

ABB industrial drives

ACS800, single drives, 0.55 to 5600 kW

Single drives are complete AC drives, which can be installed without any additional cabinet or enclosure and used in process industries such as pulp and paper, metals, mining, cement, power, chemical, oil and gas.

A single drive configuration contains a rectifier, reactor, DC link and an inverter in one single AC drive unit. Single drives are available as wall-mounted, free-standing and cabinet-built constructions. The degree of protection is at least IP21, and higher protection classes are available as an option.



ABB industrial drives

ABB industrial drives are designed for industrial applications, and especially for applications in process industries such as the pulp and paper, metals, mining, cement, power, chemical, and oil and gas. The key features of these drives are programmability and configurability, which makes adaptation to different applications easy. Marine variants are also available.

Highlights

- High flexibility
- Programmability
- Everything inside
- Wide range of configurations and options. Tailor-made configurations for cabinet-built drives through ABB's application engineering
- Application programs for different industrial segments
- Liquid-cooled variant provides added benefits when availability of space and cooling air is limited

Voltage and power range

- 3-phase 230 V: 0.55 to 200 kW
- 3-phase 400 V: 1.1 to 2800 kW
- 3-phase 500 V: 1.5 to 3360 kW
- 3-phase 690 V: 5.5 to 5600 kW

Applications

- Pumps and fans
- Cranes
- Winches
- Master/follower
- Winders
- Conveyors
- Extruders and compressors
- Test benches
- Processing lines and roller tables
- Presses
- Mixers
- Thrusters and propulsion

Options

- Control programs
- EMC, du/dt and sine filters
- Remote monitoring and diagnostics tools
- Fieldbuses and I/O extensions
- PC tools

ACS800 single drives

Wall-mounted drives, ACS800-01

- Power range: 0.55 to 200 kW (230 to 690 V)
- IP21 as standard, IP55 as option
- Marine type approved design available

Wall-mounted regenerative drives, ACS800-11

- Power range: 5.5 to 110 kW (230 to 690 V)
- IP21 as standard

Wall-mounted low harmonic drives, ACS800-31

- Power range: 5.5 to 110 kW (230 to 690 V)
- IP21 as standard

Free-standing drives, ACS800-02

- Power range: 45 to 560 kW (230 to 690 V)
- IP21 as standard

Cabinet-built drives, ACS800-07

- Power range: 45 to 2800 kW (380 to 690 V)
- IP21 as standard, IP22, IP42, IP54 and IP54R as options

Cabinet-built liquid-cooled drives, ACS800-07LC

- Power range: 200 to 5600 kW (380 to 690 V)
- IP42 as standard, IP54 as option
- Marine type approved design available

Cabinet-built regenerative drives, ACS800-17

- Power range: 45 to 2500 kW (380 to 690 V)
- IP21 as standard, IP22, IP42, IP54 and IP54R as options

Liquid-cooled regenerative drives, ACS800-17LC

- Power range: 55 to 5200 kW (380 to 690 V)
- IP42 as standard, IP54 as option

Cabinet-built low harmonic drives, ACS800-37

- Power range: 37 to 2700 kW (380 to 690 V)
- IP21 as standard, IP22, IP42, IP54 and IP54R as options

Liquid-cooled low harmonic drives, ACS800-37LC

- Power range: 55 to 5200 kW (380 to 690 V)
- IP42 as standard, IP54 as option

Mains connection**Voltage and power range**

3-phase, U_{2IN} = 208 to 240 V, $\pm 10\%$,
except -07, -07LC, -17, -37
3-phase, U_{3IN} = 380 to 415 V, $\pm 10\%$
3-phase, U_{5IN} = 380 to 500 V, $\pm 10\%$
3-phase, U_{7IN} = 525 to 690 V, $\pm 10\%$

Frequency

48 to 63 Hz

Power factor

$\cos\phi_1$ = 0.98 (fundamental)
 $\cos\phi$ = 0.93 to 0.95 (total)

Power factor ACS800-11/-31/-17/-17LC /-37/-37LC

$\cos\phi_1$ = 1 (fundamental)
 $\cos\phi$ = 0.99 (total)

Efficiency (at nominal power)**ACS800-0x**

98%

ACS800-1x/ -3x

97%

Motors connection**Frequency**

0 to ± 300 Hz
(0 to ± 120 Hz with optional du/dt filters)

Field weakening point

8 to 300 Hz

Motor control

ABB's direct torque control (DTC)

Environmental limits**Ambient temperature****Transport**

-40 to +70 °C

Storage

-40 to +70 °C

Operation**Air-cooled**

-15 to +50 °C, no frost allowed
+40 to +50 °C at reduced output current (1%/1 °C)
0 to +55 °C, no frost allowed
+45 to +55 °C at reduced output current (0.5%/1 °C)

Liquid-cooled**Cooling method**

Dry clean air
Direct liquid-cooling (ACS800-07LC/-17LC/-37LC)
+48 °C max converter circuit, fresh water
+42 to +48 °C at reduced output current

Product compliance

CE, UL, CSA, C-Tick, GOST R