

LOW VOLTAGE AC DRIVES

Optimized performance for high-speed turbo blowers and compressors



Advanced turbo blowers, and cooling and refrigeration compressors can run at very high speeds and therefore require state of the art compressor technology. This also challenges the motor control and hardware requirements of variable speed drives. ABB has developed application specific option for high-speed applications (+N7500), delivering optimized performance in a compact frame size.



Learn more: <https://campaign-mo.abb.com/ACS880-High-Speed>

Currently high-speed motor technology doesn't include similar standardization, which is familiar from traditional motors. The drive's motor control must be flexible enough to be able to be control all kinds of high-speed motor types. The drive doesn't only need to match the requirements of various motor types, but it also needs to have capacity to supply enough current for the motor.

ACS880 high-speed variant is designed to fit perfectly into turbo blower and compressor applications. Variant is tested by the high-volume serial manufacturer to verify the maximum performance of the turbo high-speed application. With ACS880 high-speed drive you can save energy and ensure the global availability with local support for your high-speed application.

Selecting an ACS880 drive gives you following benefits in high-speed applications:

- Save installation space and reduced cabinet size
- Enhance the representation of the OEMs brand and match with the whole offering
- Maximize performance and reliable operation of the turbo compressor/blower
- Optimized installation and operator experience
- Minimize maintenance need
- Optimize motor control and support for various high speed motor types, with and without sine filters
- Find the high-speed applications components from reliable suppliers
- Reach ultimate energy efficiency
- Choose clean, gearless, and oil-free high-speed solution

Technical data

U _N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V (0.55 to 250 kW).						
Drive type	Frame size	Nominal ratings			Max switching frequency (kHz) up to:	Max motor frequency (Hz) up to: **)
		I _N (A)	I _{MAX} (A)	P _N (kW)		
ACS880-01-045A-3	R4	45	64	22	12	1600
ACS880-01-061A-3	R4	61	76	30	12	1600
ACS880-01-072A-3	R5	72	104	37	12	1600
ACS880-01-087A-3	R5	87	122	45	12	1600
ACS880-01-105A-3	R6	105	148	55	12	1600
ACS880-01-145A-3	R6	145	178	75	12	1600
ACS880-01-169A-3	R7	169	247	90	12	1600
ACS880-01-206A-3	R7	206	287	110	12	1600
ACS880-01-246A-3	R8	246	350	132	12	1600
ACS880-01-293A-3	R8 ¹⁾	293	418	160	12	1600
ACS880-01-363A-3	R9	363	498	200	12	1600
ACS880-01-430A-3	R9	430	545	250	12	1600
U _N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V (0.55 to 250 kW).						
ACS880-01-040A-5	R4	40	64	22	12	1600
ACS880-01-052A-5	R4	52	76	30	12	1600
ACS880-01-065A-5	R5	65	104	37	12	1600
ACS880-01-077A-5	R5	77	122	45	12	1600
ACS880-01-096A-5	R6	96	148	55	12	1600
ACS880-01-124A-5	R6	124	178	75	12	1600
ACS880-01-156A-5	R7	156	247	90	12	1600
ACS880-01-180A-5	R7	180	287	110	12	1600
ACS880-01-240A-5	R8 ²⁾	240	350	132	12	1600
ACS880-01-260A-5	R8 ¹⁾	260	418	160	12	1600
ACS880-01-361A-5	R9	361	542	200	12	1600
ACS880-01-414A-5	R9	414	542	250	12	1600
U _N = 400 V (range 380 to 415 V). The power ratings are valid at nominal voltage 400 V (200 to 1800 kW).						
ACS880-04-505A-3	R10	505	560	250	7	1000
ACS880-04-585A-3	R10	585	730	315	7	1000
ACS880-04-650A-3	R10	650	730	355	7	1000
ACS880-04-725A-3	R11	725	1020	400	7	1000
ACS880-04-820A-3	R11	820	1020	450	7	1000
ACS880-04-880A-3	R11	880	1100	500	7	1000
U _N = 500 V (range 380 to 500 V). The power ratings are valid at nominal voltage 500 V (200 to 2000 kW).						
ACS880-04-460A-5	R10	460	560	315	7	1000
ACS880-04-503A-5	R10	503	560	355	7	1000
ACS880-04-583A-5	R10	583	730	400	7	1000
ACS880-04-635A-5	R10	635	730	450	7	1000
ACS880-04-715A-5	R11	715	850	500	7	1000
ACS880-04-820A-5	R11	820	1020	560	7	1000
ACS880-04-880A-5	R11	880	1100	630	7	1000

^{*)} Heat dissipation value is a reference for cabinet thermal design.
^{**) For higher output frequencies, please contact your local ABB office.}

Nominal ratings	
I _N	Rated current available continuously without overloadability at 40 °C nominal switching frequency.
P _N	Typical motor power in no-overload use.
Maximum output current	
I _{max}	Maximum output current. Available for 10 seconds at start, then as long as allowed by drive temperature.

¹⁾ For drives with enclosure class IP55 the ratings apply at 40 °C ambient temperature.
At higher temperature the derating is from 40 to 45 °C 1%/1 °C and 45 to 55 °C 2.5%/1 °C.
²⁾ For drives with enclosure class IP55 the ratings apply at 40 °C ambient temperature.
At higher temperature the derating is from 40 to 50 °C 1%/1 °C and 50 to 55 °C 2.5%/1 °C

Find more technical details

ACS880-01 Manuals:

[▶ Link](#)



ACS880-04 Manuals:

[▶ Link](#)



For more information please contact your local ABB representative or visit:
new.abb.com/drives
new.abb.com/drives/drivespartners
new.abb.com/motors-generators

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