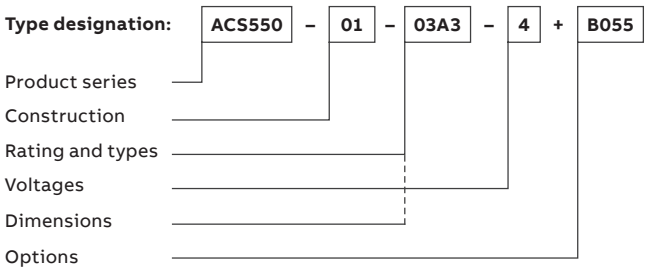
Feature	Advantage	Benefit
Energy efficiency counters	Several counters to illustrate saved energy (kWh), carbondioxide emissions (CO_2) and cost in local currency.	Shows direct impact on energy bill and helps control operational expenditure (OPEX).
Load analyzer	Load analyzer saves process data, such as current and torque values, which can be used to analyze the process and dimensioning of the drive and motor.	Optimized dimensioning of the drive, motor and process.
FlashDrop tool	Faster and easier drive setup and commissioning.	Patented, fast, safe and trouble-free parametrization method without electricity.
Assistant control panel	Two soft-keys, function of which changes according to the state of the panel. Built-in help function via dedicated button. Real-time clock, allows timed tracing of faults and setting of parameters to activate at various times of day. Changed parameters -menu.	Easy commissioning. Fast setup. Easier configuration. Rapid fault diagnosis. Quick access to recent parameter changes.
Commissioning assistants	PID controller, real-time clock, serial communications assistant, drive optimizer, startup assistant.	Easy setup of parameters.
Maintenance assistant	Monitors consumed energy (kWh), running hours or motor rotation.	Takes care of preventative maintenance of drive, the motor or run application.
Intuitive features	Noise optimization. Increases switching frequency of drive when drive temperature is reduced. Controlled cooling fan: the drive is cooled only when necessary.	Considerable motor noise reduction. Reduces inverter noise and improves energy efficiency.
Choke	Patented swinging choke – matches the right inductance to the right load, thereby suppressing and reducing harmonics.	Reduces total harmonic distortion (THD) emissions up to 25%.
Vector control	Improved motor control performance.	Enables wider range of applications.
Built-in EMC filter	Category C2 (1st environment) and category C3 (2nd environment) RFI filters as standard.	No need for additional external filtering.
Brake chopper	Built-in up to 11 kW.	Reduced cost.
Connectivity	Built-in Modbus using EIA-485. Simple to install: • Easy connection of cables • Easy connection to external fieldbus systems through multiple • I/Os and plug-in options	Reduced cost. Reduced installation time. Secure cable connections.
Mounting template	Supplied separately with unit.	Quick and easy to mark mounting screw holes on installation surface.
RoHS compliant	ACS550 drives comply with EU Directive RoHS 2002/95/CE restricting the use of certaing hazardous substances.	Environmentally friendly product.

Selecting and ordering your drive

Build up your own ordering code using the type code key below or contact your local ABB drives sales office and let them know what you want.



Ratings, types, voltages and construction

Ratings						Type designation	Frame size
Normal use			Heavy-duty use				
P_N (kW)	P_N (hp)	I_{2N} (A)	P_{hd} (kW)	P_{hd} (hp)	I_{2hd} (A)		
3-phase supply voltage 380 to 480 V Wall-mounted units							
1.1	1.5	3.3	0.75	1	2.4	ACS550-01-03A3-4	R1
1.5	2	4.1	1.1	1.5	3.3	ACS550-01-04A1-4	R1
2.2	3	5.4	1.5	2	4.1	ACS550-01-05A4-4	R1
3	4	6.9	2.2	3	5.4	ACS550-01-06A9-4	R1
4	5.4	8.8	3	4	6.9	ACS550-01-08A8-4	R1
5.5	7.5	11.9	4	5.4	8.8	ACS550-01-012A-4	R1
7.5	10	15.4	5.5	7.5	11.9	ACS550-01-015A-4	R2
11	15	23	7.5	10	15.4	ACS550-01-023A-4	R2
15	20	31	11	15	23	ACS550-01-031A-4	R3
18.5	25	38	15	20	31	ACS550-01-038A-4	R3
22	30	45	18.5	25	38	ACS550-01-045A-4	R3
30	40	59	22	30	45	ACS550-01-059A-4	R4
37	50	72	30	40	59	ACS550-01-072A-4	R4
45	60	87	37	60	72	ACS550-01-087A-4	R4
55	100	125	45	75	96	ACS550-01-125A-4	R5
75	125	157	55	100	125	ACS550-01-157A-4	R6
90	150	180	75	125	156	ACS550-01-180A-4	R6
110	150	205	90	125	162	ACS550-01-195A-4	R6
132	200	246	110	150	192	ACS550-01-246A-4	R6
160	200	290	132	200	246	ACS550-01-290A-4	R6
Free-standing units							
200	300	368	160	250	302	ACS550-02-368A-4	R8
250	400	486	200	350	414	ACS550-02-486A-4	R8
280	450	526	250	400	477	ACS550-02-526A-4	R8
315	500	602	280	450	515	ACS550-02-602A-4	R8
355	500	645	315	500	590	ACS550-02-645A-4	R8
3-phase supply voltage 208 to 240 V Wall-mounted units							
0.75	1.0	4.6	0.75	0.8	3.5	ACS550-01-04A6-2	R1
1.1	1.5	6.6	0.75	1.0	4.6	ACS550-01-06A6-2	R1
1.5	2.0	7.5	1.1	1.5	6.6	ACS550-01-07A5-2	R1
2.2	3.0	11.8	1.5	2.0	7.5	ACS550-01-012A-2	R1
4.0	5.0	16.7	3.0	3.0	11.8	ACS550-01-017A-2	R1
5.5	7.5	24.2	4.0	5.0	16.7	ACS550-01-024A-2	R2
7.5	10.0	30.8	5.5	7.5	24.2	ACS550-01-031A-2	R2
11.0	15.0	46.2	7.5	10.0	30.8	ACS550-01-046A-2	R3
15.0	20.0	59.4	11.0	15.0	46.2	ACS550-01-059A-2	R3
18.5	25.0	74.8	15.0	20.0	59.4	ACS550-01-075A-2	R4
22.0	30.0	88.0	18.5	25.0	74.8	ACS550-01-088A-2	R4
30.0	40.0	114	22.0	30.0	88.0	ACS550-01-114A-2	R4
37.0	50.0	143	30.0	40	114	ACS550-01-143A-2	R6
45.0	60.0	178	37.0	50	150	ACS550-01-178A-2	R6
55.0	75.0	221	45.0	60	178	ACS550-01-221A-2	R6
75.0	100	248	55.0	75	192	ACS550-01-248A-2	R6

Type designation
Drive's type designation (shown on the previous page and in column 7 of the tables on the left side) identifies your drive by construction, current rating and voltage range. Once you have selected the type designation, the frame size (column 8) can be used to determine the drives dimensions, shown on
the page 8.

Voltages
ACS550 is available in two voltage ranges:
4 = 380 to 480 V
2 = 208 to 240 V

Insert either "4" or "2", depending on your chosen voltage, into the type designation shown on the previous page.

Construction
"01" within the type designation varies depending on the drive mounting arrangement, and power rating.

01 = wall-mounted
02 = free-standing

Normal use vs heavy-duty use. For the majority of pump, fan and conveyor applications, select "Normal use" figures. For high overload requirements, select "Heavy-duty use" figures. If in doubt contact your local ABB sales office or your drives distributor.

P_N for kW = Typical motor power in 400 V at normal use
P_N for hp = Typical motor power in 460 V at normal use
P_{hd} for kW = Typical motor power in 400 V at heavy-duty use
P_{hd} for hp = Typical motor power in 460 V at heavy-duty use
I_{2N} for A = Continuous rms current. 10% overload is allowed for one minute in ten minutes.
I_{2hd} for A = Continuous rms current. 50% overload is allowed for one minute in ten minutes.

Technical data

Mains connection	
Voltage and power range	3-phase, 380 to 480 V, +10/ -15%, 0.75 to 355 kW 3-phase, 208 to 240 V, +10/ -15%, 0.75 to 75 kW Auto-identification of input line
Frequency	48 to 63 Hz
Power factor	0.98
Motor connection	
Voltage	3-phase, from 0 to U_{supply}
Frequency	0 to 500 Hz
Continuous loading capability (constant torque at a max ambient temperature of 40 °C)	Rated output current I_{2N}
Overload capacity (at a max. ambient temperature of 40 °C)	At normal use 1.1 x I_{2N} for 1 minute every 10 minutes At heavy-duty use 1.5 x I_{2hd} for 1 minute every 10 minutes Always 1.8 x I_{2hd} for 2 seconds every 60 seconds
Switching frequency Selectable	Default 4 kHz 1 kHz, 2 kHz, 4 kHz, 8 kHz, 12 kHz
Acceleration time	0.1 to 1800 s
Deceleration time	0.1 to 1800 s
Speed control	
Open loop	20% of motor nominal slip
Closed loop	0.1% of motor nominal speed
Open loop	< 1% s with 100% torque step
Closed loop	0.5% s with 100% torque step
Torque control	
Open loop	< 10 ms with nominal torque
Closed loop	< 10 ms with nominal torque
Open loop	± 5% with nominal torque
Closed loop	± 2% with nominal torque
Environmental limits	
Ambient temperature	
-15 to 50 °C	No frost allowed. From 40 to 50 °C with derating.
Altitude	Rated current available at 0 to 1000 m.
Output current	In altitudes from 1000 to 4000 m (3300 to 13,200 ft) above sea level, the derating is 1% for every 100 m (330 ft). If the installation site is higher than 2000 m (6600 ft) above sea level, please contact your local ABB distributor or office for further information.
Relative humidity	5 to 95%, no condensation allowed
Degree of protection	IP21 or IP54 (≤ 160 kW)
Enclosure colour	NCS 1502-Y, RAL 9002, PMS 420 C
Contamination levels	IEC 721-3-3
	No conductive dust allowed
Transportation	Class 1C2 (chemical gases), Class 1S2 (solid particles)
Storage	Class 2C2 (chemical gases), Class 2S2 (solid particles)
Operation	Class 3C2 (chemical gases), Class 3S2 (solid particles)

Programmable control connections	
Two analog inputs	
Voltage signal	0 (2) to 10 V, R_{in} > 312 kΩ single-ended
Current signal	0 (4) to 20 mA, R_{in} = 100 Ω single-ended
Potentiometer reference value	10 V ± 2% max. 10 mA, R < 10 kΩ
Maximum delay	12 to 32 ms
Resolution	0.1%
Accuracy	± 1%
Two analog outputs	0 (4) to 20 mA, load < 500 Ω
Accuracy	± 3%
Auxiliary voltage	24 V DC ± 10%, max. 250 mA
Six digital inputs	12 to 24 V DC with internal or external supply, PNP and NPN
Input impedance	2.4 kΩ
Maximum delay	5 ms ± 1 ms
Three relay outputs	
Maximum switching voltage	250 V AC/30 V DC
Maximum switching current	6 A/30 V DC; 1500 V A/230 V AC
Maximum continuous current	2 A rms
Serial communication	
EIA-485	Modbus protocol

Product compliance
Low Voltage Directive 2006/95/EC
EMC Directive 2004/108/EC
Quality assurance system ISO 9001
Environmental system ISO 14001
UL, cUL, CE, C-Tick and GOST R approvals
RoHS compliant