SPEC SHEET

ACS580

General purpose drive

Save time and money
The ACS580 is simple to install, commission, use, expand, and even upgrade, when the time comes. A compact design makes handling the units easy and with all the essential features built-in, commissioning and setup time is greatly reduced by leveraging the Primary Settings menus and assistants. The assistant control panel, which provides 16 different language options, can be upgraded to an optional Bluetooth control panel to enable wireless commissioning and monitoring.

Keep your system running smoothly
ACS580 drives are designed for customers who value reliability, high quality, and robustness in their
applications. The product features, such as coated boards and compact IP55 enclosure, make the ACS580 suitable for harsh conditions.
Additionally, all ACS580 drives and their protective functions are thoroughly tested for performance at maximum temperature with nominal loads.

Contain costs to improve your bottom line
When you think of VFDs, you likely think of energy savings – and rightly so. Energy savings alone can easily justify the cost of a VFD, even on small applications that traditionally use starters. Just by up-grading from constant to variable speed, you can create energy savings of up to 50%. Add to that the ability to track the savings, in both energy and dollars, so you can evaluate the effectiveness of your system, and adjust accordingly for even more savings.

Partner with ABB to achieve success
We encourage you to collaborate with ABB's factory and local VFD experts who are available throughout the lifecycle of your system. You have access to this team of experts to assist with developing functional, cost-effective, and easy-to-maintain systems, improving designs to meet specific project requirements, ensuring that you include the latest technologies, and training your staff on appropriate topics. Our goal is to ensure your success.

Main features include:
- Enclosure class UL type 1 (IP21) or UL type 12 (IP55)
- Compact design for easy installation, commissioning and maintenance
- Incoming air temperature measurement for protecting the drive from different temperature related failures
- Integrated safety including safe torque-off (STO) as standard
- Supports various motor types
- Intuitive control panel with USB connection
- Drive Composer PC tool for commissioning and configuration
- Primary control program - common software used throughout the ACS580 drive series
- Control unit supporting a wide range of fieldbuses and input/output options
- Coated boards as standard
- Controllable cooling fan
- Built-in braking chopper (for frame sizes R1 to R3)
- Built-in choke
- Adaptive programming
- Color coded connection terminals

Applications:
- Constant torque, variable torque or constant horsepower applications
- New installation, replacement and original equipment manufacture (OEM) use

Capabilities:
- Open loop vector or scalar (V/Hz) control with peak overload of 150% for performance applications
- ABB's all-compatible keypad, programming structure and drive options
- Designed for demanding applications with high starting torque, speed and torque accuracy, and flexible programming

ACS580, general purpose drives

Data sheet

Input ratings	Input voltage range	208-240 V; 380-500 V; 525-600 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 - 100 HP @ 230 VAC 0.75 - 350 HP @ 480 VAC 1.5 - 300 HP @ 575/600 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 synchronous reluctance motors
Protective features	Overcurrent	Excessive output current
	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/s2 (23 ft/s2) (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	1, 4, 8, 12kHz (up to 150hp): 1 or 4kHz (over 150hp)
	Accel/decel	0-1800 seconds
	Speed control accuracy	20% of motor slip
	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 single ended	0 (2) to 10 V, Rin > 312kΩ single-ended 0 (4) to 20mA, Rin = 100 Ω single-ended
	Resolution	± 1%
Analog outputs	Two current outputs	0 to 20 mA, load < 500 Ω
	Resolution	± 3%
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) 2.4 kΩ
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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Ratings

U_N = 480 V (range 380 to 500V). Power ratings are valid at nominal voltage 480 V 60 Hz

Type Code	Nominal Ratings				Frame Size
	Light Duty (10% overload for 1 min)		Heavy Duty (50% overload for 1 min)		
	P_{Ld} HP	I_{Ld} A	P_{Hd} HP	I_{Hd} A	
ACS580-01-02A1-4	1	2.1	0.75	1.6	R1
ACS580-01-03A0-4	1.5	3	1	2.1	R1
ACS580-01-03A5-4	2	3.5	1.5	3	R1
ACS580-01-04A8-4	3	4.8	2	3.4	R1
ACS580-01-06A0-4	3	6	3	4	R1
ACS580-01-07A6-4	5	7.6	3	4.8	R1
ACS580-01-012A-4	7.5	12	5	7.6	R1
ACS580-01-014A-4	10	14	7.5	11	R2
ACS580-01-023A-4	15	23	10	14	R2
ACS580-01-027A-4	20	27	15	21	R3
ACS580-01-034A-4	25	34	20	27	R3
ACS580-01-044A-4	30	44	25	34	R3
ACS580-01-052A-4	40	52	30	40	R4
ACS580-01-065A-4	50	65	40	52	R4
ACS580-01-078A-4	60	77	50	65	R5
ACS580-01-096A-4	75	96	60	77	R5
ACS580-01-124A-4	100	124	75	96	R6
ACS580-01-156A-4	125	156	100	124	R7
ACS580-01-180A-4	150	180	125	156	R7
ACS580-01-240A-4	200	240	150	180	R8
ACS580-01-260A-4	200	260	150	240	R8
ACS580-01-302A-4	250	302	150	240*	R9
ACS580-01-361A-4	300	361	250	302	R9
ACS580-01-414A-4	350	414	300	361**	R9

Notes:

* Continuous current allowing 130% I_{Hd} for 1 minute every 10 minutes at 40 °C.

** Continuous current allowing 125% I_{Hd} for 1 minute every 10 minutes at 40 °C.

- Power ratings are valid at nominal voltage 230 V 60 Hz.
- Ratings apply at an ambient temperature of 40°C (104°F).
- 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.

ABB Inc.
Robotics and Motion
Drives and Controls
16250 W. Glendale Drive
New Berlin, WI 53151

abb.com/drives

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