

# ABB standard drives

## ACS550, 0.75 to 355 kW / 1 to 500 hp



### ABB standard drives

ABB standard drives are simple to buy, install, configure and use, saving considerable time. They are widely available through ABB channel partners, hence the use of the term standard. The drives have common user and process interfaces with fieldbuses, common software tools for sizing, commissioning, maintenance and common spare parts.

ABB standard drives can be used in a wide range of industries. Typical applications include pump, fan and constant torque use, such as conveyors. ABB standard drives are ideal in those situations where there is a need for simplicity to install, commission and use and where customizing or special product engineering is not required.

### Highlights

- FlashDrop tool
- Intuitive use with assistant control panel
- Swinging choke for superior harmonic reduction
- Vector control
- Coated boards for harsh environments
- Inbuilt category C2 EMC filter (1<sup>st</sup> environment) as standard
- Flexible fieldbus system with inbuilt Modbus and numerous internally mountable fieldbus adapters

- UL, cUL, CE, C-Tick and GOST R approved
- RoHS compliant
- Chopper as standard in R1 and R2

### Voltage and power range

- 3-phase, 380 to 480 V +10% /-15%  
0.75 to 355 kW (0.5 to 3 hp)
- 3-phase, 208 to 240 V +10% /-15%  
0.75 to 75 kW (0.8 to 100 hp)

### Options

- FlashDrop tool
- Fieldbuses
  - DeviceNet
  - LONWORKS®
  - PROFIBUS DP
  - CANopen
  - ControlNet
  - Ethernet
- Panel mounting kits
- DriveWindow Light 2 software



# Ratings, types, voltages and dimensions



Ratings							Type code	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			
<b>3-phase supply voltage 380 - 480 V, Wall-mounted units</b>								
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	75	87	37	60	72	ACS550-01-087A-4	R4	
55	100	125	45	75	87	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	
<b>3-phase supply voltage 380 - 480 V, Free-standing units</b>								
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	
<b>3-phase supply voltage 208 - 240 V, Wall-mounted units</b>								
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	

## Wall-mounted units

Frame size	Dimensions and weights								
	IP21 / UL type 1					IP54 / UL type 12			
	H1	H2	W	D	Weight	H	W	D	Weight
R1	369	330	125	212	6.5	449	213	234	8.2
R2	469	430	125	222	9	549	213	245	11.2
R3	583	490	203	231	16	611	257	253	18.5
R4	689	596	203	262	24	742	257	284	26.5
R5	739	602	265	286	34	776	369	309	38.5
R6	880	700	300	400	69	924	410	423	80
R6 <sup>1)</sup>	986	700	302	400	73	1119	410	423	84

## Free-standing units

R8	2024	n/a	347 <sup>2)</sup>	617 <sup>2)</sup>	230
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<sup>1)</sup> The dimensions and weights apply to ACS550-01-246A-4 and ACS550-01-290A-4  
<sup>2)</sup> The dimensions apply to bookshelf mounting. In flat type mounting the width and depth change places.  
 n/a = not applicable



## ABB Oy

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 Fax +358 10 22 23764  
 Internet www.abb.com/drives

## Motor connection

<b>Voltage</b>	3-phase, from 0 to $U_{SUPPLY}$
<b>Frequency</b>	0 to 500 Hz
<b>Continuous loading capability</b> (constant torque at a max ambient temperature of 40 °C)	Rated output current $I_{2N}$
<b>Overload capacity</b> (at a max. ambient temperature of 40 °C)	At normal use $1.1 \times I_{2N}$ for 1 minute every 10 minutes At heavy duty use $1.5 \times I_{2hd}$ for 1 minute every 10 minutes Always $1.8 \times I_{2hd}$ for 2 seconds every 60 seconds
<b>Switching frequency</b> 0.75 - 37 kW 45 - 110 kW 132 - 355 kW	Default 4 kHz 1, 4, 8, 12 kHz 1, 4, 8 kHz 1, 4 kHz
<b>Speed control</b> Open loop Closed loop Open loop Closed loop	20% of motor nominal slip 0.1% of motor nominal speed < 1% s with 100% torque step 0.5% s with 100% torque step
<b>Torque control</b> Open loop Closed loop Open loop Closed loop	< 10 ms with nominal torque < 10 ms with nominal torque $\pm 5\%$ with nominal torque $\pm 2\%$ with nominal torque

## Programmable control connections

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

## Product compliance

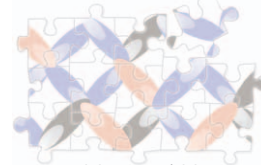
UL, cUL, CE, C-Tick and GOST R approvals  
 RoHS directive

## Environmental limits

<b>Degree of protection</b>	IP21 or IP54 ( $\leq 110 \text{ kW}$ )
<b>Ambient temperature</b>	-15 to 40 °C, no frost allowed 40 to 50 °C derating please contact supplier
<b>Relative humidity</b>	Lower than 95% (without condensation)

For more information see technical catalogue  
 ABB standard drives (3AFE64792857).

Find your nearest contact at



www.abb.com/drivespartners