

Technical data

Mains connection	
Voltage and power range	3-phase, $U_{2IN} = 208$ to 240 V, $\pm 10\%$, except -07, -07LC, -17, -17LC, -37, -37LC 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, $\pm 10\%$ (600 V UL, CSA)
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	
Voltage for > 500 V units	3-phase output voltage 0 to $U_{2IN}/U_{3IN}/U_{5IN}/U_{7IN}$ please see "Filter selection table for ACS800" under the du/dt filters on page 46
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)
Torque control:	Torque step rise time:
Open loop	<5 ms with nominal torque
Closed loop	<5 ms with nominal torque
	Non-linearity:
Open loop	$\pm 4\%$ with nominal torque
Closed loop	$\pm 3\%$ with nominal torque
Speed control:	Static accuracy:
Open loop	10% of motor slip
Closed loop	0.01% of nominal speed
	Dynamic accuracy:
Open loop	0.3 to 0.4%sec. with 100% torque step
Closed loop	0.1 to 0.2%sec. with 100% torque step

Product compliance	
CE	
Low Voltage Directive 2006/95/EC	
Machinery Directive 2006/42/EC	
EMC Directive 2006/108/EC	
Quality assurance system ISO 9001 and	
Environmental system ISO 14001	
UL, cUL 508A or 508C and CSA C22.2 NO.14-95, C-Tick, GOST R	

EMC according to EN 61800-3/A11 (2000), EN 61800-3 (2004)	
2 nd environment, unrestricted distribution, category C3 - standard in -07 (frame size n×R8i), -07LC, -17, -17LC, -37 and -37LC (frame sizes R7i-n×R8i), option in the others.	
1 st environment, restricted distribution (category C2) as options up to 1000 A input current.	

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)
Liquid-cooled	0 to +55 °C, no frost allowed +45 to +55 °C at reduced output current (0.5%/1 °C)
Cooling method	
Air cooled	Dry clean air
Liquid-cooled	Direct liquid-cooling
Altitude	
0 to 1000 m	Without derating
1000 to 4000 m	With derating ~ (1%/100 m) (690 V units 1000 to 2000 m with derating)
Relative humidity	5 to 95%, no condensation allowed
Degree of protection	
IP21	Standard for -01, -11, -31, -02, -07, -17, -37
IP22	Option for -07, -17, -37
IP42	Standard for -07LC, -17LC, -37LC, option for -07, -17, -37
IP54	Option for -07, -07LC, -17, -17LC, -37, -37LC
IP54R	Option for -07, -17, -37
IP55	Option for -01
R = outlet air duct connection	
Paint colour	-07, -07LC, -17, -17LC, -37, -37LC: RAL 7035 -01, -11, -31, -02: NCS 1502-Y (RAL 9002, PMS 420 C)
Contamination levels	No conductive dust allowed
Storage	IEC60721-3-1, Class 1C2 (chemical gases), Class 1S2 (solid particles)
Transportation	IEC60721-3-2, Class 2C2 (chemical gases), Class 2S2 (solid particles)
Operation	IEC60721-3-3, Class 3C1/3C2* (chemical gases), Class 3S2 (solid particles)
Vibration marine classification	3 to 13.2 Hz: ± 1 mm amplitude (peak) 13.2 to 100 Hz: 0.7 g acceleration

C = Chemically active substances
S = Mechanically active substances
* coated circuit boards

Available options are shown in the Summary of features and options table. Please see pages 62-63.