

# ABB industrial drives

## ACS800, single drives, 0.75 to 7500 hp (0.55 to 5600 kW)

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

Single drives are available as wall-mounted, free-standing and cabinet-built constructions. The degree of protection is at least UL Type 1 (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 & paper, metals, mining, cement, power, chemical, and oil & 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: 0.75 to 250 hp
- 3-phase 400 V: 1.5 to 3755 hp
- 3-phase 500 V: 2 to 4500 hp
- 3-phase 690 V: 7.5 to 7500 hp

### 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-U1

- Power range:  
0.75 to 250 hp (230 to 690 V)
- UL Type 1 (IP21) as standard, UL Type 12 (IP55) as option
- Marine type approved design available

#### Wall-mounted regenerative drives, ACS800-U11

- Power range:  
7.5 to 150 hp (230 to 690 V)
- UL Type 1 (IP21) as standard

#### Wall-mounted low harmonic drives, ACS800-U31

- Power range:  
7.5 to 150 hp (230 to 690 V)
- UL Type 1 (IP21) as standard

#### Free-standing drives, ACS800-PC

- Power range:  
125 to 600 hp (480 V)
- UL Type 1 (IP21) as standard

### Cabinet-built drives, ACS800-U7/07

- Power range:  
75 to 3000 hp (480 to 690V)
- UL Type 1 (IP21) as standard, IP22, IP42, UL Type 12 (IP54) and IP54R as options

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

- Power range:  
250 to 7500 hp (380 to 690 V)
- IP42 as standard, UL Type 12 (IP54) as option
- Marine type approved design available

### Cabinet-built regenerative drives, ACS800-17

- Power range:  
40 to 2800 hp (480 to 600 V)
- UL Type 1 (IP21) as standard, IP22, IP42, UL Type 12 (IP54) and IP54R as options

### Cabinet-built low harmonic drives, ACS800-37

- Power range:  
40 to 2800 hp (480 to 600V)
- UL Type 1 (IP21) as standard, IP22, IP42, UL Type 12 (IP54) and IP54R as options

Mains connection	
Voltage and power range	3-phase, $U_{2IN} = 208$ to 240 V, $\pm 10\%$ , except -U7/07, -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) $\cos\phi = 0.93\dots 0.95$ (total)
Power factor	$\cos\phi_1 = 0.98$ (fundamental)
ACS800-U11/ -U31/ -17/ -37	$\cos\phi = 0.93$ to 0.95 (total)
Efficiency (at nominal power)	
ACS800-Ux	98%
ACS800-1x/ -3x	97%
Motors connection	
Frequency	0... $\pm 300$ Hz (0... $\pm 120$ Hz with optional du/dt filters)
Field weakening point	8...300 Hz
Motor control	ABB's Direct Torque Control (DTC)
Environmental limits	
Ambient temperature	
Transport	-40 to +70 °C (-40 to +158 °F)
Storage	-40 to +70 °C (-40 to +158 °F)
Operation	-15 to +50 °C (5 to 122 °F) no frost allowed +40 to 50 °C (108 to 122 °F) at reduced output current (1% / 1 °C) (1% / 1.8 °F) 0 to +55 °C (32 to 131 °F) no frost allowed +45 to 55 °C (113 to 131 °F) at reduced output current (0.5% / 1 °C) (0.5% / 1.8 °F)
ACS800-07LC	
Cooling method	Dry clean air Direct liquid-cooling (ACS800-07LC) +48 °C (118 °F) max converter circuit, fresh water +42 °C to +48 °C (107 to 118 °F) at reduced output current
Product compliance	
CE, UL, CSA, C-Tick, GOST R	
EMC according to EN 61800-3 (2004)	
1 <sup>st</sup> environment, restricted distribution, category C2 as option up to 1000 A input current. 2 <sup>nd</sup> environment, unrestricted distribution, category C3 - standard in -07 (frame size nxR8i), -07LC, -17, and -37 (frame size R7i - nxR8i), option in the others.	

For more information see catalog  
ABB single drives ACS800-PHTC01U-EN.

For more information please contact:  
[www.abb.us/drives](http://www.abb.us/drives)

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