	PX12-5	Available	PX3R-5	Available	
ACQ550-PC-114A-2	114	40	88	30	R4	Available	PX1-5	Available	PX12-5	Available	PX3R-5	Available	
ACQ550-PC-143A-2	143	50	114	40	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PC-178A-2	178	60	150	50	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PC-221A-2	221	75	178	60	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PC-248A-2	248	100	192	75	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, packaged circuit breaker (PC), 480 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 380, 400, 415, 440, 460 or 480 V. The power ratings are valid at nominal voltage, 480 V													
ACQ550-PC-03A3-4	3.3	1.5	2.4	1	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PC-04A1-4	4.1	2	3.3	1.5	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PC-06A9-4	6.9	3	5.4	2	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PC-08A8-4	8.8	5	6.9	3	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PC-012A-4	11.9	7.5	8.8	5	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PC-015A-4	15.4	10	11.9	7.5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PC-023A-4	23.0	15	15.4	10	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PC-031A-4	31.0	20	23.0	15	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	
ACQ550-PC-038A-4	38.0	25	31.0	20	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	
ACQ550-PC-045A-4	44.0	30	38.0	25	R4	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	
ACQ550-PC-059A-4	59	40	44	30	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PC-072A-4	72	50	59	40	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	Not
ACQ550-PC-078A-4	77	60	65	50	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	available
ACQ550-PC-097A-4	96	75	77	60	R4	Available	PX1-5	Available	PX12-5	Available	PX3R-5	Available	
ACQ550-PC-125A-4	124	100	96	75	R5	Available	PX1-5	Available	PX12-5	Available	PX3R-6	Available	
ACQ550-PC-157A-4	157	125	124	100	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PC-180A-4	180	150	156	125	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PC-246A-4	245	200	192	150	R6	Available	PX1-6	Available	PX12-8	Available	PX3R-6	Standard	
ACQ550-PC-316A-4	316	250	240	200	R8	Available	PX1-8	Available	PX12-8	Not available	Not available	Standard	
ACQ550-PC-368A-4	368	300	302	250	R8	Available	PX1-8	Available	PX12-8	Not available	Not available	Standard	
ACQ550-PC-414A-4	414	350	368	300	R8	Available	PX1-8	Available	PX12-8	Not available	Not available	Standard	
ACQ550-PC-486A-4	486	400	414	350	R8	Available	PX1-8	Available	PX12-8	Not available	Not available	Standard	
ACQ550-PC-526A-4+B055	526	450	477	400	R8	Not available	Not available	Available	PX12-8	Not available	Not available	Standard	
ACQ550-PC-602A-4+B055	602	500	515	450	R8	Not available	Not available	Available	PX12-8	Not available	Not available	Standard	
ACQ550-PC-645A-4+B055	645	550	590	500	R8	Not available	Not available	Available	PX12-8	Not available	Not available	Standard	

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, packaged circuit breaker (PC), 600 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 500, 525, 575 or 600 V. The power ratings are valid at nominal voltage, 600 V													
ACQ550-PC-02A7-6	2.7	2	2.4	1.5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PC-03A9-6	3.9	3	2.7	2	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PC-06A1-6	6.1	5	3.9	3	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PC-09A0-6	9	7.5	6.1	5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PC-011A-6	11	10	9	7.5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PC-017A-6	17	15	11	10	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PC-022A-6	22	20	17	15	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	
ACQ550-PC-027A-6	27	25	22	20	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	Not
ACQ550-PC-032A-6	32	30	27	25	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	available
ACQ550-PC-041A-6	41	40	32	30	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PC-052A-6	52	50	41	40	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PC-062A-6	62	60	52	50	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PC-077A-6	77	75	62	60	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PC-099A-6	99	100	77	75	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PC-125A-6	125	125	99	100	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PC-144A-6	144	150	125	125	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, packaged disconnect (PD), 230 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 200, 208 or 230 V. The power ratings are valid at nominal voltage, 208 V													
ACQ550-PD-04A6-2	4.6	1.0	3.5	0.75	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PD-06A6-2	6.6	1.5	4.6	1	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PD-07A5-2	7.5	2	6.6	1.5	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PD-012A-2	11.8	3	7.5	2	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PD-017A-2	16.7	5	11.8	3	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PD-024A-2	24.2	7.5	16.7	5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PD-031A-2	30.8	10	24.2	7.5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-3	Available	
ACQ550-PD-046A-2	46.2	15	30.8	10	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	Not
ACQ550-PD-059A-2	59.4	20	46.2	15	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	available
ACQ550-PD-075A-2	74.8	25	59.4	20	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PD-088A-2	88	30	74.8	25	R4	Available	PX1-5	Available	PX12-5	Available	PX3R-5	Available	
ACQ550-PD-114A-2	114	40	88	30	R4	Available	PX1-5	Available	PX12-5	Available	PX3R-5	Available	
ACQ550-PD-143A-2	143	50	114	40	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PD-178A-2	178	60	150	50	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PD-221A-2	221	75	178	60	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PD-248A-2	248	100	192	75	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, packaged disconnect (PD), 480 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 380, 400, 415, 440, 460 or 480 V. The power ratings are valid at nominal voltage, 480 V													
ACQ550-PD-03A3-4	3.3	1.5	2.4	1	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PD-04A1-4	4.1	2	3.3	1.5	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PD-06A9-4	6.9	3	5.4	2	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PD-08A8-4	8.8	5	6.9	3	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PD-012A-4	11.9	7.5	8.8	5	R1	Available	PX1-1	Available	PX12-1	Available	PX3R-1	Available	
ACQ550-PD-015A-4	15.4	10	11.9	7.5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PD-023A-4	23	15	15.4	10	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PD-031A-4	31	20	23	15	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	
ACQ550-PD-038A-4	38	25	31	20	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	Not available
ACQ550-PD-045A-4	44	30	38	25	R4	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	
ACQ550-PD-059A-4	59	40	44	30	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PD-072A-4	72	50	59	40	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PD-078A-4	77	60	65	50	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PD-097A-4	96	75	77	60	R4	Available	PX1-5	Available	PX12-5	Available	PX3R-5	Available	
ACQ550-PD-125A-4	124	100	96	75	R5	Available	PX1-5	Available	PX12-5	Available	PX3R-6	Standard	
ACQ550-PD-157A-4	157	125	124	100	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PD-180A-4	180	150	156	125	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PD-246A-4	245	200	192	150	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, packaged disconnect (PD), 600 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 500, 525, 575 or 600 V. The power ratings are valid at nominal voltage, 600 V													
ACQ550-PD-02A7-6	2.7	2	2.4	1.5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PD-03A9-6	3.9	3	2.7	2	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PD-06A1-6	6.1	5	3.9	3	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PD-09A0-6	9	7.5	6.1	5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PD-011A-6	11	10	9	7.5	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PD-017A-6	17	15	11	10	R2	Available	PX1-2	Available	PX12-2	Available	PX3R-2	Available	
ACQ550-PD-022A-6	22	20	17	15	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	
ACQ550-PD-027A-6	27	25	22	20	R3	Available	PX1-3	Available	PX12-3	Available	PX3R-3	Available	Not
ACQ550-PD-032A-6	32	30	27	25	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	available
ACQ550-PD-041A-6	41	40	32	30	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PD-052A-6	52	50	41	40	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PD-062A-6	62	60	52	50	R4	Available	PX1-4	Available	PX12-4	Available	PX3R-4	Available	
ACQ550-PD-077A-6	77	75	62	60	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PD-099A-6	99	100	77	75	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PD-125A-6	125	125	99	100	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	
ACQ550-PD-144A-6	144	150	125	125	R6	Available	PX1-6	Available	PX12-6	Available	PX3R-6	Standard	

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, packaged disconnect (Px)
Variant codes

Code	Variant description	Field kit*	Frame size						
			R1	R2	R3	R4	R5	R6	R8
Driveware options									
L511	Relay output extension OREL-01	OREL-01-Kit				Available			
L512	115/230 V digital input interface OHDI-01	OHDI-01-Kit				Available			
Hardware options									
L527	ACQ550 terminal jumpers	ACQ550-Jumper-Kit				Available			
Software options									
	DriveWindow Light	3AFE64532871				Available			
Fieldbus (slot #2 available for fieldbus adapters as standard)									
K451	DeviceNet adapter RDNA-01	RDNA-01-KIT				Available			
K454	PROFIBUS-DP adapter RPBA-01	RPBA-01-KIT				Available			
K462	ControlNet adapter RCNA-01	RCNA-01-KIT				Available			
K457	CANopen adapter RCAN-01	RCAN-01-KIT				Available			
K466	Ethernet (EIP, MB/TCP, PROFINET) RETA-01	RETA-01-KIT				Available			
N/A	EtherCat adapter	RECA-01-KIT				Available			
K467	PROFINET IO adapter RETA-02	RETA-02-KIT				Available			
Drive options									
	Cabinet panel mounting	OPMP-01				Available			
	RJ45/DB9 adapter	OPCA-01				Available			
	Panel extension cable	OCAT-01				Available			
	Control panel mounting	ACQ-CP-EXT				Available			
	NEMA 4X cabinet panel mounting	ACQ-CP-EXT-IP66				Available			
ACQ550 demo case									
	Powered by 115 VAC, the ACQ550 demo case includes an ACQ550 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.	3AUA0000146746				Available			

* Indicates option is available as a field mountable kit

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, packaged disconnect (Px)
Variant codes

Packaged drives pre-defined options

Options shown below may be applied to:
- ACQ550-PC and PD drives - frames R1-R6

For options with PC and PD drives with disconnect means in NEMA 1 & 12 enclosures, an alternative enclosure construction similar to that used for ACQ550-CC packages will be provided. See (+C114+C166) in the Enclosure Options table.

An option that uses one of the standard drive relay outputs is noted in the variant descriptions. A maximum of three such options may be priced per this price list for PC/PD drive packages.

Where noted, the function shown is available on the standard drive control panel without additional expense.

Code	Variant description	Field kit*	Frame size						
			R1	R2	R3	R4	R5	R6	R8
Control circuit options									
G303	Speed pot NEMA 1 & 12	N/A	Available						N/A
	Speed pot NEMA 3R	N/A	Available						N/A
G302	H-O-A selector switch (PC/PD packages)	N/A	Available						N/A
G401	Start-stop push buttons (PC/PD packages)	N/A	Available						N/A
G327	Drive ready pilot light (PC/PD packages)	N/A	Available						N/A
G328	Drive running pilot light (PC/PD packages)	N/A	Available						N/A
G329	Drive fault pilot light (PC/PD packages)	N/A	Available						N/A
G304	50 VA control transformer	N/A	Available						N/A
G305	Control transformer w/ additional 200 VA	N/A	Available						N/A
Metering options									
G393	Elapsed time meter	N/A	Available						N/A
G335	Ammeter	N/A	Available						N/A
G394	Universal 3-phase voltage monitor	N/A	Available						N/A
Stainless steel on UL type/NEMA 3R enclosure options									
C165	PX3R-1 packaged enclosure	N/A	Available	Not available					N/A
	PX3R-2 packaged enclosure	N/A	Not available	Available	Not available				N/A
	PX3R-3 packaged enclosure	N/A	Not available		Available		Not available		N/A
	PX3R-4 packaged enclosure	N/A	Not available			Available	Not available		N/A
	PX3R-5 packaged enclosure	N/A	Not available			Available	Not available		N/A
	PX3R-6 packaged enclosure	N/A	Not available					Available	N/A
Enclosure options									
G391	Engraved, laminated nameplate	N/A	Available						N/A
C166	Alternative, construction PC/PD	N/A	Available						N/A

* Indicates option is available as a field mountable kit

Notes: Available = contact your local sales office for available configurations

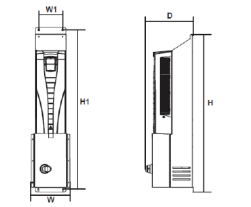
ACQ550 drives, packaged disconnect (Px)
Variant code descriptions

Code	Variant	Description
C165	3R stainless steel	Addition for substitution of stainless steel for the standard powder coated mild steel on UL Type/NEMA 3R enclosures. See ACQ550 product price tables for enclosure references. For PX3R-1, PX3R-2, CX3R-1, CX3R-2, PX3R-3, CX3R-3, CX3R-4, PX3R-4, CX3R-5, CX3R-6, PX3R-5, PX3R-6, CX3R-7, CX3R-8
C166	Alternative construction PC/PD	Alternative enclosure construction for ACQ550-PC & PD, NEMA 1 & 12 packages where option/s per this price sheet are applied.
G302	H-O-A selector switch (PC/PD packages)	Hand-Off-Auto selector switch mounted on enclosure door.
G303	Speed pot	This option adds a HAND-OFF-AUTO selector switch, a DRIVE Pilot Light, a BYPASS Pilot Light and an EXTERNAL/ MOL FAULT Pilot Light to the DRIVE-OFF-BYPASS Selector Switch provided as standard. For NEMA 1, 12 & 3R.
G304	50 VA control transformer	Option adds a 50 VA control transformer to power optional cover mounted pilot lights in PC & PD drives w/ disconnect means. Required only for UL type 1/NEMA 1 enclosed PC/PD units rated less than 30 HP/480 V and 600 V or 5 HP/208-240 V.
G305	Control transformer w/ additional 200 VA	Provides a control transformer with 200 VA additional capacity for customer use. Required only for UL type 1/NEMA 1 enclosed PC/PD units rated less than 30 HP / 480 V and 600 V or 15 HP / 208 - 240 V.
G327	Drive ready pilot light (PC/PD packages)	Drive fault pilot light mounted on enclosure door. Uses one of the output relays provided as standard on the drive. See notes above. UL type/NEMA 1 enclosed PC/PD units rated less than 30 HP/480 V & 600 V or 15 HP/208- 40 V require the addition of a 50 VA control transformer. Information available on drive control panel.
G328	Drive running pilot light (PC/PD packages)	Drive fault pilot light mounted on enclosure door. Uses one of the output relays provided as standard on the drive. UL type/NEMA 1 enclosed PC/PD units rated less than 30HP/480 V & 600 V or 15 HP/208-240 V require the addition of a 50 VA control transformer. Information available on drive control panel.
G329	Drive fault pilot light (PC/PD packages)	Drive fault pilot light mounted on enclosure door. Pilot light is actuated by the drive's Fault Relay contact closure. Uses one of the output relays provided as standard on the drive. UL type/NEMA 1 enclosed PC/PD units rated less than 30 HP/480 V & 600 V or 15 HP/208-240 V require the addition of a 50 VA control transformer. Information available on drive control panel.
G335	Ammeter	Ammeter mounted on enclosure door. This option uses one analog output from the standard drive. Function can be provided by standard control panel.
G391	Engraved, laminated nameplate	Provides an engraved laminated nameplate with black letters and white background attached to the front door of the enclosure. Engraving to be specified at time of order. Two rows, 20 characters maximum including spaces.
G393	Elapsed time meter	Elapsed time meter mounted on enclosure door. Uses one of the output relays provided as standard on the drive. Function can be provided by standard control panel.

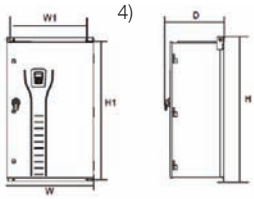
ACQ550 drives, packaged disconnect (Px)
Variant code descriptions

Code	Variant	Description
G394	Universal 3-phase voltage monitor	3-phase voltage monitor (ABB HLMUDLAAA) mounted on enclosure back panel. Shuts down control power to the drive and bypass circuit on phase loss; phase reversal; over, under & unbalanced voltages; over/under frequency.
G401	Start-stop push buttons (PC/PD packages)	Start - Stop push buttons mounted on enclosure door. Provides for 3-wire control of the drive (drive must be manually restarted after a power outage). Function can be provided by standard control panel.
K451	DeviceNet adapter RDNA-01-KIT	The 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 is permitted, allowing one or more nodes to be attached. DeviceNet allows branching structures only on drop lines.
K454	PROFIBUS-DP adapter RPBA-01-KIT	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.
K457	CANopen adapter RCAN-01-KIT	CANopen is a higher layer protocol based on the CAN (Control Area Network) serial bus system and the CAL (CAN Application Layer). CANopen assumes that the hardware of the connected device has a CAN transceiver and a CAN controller as specified in ISO 11898. The CANopen Communication Profile, CiA DS 301, includes both cyclic and event driven communication, which makes it possible to reduce the bus load to minimum while still maintaining extremely short reaction times. High communication performance can be achieved at relatively low baud rates, thus reducing EMC problems and cable costs. CANopen device profiles define both direct access to drive parameter and time critical process data communication. The RCAN-01 module fulfills Cia (CAN in Automation) standard DSP 402 (Drives and Motion Control).
K462	ControlNet adapter RCNA-01-KIT	The ControlNet network uses an 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 cannot 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.
K466	Ethernet adapter RETA-01-KIT	The RETA-01 Adapter module 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 module is done according to the Modbus/TCP Specification 1.0. The Modbus/TCP protocol allows the RETA-01 module to be used as an Ethernet bridge to control the drive. The RETA-01 module supports 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 module fulfills all requirements for certification as an Ethernet/IP device.
K467	PROFINET IO adapter RETA-02-KIT	The RETA-02 module supports both Modbus/TCP and PROFINET IO 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. PROFINET IO is an open standard for industrial ethernet, intended for configuration, supervision and control of automation equipment. The RETA-02 supports 10/100 Mbps transfer rate with network connections made with CAT 5 wiring and RJ-45 connectors. Both star and bus topology options are supported.
L511	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 VDC resistive), 1500 VA (250 VAC). Each relay is galvanically isolated from each other (2.5 kVAC, 1 minute). Each relay is programmable.
L512	115/230 V digital input interface	The 115/230 V digital Input Interface module offers six (6) 115 V or three (3) 230 V rated relays mounted on a common board used to drive DI1 through DI6 of the ACQ550. The 115/230 V must be provided by the user.
L527	ACQ550 terminal jumpers Kit: ACQ550-Jumper-Kit	The jumper kit is used to enable the speed control required for submersible pumps. The Kit includes 3 jumpers cut to length and a installation instructions: Install yellow wire from DI4 (Terminal 16) to RO3 NO (Terminal 27): Install light blue wire from +24 V (Terminal 10) to RO3 COM (Terminal 25). Install U-shaped wire GND (Terminal 11) to DCOM (Terminal 12).
N/A	EtherCAT adapter RECA-01-KIT	The adapter module supports the CANopen DSP 402 (Device Profile Drives and Motion Control) profile or the ABB Drives profile. The RECA-01 implements the EtherCAT state machine, four sync manager channels to control the access of the application memory, two watch dogs and specified EtherCAT services, addressing modes and FMMUs.

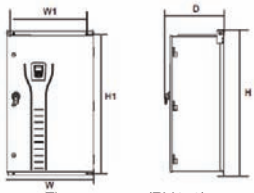
ACQ550 dimensions and weights
Circuit breaker and main input disconnects (Px)



Wall-mount (PX1-1 - PX1-4)



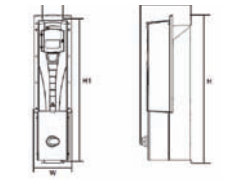
Wall-mount (PX1-5 - PX1-6)



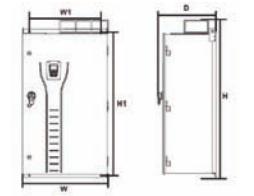
Floor-mount (PX1-8)

ACQ550-Px, NEMA 1/UL type 1

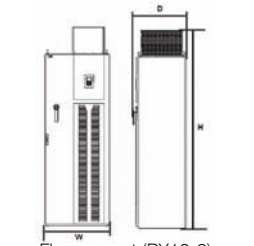
Dim	Mounting dimensions			Shipping dimensions			
	H1	W1	Mounting hardware	H	W	D	Weight
PX1-1	28	3.9	0.25	28.7	7.8	11.2	33
PX1-2	32	3.9	0.25	32.6	7.8	11.6	42
PX1-3	38.7	6.3	0.25	39.9	10.2	11.9	75
PX1-4	44	6.3	0.25	45.2	10.2	13.1	95
PX1-5	46.3	23.6	0.375	47.7	28.1	19	267
PX1-6	46.3	23.6	0.375	47.7	28.1	19	359
PX1-8	Free standing		0.63	83.7	31.7	25.9	793



Wall-mount (PX12-1 - PX12-4)



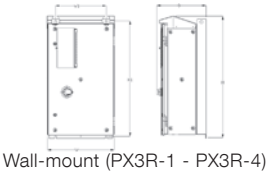
Wall-mount (PX12-5 - PX12-6)



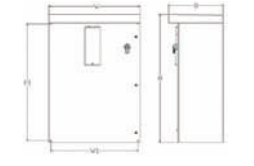
Floor-mount (PX12-8)

ACQ550-Px, NEMA 12/UL type 12

Dim	Mounting dimensions			Shipping dimensions			
	H1	W1	Mounting hardware	H	W	D	Weight
PX12-1	28	3.9	0.25	29.3	8.7	11.2	37
PX12-2	32	3.9	0.25	33.2	8.7	11.6	46
PX12-3	38.7	6.3	0.25	40.6	10.5	11.9	79
PX12-4	44	6.3	0.25	45.8	10.5	13.1	99
PX12-5	46.3	23.6	0.375	4.3	28.1	19	267
PX12-6	46.3	23.6	0.375	54.3	28.1	19	359
PX12-8	Free standing		0.63	93.6	31.7	25.9	838



Wall-mount (PX3R-1 - PX3R-4)

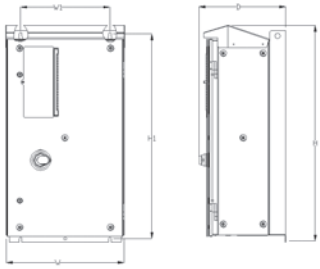


Wall-mount (PX3R-5 - PX3R-6)

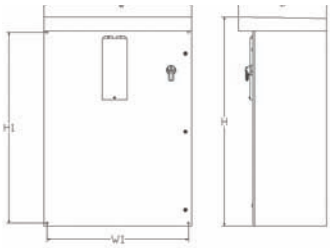
ACQ550-Px, NEMA 3R/UL type 3R

Dim	Mounting dimensions			Shipping dimensions			
	H1	W1	Mounting hardware	H	W	D	Weight
PX3R-1	31.9	12.6	0.375	34	17.8	13.5	128
PX3R-2	31.9	12.6	0.375	34	17.8	13.5	134
PX3R-3	36.1	15.7	0.375	38.1	20.9	15.3	176
PX3R-4	36.1	15.7	0.375	38.1	20.9	15.3	194
PX3R-5	34.5	28.5	0.375	39	30	15.5	203
PX3R-6	46.5	34.5	0.375	51	36	21.5	203

ACQ550 dimensions and weights
Circuit breaker and main input disconnects (Px)



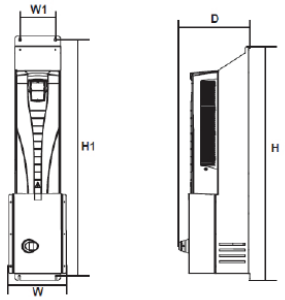
Wall-mount (PX3R-1 - PX3R-4)



Wall-mount (PX3R-1 - PX3R-4)

ACQ550-Px, NEMA 3R/UL type 3R

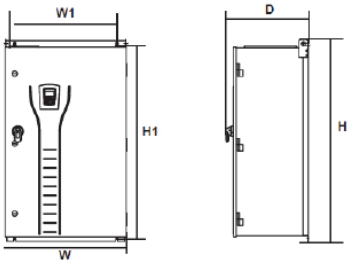
Dim	Mounting dimensions			Shipping dimensions			
	H1	W1	Mounting hardware	H	W	D	Weight
PX3R-1	31.9	12.6	0.375	34	17.8	13.5	128
PX3R-2	31.9	12.6	0.375	34	17.8	13.5	134
PX3R-3	36.1	15.7	0.375	38.1	20.9	15.3	176
PX3R-4	36.1	15.7	0.375	38.1	20.9	15.3	194
PX3R-5	34.5	28.5	0.375	39	30	15.5	203
PX3R-6	46.5	34.5	0.375	51	36	21.5	203



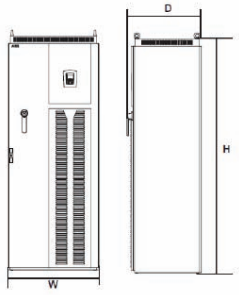
Wall-mount (PX1-1 - PX1-4)

ACQ550-Px, NEMA 1/UL type 1

Dim	Mounting dimensions			Shipping dimensions			
	H1	W1	Mounting hardware	H	W	D	Weight
PX1-1	28	3.9	0.25	28.7	7.8	11.2	33
PX1-2	32	3.9	0.25	32.6	7.8	11.6	42
PX1-3	38.7	6.3	0.25	39.9	10.2	11.9	75
PX1-4	44	6.3	0.25	45.2	10.2	13.1	95
PX1-5	46.3	23.6	0.375	47.7	28.1	19	267
PX1-6	46.3	23.6	0.375	47.7	28.1	19	359
PX1-8	Free standing		0.63	83.7	31.7	25.9	793

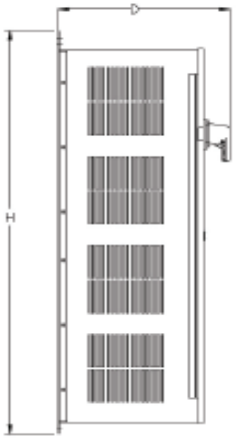


Wall-mount (PX1-5 - PX1-6)



Floor-mount (PX1-8)

ACQ550 dimensions and weights
Circuit breaker and main input disconnect (Px)

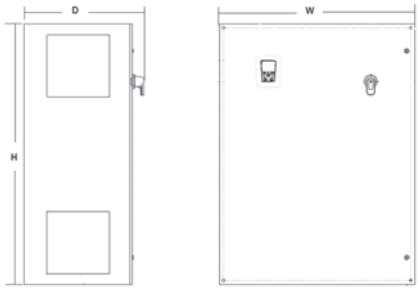


PX1-21 - PX1-26

ACQ550-Px, alternative contruction for pre-defined options (+C166)

Voltage	HP	Material description	NEMA 1/UL type 1 dimension reference	NEMA 12/UL type 12 (+B058) dimension reference	NEMA 3R/UL type 3R (+B058) dimension reference
208-240	1	ACS550-Px-04A6-2+C166	PX1-21	PX12-21	PX3R-21
	1.5	ACS550-Px-06A6-2+C166	PX1-21	PX12-21	PX3R-21
	2	ACS550-Px-07A5-2+C166	PX1-21	PX12-21	PX3R-21
	3	ACS550-Px-012A-2+C166	PX1-21	PX12-21	PX3R-21
	5	ACS550-Px-017A-2+C166	PX1-21	PX12-21	PX3R-21
	7.5	ACS550-Px-024A-2+C166	PX1-22	PX12-22	PX3R-22
	10	ACS550-Px-031A-2+C166	PX1-22	PX12-22	PX3R-22
	15	ACS550-Px-046A-2+C166	PX1-23	PX12-23	PX3R-23
	20	ACS550-Px-059A-2+C166	PX1-23	PX12-23	PX3R-23
	25	ACS550-Px-075A-2+C166	PX1-24	PX12-24	PX3R-24
	30	ACS550-Px-088A-2+C166	PX1-24	PX12-24	PX3R-25
	40	ACS550-Px-114A-2+C166	PX1-24	PX12-24	PX3R-25
	50	ACS550-Px-143A-2+C166	PX1-26	PX12-26	PX3R-26
	60	ACS550-Px-178A-2+C166	PX1-26	PX12-26	PX3R-26
	75	ACS550-Px-221A-2+C166	PX1-27	PX12-26	PX3R-26
	100	ACS550-Px-248A-2+C166	PX1-27	PX12-26	PX3R-26
380-480	1	ACS550-Px-03A3-4+C166	PX1-21	PX12-21	PX3R-21
	2	ACS550-Px-04A1-4+C166	PX1-21	PX12-21	PX3R-21
	3	ACS550-Px-06A9-4+C166	PX1-21	PX12-21	PX3R-21
	5	ACS550-Px-08A8-4+C166	PX1-21	PX12-21	PX3R-21
	7.5	ACS550-Px-012A-4+C166	PX1-21	PX12-21	PX3R-21
	10	ACS550-Px-015A-4+C166	PX1-22	PX12-22	PX3R-22
	15	ACS550-Px-023A-4+C166	PX1-22	PX12-22	PX3R-22
	20	ACS550-Px-031A-4+C166	PX1-23	PX12-23	PX3R-23
	25	ACS550-Px-038A-4+C166	PX1-23	PX12-23	PX3R-23
	30	ACS550-Px-045A-4+C166	PX1-23	PX12-23	PX3R-23
	40	ACS550-Px-059A-4+C166	PX1-24	PX12-24	PX3R-24
	50	ACS550-Px-072A-4+C166	PX1-24	PX12-24	PX3R-24
	60	ACS550-Px-078A-4+C166	PX1-24	PX12-24	PX3R-24
	75	ACS550-Px-097A-4+C166	PX1-24	PX12-24	PX3R-25
	100	ACS550-Px-125A-4+C166	PX1-25	PX12-25	PX3R-26
	125	ACS550-Px-157A-4+C166	PX1-26	PX12-26	PX3R-26
	150	ACS550-Px-180A-4+C166	PX1-26	PX12-26	PX3R-26
	200	ACS550-Px-245A-4+C166	PX1-27	PX12-26	PX3R-26
600	2	ACS550-Px-02A7-6+C166	PX1-22	PX12-22	PX3R-22
	3	ACS550-Px-03A9-6+C166	PX1-22	PX12-22	PX3R-22
	5	ACS550-Px-06A1-6+C166	PX1-22	PX12-22	PX3R-22
	7.5	ACS550-Px-09A0-6+C166	PX1-22	PX12-22	PX3R-22
	10	ACS550-Px-011A-6+C166	PX1-22	PX12-22	PX3R-22
	15	ACS550-Px-017A-6+C166	PX1-23	PX12-23	PX3R-23
	20	ACS550-Px-022A-6+C166	PX1-23	PX12-23	PX3R-23
	25	ACS550-Px-027A-6+C166	PX1-24	PX12-24	PX3R-24
	30	ACS550-Px-032A-6+C166	PX1-24	PX12-24	PX3R-24
	40	ACS550-Px-041A-6+C166	PX1-24	PX12-24	PX3R-24
	50	ACS550-Px-052A-6+C166	PX1-24	PX12-24	PX3R-24
	60	ACS550-Px-062A-6+C166	PX1-26	PX12-26	PX3R-26
	75	ACS550-Px-077A-6+C166	PX1-26	PX12-26	PX3R-26
	100	ACS550-Px-099A-6+C166	PX1-26	PX12-26	PX3R-26
	125	ACS550-Px-125A-6+C166	PX1-26	PX12-26	PX3R-26
	150	ACS550-Px-144A-6+C166	PX1-26	PX12-26	PX3R-26

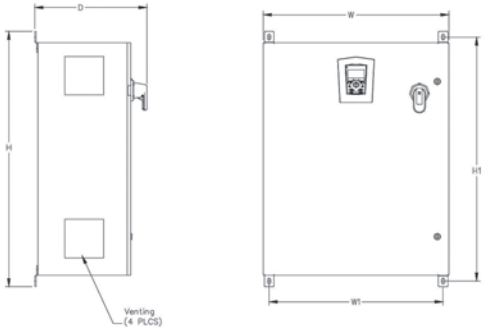
ACQ550 dimensions and weights
Circuit breaker and main input disconnect (Px)



PX1 - 27

ACQ550-Px, alternative contruction for pre-defined options (+C166)

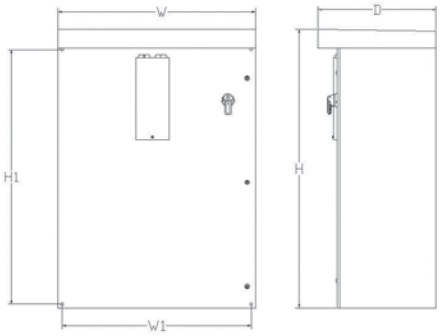
Dimension reference	NEMA 1 mounting dimensions (inches)				NEMA 1 dimensions and weights (inches/lbs.)	
	H1	W1	H	W	D	Weight
PX-21	36.2	8.2	37.3	13.7	13.7	64
PX-22	36.2	8.2	37.3	13.7	13.7	70
PX-23	36.2	8.2	37.3	13.7	13.7	92
PX-24	53.2	10.0	54.3	16.3	14.6	158
PX-25	61.7	13.0	62.8	19.3	19.2	222
PX-26	61.7	13.0	62.8	19.3	19.2	299
PX-27	36.5	34.5	48.0	36.0	22.1	360



PX12-21 - PX12-26

ACQ550-Px, alternative contruction for pre-defined options (+C166)

Dimension reference	NEMA 12 mounting dimensions (inches)				NEMA 12 dimensions and weights (inches/lbs.)	
	H1	W1	H	W	D	Weight
PX-21	25.5	16.5	27	18	14.5	71
PX-22	25.5	16.5	27	18	14.5	77
PX-23	31.5	22.5	33	24	14.3	131
PX-24	37.5	28.5	39	30	14.3	195
PX-25	49.5	34.5	51.4	36	22.5	283
PX-26	49.5	34.5	51.4	36	22.5	360



PX3R-21 - PX3R-26

ACQ550-Px, alternative contruction for pre-defined options (+C166)

Dimension reference	NEMA 3R mounting dimensions (inches)				NEMA 3R dimensions and weights (inches/lbs.)	
	H1	W1	H	W	D	Weight
PX-21	22.5	16.5	27	18	13.5	75
PX-22	22.5	16.5	27	18	13.5	81
PX-23	22.5	16.5	27	18	13.5	96
PX-24	34.5	28.5	39	30	15.5	203
PX-25	46.5	34.5	51	36	21.5	291
PX-26	46.5	34.5	51	36	21.5	394

ACQ550 drives, bypass with circuit breaker (CC)
Frame option

ACQ550-CC

ACQ550 drives, bypass with circuit breaker (CC), 230 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 200, 208 or 230 V. The power ratings are valid at nominal voltage, 208 V													
ACQ550-CC-04A6-2	4.6	1.0	3.5	0.75	R1	Available	CX1-1	Available	CX12-1	Available	CX3R-1	Available	Available
ACQ550-CC-06A6-2	6.6	1.5	4.6	1	R1	Available	CX1-1	Available	CX12-1	Available	CX3R-1	Available	Available
ACQ550-CC-07A5-2	7.5	2	6.6	1.5	R1	Available	CX1-1	Available	CX12-1	Available	CX3R-1	Available	Available
ACQ550-CC-012A-2	11.8	3	7.5	2	R1	Available	CX1-1	Available	CX12-1	Available	CX3R-1	Available	Available
ACQ550-CC-017A-2	16.7	5	11.8	3	R1	Available	CX1-1	Available	CX12-1	Available	CX3R-1	Available	Available
ACQ550-CC-024A-2	24.2	7.5	16.7	5	R2	Available	CX1-3	Available	CX12-3	Available	CX3R-2	Available	Available
ACQ550-CC-031A-2	30.8	10	24.2	7.5	R2	Available	CX1-3	Available	CX12-3	Available	CX3R-2	Available	Available
ACQ550-CC-046A-2	46.2	15	30.8	10	R3	Available	CX1-4	Available	CX12-5	Available	CX3R-3	Available	Available
ACQ550-CC-059A-2	59.4	20	46.2	15	R3	Available	CX1-4	Available	CX12-5	Available	CX3R-3	Available	Available
ACQ550-CC-075A-2	74.8	25	59.4	20	R4	Available	CX1-6	Available	CX12-6	Available	CX3R-4	Available	Available
ACQ550-CC-088A-2	88	30	74.8	25	R4	Available	CX1-9	Available	CX12-7	Available	CX3R-5	Available	Available
ACQ550-CC-114A-2	114	40	88	30	R4	Available	CX1-9	Available	CX12-7	Available	CX3R-5	Available	Available
ACQ550-CC-143A-2	143	50	114	40	R6	Available	CX1-10	Available	CX12-10	Available	CX3R-7	Standard	Available
ACQ550-CC-178A-2	178	60	150	50	R6	Available	CX1-10	Available	CX12-10	Available	CX3R-7	Standard	Available
ACQ550-CC-221A-2	221	75	178	60	R6	Available	CX1-11	Available	CX12-10	Available	CX3R-8	Standard	Available
ACQ550-CC-248A-2	248	100	192	75	R6	Available	CX1-11	Available	CX12-10	Available	CX3R-8	Standard	Available

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, bypass with circuit breaker (CC), 480 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 380, 400, 415, 440, 460 or 480 V. The power ratings are valid at nominal voltage, 480 V													
ACQ550-CC-03A3-4	3.3	1.5	2.4	1	R1	Available	CX1-1	Available	CX12-1	Available	CX3R-1	Available	Available
ACQ550-CC-04A1-4	4.1	2	3.3	1.5	R1	Available	CX1-1	Available	CX12-1	Available	CX3R-1	Available	Available
ACQ550-CC-06A9-4	6.9	3	5.4	2	R1	Available	CX1-1	Available	CX12-1	Available	CX3R-1	Available	Available
ACQ550-CC-08A8-4	8.8	5	6.9	3	R1	Available	CX1-1	Available	CX12-1	Available	CX3R-1	Available	Available
ACQ550-CC-012A-4	11.9	7.5	8.8	5	R1	Available	CX1-1	Available	CX12-1	Available	CX3R-1	Available	Available
ACQ550-CC-015A-4	15.4	10	11.9	7.5	R2	Available	CX1-2	Available	CX12-2	Available	CX3R-2	Available	Available
ACQ550-CC-023A-4	23	15	15.4	10	R2	Available	CX1-2	Available	CX12-2	Available	CX3R-2	Available	Available
ACQ550-CC-031A-4	31	20	23	15	R3	Available	CX1-4	Available	CX12-4	Available	CX3R-3	Available	Available
ACQ550-CC-038A-4	38	25	31	20	R3	Available	CX1-4	Available	CX12-4	Available	CX3R-3	Available	Available
ACQ550-CC-045A-4	44	30	38	25	R4	Available	CX1-4	Available	CX12-5	Available	CX3R-3	Available	Available
ACQ550-CC-059A-4	59	40	44	30	R4	Available	CX1-5	Available	CX12-6	Available	CX3R-4	Available	Available
ACQ550-CC-072A-4	72	50	59	40	R4	Available	CX1-5	Available	CX12-6	Available	CX3R-4	Available	Available
ACQ550-CC-078A-4	77	60	65	50	R4	Available	CX1-5	Available	CX12-6	Available	CX3R-4	Available	Available
ACQ550-CC-097A-4	96	75	77	60	R4	Available	CX1-6	Available	CX12-7	Available	CX3R-5	Available	Available
ACQ550-CC-125A-4	124	100	96	75	R5	Available	CX1-7	Available	CX12-8	Available	CX3R-6	Standard	Available
ACQ550-CC-157A-4	157	125	124	100	R6	Available	CX1-10	Available	CX12-9	Available	CX3R-7	Standard	Available
ACQ550-CC-246A-4	245	200	192	150	R6	Available	CX1-11	Available	CX12-10	Available	CX3R-7	Standard	Available
ACQ550-CC-316A-4	316	250	240	200	R8	Available	CX1-12	Available	CX12-11	Not available	Not available	Standard	Available
ACQ550-CC-368A-4	368	300	302	250	R8	Available	CX1-13	Available	CX12-12	Not available	Not available	Standard	Available
ACQ550-CC-414A-4	414	350	368	300	R8	Available	CX1-13	Available	CX12-12	Not available	Not available	Standard	Available
ACQ550-CC-468A-4	486	400	414	350	R8	Available	CX1-13	Available	CX12-12	Not available	Not available	Standard	Available

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, bypass with circuit breaker (CC), 600 VAC
Drive options chart

Type code UL type 1 (NEMA 1)	Nominal ratings				Base frame size	NEMA 1 UL type 1	Packaged frame size	NEMA 12 UL type 12 (+B055)	Packaged frame size	NEMA 3R UL type 3R (+B058)	Packaged frame size	AC line reactor adder (+E213)	Service switch adder (+F267)
	Normal duty (CT) (110% I2n)		Heavy duty (CT) 150% I2hd)										
	I_{2N}	P_N	I_{2hd}	P_{hd}									
	A	HP	A	HP									
Three phase supply voltage 380, 400, 415, 440, 460 or 480 V. The power ratings are valid at nominal voltage, 480 V													
ACQ550-CC-02A7-6	2.7	2	2.4	1.5	R2	Available	CX1-2	Available	CX12-2	Available	CX3R-2	Available	Available
ACQ550-CC-03A9-6	3.9	3	2.7	2	R2	Available	CX1-2	Available	CX12-2	Available	CX3R-2	Available	Available
ACQ550-CC-06A1-6	6.1	5	3.9	3	R2	Available	CX1-2	Available	CX12-2	Available	CX3R-2	Available	Available
ACQ550-CC-09A0-6	9.0	7.5	6.1	5	R2	Available	CX1-2	Available	CX12-2	Available	CX3R-2	Available	Available
ACQ550-CC-011A-6	11.0	10	9.0	7.5	R2	Available	CX1-2	Available	CX12-2	Available	CX3R-2	Available	Available
ACQ550-CC-017A-6	17.0	15	11	10	R2	Available	CX1-2	Available	CX12-2	Available	CX3R-2	Available	Available
ACQ550-CC-022A-6	22	20	17	15	R3	Available	CX1-4	Available	CX12-4	Available	CX3R-3	Available	Available
ACQ550-CC-027A-6	27	25	22	20	R3	Available	CX1-4	Available	CX12-4	Available	CX3R-3	Available	Available
ACQ550-CC-032A-6	32	30	27	25	R4	Available	CX1-5	Available	CX12-6	Available	CX3R-4	Available	Available
ACQ550-CC-041A-6	41	40	32	30	R4	Available	CX1-5	Available	CX12-6	Available	CX3R-4	Available	Available
ACQ550-CC-052A-6	52	50	41	40	R4	Available	CX1-5	Available	CX12-6	Available	CX3R-4	Available	Available
ACQ550-CC-062A-6	62	60	52	50	R4	Available	CX1-5	Available	CX12-6	Available	CX3R-4	Available	Available
ACQ550-CC-077A-6	77	75	62	60	R6	Available	CX1-8	Available	CX12-9	Available	CX3R-7	Standard	Available
ACQ550-CC-099A-6	99	100	77	75	R6	Available	CX1-8	Available	CX12-9	Available	CX3R-7	Standard	Available

Notes: Available = contact your local sales office for available configurations

ACQ550 drives, bypass with circuit breaker (CC)
Variant codes

Code	Variant description	Field kit*	Frame size						
			R1	R2	R3	R4	R5	R6	R8
Driveware options									
L511	Relay output extension OREL-01	OREL-01-Kit				Available			
L512	115/230 V digital input interface OHDI-01	OHDI-01-Kit				Available			
Hardware options									
L527	ACQ550 terminal jumpers	ACQ550-Jumper-Kit				Available			
Software options									
	DriveWindow Light	3AFE64532871				Available			
Fieldbus (slot #2 available for fieldbus adapters as standard)									
K451	DeviceNet adapter RDNA-01	RDNA-01-KIT				Available			
K454	PROFIBUS-DP adapter RPBA-01	RPBA-01-KIT				Available			
K462	ControlNet adapter RCNA-01	RCNA-01-KIT				Available			
K457	CANopen adapter RCAN-01	RCAN-01-KIT				Available			
K466	Ethernet (EIP, MB/TCP, PROFINET) RETA-01	RETA-01-KIT				Available			
N/A	EtherCat adapter	RECA-01-KIT				Available			
K467	PROFINET IO adapter RETA-02	RETA-02-KIT				Available			
Drive options									
	Cabinet panel mounting	OPMP-01				Available			
	RJ45/DB9 adapter	OPCA-01				Available			
	Panel extension cable	OCAT-01				Available			
	Control panel mounting	ACQ-CP-EXT				Available			
	NEMA 4X cabinet panel mounting	ACQ-CP-EXT-IP66				Available			
ACQ550 demo case									
	Powered by 115 VAC, the ACQ550 demo case includes an ACQ550 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.	3AUA0000146746				Available			

* Indicates option is available as a field mountable kit

Notes: Available = contact your local sales office for available configurations

ACQ550 drives
Variant codes

Packaged drives pre-defined options

Options shown below may be applied to:
- ACQ550-CC drives with 2 contactor bypass - frames R1-R8

For CC drives with bypass, the (+P919) cover control option is offered where additional cover control is considered. Pilot light, selector switch and push button options shown below may not be combined with the (+P919) option.

An option that uses one of the standard drive relay outputs is noted in the variant descriptions. A maximum of three such options may be priced per this price list for CC drives.

Where noted, the function shown is available on the standard drive control panel without additional expense.

Code	Variant description	Field kit*	Frame size						
			R1	R2	R3	R4	R5	R6	R8
Control circuit options									
P919	Bypass cover control option	N/A	Available						
G303	Speed pot NEMA 1 & 12	N/A	Available						
	Speed pot NEMA 3R	N/A	Available						
G395	Common start (bypass packages)	N/A	Available						
G311	Auto bypass	N/A	Available						
G305	Control transformer w/ additional 200 VA	N/A	Available						
Metering options									
G393	Elapsed time meter	N/A	Available						
G335	Ammeter	N/A	Available						
G394	Universal 3-phase voltage monitor	N/A	Available						
Stainless steel on UL type 3R/NEMA 3R enclosure options									
C165	CX3R-1 packaged enclosure	N/A	Available	Not available					
	CX3R-2 packaged enclosure	N/A	Not available	Available	Not available				
	CX3R-3 packaged enclosure	N/A	Not available		Available		Not available		
	CX3R-4 packaged enclosure	N/A	Not available			Available	Not available		
	CX3R-5 packaged enclosure	N/A	Not available			Available	Not available		
	CX3R-6 packaged enclosure	N/A	Not available				Available	Not available	
	CX3R-7 packaged enclosure	N/A	Not available					Available	Not available
	CX3R-8 packaged enclosure	N/A	Not available					Available	Not available
Mounting feet to convert from UL type 12/NEMA 12 wall-mount to floor-standing options									
C114	CX12-1 packaged enclosure	N/A	Available	Not available					
	CX12-2 packaged enclosure	N/A	Not available	Available	Not available				
	CX12-3 packaged enclosure	N/A	Not available						
	CX12-4 packaged enclosure	N/A	Not available		Available	Not available			
	CX12-5 packaged enclosure	N/A	Not available		Available	Not available			
	CX12-6 packaged enclosure	N/A	Not available			Available	Not available		
C114 C166	CX12-7 packaged enclosure	N/A	Not available			Available	Not available		
	CX12-8 packaged enclosure	N/A	Not available				Available	Not available	
	CX12-9 packaged enclosure	N/A	Not available					Available	Not available
Enclosure options									
G391	Engraved, laminated nameplate	N/A	Available						

* Indicates option is available as a field mountable kit

Notes: Available = contact your local sales office for available configurations

ACQ550 drives
Variant code descriptions

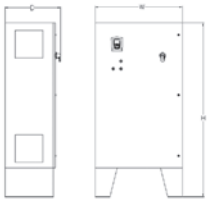
Code	Variant	Description
C114	Free standing feet	Mounting feet convert UL type/NEMA 12 enclosures of the configuration shown below from wall-mounted to floor-standing. This option adds 12" to the enclosure height. It is for powder coated mild steel enclosures only. Enclosures are free standing as standard on the following: ACQ550-CC NEMA 12, 208-240 V 50 HP and above, 480 V 200 HP & above This option may be applied to: ACQ550-CC NEMA 12, 208-240 V 1 - 40 HP, 460 & 600 V 1 - 150 HP CX12-1, CX12-2, CX12-3, CX12-4, CX12-5, CX12-6, CX12-7, CX12-8, CX12-9 and with +C166
C165	3R stainless steel	Addition for substitution of stainless steel for the standard powder coated mild steel on UL type/NEMA 3R enclosures. See ACQ550 product price tables for enclosure references. For PX3R-1, PX3R-2, CX3R-1, CX3R-2, PX3R-3, CX3R-3, CX3R-4, PX3R-4, CX3R-5, CX3R-6, PX3R-5, PX3R-6, CX3R-7, CX3R-8
G303	Speed pot	This option adds a HAND-OFF-AUTO Selector Switch, a DRIVE Pilot Light, a BYPASS Pilot Light and an EXTERNAL/ MOL FAULT Pilot Light to the DRIVE-OFF-BYPASS Selector Switch provided as standard for NEMA 1, 12 & 3R
G305	Control transformer w/ additional 200 VA	Provides a control transformer with 200 VA additional capacity for customer use. Required only for UL type 1/NEMA 1 enclosed PC/PD units rated less than 30 HP / 480 V and 600 V or 15 HP / 208 - 240 V.
G311	Auto bypass	Bypass automatically operates to connect the motor to line power upon a drive trip. An internally mounted selector switch is included to engage and disengage the auto-bypass function. Although sometimes specified, this is not a recommended option. The drive may have tripped due to overcurrent or short circuit. The bypass contactor can be damaged if it is closed on a fault. Uses one of the output relays provided as standard on the drive.
G335	Ammeter	Ammeter mounted on enclosure door. This option uses one analog output from the standard drive. Function can be provided by standard control panel.
G391	Engraved, laminated nameplate	Provides an engraved laminated nameplate with black letters and white background attached to the front door of the enclosure. Engraving to be specified at time of order. Two rows, 20 characters maximum including spaces.
G393	Elapsed time meter	Elapsed time meter mounted on enclosure door. Uses one of the output relays provided as standard on the drive. Function can be provided by standard control panel.
G394	Universal 3-phase voltage monitor	3-phase voltage monitor (ABB HLMUDLAAA) mounted on enclosure back panel. Shuts down control power to the drive and bypass circuit on phase loss; phase reversal; over, under & unbalanced voltages; over/under frequency.
G395	Common start (Bypass packages)	Provides for a customer supplied external start contact to start and stop the drive while in the drive mode and to start and stop the motor when in the bypass mode. Requires the +P919 option shown in the ACQ550 Price List. In the AUTO position, remote control (external start) operation is enabled. The user can locally (at the drive) operate the motor in the bypass mode by selecting HAND. Start signals to the drive and bypass are disabled in the OFF position.
K451	DeviceNet adapter RDNA-01-KIT	The 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 is permitted, allowing one or more nodes to be attached. DeviceNet allows branching structures only on drop lines.
K454	PROFIBUS-DP adapter RPBA-01-KIT	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.
K457	CANopen adapter RCAN-01-KIT	CANopen is a higher layer protocol based on the CAN (Control Area Network) serial bus system and the CAL (CAN Application Layer). CANopen assumes that the hardware of the connected device has a CAN transceiver and a CAN controller as specified in ISO 11898. The CANopen Communication Profile, CiA DS 301, includes both cyclic and event driven communication, which makes it possible to reduce the bus load to minimum while still maintaining extremely short reaction times. High communication performance can be achieved at relatively low baud rates, thus reducing EMC problems and cable costs. CANopen device profiles define both direct access to drive parameter and time critical process data communication. The RCAN-01 module fulfills Cia (CAN in Automation) standard DSP 402 (Drives and Motion Control).
K462	ControlNet adapter RCNA-01-KIT	The ControlNet network uses an 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 cannot 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.

ACQ550 drives
Variant code descriptions

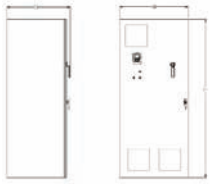
Code	Variant	Description
K466	Ethernet adapter RETA-01-KIT	The RETA-01 Adapter module supports the Modbus/TCP and EtherNet/IP network protocols. Modbus/TCP is a variant of the Modbus family of simple, vendor-neutral communication protocols intended for supervision and control of automation equipment. The implementation of the Modbus/TCP server in the RETA-01 module is done according to the Modbus/TCP Specification 1.0. The Modbus/TCP protocol allows the RETA-01 module to be used as an Ethernet bridge to control the drive. The RETA-01 module supports 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 module fulfills all requirements for certification as an Ethernet/IP device.
K467	PROFINET IO adapter RETA-02-KIT	The RETA-02 module supports both Modbus/TCP and PROFINET IO 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. PROFINET IO is an open standard for industrial ethernet, intended for configuration, supervision and control of automation equipment. The RETA-02 supports 10/100 Mbps transfer rate with network connections made with CAT 5 wiring and RJ-45 connectors. Both star and bus topology options are supported.
L511	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 VDC resistive), 1500 VA (250 VAC). Each relay is galvanically isolated from each other (2.5 kVAC, 1 minute). Each relay is programmable.
L512	115/230 V digital input interface	The 115/230 V digital Input Interface module offers six (6) 115 V or three (3) 230 V rated relays mounted on a common board used to drive DI1 through DI6 of the ACQ550. The 115/230 V must be provided by the user.
L527	ACQ550 terminal jumpers Kit: ACQ550-Jumper-Kit	The jumper kit is used to enable the speed control required for submersible pumps. The kit includes 3 jumpers cut to length and a installation instructions: Install yellow wire from DI4 (Terminal 16) to RO3 NO (Terminal 27): Install light blue wire from +24 V (Terminal 10) to RO3 COM (Terminal 25). Install U-shaped wire GND (Terminal 11) to DCOM (Terminal 12).
N/A	EtherCAT adapter RECA-01-KIT	The adapter module supports the CANopen DSP 402 (Device Profile Drives and Motion Control) profile or the ABB Drives profile. The RECA-01 implements the EtherCAT state machine, four sync manager channels to control the access o the application memory, two watch dogs and specified EtherCAT services, addressing modes and FMMUs.
P919	Bypass cover control option	This option adds a HAND-OFF-AUTO Selector Switch, a DRIVE Pilot Light, a BYPASS Pilot Light and an EXTERNAL/ MOL FAULT Pilot Light to the DRIVE-OFF-BYPASS Selector Switch provided as standard.

ACQ550 dimensions and weights
Bypass with circuit breaker or main input disconnect (Cx)

Wall-mount (CX1-1 - CX1-8)



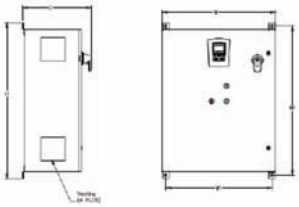
Wall-mount (CX1-9 - CX1-11)



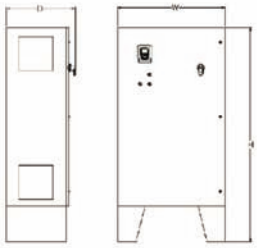
Floor-mount (CX1-12 - CX1-13)

ACQ550-Cx, NEMA 1/UL type 1

Dim	Mounting dimensions			Shipping dimensions			
	H1	W1	Mounting hardware	H	W	D	Weight
Mounting hardware							
CX1-1	36.2	8.2	0.375	37.3	13.7	13.7	77
CX1-2	36.2	8.2	0.375	37.3	13.7	13.7	82
CX1-3	53.2	10	0.375	54.3	16.3	14.6	108
CX1-4	53.2	10	0.375	54.3	16.3	14.6	134
CX1-5	53.2	10	0.375	54.3	16.3	14.6	168
CX1-6	61.7	13	0.375	62.8	19.3	19.2	198
CX1-7	61.7	13	0.375	62.8	19.3	19.2	262
CX1-8	61.7	13	0.375	62.8	19.3	19.2	340
CX1-9	Free standing		Ø0.56	74.1	35	20.7	278
CX1-10	Free standing		Ø0.56	74.1	35	20.7	419
CX1-11	Free standing		Ø0.56	72	36	23	545
CX1-12	Free standing		N/A	84	36	33.4	1276
CX1-13	Free standing		N/A	84	60	33.4	1459



Wall-mount (CX12-1 - CX12-9)



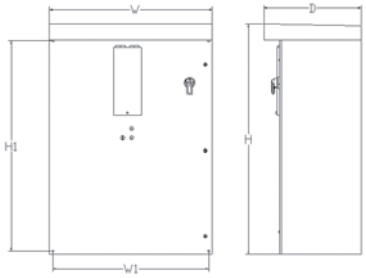
Wall-mount (CX12-10)

Floor-mount (CX12-11 - CX12-12)

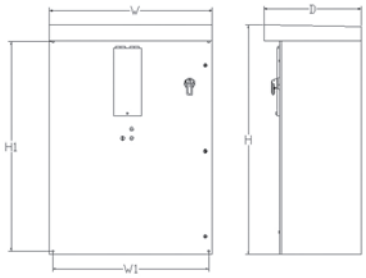
ACQ550-Cx, NEMA 12 1/UL type 12

Dim	Mounting dimensions			Shipping dimensions			
	H1	W1	Mounting hardware	H	W	D	Weight
Mounting hardware							
CX12-1	25.5	16.5	0.375	27	18	14.5	79
CX12-2	25.5	16.5	0.375	27	18	14.5	84
CX12-3	31.5	22.5	0.375	33	24	14.5	112
CX12-4	31.5	22.5	0.375	33	24	14.5	141
CX12-5	37.5	28.5	0.375	39	30	14.5	172
CX12-6	37.5	28.5	0.375	39	30	14.5	205
CX12-7	49.5	34.5	0.375	51.4	36	22.5	260
CX12-8	49.5	34.5	0.375	51.4	36	22.5	324
CX12-9	49.5	34.5	0.375	51.4	36	22.5	401
CX12-10	Free standing		Ø0.56	72	36	23	545
CX12-11	Free standing		N/A	84	36	33.4	1276
CX12-12	Free standing		N/A	84	60	33.4	1459

ACQ550 dimensions and weights
Bypass with circuit breaker or main input disconnect (Cx)



Wall-mount (CX3R-1 - CX3R-7)



Floor-mount (CX3R-8)

ACQ550-Cx, NEMA 3R/UL type 3R

Dim	Mounting dimensions			Shipping dimensions			
	H1	W1	Mounting hardware	H	W	D	Weight
Mounting hardware							
CX3R-1	22.5	16.5	0.375	27	18	13.5	82
CX3R-2	22.5	16.5	0.375	27	18	13.5	88
CX3R-3	28.5	22.5	0.375	33	24	13.5	145
CX3R-4	34.5	28.5	0.375	39	30	15.5	213
CX3R-5	46.5	34.5	0.375	51	36	21.5	268
CX3R-6	46.5	34.5	0.375	51	36	21.5	332
CX3R-7	46.5	34.5	0.375	51	36	21.5	409
CX3R-8	Free standing		0.375	72	43	20.7	554

ACQ550
Additional resources

QR codes
Scan or click the QR code to the left to access the described resources

ACQ550 drives marketing collateral

The ACQ550 drives flyers, brochures and technical catalogs.

ACQ550 drives manuals

The ACQ550 drives manuals. This includes all versions for distribution.

ABB drives for water collateral

All collateral for ABB drives for the water and wastewater industry.

ABB drives website

The ABB Drives web portal. Access all ABB Drive information from here.

ABB Water

The ABB Water microsite.

Secure uptime throughout the drive life cycle

ABB follows a four-phase model for managing the life cycles of its drives. The life cycle phases are active, classic, limited and obsolete. Within each phase, every drive series has a defined set of services.

Examples of individual services are drive selection and dimensioning, installation and commissioning, preventive and corrective maintenance, remote monitoring and intelligent diagnostics, technical support, upgrade and retrofit, replacement and recycling plus training and learning.

In the active phase the drive is in serial production. The drive, with complete life cycle services, is available for purchase.

In the classic phase, the serial production of the drive has ended. The drive, with complete life cycle services, is available for plant extensions.

In the limited phase, the drive is no longer available. The life cycle services are limited. Spare parts as well as maintenance and repair services are available as long as materials can be obtained.

In the obsolete phase, the drive is not available. ABB cannot guarantee availability of services for technical reasons or within reasonable cost.

To ensure the availability of complete life cycle services, ABB recommends that a drive is kept in the active or classic phase by upgrading, retrofitting or replacing.

In the classic phase ABB carries out an annual review for each drive life cycle plan. Should any changes to the availability or duration of the services be necessary, ABB gives a life cycle announcement indicating eventual change of life cycle phase and/or any change in the duration of services.

In the limited phase, ABB issues a life cycle phase change announcement, half a year prior to shifting the product into the obsolete phase.

Maximizing return on investment

The four-phase life cycle management model provides customers with a transparent method for managing their investment in drives. In each phase, customers clearly see what life cycle services are available, and more importantly, what services are not available. Decisions on upgrading, retrofitting or replacing drives can be made with confidence.

ABB drive life cycle management model

Active	Classic	Limited	Obsolete
The drive, with complete life cycle services, is available for purchase.	The drive, with complete life cycle services, is available for plant extensions.	Spare part, maintenance and repair services are available as long as materials can be obtained.	ABB cannot guarantee availability of life cycle services for technical reasons or within reasonable cost.

Complete life cycle services

To ensure the availability of complete life cycle services, a drive must be in the active or classic phase. A drive can be kept in the active or classic phase by upgrading, retrofitting or replacing.

Limited life cycle services

Caution! A drive entering the limited or obsolete phase has limited repair options. This may result in unpredictable process downtime. To avoid this possibility, the drive should be kept in the active or classic phase.

ACQ550
Glossary of terms

AC (Alternating Current) – The commonly available electric power supplied by an AC generator and is distributed in single- or three-phase forms. AC current changes its flow (current).

AC motor – A motor operating on AC current that flows in either direction. There are two types: induction and PM synchronous.

Accelerating torque – An increase in torque (force) generated by a motor in order to achieve running speed.

Adjustable speed – The concept of varying the speed of a motor, either manually or automatically. The desired operating speed (set speed) is relatively constant regardless of load.

Adjustable speed drive (electrical) – The adjustable speed drive is comprised of the motor, drive controller, and operator's controls (either manual or automatic). See also Inverter.

Altitude – The atmospheric altitude (height above sea level) at which the motor or drive will be operating.

Ambient temperature – The temperature of the surrounding cooling medium, such as gas or liquid, which comes into contact with the heated parts of the motor or drive.

Ampere – The rate of flow of charge in a conductor of one coulomb per second.

Base frequency – The motor nameplate frequency rating.

Base speed – The manufacturer's nameplate rating at which point the motor will develop rated horsepower at rated load and voltage. With AC drives, it is commonly the point where 60 Hz is applied to the induction motor.

Braking – A method of stopping or reducing the time required to stop an AC motor, accomplished in several ways:

Dynamic Braking (AC drives) - DB – A method which produces electromagnetic braking forces in the motor by dissipating generated power into the DC bus through a resistive load. Braking force remains constant and is only limited by the thermal capacity of the resistors. The result is a linear braking characteristic (ramp) that does not diminish with motor speed.

Regenerative Braking – The technique of slowing or stopping a drive by regeneration.

Braking torque – The torque required to bring a motor down to a standstill. The term is also used to describe the torque developed by a motor during dynamic braking conditions.

Breakaway torque – The torque required to start a machine from standstill. It is always greater than the torque needed to maintain motion.

CANopen – is a higher layer protocol based on the CAN (Control Area Network) serial bus system and the CAL (CAN Application Layer). CANopen assumes that the hardware of the connected device has a CAN transceiver and a CAN controller as specified in ISO 11898. The CANopen Communication Profile, CiA 301, includes both cyclic and event driven communication, which makes it possible to reduce the bus load to minimum while still maintaining extremely short reaction times. High communication performance can be achieved at relatively low baud rates, thus reducing EMC problems and cable costs. CANopen device profiles define both direct access to driveparameter and time critical process data communication. The adapter module fulfills CiA (CAN in Automation) specification CiA 402 (CANopen device profile for drives and motion control). DeviceNet is a protocol based on the CAN technology. CAN specifies the physical layer interface. DeviceNet specifies the wiring and the data transfer through CAN.

Capacitor – A device which, when connected in an alternating-current circuit, causes the current to lead the voltage in time phase. The peak of the current wave is reached ahead of the peak of the voltage wave.

CE – This designation shows that a product such as a drive or motor meets European Standards for safety and environmental protection. A CE mark is required for products used in most European countries.

Chassis – A hardware assembly that houses devices such as I/O modules, adapter modules, processor modules, and power supplies.

ControlNet – An open producer/consumer communication network with features such as redundant media and deterministic I/O timing, designed for high-performance or time-critical requirements.

Current – The time rate of flow of electrical charge. Current is measured in amps (amperes).

Current feedback – A current signal used by the regulator to control the operating current of the drive.

DC bus – A drive's power structure that transmits rectified AC line power from the bridge rectifier to the output transistors.

Decelerating torque – The torque (force) generated by the decrease in motor and load kinetic energy which the motor and load requires to reach is final (slower) speed condition.

Default value – Parameter values as they are shipped from the factory. The values are stored in non volatile memory and can be restored.

DeviceNet – The RDNA-01 module is a device acting as a Group 2 only Server realizing the Predefined Master Slave Connection Set functionality. The Off-line Connection Set functionality and Unconnected Message Manager (UCMM) are not supported. One of the main features of DeviceNet, features object modeling. A group of objects can be described with a Functional Profile. The FDNA-01 adapter module realizes the ODVA AC/DC drive Functional Profile with additional features.

ACQ550
Glossary of terms

Device – A module or product.

Diode – A solid-state, unidirectional conductor.

Drive controller – An electronic device that can control the speed, torque horsepower, and direction of an AC motor. Also called Variable Speed Drive.

Dynamic braking – See Braking.

Efficiency – The ratio of mechanical output to electrical input. It represents the effectiveness with which the motor converts electrical energy to mechanical energy.

EIA – Electronics Industries Association. An American agency that sets electrical / electronic standards.

Electrostatic discharge (ESD) – A static-electricity discharge that may damage drive components. Follow appropriate precautions to guard against damage to drive components.

EMF – Electromotive Force, another term for voltage or potential difference.

EMI – Electromagnetic Interference. Any electromagnetic disturbance that interrupts, obstructs, or otherwise impairs the performance of electronic equipment.

Enclosure – The housing or frame of the drive.

Ethernet – Ethernet standards support a variety of physical media (coaxial cable, twisted pair, fiber optics) and topologies (bus and star). The RETA-01/-02 Ethernet adapter module supports twisted pair as the physical media in a star topology. It supports the following protocols Modbus/TCP, Ethernet IP, ProfiNet IO.

Ethernet/IP – is a variant of the Common Industrial Protocol (CIP) family of communication protocols intended for supervision and control of automation equipment. Specifically, it covers the use of CIP messaging over an IP network, typically using Ethernet as the media using RETA-01 Module.

Fault – Any malfunction that interferes with normal system operation.

Firmware – Logic stored in non-volatile memory.

Flash update – The process of updating firmware in a device.

Flux – The magnetic field which is established around an energized conductor or permanent magnet. The field is represented by flux lines creating a flux pattern between opposite poles. The density of the flux lines is a measure of the strength of the magnetic field.

Force – The tendency to change the motion of an object with an exertion of energy from a separate source. Force is measured in pound-feet, ounce-inches, Newton-meters, or gram-centimeters.

Frame – The supporting structure of the drive. The frame also determines mounting dimensions.

Frequency – The rate at which alternating current makes a complete cycle of reversals. It is expressed in cycles per second. In the U.S., 60 cycles (Hz) is the standard while in other countries 50 Hz (cycles) is common. The frequency of the AC current will affect the speed of a motor.

Frequency setpoint – The frequency value stored in memory (either by local or remote means) within a given frequency range of the drive's output voltage. This sets the speed of the motor.

Gain – The ratio of the magnitude of the output signal with respect to that of the input signal.

Hertz (Hz) – One cycle per second (as in 60 Hz which is 60 cycles per second).

Horsepower – The measure of the rate of work. One horsepower is equivalent to lifting 33,000 pounds to a height of one foot in one minute. The horsepower (HP) of a motor is expressed as a function of torque (T, measured in lb-ft) and RPM (revolutions per minute). For motors, you can approximate horsepower using this formula: HP = T x (RPM/5250).

Host –
- A central controlling computer in a network system.
- Any device on a network system that provides a controlling function to another device on the network.
- Any intelligent device for which another device is providing a communication interface to a network.

Host interface – The communication interface to the host computer.

Inductance – The characteristic of an electric circuit by which varying current in it produces a varying magnetic field which causes voltages in the same circuit or in a nearby circuit.

Inertia – A measure of a body's resistance to changes in velocity, whether the body is at rest or moving at a constant velocity. The velocity can be either linear or rotational.

Inertial load – A load (such as a flywheel or fan) that tends to cause the motor shaft to continue to rotate after power has been removed (stored kinetic energy). If this continued rotation cannot be tolerated, some mechanical or electrical braking means must be applied. This application might require a special motor due to the energy required to accelerate the inertia.

ACQ550
Glossary of terms

Ingress protection (IP) rating – The IP designation is a numeric rating used to specify the degree of environmental protection provided by an enclosure based on specific tests. The IP rating consists of two numbers, although a third number describing the degree of protection from mechanical impact can also be included but is commonly omitted. For example, IP 56. A higher number represents better protection.

First number – The first number describes the degree of protection from solid objects and with respect to human access to hazardous parts.

0 - No protection.
1 - Protection against solid objects 50 mm in diameter or greater
2 - Protection against solid objects 12.5 mm in diameter or greater
3 - Protection against solid objects 2.5 mm in diameter or greater
4 - Protection against solid objects 1.0 mm in diameter or greater
5 - Dust protected (quantities of dust will not accumulate)
- Dust tight

Second number – The second number describes the degree of protection from liquids.

0 - No protection.
1 - Protection against vertically falling drops of water
2 - Protection against vertically falling drops of water when enclosure is tilted up to 15 degrees
3 - Protection against spraying water when the enclosure is tilted up to 60 degrees on the vertical
4 - Protection against splashing water from all directions
5 - Protection against water jets from all directions
6 - Protection against powerful water jets or heavy seas
7 - Protection against the effects of temporary immersion in water
8 - Protection against the effects of continuous submersion in water

Input power factor – The ratio of the input inverter AC effective power to the input AC apparent power.

Inverter – - An AC adjustable-frequency drive
- A particular section of an AC drive. This section uses the DC voltage from a previous circuit stage (intermediate DC circuit) to produce a pulse-width modulated or stepped AC current or voltage waveform that has characteristics similar to the desired sine-wave frequency.
- A circuit whose output signal is the inverse of its input.

I/O – Input(s) and/or Output(s)

I/O block – An assembly containing a chassis, a power supply, an adapter, and I/O in a single integral package.

I/O channel – A channel of a data transmission link between a processor scanner module and an I/O adapter module.

I/O chassis – A chassis for I/O modules and either a processor to control the I/O modules, or an adapter to interface a scanner to the I/O modules.

Jogging – - In a numerical control system, an operator manually generating motion (continuous or incrementally) by closing a switch.
- An operator generating motion incrementally by closing a switch.

Joule – - The work done by the force of 1 Newton acting through a distance of 1 meter.
- The energy required to transport 1 coulomb between two points having a potential difference of 1 volt.

Kilowatt (kW) – Equals 1,000 watts and is used where larger units of power measurement are desired because the watt is a relatively small unit of power.

Kinetic energy – The energy of motion of a moving body.

Line dip – A short duration, low input voltage condition.

Load – The burden imposed on a motor by the driven machine. It is often stated as the torque required to overcome the resistance of the machine it drives. “Load” is sometimes synonymous with “required power.”

Load torque – The motor torque required to keep the load rotating at nearly constant speed.

Local I/O – I/O connected to a processor across a backplane or a parallel link, thus limiting its distance from the processor.

Logic diagram – A diagram that represents logic elements and their interconnections.

Modbus/RTU – Modbus/RTU is a variant of the Modbus family of simple, vendor neutral communication protocols intended for supervision and control of automation equipment.

Modbus/TCP – is a variant of the Modbus family of simple, vendor neutral communication protocols intended for supervision and control of automation equipment. Specifically, it covers the use of Modbus messaging over TCP connection on an IP network.

Module – A device that provides and interface between a product and a network. It is often referred to as a peripheral.

Module addressing – The method of identifying the I/O modules installed in chassis.

ACQ550
Glossary of terms

Motor – A device that converts electrical energy to mechanical energy to turn a shaft.
Motor Identification:
- Frame designation (actual frame size in which the motor is built)
- Horsepower, speed, design and enclosure Voltage, frequency and number of phases of power supply
- Class of insulation and time rating
- Application

Motor Nameplate – The plate on the outside of a motor that describes the motor, horsepower, voltage, revolutions per minute, efficiency, design, enclosure, etc.

NEMA (National Electrical Manufacturer's Association) – A non-profit organization organized and supported by manufacturers of electric equipment and supplies. NEMA has set standards for: horsepower ratings, speeds, frame sizes and dimensions, standard voltages and frequencies with allowable variations, service factors, torque, starting current, and enclosures.

Network – A series of stations (nodes) connected by some type of communication medium. A network may be made up of a single link or multiple links.

Node – The connection point at which media access is provided.

Non-retentive – Changes to the parameter value are not saved when power is removed.

Non-volatile storage (NVS) – NVS is the permanent memory of a device. Devices such as the converter store parameters and other information in NVS so that they are not lost when the device loses power.

Overcurrent – A current greater than a specified maximum current value.

Overload capacity – The ability of the drive to withstand currents beyond the system's continuous rating. It is normally specified as a percentage of full load current for a specified time period.

Peripheral equipment – In a programmable controller system, units that communicate with the programmable controller, but are not part of the programmable controller. For example, a programmable device or printer.

Phase – Indicates changing values of the recurring cycles of AC voltages and currents. The most common power supplies are either single- or three-phase (with 120 electrical degrees between three-phases).

Potentiometer – A resistor with one or more adjustable sliding contacts that function as an adjustable voltage divider.

Power – Work done per unit time. Measured in horsepower or watts: 1 HP = 33,000 ft-lb/min = 746 watts.

Power factor – A measurement of the time phase difference between the voltage and current in an AC circuit. Power factor is the ratio of real power (kW) to total KVA or the ratio of actual power (W) to apparent power (volt-amperes).

Preset speed – Describes one or more fixed speeds at which a drive operates.

Profibus – The RPBA-01 module supports the PROFIBUS DP-V0 and DP-V1 protocols according to the IEC 61158, IEC 61784 and EN 50170 standards. PROFIBUS DP-V0/DP-V1 is a distributed I/O system which enables the master to use a large number of peripheral modules and field devices. The data transfer is mainly cyclic: the master reads the input information from the slaves and sends the output information back to the slaves.

ProfiNet I/O – is a fieldbus protocol that enables communication between programmable controllers and distributed field devices in an Ethernet network. The protocol classifies devices into I/O controllers, I/O supervisors and I/O devices, which have a specific collection of services using RETA-02 Module.

Program – A set of instructions used to control a machine or process.

Programmable controller – A solid-state control system that has a user-programmable memory for storage of instructions to implement specific functions such as I/O control, logic, timing, counting, report generation, communication, arithmetic, and data file manipulation. A controller consists of a central processor, input/output interface, and memory.

Programmable controller communications command (PCCC) – The protocol used by some controllers to communicate with devices on a network. Some software products also use PCCC to communicate.

Pulse – A momentary, sharp change in voltage, current, or light from its quiescent condition.

Pulse-width-modulation (PWM) – A technique used to eliminate or reduce unwanted harmonic frequencies when inverting DC voltage to sine wave AC.

Queue – A logical structure that keeps track of items waiting for processing whenever the system is unable to process each item immediately. It controls the order in which the waiting items are ultimately processed.

Rated input voltage – The specified AC line voltage connected to the drive.

Rated output current – The total maximum current delivered from a drive or to a motor under full load conditions.

Rated output voltage – The total maximum output voltage while delivering rated current under full load conditions.

Rectifier – A device that conducts current in only one direction, thereby transforming alternating current to direct current.

ACQ550
Glossary of terms

Regeneration –For AC drives, the point at which rotor synchronous frequency is greater than the applied frequency.

Regenerative braking – See Braking.

Regenerative control – A regenerative drive contains the inherent capability and/or power semiconductors to control the flow of power to and from the motor.

Remote I/O – I/O connected to a processor across a serial link. With a serial link, remote I/O can be located long distance from the processor.

Revolutions per minute (RPM) – The number of times per minute the shaft of the motor (machine) rotates.

Service factor (SF) – When used on a motor nameplate, a number that indicates how much above the nameplate rating a motor can be loaded without causing serious degradation. For example, a 1.15 SF can produce 15% greater torque than a 1.0 SF rating of the same motor.

Speed range – The speed minimum and maximum at which a motor must operate under constant or variable torque load conditions.

Stall – A motor state in which the motor remains motionless although the motor is generating torque.

Stator – The part of an AC induction motor's magnetic structure which does not rotate.

Status – The condition at a particular time of any of numerous entities within a system.

Status indicators – LEDs that are used to report the status of a device.

Surge suppressor – Circuit protection that suppresses the peak value of any unusual input voltage to the drive. It is sometimes used to lighten the leading edge of voltage.

Torque – Turning force delivered by a motor or gearmotor shaft, usually expressed in pounds-feet or newton-meters:
lb-ft = HP x (5250/RPM) = Full Load Torque;
Nm = P(kW) x (9550/RPM) = Full Load Torque;

U.L. (Underwriter's laboratory) – An independent testing organization, which examines and tests devices, systems and materials with particular reference to life, fire and casualty hazards.

Variable torque – A multi-speed motor used on loads with torque requirements, which vary with speed as with some centrifugal pumps and blowers. The horsepower varies as the square of the speed.

Voltage – The force that causes a current to flow in an electrical circuit. Analogous to pressure in hydraulics, voltage is often referred to as electrical pressure. The voltage of a motor is usually determined by the supply to which it is attached. NEMA requires that the motor be able to carry its rated horsepower at nameplate voltage plus or minus 10% although not necessarily at the rated temperature rise.

Voltage feedback – A voltage signal which the regulator uses to control the operation of the drive.

Volts per hertz (V/Hz) – The ratio of output voltage (in volts) to output frequency (in hertz) in the output frequency range of the drive to achieve constant torque in the motor.

Watt (W) – The amount of power required to maintain a current of one ampere at a pressure of one volt. One horsepower is equal to 756 watts.

Work – A force moving an object over a distance. Work = Force x Distance.

US district sales offices

ARIZONA

PHOENIX
4211 S. 43RD PLACE
PHOENIX, AZ 85040
PHONE: 602-470-0407
FAX: 602-470-0464

ARKANSAS

CLARKSVILLE
706 WEST MAIN STREET
CLARKSVILLE, AR 72830
PHONE: 479-754-9108
FAX: 479-754-9205

CALIFORNIA

LOS ANGELES
6480 FLOTILLA STREET
COMMERCE, CA 90040
PHONE: 323-724-6771
FAX: 323-721-5859

HAYWARD
21056 FORBES STREET
HAYWARD, CA 94545
PHONE: 510-785-9900
FAX: 510-785-9910

COLORADO

DENVER
3855 FOREST STREET
DENVER, CO 80207
PHONE: 303-623-0127
FAX: 303-595-3772

CONNECTICUT

WALLINGFORD
65 SOUTH TURNPIKE ROAD
WALLINGFORD, CT 06492
PHONE: 203-269-1354
FAX: 203-269-5465

FLORIDA

TAMPA / PUERTO RICO / VIRGIN ISLANDS
3906 EAST 11TH AVENUE
TAMPA, FL 33605
PHONE: 813-248-5078
FAX: 813-241-9514

GEORGIA

ATLANTA
62 TECHNOLOGY DRIVE
ALPHARETTA, GA 30005
PHONE: 770-772-7000
FAX: 770-772-7200

ILLINOIS

CHICAGO
340 REMINGTON BOULEVARD
BOLINGBROOK, IL 60440
PHONE: 630-296-1400
FAX: 630-226-9420

INDIANA

INDIANAPOLIS
5525 W. MINNESOTA STREET
INDIANAPOLIS, IN 46241
PHONE: 317-246-5100
FAX: 317-246-5110

IOWA

DES MOINES
1943 HULL AVENUE
DES MOINES, IA 50313
PHONE: 515-263-6929
FAX: 515-263-6515

MARYLAND

BALTIMORE
7071A DORSEY RUN ROAD
ELKRIDGE, MD 21075
PHONE: 410-579-2135
FAX: 410-579-2677

MASSACHUSETTS

BOSTON
6 PULLMAN STREET
WORCESTER, MA 01606
PHONE: 508-854-0708
FAX: 508-854-0291

MICHIGAN

DETROIT
5993 PROGRESS DRIVE
STERLING HEIGHTS, MI 48312
PHONE: 586-978-9800
FAX: 586-978-9969

MINNESOTA

MINNEAPOLIS
21080 134TH AVE N
ROGERS, MN 55374
PHONE: 763-426-3633
FAX: 763-428-4551

MISSOURI

ST. LOUIS
13678 LAKEFRONT DRIVE
EARTH CITY, MO 63045
PHONE: 314-373-3032
FAX: 314-373-3038

KANSAS CITY
9810 INDUSTRIAL BLVD.
LENEXA, KS. 66215
PHONE: 816-587-0272
FAX: 816-587-3735

NEW YORK

AUBURN
ONE ELLIS DRIVE
AUBURN, NY 13021
PHONE: 315-255-3403
FAX: 315-253-9923

NORTH CAROLINA

GREENSBORO
1220 ROTHERWOOD ROAD
GREENSBORO, NC 27406
PHONE: 336-272-6104
FAX: 336-273-6628

OHIO

CINCINNATI
2929 CRESCENTVILLE ROAD
WEST CHESTER, OH 45069
PHONE: 513-771-2600
FAX: 513-772-2219

OHIO (continued)

CLEVELAND
8929 FREEWAY DRIVE
MACEDONIA, OH 44056
PHONE: 330-468-4777
FAX: 330-468-4778

OKLAHOMA

TULSA
5555 E. 71ST STREET SUITE 9100
TULSA, OK 74136
PHONE: 918-366-9320
FAX: 918-366-9338

OREGON

PORTLAND
12651 SE CAPPS ROAD
CLACKAMAS, OR 97015
PHONE: 503-691-9010
FAX: 503-691-9012

PENNSYLVANIA

PHILADELPHIA
1035 THOMAS BUSCH
MEMORIAL HIGHWAY
PENNSAUKEN, NJ 06110
PHONE: 856-661-1442
FAX: 856-663-6363

PITTSBURGH
159 PROMINENCE DRIVE
NEW KENSINGTON, PA 15068
PHONE: 724-889-0092
FAX: 724-889-0094

TENNESSEE

MEMPHIS
4000 WINCHESTER ROAD
MEMPHIS, TN 38118
PHONE: 901-365-2020
FAX: 901-365-3914

TEXAS

DALLAS
2920 114TH STREET SUITE 100
GRAND PRAIRIE, TX 75050
PHONE: 214-634-7271
FAX: 214-634-8874

HOUSTON
10355 W. UTILE YORK ROAD SUITE 300
HOUSTON, TX 77041
PHONE: 281-977-6500
FAX: 281-977-6510

UTAH

SALT LAKE CITY
2230 SOUTH MAIN STREET
SALT LAKE CITY, UT 84115
PHONE: 801-832-0127
FAX: 801-832-8911

WISCONSIN

MILWAUKEE
1960 SOUTH CALHOUN ROAD
NEW BERLIN, WI 53151
PHONE: 262-784-5940
FAX: 262-784-1215

Notes

Page intentionally left blank

Page intentionally left blank

Contact us

ABB Inc.
Automation Technologies
Drives & Motors
16250 West Glendale Drive
New Berlin, WI 53151
USA
Telephone +1 262 785-3200
+1 800 752-0696, opt 1
E-mail DrivesSupportLine@us.abb.com
Fax +1 262 780-5135
Website www.abb.com/drives

ACQ550-PNPG01U-EN REV A Effective 12/20/2013

Power and productivity
for a better world™