ACS580-01, wall-mounted single drives

Overview

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 UL (NEMA) Type 12 / 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 upgrading 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 (NEMA) Type 1 or 12 / IP21 or 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
- Standard control program common software used throughout the ACS580 drive series
- Control unit supporting a wide range of fieldbuses and input/output options
- Standard built-in Modbus RTU via EIA-485
- · 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:

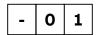
- Open loop vector or scalar (V/Hz) control with peak overload of 150% for performance applications
- ABB's all-compatible keypad, programming structure and drive options
- Designed for demanding applications with high starting torque, speed and torque accuracy, and flexible programming

ACS580, wall-mounted single drives

Type code sheet

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Product series Construction Size Voltage Options



Construction

01 = Wall-mounted, UL (NEMA) Type 1 / IP21, assistant control panel, built in choke, EMC filter, standard control program, Safe Torque Off, conduit box, braking chopper in frame sizes R1, R2, and R3, coated boards, quick guides with default set of languages, CD including all manuals with all available languages.

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Size

(Output current rating, see table below for details) Requires 4-digit Amp rating in type code

Voltage	Frame size												
	R1	R2	R3	R4	R5	R6	R7	R8	R9				
240V	04A6	024A	046A	075A	088A	143A	169A	273A	,				
	06A6	031A	059A		114A		211A						
	07A5												
	10A6												
	017A												
480V	02A1	014A	027A	052A	078A	124A	156A	240A	302A				
	03A0	023A	034A	065A	096A		180A	260A	361A				
	03A5		044A	077A					414A				
	04A8												
	06A0												
	07A6												
	012A												
575V		02A7	022A		041A		099A	144A	192A				
		03A9	027A		052A		125A		242A				
		06A1	032A		062A				271A				
		09A0			077A								
		011A											
		017A											

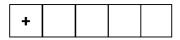


Voltage rating

2 = 208...240 VAC

4 = 380...500 VAC

6 = 525...600 VAC



Option codes

Letter code followed by 3 digit number (see option code pages for details)

ACS580, wall-mounted single drives

Data sheet

Input voltage tolerance Phase Phase Prequency A 17 to 63 Nz Short circuit rating (UL 508z) Short circuit rating (UL 508z) Prequency A 17 to 63 Nz Short circuit rating (UL 508z) A 17 to 63 Nz Short circuit rating (UL 508z) A 17 to 63 Nz Short circuit rating (UL 508z) A 17 to 63 Nz Dutput ratings Horsepower Overload capacity Heavy duty = 50% for 60 seconds every 5 minutes Light duty = 10% for 60 seconds Light duty = 10% for 60 seconds every 5 minutes Light duty = 10% for 60 seconds Light			
Phase Three phase Frequency 47 to 63 Hz	Input ratings		
Frequency		Input voltage tolerance	+10%/-15%
Short circuit rating (UL 508c) 100,000 ms symmetrical amperes up to 600 V when input cables protected by class 1 similar fuses Output ratings Horsepower 0.75 - 310 HP @ 430 VAC 2 - 250 HP @ 757/600 VAC 3 - 250 HP @ 757/600 VAC 4 - 250 HP @ 757/600 VAC 5 - 350 HP @ 575/600 VAC 5 - 350 HP @ 575/600 VAC 6 - 250 HP @ 575/600 VAC 7 - 350 HP @ 675/600 VAC 8 - 250 HP @ 757/600 VAC 9 - 250 HP @ 75		Phase	Three phase
Similar fuses Similar fuses O.75 - 150 HP @ 230 VAC O.75 - 250 HP @ 480 VAC C - 2-50 HP @ 575/600 VAC C - 250 HP @ 575/600 VAC C - 250 HP @ 575/600 VAC Heavy duty = 50% for 60 seconds every 5 minutes Light duty = 10% for 60 seconds every 5 minutes Light duty = 10% for 60 seconds every 5 minutes Light duty = 10% for 60 seconds every 5 minutes C - 250 HP @ 575/600 VAC Voltage O to maximum input voltage (RMS) Asynchronous Act induction motors, permanent magnet synchronous motors and synchronous reluctance motors Asynchronous Act induction motors, permanent magnet synchronous motors and synchronous reluctance motors C - 250 HP @ 575/600 VAC Voltage O - 250 HP @ 575/600 VAC Voltage		Frequency	47 to 63 Hz
0.75 - 350 HP @ 575/600 VAC 2 - 250 HP @ 575/600 VAC C - 250 HP @ 575/600 VAC Heavy duty = 50% for 60 seconds every 5 minutes Light duty = 1.0% for 60 seconds every 5 minutes Light duty = 1.0% for 60 seconds every 5 minutes C - 500 Hz Voltage O to maximum input voltage (RMS) Motor types Asynchronous Ac induction motors, permanent magnet synchronous motors and synchronous refluctance motors Asynchronous refluctance motors Voltage C - 500 Hz Voltage		Short circuit rating (UL 508c)	
2 - 250 HP @ 575/600 VAC	Output ratings	Horsepower	0.75 - 100 HP @ 230 VAC
Percent Per			0.75 - 350 HP @ 480 VAC
Frequency Voltage			2 - 250 HP @ 575/600 VAC
Frequency Voltage		Overload capacity	Heavy duty = 50% for 60 seconds every 5 minutes
Voltage Motor types Asynchronous AC induction motors, permanent magnet synchronous motors and synchronous reluctance motors			Light duty = 10% for 60 seconds every 5 minutes
Motor types Asynchronous AC induction motors, permanent magnet synchronous motors and synchronous reluctance motors		Frequency	0-500 Hz
Protective features Overcurrent DC overvoitage Overtemp Short circuit Short on motor output terminals Undervoitage Loss of reference Analog input programmed for 4-20 ma but signal less than 4 ma Motor overtemp Loss of keypad Ground fault		Voltage	0 to maximum input voltage (RMS)
Protective features Overcurnent DC overvoltage Overtemp Short circuit Undervoltage Loss of reference Notor overtemp Loss of reference Loss of keypad Motor overtemp High DC bus Notor own overtemp Loss of reference Loss of keypad Motor overtemp Loss of keypad Motor stall Ground fault Hotor phases fault Loss at one of the motor or phases Environmental Environme		Motor types	Asynchronous AC induction motors, permanent magnet synchronous motors and
DC overvoltage Overtemp Overtemp Drive heatsink above operating temperature, max ambient temperature exceeded Short circuit Undervoltage Loss of reference Analog input programmed for 4-20 ma but signal less than 4 ma Excessive estimated motor temperature Loss of keypad Motor overtemp Loss of keypad Drive will trip if under keypad control and keypad communication is lost Motor stall Ground fault Ground fault Ground fault Motor phase fault Loss at one of the motor phases Environmental Temperature - 1-5 to +50° C (5 to 122° F). 0 to -15° C (32 to 5°F): No frost allowed. Output derated above to C(5 to 122° F). 0 to -15° C (32 to 5°F): No frost allowed. Output derated above to C(5 to 122° F). Oto -15° C (32 to 5°F): No frost allowed. Output derated above to C(5 to 122° F). Oto -15° C (32 to 5°F): No frost allowed. Output derated above to C(5 to 122° F). Oto -15° C (32 to 5°F): No frost allowed. Output derated above to C(5 to 122° F). Oto -15° C (32 to 5°F): No frost allowed. Output derated above to C(5 to 122° F). Oto -15° C (32 to 5°F): No frost allowed. Output derated above to C(5 to 122° F). Oto -15° C (32 to 5°F): No frost allowed. Output derated above to C(5 to 122° F). Oto -15° C (32 to 5°F): No frost allowed. Output derated above to C(5 to 122° F). Oto -15° C (32 to 5°F): No frost allowed. Output derated above to C(5 to 122° F). Oto -15° C (32 to 5°F): No frost allowed. Output derated above to C(5 to 122° F): No frost allowed. Output derated above to C(5 to 122° F): No frost allowed. Output derated above to C(5 to 122° F): No frost allowed. Output derated above to C(5 to 122° F): No frost allowed. Output above to C(5 to 122° F): No frost allowed. Output above to C(5 to 122° F): No frost allowed. Output above to C(5 to 122° F): No frost allowed. Output above to C(5 to 122° F): No frost allowed. Output above to C(5 to 122° F): No frost allowed. Output above to C(5 to 122° F): No frost allowed. Output above to C(5 to 122° F): No frost allowed. Output above to C(5 to 122° F): No frost allowed. Output above to C			synchronous reluctance motors
Overtemp Drive heatsink above operating temperature, max ambient temperature exceeded Short circuit Short on motor output terminals Undervoltage Low voltage on drive input	Protective features	Overcurrent	Excessive output current
Short circuit Undervoltage Low voltage on drive input Loss of reference Motor overtemp Loss of keypad Motor overtemp Loss of keypad Motor stall Ground fault Motor cannot achieve commanded speed due to excessive load Ground fault Motor phase fault Motor phase fault Loss at one of the motor phases Environmental Temperature Loss of keypad To you will trip if under keypad control and keypad communication is lost Motor phase fault Motor cannot achieve commanded speed due to excessive load Ground fault detected in motor or motor cabling Motor phase fault Loss at one of the motor phases Environmental Temperature -15 to +50 °C (5 to 122 °F). 0 to -15 °C (32 to 5 °F): No frost allowed. Output derated abir +40 °C (104 °F) Forced air Enclosure UL (NEMA) Type 1 / IP21, UL (NEMA) 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 LCD graphical Keys 10 key keypad with tactile response Functions Output status monitoring, digital speed control, parameter setting and display, diagr and fault log display, motor run, local/remote toggle, graphical monitoring 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 Accel/decel Speed control accuracy Skip frequencies PC setup software PC setup software PC setup software Maximum output frequency Selectable operating modes 20% of motor nominal slip Three configurable bands 0-max speed PC setup software Maximum output frequency Selectable operating modes 20% of motor nominal slip Three configurable bands 0-max speed PC setup software Drive composer, drive composer pro 500 Hz Selectable operating modes 20 LV (20 to 10 V, Rin > 312kΩ single-ended 0 (4) to 20 mA, load < 500 Ω Resolution 1 1% Six digital linputs 15 V24 VDC with internal or external supply		DC overvoltage	High DC bus
Undervoltage Low voltage on drive input		Overtemp	Drive heatsink above operating temperature, max ambient temperature exceeded
Loss of reference Analog input programmed for 4-20 ma but signal less than 4 ma Motor overtemp Excessive estimated motor temperature		Short circuit	Short on motor output terminals
Motor overtemp Excessive estimated motor temperature		Undervoltage	•
Loss of keypad Motor stall Motor cannot achieve commanded speed due to excessive load Ground fault Ground fault Ground fault Ground fault Loss at one of the motor or motor cabling Motor phase fault Loss at one of the motor phases		Loss of reference	Analog input programmed for 4-20 ma but signal less than 4 ma
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 -15 to +50°C (5 to 122°F). 0 to -15°C (32 to 5°F): No frost allowed. Output derated about 440°C (104°F) Cooling Forced air Enclosure UL (NEMA) Type 1 / IP21, UL (NEMA) Type 12 / IP55 Altitude Sea level to 3300 ft. (1000 m) Derate 1% per 330 ft. (1000 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 10 key keypad with tactile response Functions Output status monitoring, digital speed control, parameter setting and display, diagr 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 O-1800 seconds Speed control accuracy 20% of motor nominal slip		Motor overtemp	Excessive estimated motor temperature
Ground fault Motor phase fault Loss at one of the motor or motor cabling Loss at one of the motor phases		Loss of keypad	Drive will trip if under keypad control and keypad communication is lost
Motor phase fault		Motor stall	Motor cannot achieve commanded speed due to excessive load
Temperature		Ground fault	Ground fault detected in motor or motor cabling
+40 °C (104 °F) Cooling Forced air Enclosure UL (NEMA) Type 1 / IP21, UL (NEMA) 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 Wibration 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 10 key keypad with tactile response Functions Output status monitoring, digital speed control, parameter setting and display, diagr 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 nominal slip Skip frequencies Three configurable bands 0-max speed PC setup software Drive composer, drive composer pro 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% Resolution ± 3% Digital inputs Six digital inputs 15 V24 VDC with internal or external supply		Motor phase fault	Loss at one of the motor phases
Enclosure	Environmental	Temperature	-15 to +50 °C (5 to 122 °F). 0 to -15 °C (32 to 5 °F): No frost allowed. Output derated above +40 °C (104 °F)
Altitude Sea level to 3300 ft. (1000 m) Derate 1% per 330 ft. (1000 m) up to 13,128 ft. (4000 m) Humidity 0 to 95% RH non-condensing Wax. 1 mm (0.04 in.) (5 to 13.2 Hz), max. 7 m/s2 (23 ft/s2) (13.2 to 100 Hz) sinusoidal LCD graphical Keys 10 key keypad with tactile response Functions Output status monitoring, digital speed control, parameter setting and display, diagr 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 Accel/decel 0-1800 seconds Speed control accuracy 20% of motor nominal slip Skip frequencies PC setup software PC setup software Maximum output frequency Selectable operating modes PC setup software Selectable operating modes 2-Wire, 3-Wire, Motor Potentiometer, Hand/Auto, PID Procurrent outputs Resolution ± 1% Pot Output internal or external supply		Cooling	Forced air
Humidity 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 Keys 10 key keypad with tactile response Functions Output status monitoring, digital speed control, parameter setting and display, diagrand 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 Accel/decel O-1800 seconds Speed control accuracy 20% of motor nominal slip Skip frequencies PC setup software PC selectable operating modes PC selectable operation pC selectable operatin		Enclosure	UL (NEMA) Type 1 / IP21, UL (NEMA) Type 12 / IP55
Keypad displayDisplay KeysLCD graphical Keys10 key keypad with tactile response FunctionsLCD graphical Keys Output status monitoring, digital speed control, parameter setting and display, diagrand fault log display, motor run, local/remote toggle, graphical monitoring Remote mount TripKeypad may be mounted up to 9 ft. using appropriate cable (see Options for kit)Control specificationsSwitching frequency Accel/decel1, 4, 8, 12kHz (up to 150HP): 1 or 4kHz (over 150HP)Accel/decel0-1800 secondsSpeed control accuracy Skip frequencies PC setup software Maximum output frequency Selectable operating modesThree configurable bands 0-max speedAnalog inputsTwo single ended0 (2) to 10 V, Rin > 312kΩ single-ended 0 (4) to 20mA, Rin = 100 Ω single-endedAnalog outputTwo current outputs Resolution0 to 20 mA, load < 500 Ω 2 Winglat inputsDigital inputsSix digital inputs15 V24 VDC with internal or external supply		Altitude	Sea level to 3300 ft. (1000 m) Derate 1% per 330 ft. (100 m) up to 13,128 ft. (4000 m)
Keypad displayDisplay KeysLCD graphical 10 key keypad with tactile responseFunctionsOutput status monitoring, digital speed control, parameter setting and display, diagrand fault log display, motor run, local/remote toggle, graphical monitoring Remote mount TripRemote mount TripKeypad may be mounted up to 9 ft. using appropriate cable (see Options for kit)TripLast three faults stored in fault historyAccel/decel0-1800 secondsSpeed control accuracy20% of motor nominal slipSkip frequencies PC setup software Maximum output frequency Selectable operating modesThree configurable bands 0-max speedPrive composer, drive composer pro500 HzSelectable operating modes2-Wire, 3-Wire, Motor Potentiometer, Hand/Auto, PIDAnalog inputsTwo single ended0 (2) to 10 V, Rin > 312kΩ single-endedResolution± 1%Analog outputTwo current outputs Resolution0 to 20 mA, load < 500 Ω ResolutionLine of the first of the first of the first of the first outputs Resolution0 to 20 mA, load < 500 Ω ResolutionDigital inputsSix digital inputs15 V24 VDC with internal or external supply		Humidity	0 to 95% RH non-condensing
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FunctionsOutput status monitoring, digital speed control, parameter setting and display, diagrand fault log display, motor run, local/remote toggle, graphical monitoringRemote mount TripKeypad may be mounted up to 9 ft. using appropriate cable (see Options for kit)TripLast three faults stored in fault historyControl specificationsSwitching frequency Accel/decel1, 4, 8, 12kHz (up to 150HP): 1 or 4kHz (over 150HP)Accel/decel0-1800 secondsSpeed control accuracy20% of motor nominal slipSkip frequenciesThree configurable bands 0-max speedPC setup software Maximum output frequency Selectable operating modesDrive composer, drive composer proSelectable operating modes2-Wire, 3-Wire, Motor Potentiometer, Hand/Auto, PIDAnalog inputsTwo single ended0 (2) to 10 V, Rin > 312kΩ single-endedQuity to 20mA, Rin = 100 Ω single-ended0 (4) to 20mA, Rin = 100 Ω single-endedResolution± 1%Analog outputTwo current outputs Resolution0 to 20 mA, load < 500 Ω	Keypad display	Display	LCD graphical
and fault log display, motor run, local/remote toggle, graphical monitoring Remote mount Trip Last three faults stored in fault history Control specifications Switching frequency Accel/decel Speed control accuracy Skip frequencies PC setup software Maximum output frequency Selectable operating modes Two single ended Analog inputs Remote mount Trip Keypad may be mounted up to 9 ft. using appropriate cable (see Options for kit) Last three faults stored in fault history 1, 4, 8, 12kHz (up to 150HP): 1 or 4kHz (over 150HP) Accel/decel O-1800 seconds 20% of motor nominal slip Three configurable bands 0-max speed Drive composer, drive composer pro Maximum output frequency Selectable operating modes Two single ended O (2) to 10 V, Rin > 312k Ω single-ended O (4) to 20mA, Rin = 100 Ω single-ended Resolution 1 1% Analog output Two current outputs Resolution 1 2 3% Digital inputs Six digital inputs 15 V24 VDC with internal or external supply		Keys	10 key keypad with tactile response
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 nominal 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 Resolution ± 1% Analog output Two current outputs 0 to 20 mA, load < 500 Ω Resolution ± 3% Digital inputs Six digital inputs 15 V24 VDC with internal or external supply		Functions	Output status monitoring, digital speed control, parameter setting and display, diagnostic and fault log display, motor run, local/remote toggle, graphical monitoring
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 nominal 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 = 100Ω single-ended 0 (4) to 20mA, Rin = 100Ω single-ended Resolution ± 1% Analog output Two current outputs Resolution 0 to 20 mA, load < 500Ω Resolution ± 3% Digital inputs Six digital inputs 15 V24 VDC with internal or external supply		Remote mount	Keypad may be mounted up to 9 ft. using appropriate cable (see Options for kit)
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Speed control accuracy 20% of motor nominal 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 , $Rin > 312k\Omega$ single-ended Resolution $\pm 1\%$ Analog output Two current outputs 0 to 20 mA , $Rin = 100 \Omega$ single-ended Resolution $\pm 3\%$ Digital inputs Six digital inputs $15 \text{ V} 24 \text{ VDC}$ with internal or external supply	Control specifications	Switching frequency	1, 4, 8, 12kHz (up to 150HP): 1 or 4kHz (over 150HP)
Skip frequencies PC setup software PC setup software Maximum output frequency Selectable operating modes Two single ended PC setup software $0 (2) \text{ to } 10 \text{ V, Rin} > 312 \text{k}\Omega \text{ single-ended}$ $0 (4) \text{ to } 20 \text{mA, Rin} = 100 \Omega \text{ single-ended}$ Resolution Two current outputs Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$ Resolution $0 \text{ to } 20 \text{ mA, load} < 500 \Omega$		Accel/decel	0-1800 seconds
PC setup software Maximum output frequency Selectable operating modes 2 -Wire, 3 -Wire, Motor Potentiometer, Hand/Auto, PID Analog inputs Two single ended 0 (2) to 10 V, Rin > 312 k Ω single-ended 0 (4) to 20 mA, Rin = 100 Ω single-ended Resolution $\pm 1\%$ Analog output Two current outputs 0 to 20 mA, load < 500 Ω Resolution $\pm 3\%$ Digital inputs Six digital inputs 15 V 24 VDC with internal or external supply		Speed control accuracy	20% of motor nominal slip
Maximum output frequency Selectable operating modes500 HzAnalog inputsTwo single ended0 (2) to 10 V, Rin > 312kΩ single-endedAnalog inputs0 (4) to 20mA, Rin = 100Ω single-endedResolution $\pm 1\%$ Analog outputTwo current outputs Resolution0 to 20 mA, load < 500Ω ResolutionDigital inputsSix digital inputs $15 V24 VDC$ with internal or external supply		Skip frequencies	Three configurable bands 0-max speed
Selectable operating modes 2-Wire, 3-Wire, Motor Potentiometer, Hand/Auto, PID Analog inputs Two single ended 0 (2) to 10 V, Rin > $312k\Omega$ single-ended 0 (4) to $20mA$, Rin = 100Ω single-ended Resolution $\pm 1\%$ Analog output Two current outputs 0 to $20mA$, load < 500Ω Resolution $\pm 3\%$ Digital inputs Six digital inputs 15 V24 VDC with internal or external supply		PC setup software	Drive composer, drive composer pro
Analog inputs Two single ended $0 (2)$ to 10 V , $\text{Rin} > 312 \text{k}\Omega$ single-ended $0 (4)$ to 20mA , $\text{Rin} = 100 \Omega$ single-ended Resolution $\pm 1\%$ Analog output Two current outputs $0 \text{ to } 20 \text{ mA}$, load $< 500 \Omega$ Resolution $\pm 3\%$ Digital inputs Six digital inputs $15 \text{ V} 24 \text{ VDC}$ with internal or external supply		Maximum output frequency	500 Hz
$0 (4) \text{ to 20mA, Rin} = 100 \ \Omega \text{ single-ended}$ $\frac{\text{Resolution}}{\text{Analog output}} \qquad \frac{\pm 1\%}{\text{Two current outputs}} \qquad 0 \text{ to 20 mA, load} < 500 \ \Omega$ $\frac{\pm 3\%}{\text{Resolution}} \qquad \frac{\pm 3\%}{\text{Six digital inputs}} \qquad 15 \text{ V24 VDC with internal or external supply}$		Selectable operating modes	2-Wire, 3-Wire, Motor Potentiometer, Hand/Auto, PID
Resolution ± 1% Analog output Two current outputs 0 to 20 mA, load < 500 Ω Resolution ± 3% Digital inputs Six digital inputs 15 V24 VDC with internal or external supply	Analog inputs	Two single ended	0 (2) to 10 V, Rin > 312k Ω single-ended
Analog output Two current outputs 0 to 20 mA, load < 500 Ω Resolution ± 3% Digital inputs Six digital inputs 15 V24 VDC with internal or external supply			0 (4) to 20mA, Rin = 100 Ω single-ended
Resolution ± 3% Digital inputs Six digital inputs 15 V24 VDC with internal or external supply		Resolution	± 1%
Digital inputs Six digital inputs 15 V24 VDC with internal or external supply	Analog output	Two current outputs	0 to 20 mA, load < 500 Ω
Input impedance Pull-up or pull-down (PNP or NPN) (DI1 to DI5); NPN (DI6) 2.4 k Ω	Digital inputs	- ·	
		Input impedance	Pull-up or pull-down (PNP or NPN) (DI1 to DI5); NPN (DI6) 2.4 kΩ
Digital outputs Form C	Digital outputs	Three relay outputs	Form C
Maximum switching voltage 250 VAC/30 VDC		Maximum switching voltage	250 VAC/30 VDC
Maximum continuous current 2 A/30 VDC or 250 VAC		Maximum continuous current	2 A/30 VDC or 250 VAC
Safety Safe Torque Off (STO) STO standard input; 1730 VDC, 55 mA	Safety	Safe Torque Off (STO)	STO standard input; 1730 VDC, 55 mA

ACS580, wall-mounted single drives

Dimensions and weights

ACS580-01, wall-mounted UL (NEMA) Type 1

Frame size	Heigh (H3, H		Width (W)		Depth	(D)	Weight		
	in	mm	in	mm	in	mm	lb	kg	
R1	14.69	373	4.82	122	8.78	223	11	4.6	
R2	18.62	473	4.86	123	9.00	229	15	6.6	
R3	19.29	490	7.99	203	9.01	229	26	11.8	
R4	25.04	636	7.99	203	10.13	257	42	19.0	
R5	28.83	732	7.99	203	11.60	295	63	28.3	
R6	28.60	727	9.92	252	14.53	369	94	42.4	
R7	34.67	880	11.18	284	14.58	370	120	54.0	
R8	38.01	965	11.81	300	15.47	393	153	69.0	
R9	37.60	955	14.96	380	16.46	418	214	97.0	

H3 = front overall height of drive

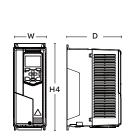
ACS580-01, wall-mounted UL (NEMA) Type 12

Frame size	Heigh (H3, H		Heigh	t (H5)	Width	(W)	Width	(HW)	Depth	(D)	Weigh	nt
	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
R1	15.86	403	17.78	452	5.06	129	5.09	129	9.17	233	11	4.8
R2	19.80	503	21.49	546	5.06	129	5.10	130	9.40	239	15	6.8
R3	19.29	490	20.93	532	8.11	206	8.16	207	9.32	237	29	13
R4	25.04	636	27.03	687	7.99	203	8.59	218	10.44	265	45	20
R5	28.83	732	32.01	813	7.99	203	8.59	218	12.59	320	64	29
R6	28.58	726	34.81	884	9.92	252	11.46	291	16.40	417	95	43
R7	34.66	880	40.86	1038	11.18	284	12.76	324	16.30	414	124	56
R8	37.99	965	44.23	1123	11.81	300	13.80	351	17.80	452	170	77
R9	37.60	955	46.75	1187	14.96	380	16.95	431	18.78	477	228	103

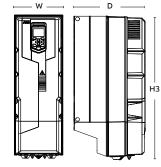
H3 = front overall height of drive

ACS580-01, mounting dimensions UL (NEMA) Type 1 and UL (NEMA) Type 12

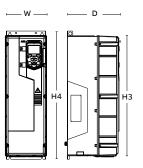
Frame	Heigh	t (H1)	Width	(W1)	Depth (W2)				
size	in	mm	in	mm	in	mm			
R1	12.48	317	3.86	98	3.86	98			
R2	16.42	417	3.86	98	3.86	98			
R3	18.62	473	6.30	160	6.30	160			
R4	24.37	619	6.30	160	3.86	98			
R5	22.87	581	6.30	160	3.86	98			
R6	20.91	531	8.37	213	6.30	160			
R7	22.95	583	9.65	245	6.30	160			
R8	25.91	658	10.33	262	8.43	214			
R9	25.91	658	13.58	345	7.87	200			
Standard configuration dimensions for reference only.									



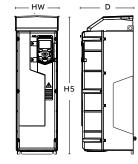
ACS580-01 with integrated conduit box (R3-R4)



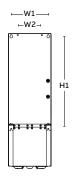
ACS580-01 with removable conduit box (R1-R2, R5-R9)



ACS580-01 without hood with integrated conduit box (R1-R9)



ACS580-01 with hood with integrated conduit box (R1-R9)



H4 = back overall height of drive

^{*}H3 is listed for all drives, except R3 and R4

H4 = back overall height of drive

^{*}H3 is listed for all drives, except R3 and R4