

LOW VOLTAGE AC DRIVES

# ACS580-01 UL Type 4X/IP66 Drive, 1 to 30 HP

## Built for extreme industrial environments



Harsh industrial environments demand products that can withstand extreme conditions. Choose the ACS580 UL Type 4X/IP66, the drive that can work in any environment, indoor or outdoor, in extreme hot or cold, and in the washdown (or dry) zone. With UL Type 4X/IP66, you stay closer to your application and can focus on what matters.

### Precise, reliable control in extreme environments

As part of our all-compatible drive portfolio, the ACS580 4X offers the same performance the industry has come to expect from the ACS580 Series but designed for operation in wet, washdown, and outdoor environments. With exceptional corrosion and UV resistance, this fully sealed drive offers resiliency comparable to a stainless-steel enclosure.

The drive holds NSF169 certification, ensuring reliable performance under frequent or infrequent cleaning using standard sanitizing agents and hose rinse-offs. The drive's surface has undergone rigorous testing to withstand exposure to corrosive substances like salt spray, ammonia, chlorine, algaecides, and microbicides. An optional sun shield minimizes solar impact and protects against falling debris.

### Built-in fuse disconnect

The optional built-in UL98 lockable line disconnect (with fuses) reduces costs and simplifies installation by removing the need for a separate fuse disconnect box, all while maintaining a 100 kA SCCR.

### Created with your application in mind

Ideal for harsh conditions within industrial sectors like Food & Beverage or Car Wash, this drive excels in applications with pumps, fans, compressors, mixers, and conveyors used in:

- Wet and washdown areas (e.g., zone 1)
- Cold environments down to -13 °F (-25 °C) with provisions
- High temperature up to 122 °F (50 °C) with derating
- Indoor/outdoor farm environments (e.g., livestock, irrigation)

Additionally, a firmware option is offered, enabling cavitation detection and control, as well as compressor software tailored for cooling compressor systems.



## Technical data

### ACS580 with +B066

Power range	1 to 30 HP (0.75 to 22 kW)
Voltage	1-phase, 240 V, +10%/-15% 3-phase, 208 to 240 V, +10%/-15% 3-phase, 380 to 500 V, +10%/-15% 3-phase, 500 to 600 V, +10%/-15%
Frequency	60/50 Hz ±5%
Mains choke	DC choke
Degree of protection	UL Type 4X/IP66 Sun shield required outdoors (drive is UV resistant)
Ambient conditions	-13 to 122 °F (-25 to 50 °C); non-condensing -13 to -4 °F (-25 to -20 °C) with provisions 104 to 122 °F (40 to 50 °C) with derating
Compliance	UL, CSA, cUL CE, EAC, EIP, UKCA, KC, TÜV Nord (safety functions)
Safety functions	Safe torque off (STO) according to EN/IEC 61800-5-2, SIL 3, PL e (TÜV Nord certified)
EMC	According to EMC Directive 2014/30/EU, EN 61800-3:2004 + A1 2012. Class C2 as standard
Harmonic mitigation	According to EN 61000-3-12: 2011
Control connections	Two analog inputs, two analog outputs, six digital inputs, three relay outputs, EIA-485 (Modbus RTU and N2), safe torque off (STO), Bluetooth via control panel

### Control and communication options

Fieldbus adapters	EtherNet/IP, Modbus TCP, PROFINET, EtherCat, POWERLINK, DeviceNet, Modbus RTU, Profibus DP, CANopen, BACnet MS/TP, LonWorks
Optional I/O extension modules	<b>CMOD-01:</b> External +24 V AC/DC • Two relay outputs • One digital output <b>CMOD-02:</b> External +24 V AC/DC and isolated PTC input <b>CHDI-01:</b> 115/230 V AC digital input • Six digital inputs • Two relays <b>CAIO-01:</b> Bipolar analog I/O extension • Three bipolar analog inputs • Two unipolar analog outputs
PC tools	Drive Composer entry, available for free via <a href="#">ABB website</a> . Drive Composer pro
Mobile app	Drivetune, available from <a href="#">App Store</a> and <a href="#">Google Play</a> , lets you start up, commission & troubleshoot wirelessly with your mobile device using Bluetooth control panel
Control panel options	ACS-AP-S, Assistant control panel, ACS-AP-I, Industrial assistant control panel, ACS-AP-W, Assistant control panel Bluetooth

### Dimensions and weight, UL Type 4X (IP66)

Frame size	Height	Width	Depth without Disconnect	Depth with Disconnect	Weight
R1	522 mm	208 mm	249 mm	281 mm	11.8 kg
	20.55 in	8.19 in	9.79 in	11.05 in	26 lb
R2	606 mm	208 mm	260 mm	292 mm	14.5 kg
	23.86 in	8.19 in	10.22 in	11.48 in	32 lb
R3	647 mm	277 mm	260 mm	289 mm	26.4 kg
	25.47 in	10.91 in	10.25 in	11.4 in	58 lb

For more information please contact your local ABB representative or visit:

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## Key features

### Easy startup, commissioning, and tuning

Stay Bluetooth connected up to 250 ft (75 m) away, safely out of the arc flash boundary. The standard Bluetooth panel securely connects to your smartphone or PC making it easy to start up, commission, and tune the drive with [Drive Composer](#) or [Drivetune](#) and remotely connect to [ABB Ability™ Mobile Connect](#).

### Optional Cabinet Installation

Reduce heat and save space. The flange mount option lets you mount the drive inside a cabinet with the heatsink outside allowing the full cabinet to be rated to UL Type 4X/IP66.

### Additional features:

This drive has all the same features as the standard ACS580:

### User Interface and Connectivity

- Built-in PLC with adaptive programming
- Standard Bluetooth Control Panel
  - Backup, Restore and Diagnostic functions
  - Access drive remotely outside of the arc-flash zone/boundary
  - Drivetune Mobile App for Bluetooth connection with all the same primary settings and menus available on the drive control panel
- RS-485 Modbus RTU with removable terminals
- Drive Composer PC tool for harmonized setup, commissioning, and monitoring

### Hardware

- Integrated safe torque off (STO)
- DC choke for harmonic mitigation
- Coated PCB boards
- Integrated EMC C2 filter
- Removable RS-485 communication terminal
- Two option slots (fieldbus and I/O extension)
- External +24 V AC/DC with CMOD-01 option

Learn more from ACS580 4X website.



Learn more from Drives and PLC for food and beverage website.



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