

ACS880-01 Wall-mounted Single Drives

Data sheet



0.75 - 100 HP 208 - 240 VAC
0.75 - 350 HP 380 - 500 VAC 3 Phase - 50/60 Hz
5 - 200 HP 525 - 690 VAC

Input ratings	Input voltage range	208-240 V; 380-500 V; 525-690 V
	Input voltage tolerance	+10%/-15%
	Phase	Three phase
	Frequency	47 to 63 Hz
	Short circuit rating (UL 508c)	100,000 rms symmetrical amperes up to 600 V when input cables protected by class T or similar type fuses
Output ratings	Horsepower	0.75 - 350 HP @ 480 VAC 0.75 - 100 HP @ 230 VAC 5 - 250 HP @ 575/690 VAC
	Overload capacity	Heavy duty = 150% for 60 seconds every 5 minutes Light duty = 110% for 60 seconds every 5 minutes
	Frequency	0-500 Hz
	Voltage	0 to maximum input voltage (RMS)
	Motor types	Asynchronous AC induction motors, permanent magnet synchronous motors and AC induction servomotors
	Protective features	Overcurrent
DC overvoltage		High DC bus
Overtemp		Drive heatsink above operating temperature, max ambient temperature exceeded
Short circuit		Short on motor output terminals
Undervoltage		Low voltage on drive input
Loss of reference		Analog input programmed for 4-20 ma but signal less than 4 ma
Motor overtemp		Excessive estimated motor temperature
Loss of keypad		Drive will trip if under keypad control and keypad communication is lost
Motor stall		Motor cannot achieve commanded speed due to excessive load
Ground fault		Ground fault detected in motor or motor cabling
Motor phase fault		Loss at one of the motor phases
Environmental	Temperature	0 to 40°C (32 to 104°F). 0 to 55°C (32 to 131°F) w/ derate. No frost allowed.
	Cooling	Forced air
	Enclosure	UL type 1 (IP21), UL type 12 (IP55)
	Altitude	Sea level to 3300 ft. (1000 m) Derate 1% per 330 ft. (100 m) up to 13,128 ft. (4000 m)
	Humidity	0 to 95% RH non-condensing
	Vibration	Max. 1 mm (0.04 in.) (5 to 13.2 Hz), max. 7 m/s ² (23 ft/s ²) (13.2 to 100 Hz) sinusoidal
Keypad display	Display	LCD graphical
	Keys	8 key keypad with tactile response
	Functions	Output status monitoring, digital speed control, parameter setting and display, diagnostic and fault log display, motor run, local/remote toggle, graphical monitoring
	Remote mount	Keypad may be mounted up to 9 ft. using appropriate cable (see Options for kit)
	Trip	Last three faults stored in fault history
Control specifications	Switching frequency	2.7 kHz (average)
	Accel/decel	0-1800 seconds
	Speed control accuracy	10% of motor slip, DTC, no encoder
	Skip frequencies	Three configurable bands 0-max speed
	PC setup software	Drive composer, drive composer pro
	Maximum output frequency	500 Hz
	Selectable operating modes	2-Wire, 3-Wire, Motor Potentiometer, Hand/Auto, PID
Analog inputs	Two differential current or voltage	-10 to 10 V, Rin = 200 kΩ -20 to 20 mA, Rin = 100 Ω
	Resolution	11 bit + sign bit
Analog outputs	Two current outputs	0 to 20 mA, load < 500 Ω
	Frequency range	0 to 300 Hz
	Resolution	11 bit + sign bit
Digital inputs	Six digital inputs	15 V...24 VDC with internal or external supply
	Input impedance	Pull-up or pull-down (PNP or NPN) (DI1 to DI5); NPN (DI6) 2.0 kΩ
	Filtering	.04 ms hardware filter, digital filtering up to 8 ms
Digital outputs	Three relay outputs	Form C
	Maximum switching voltage	250 VAC/30 VDC
	Maximum continuous current	2 A/30 VDC or 250 VAC
Safety	Safe torque off (STO)	STO standard input; 17...30 VDC, 55 mA

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List prices

$U_N = 240 \text{ VAC}$ (range 208 to 240 VAC). Power ratings are valid at nominal voltage 230 VAC, 60 Hz

Type code	Nominal ratings						Frame size	UL type 1 (IP21) list price	UL type 12 (IP55) +B056 list price
	Light duty (110% overload for 1 min)			Heavy duty (150% overload for 1 min)					
	I_{Ld} A	P_{Ld} HP	P_{Ld} kW	I_{2Hd} A	P_{Hd} HP	P_{Hd} kW			
ACS880-01-04A6-2	4.4	1	0.75	3.7	0.75	0.55	R1	\$1,764	\$2,137
ACS880-01-06A6-2	6.3	1.5	1.1	4.6	1	0.75	R1	\$1,779	\$2,155
ACS880-01-07A5-2	7.1	2	1.5	6.6	1.5	1.1	R1	\$1,814	\$2,190
ACS880-01-10A6-2	10.1	3	2.2	7.5	2	1.5	R1	\$1,831	\$2,211
ACS880-01-16A8-2	16	5	4	10.6	3	3	R2	\$1,961	\$2,364
ACS880-01-24A3-2	23.1	7.5	5.5	16.8	5	4	R2	\$2,262	\$2,741
ACS880-01-031A-2	29.3	10	7.5	24.3	7.5	5.5	R3	\$2,590	\$3,160
ACS880-01-046A-2	44	15	11	38	10	7.5	R4	\$3,188	\$3,889
ACS880-01-061A-2	58	20	15	45	15	11	R4	\$3,855	\$4,703
ACS880-01-075A-2	71	25	18.5	61	20	15	R5	\$4,709	\$5,651
ACS880-01-087A-2	83	30	22	72	25	18.5	R5	\$5,633	\$6,760
ACS880-01-115A-2	109	40	30	87	30	22	R6	\$7,344	\$8,770
ACS880-01-145A-2	138	50	37	105	40	30	R6	\$8,803	\$10,496
ACS880-01-170A-2	162	60	45	145	50	37	R7	\$10,566	\$12,541
ACS880-01-206A-2	196	75	55	169	60	45	R7	\$13,201	\$15,517
ACS880-01-274A-2 ³	260	100	75	213	75	55	R8	\$15,724	\$19,121

Notes:

³ For drives with enclosure class UL type 12 (IP55), the ratings apply at 40°C ambient temperature. At higher temperature the derating is 1%/1°C from 40 to 45 °C and 2.5%/1°C from 45 to 55 °C

General Notes:

Ratings apply at an ambient temperature of 40°C (104°F) unless otherwise noted.

To achieve the rated motor power given in the table, the rated current of the drive must be higher than or equal to the rated motor current.

Definitions:

I_{LD} Continuous rms output current allowing 110% overload for 1 minute every 5 minutes.

P_{LD} Typical motor power in light-overload use.

I_{HD} Continuous rms output current allowing 150% overload for 1 minute every 5 minutes.

P_{HD} Typical motor power in heavy-duty use.

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List prices

$U_N = 500 \text{ VAC}$ (range 380 to 500 VAC). Power ratings are valid at nominal voltage 480 VAC, 60 Hz

Type code	Nominal ratings						Frame size	UL type 1 (IP21) list price	UL type 12 (IP55) +B056 list price
	Light duty (110% overload for 1 min)			Heavy duty (150% overload for 1 min)					
	I_{Ld} A	P_{Ld} HP	P_{Ld} kW	I_{2Hd} A	P_{Hd} HP	P_{Hd} kW			
ACS880-01-02A1-5	2.1	1	0.75	1.7	0.75	0.55	R1	\$1,084	\$1,408
ACS880-01-03A0-5	3	1.5	1.1	2.1	1	0.75	R1	\$1,204	\$1,552
ACS880-01-03A4-5	3.4	2	1.5	3	1.5	1.1	R1	\$1,338	\$1,736
ACS880-01-04A8-5	4.8	3	2.2	3.4	2	1.5	R1	\$1,487	\$1,885
ACS880-01-07A6-5	7.6	5	4	5.2	3	3	R1	\$1,754	\$2,172
ACS880-01-11A0-5	11	7.5	5.5	7.6	5	4	R1	\$2,066	\$2,568
ACS880-01-014A-5	14	10	7.5	11	7.5	5.5	R2	\$2,296	\$2,859
ACS880-01-021A-5	21	15	11	14	10	7.5	R2	\$2,816	\$3,520
ACS880-01-027A-5	27	20	15	21	15	11	R3	\$3,390	\$4,238
ACS880-01-034A-5	34	25	18.5	27	20	15	R3	\$4,224	\$5,280
ACS880-01-040A-5	40	30	22	34	25	18.5	R4	\$5,092	\$6,391
ACS880-01-052A-5	52	40	30	40	30	22	R4	\$6,070	\$7,680
ACS880-01-065A-5	65	50	37	52	40	30	R5	\$7,239	\$9,124
ACS880-01-077A-5	77	60	45	65	50	37	R5	\$8,326	\$10,450
ACS880-01-096A-5	96	75	55	77	60	45	R6	\$9,421	\$11,824
ACS880-01-124A-5	124	100	75	96	75	55	R6	\$11,055	\$13,904
ACS880-01-156A-5	156	125	90	124	100	75	R7	\$12,795	\$15,866
ACS880-01-180A-5	180	150	110	156	125	90	R7	\$14,620	\$17,869
ACS880-01-240A-5 ⁴	240	200	132	180	150	110	R8	\$18,800	\$22,049
ACS880-01-302A-5 ³	302	250	187.5	260	200	132	R9	\$22,315	\$26,216
ACS880-01-361A-5 ⁶	361	300	200	302	250	187.5	R9	\$25,861	\$30,453
ACS880-01-414A-5 ⁵	414*	350	250	361**	300	200	R9	\$29,944	\$35,286

Notes:

* For drives with enclosure class UL type 1 (IP21), the ratings apply at 30°C (86°F) ambient temperature. At ambient temperature 40°C (104°F), rating is 393A

** 125% overload for 1 minute, every 5 minutes.

³ For drives with enclosure class UL type 12 (IP55), the ratings apply at 40°C ambient temperature. At higher temperature the derating is 1%/1°C from 40 to 45 °C and 2.5%/1°C from 45 to 55 °C.

⁴ For drives with enclosure class UL type 12 (IP55), the ratings apply at 40°C ambient temperature. At higher temperature the derating is 1%/1°C from 40 to 50 °C and 2.5%/1°C from 50 to 55 °C.

⁵ For drives with enclosure class UL type 12 (IP55), the maximum ambient temperature is 35°C (95°F).

⁶ For drives with enclosure class UL type 12 (IP55), the ratings apply at 40°C ambient temperature. At higher temperature the derating is 1%/1°C from 40 to 45 °C, 2.5%/1°C from 45 to 50 °C, and 5%/1°C from 50 to 55°C.

General Notes:

Ratings apply at an ambient temperature of 40°C (104°F) unless otherwise noted.

To achieve the rated motor power given in the table, the rated current of the drive must be higher than or equal to the rated motor current.

Definitions:

I_{LD} Continuous rms output current allowing 110% overload for 1 minute every 5 minutes.

P_{LD} Typical motor power in light-overload use.

I_{HD} Continuous rms output current allowing 150% overload for 1 minute every 5 minutes.

P_{HD} Typical motor power in heavy-duty use.