

ABB general purpose drives ACS550, 0.75 to 355 kW / 1 to 500 hp

General purpose drives are simple to buy, install, configure and use, saving considerable time. The drives have common user and process interfaces with fieldbuses, common software tools for sizing, commissioning, maintenance and common spare parts.



ABB general purpose drives can be used in a wide range of industries. Typical applications include pump, fan and constant torque use, such as conveyors. General purpose 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. The drives include several features as standard, such as swinging choke, EMC filter and control panel. All drives are tested with full load at the factory ensuring premium quality.

Energy efficiency achieved with general purpose drives can be easily monitored using the built-in counters, which display energy savings in kilowatt hours, carbon dioxide emissions or local currencies.

Highlights

- Energy efficiency counters
- Intuitive use with assistant control panel
- Swinging choke for superior harmonic reduction
- Vector control
- Coated boards for harsh environments
- Built-in category C2 EMC filter (1st environment) as standard
- Flexible fieldbus system with built-in Modbus and numerous internally mountable fieldbus adapters
- Brake chopper as standard in the frames R1 and R2
- FlashDrop tool for cold configuration

Voltage and power range

- 3-phase, 380 to 480 V +10% /-15%
0.75 to 355 kW (0.5 to 500 hp)
- 3-phase, 208 to 240 V +10% /-15%
0.75 to 75 kW (0.8 to 100 hp)

Options

- Fieldbus adapters
- Panel mounting kits
- DriveWindow Light software
- Output chokes
- Brake units and resistors
- Encoder feedback module
- Relay output extension module
- Remote monitoring adapter
- Flange mounting kits
- FlashDrop tool
- Basic control panel

Technical data and types

Ratings						Type designation	Frame size
Normal use			Heavy-duty use				
P_N	P_N	I_{2N}	P_{hd}	P_{hd}	I_{2hd}		
kW	hp	A	kW	hp	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	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
3-phase supply voltage 380 to 480 V, 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

Wall-mounted units

Frame size	Dimensions and weights						IP54 / UL type 12 ²⁾			
	IP21 / UL type 1						IP54 / UL type 12 ²⁾			
	H1	H2	W	D	Weight	H	W	D	Weight	
mm	mm	mm	mm	kg	mm	mm	mm	kg		
R1	369	330	125	212	6.5	461	213	234	8	
R2	469	430	125	222	9	561	213	245	11	
R3	583	490	203	231	16	629	257	254	17	
R4	689	596	203	262	24	760	257	284	26	
R5	736	602	265	286	34	775	369	309	42	
R6	888 ¹⁾	700	302	400	69	924 ³⁾	410	423	86	

¹⁾ ACS550-01-246A-4 and ACS550-01-290A-4: 979 mm

²⁾ UL Type 12 not available for ACS550-01-290A-4

³⁾ ACS550-01-290A-4: 1119 mm

Free-standing units

R8	2024	n/a	347 ¹⁾	617 ¹⁾	230
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¹⁾ The dimensions apply to bookshelf mounting. In flat type mounting the width and depth change places.
n/a = not applicable

Motor connection	
Voltage	3-phase, from 0 to U_{SUPPLY}
Frequency	0 to 500 Hz
Continuous loading capability	Rated output current I_{2N} (constant torque at a max ambient temperature of 40 °C)
Overload capacity	At normal use $1.1 \times I_{2N}$ for 1 minute every 10 minutes (at a max. ambient temperature of 40 °C) 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
Switching frequency	1, 2, 4, 8, 12 kHz. 4 kHz as default.
Programmable control connections	
Two analog inputs	
Voltage signal	0 (2) to 10 V, $R_{in} > 312 \text{ k}\Omega$ single-ended
Current signal	0 (4) to 20 mA, $R_{in} = 100 \Omega$
Potentiometer reference value	10 V $\pm 2\%$ max. 10 mA, $R < 10 \text{ k}\Omega$
Resolution	0.1%
Maximum delay	12 to 32 ms
Accuracy	$\pm 1\%$
Two analog outputs	0 (4) to 20 mA, load $< 500 \Omega$
Accuracy	$\pm 3\%$
Auxiliary voltage	24 V DC $\pm 10\%$, max. 250 mA
Six digital inputs	12 to 24 V DC with internal or external supply, PNP and NPN
Input impedance	2.4 k Ω
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
Control and communication options	
Fieldbuses	DeviceNet, RDNA-01 LonWorks, RLON-01 PROFIBUS DP, RPBA-01 CANopen, RCAN-01 ControlNet, RCNA-01 Ethernet/IP, RETA-01 EtherCAT, RECA-01 Modbus TCP, RETA-01, RETA-02 PROFINET IO, RETA-02 PowerLink, REPL-01
Remote monitoring	Ethernet adapter, SREA-01
Encoder adapter	Encoder adapter, OTAC-01
Relay output extension	Extension module, 3 relay outputs, OREL-01
Product compliance	
UL, cUL, CE, C-Tick and GOST R approvals, RoHS compliant	
Environmental limits	
Degree of protection	IP21 or IP54 ($\leq 160 \text{ kW}$)
Ambient temperature	-15 to 50 °C. No frost allowed. From 40 to 50 °C with derating
Relative humidity	5 to 95%, no condensation allowed

For more details see ACS550 catalog (3AFE64792857).

For more information please contact your local ABB representative or visit:

www.abb.com/drives

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