ABB micro drives
ACS55, 0.25 to 3 hp/0.18 to 2.2 kW

Micro drives are used in a wide variety of simple machines such as automatic gates, solar trackers, treadmills, whirlpool baths and other applications. They are used in both commercial and domestic environments.

ACS55 micro drives are designed for use in a wide variety of simple machinery applications where only single phase power is available. Feed-thru wiring with power leads entering at the top and motor cables exiting at the bottom allows for easy replacement of contactors and motor starters. These drives improve machine performance with the combined advantages of variable speed control and energy savings for small AC motors.

ACS55 micro drives are compact with multiple mounting positions and options. DIN rail mounting capability makes them ideal for panel builders. The drive is quickly programmed using switches and potentiometers. More advanced programming is possible using the DriveConfig kit PC tool. These drives are readily available as standard products from ABB's worldwide distribution network.

The ACS55 drive is ideal for those situations where a low cost, easy to install, and simple to operate variable frequency drive is needed.

Highlights

- Power range: 0.25 to 3 hp
- 150% peak overload capacity
- Compact and slim design
- Several installation alternatives
- Reduced motor noise with high switching frequency
- Easy configuration using switches and potentiometer
- Fast programming of drives without the need for a power connection
- Available with or without a built-in 1st environment EMC filter as standard
- Optional speed potentiometer and operator control switch kit
- Selectable for linear (constant torque) or squared (variable torque) scalar control
- RoHS
- Coated boards

Voltage and power range

- 1-phase, 110 to 120 V +10/-15% 0.25 to 0.5 hp (0.18 to 0.37 kW)
- 1-phase, 200 to 240 V +10/-15% 0.25 to 3 hp (0.18 to 2.2 kW)

Options

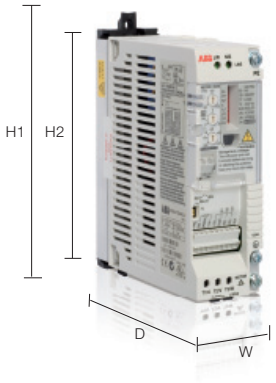
- Potentiometer
- DriveConfig kit

Applications

- Pumps and fans
- Conveyors
- Automatic gates
- Solar trackers
- Exercise equipment
- Whirlpools
- Printing and packaging machines
- Food and beverage machines

Technical data and types

Type code	P_N	P_N	Output current I_{2N}	Output current Max	Input current	Fuse*	Heat loss **	Frame size	Height 1	Height 2	Width	Depth	Weight
	hp	kW	A	A	A	A	Watts		in (mm)	in (mm)	in (mm)	in (mm)	lbs (kg)
No EMC filter													
110/120 V, +10/-15%, 1-phase AC supply, 3-phase output 200/240 V													
ACS55-01N-01A4-1	0.25	0.18	1.4	2.1	6.4	10	24	A	6.7 (170)	5.8 (146.5)	1.8 (45)	5.0 (128)	1.4 (0.65)
ACS55-01N-02A2-1	0.5	0.37	2.2	3.3	9.5	16	35	A	6.7 (170)	5.8 (146.5)	1.8 (45)	5.0 (128)	1.5 (0.7)
200/240 V +10/-15%, 1-phase AC supply, 3-phase output 200/240 V													
ACS55-01N-01A4-2	0.25	0.18	1.4	2.1	4.4	10	21	A	6.7 (170)	5.8 (146.5)	1.8 (45)	5.0 (128)	1.4 (0.65)
ACS55-01N-02A2-2	0.5	0.37	2.2	3.3	6.9	16	32	A	6.7 (170)	5.8 (146.5)	1.8 (45)	5.0 (128)	1.5 (0.7)
ACS55-01N-04A3-2	1.0	0.75	4.3	6.5	10.8	16	51	B	6.7 (170)	5.8 (146.5)	2.7 (67.5)	5.0 (128)	2.0 (0.9)
ACS55-01N-07A6-2	2	1.5	7.6	11.4	18.2	25	74	C	7.6 (194)	6.7 (171)	2.8 (70)	6.3 (159)	2.6 (1.2)
ACS55-01N-09A8-2	3	2.2	9.8	14.7	22	32	103	C	7.6 (194)	6.7 (171)	2.8 (70)	6.3 (159)	2.9 (1.3)
Built-in EMC filter													
110/120 V, +10/-15%, 1-phase AC supply, 3-phase output 200/240 V													
ACS55-01E-01A4-1	0.25	0.18	1.4	2.1	6.4	10	24	A	6.7 (170)	5. (146.5)	1.8 (45)	5.0 (128)	1.4 (0.65)
ACS55-01E-02A2-1	0.5	0.37	2.2	3.3	9.5	16	35	A	6.7 (170)	5.8 (146.5)	1.8 (45)	5.0 (128)	1.5 (0.7)
200/240 V +10/-15%, 1-phase AC supply, 3-phase output 200/240 V													
ACS55-01E-01A4-2	0.25	0.18	1.4	2.1	4.4	10	21	A	6.7 (170)	5.8 (146.5)	1.8 (45)	5.0 (128)	1.4 (0.65)
ACS55-01E-02A2-2	0.5	0.37	2.2	3.3	6.9	16	32	A	6.7 (170)	5.8 (146.5)	1.8 (45)	5.0 (128)	1.5 (0.7)
ACS55-01E-04A3-2	1.0	0.75	4.3	6.5	10.8	16	51	B	6.7 (170)	5.8 (146.5)	2.7 (67.5)	5.0 (128)	2.0 (0.9)
ACS55-01E-07A6-2	2	1.5	7.6	11.4	18.2	25	74	D	8.9 (226)	8.0 (203)	2.8 (70)	6.3 (159)	3.5 (1.6)
ACS55-01E-09A8-2	3	2.2	9.8	14.7	22	32	103	D	8.9 (226)	8.0 (203)	2.8 (70)	6.3 (159)	3.7 (1.7)



H1 = Height with mounting clip
H2 = Height without mounting clip
W = Width
D = Depth

* Recommended values for type Gg fuse. Do not use ultra rapid or low peak fuses. Follow local rules.
** Frame size A and B are convection cooled and must be installed with sufficient spacing.
Frame size C and D are fan cooled and can be installed with no space between them.
Ensure minimum installation space is provided. See ACS55 user's manual for more detailed information.
P_N = Nominal power
I_{2N} = Nominal amps

Mains connection	
Power range	0.25 to 3 hp/0.18 to 2.2 kW
Voltage	1-phase, 110 to 120 V and 200 to 240 V, +10 /-15%
Frequency	48 to 63 Hz
Motor connection	
Voltage	3-phase, from 0 to U_{SUPPLY} (for 110/120 V from 0 to 230 V)
Frequency	0 to 120/130 Hz, 0 to 250 Hz with DriveConfig kit
Overload capacity	150% (60 s)
Motor control method	Scalar U/f
Control connections	
One analog input	
Voltage signal	0 (2) to 10 V, 200 kΩ single-ended
Current signal	0 (4) to 20 mA, 100 Ω single-ended
Potentiometer reference value	10 V ±2% max. 10 mA, 1 kΩ ≤ R ≤ 10 kΩ
Response time	≤ 60 ms
Resolution	0.1%
Accuracy	±1%
Three digital inputs	12 V DC with internal supply or 12 to 24 V DC external supply, PNP
Input impedance	1.5 Ω
Response time	≤ 9 ms
One relay output	
Switching voltage	12 to 250 V AC or max 30 V DC
Maximum continuous current	2 A

Application parameters	As standard	With DriveConfig kit
Motor nominal frequency	50/60 Hz	40 to 250 Hz
Acceleration time	0.1 to 30 s	0.1 to 100 s
Deceleration time	0.1 to 30 s	0.1 to 100 s
Maximum frequency	50 to 120 Hz	0 to 250 Hz
Relay output	Fault/Run	Fault/Fault (-1)/Run
Load type	Pump/fan or constant	
Switching frequency Standard	5 kHz, adjustable up to 16 kHz with automatic switching frequency reduction	
Features available with DriveConfig kit	Application macro selection, IR compensation, constant speed selection, stop mode selection, reset mode selection	

Product compliance

Low Voltage Directive 2006/95/EC
EMC Directive 2004/108/EC
Machinery Directive 2006/42/EC
Quality assurance system ISO 9001 and Environmental system ISO 14001
CE, UL, cUL, C-Tick and GOST R approvals
RoHS compliant

Environmental limits	
Degree of protection	IP20
Ambient temperature	
-20 to +40 °C	With nominal current and 5 kHz switching frequency, no frost allowed
up to +55 °C	With derating
Relative humidity	Lower than 95% (without condensation)

For more details see ACS55 catalog (3AUA0000163305).

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

www.abb.com/drives

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