

LOW VOLTAGE AC DRIVES

ACS580 cabinet-built drives, 30 to 500 kW

Providing safety and uptime for auxiliary applications in chemical and petrochemical industries



ABB has been operating in chemical and petrochemical industries for decades, supplying LV and MV drives for process control in numerous projects worldwide.

Chemical and petrochemical industries demand reliable and safe operation, and ABB's ACS580 general purpose drives help to achieve this with advanced control of auxiliary applications.

We ensure superior process uptime, while strictly complying with high safety standards for personnel and equipment in harsh environments.

Optimized performance

Cut production losses and boost profitability of your chemical or petrochemical business with the ACS580. The drive can seamlessly control auxiliary applications like pumping stations, separators, compressors or fans, ensuring process continuity thanks to soft motor starts and stops, leakage control, flow or pressure protection, and other key functions. And energy usage can be cut by 20 to 50% making your business also more sustainable.

Reliable and easy-to-use design

Maximize uptime and minimize unexpected maintenance costs thanks to the drive's robust platform. Coated circuit boards, optimized cooling airflow through the control electronics and power loss ride-through make the ACS580 drive a smart choice for critical applications.

All ACS580 drives are factory-tested at maximum temperature and with nominal loads. The tests include verification of performance and all protective functions.

On top of that, we offer a user-friendly interface allowing effortless start-up, operation and troubleshooting supported in more than 20 languages.

Compliance with standards

ABB has been manufacturing drives for chemical, and petrochemical industries for half a century and follows the latest standards (ANSI/NEMA and IEC) and directives for this segment.

ATEX-certified thermistor protection allows the drive to be safely used in potentially explosive environments. ACS580 drives comply with the highest energy efficiency class IE2 according to the Ecodesign directive for drives.

We also offer conformity with local regulations e.g. in the form of UKCA mark for the UK, EAC mark for the Eurasian economic union, UL mark for North America or CE mark for European Union countries.

Global service network and digital services

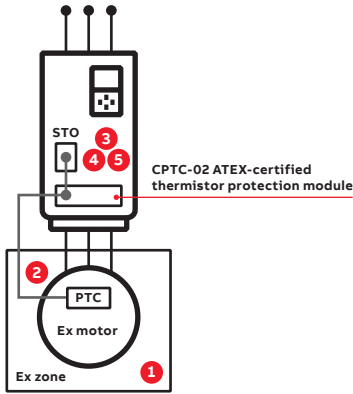
Fast response is crucial to minimize downtime in mission-critical processes in chemical and petrochemical plants. ABB meets this need with local support from 50 service centers and more than 600 authorized service providers around the world.

And our condition monitoring and remote support digital services allow for predictive maintenance actions and assistance from ABB experts 24/7.



ABB ACS580 general purpose cabinet-built drives for auxiliary application and ACS880 industrial drives for heavy applications in chemical and petrochemical industries.

Safe operation with ABB's ATEX-certified offering



1. Motor temperature rises above the PTC sensor limit
2. The sensor resistance increases very sharply and indicates overheating to the ATEX-certified module
3. The module switches the STO (Safe Torque Off) circuit off, thus activating the STO function
4. The STO function disables the control voltage in the power semiconductors of the drive output stage
5. The drive is prevented from generating torque to rotate the motor – the safe state is guaranteed



CPTC-02 ATEX certified thermistor protection module, EX II (2) GD

Learn more about ABB offering for oil and gas industry from:

new.abb.com/drives/segments/oil-and-gas



Learn more about ABB offering for chemical industry from:

new.abb.com/drives/segments/chemical



For more information please visit:

new.abb.com/drives

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Technical data

Mains connection	
Voltage and power	3-ph U_N 380 to 480 V, 30 to 500 kW
Frequency	From 47 to 63 Hz
Power factor	$\cos\varphi = 0.98$
Efficiency (at nominal load)	98%
Efficiency class (IEC 61800-9-2)	IE2
Motor connection	
Voltage	0 to U_N , 3-phase
Frequency	0 to 598 Hz
Motor control	Scalar and vector control
Motor cable length	Up to 300 m
Supported motor types	Induction, permanent magnet, synchronous reluctance, permanent magnet assisted synchronous reluctance
Control connections (standard configuration)	
2 analog inputs	Current/voltage input mode
2 analog outputs	AO1 is for current or voltage, AO2 current
Internal aux voltage	24 V DC $\pm 10\%$, max. 250 mA
6 digital inputs	12 to 24 V DC, 24 V AC, connectivity of PTC sensors through a digital input
3 relay outputs	Max switching voltage 250 V AC/30 V DC Max continuous current 2 A rms
Supported thermistors	PT100, PT1000, KTY83, KTY84 and Ni1000
Functional safety	Safe Torque Off (EN 61800-5-2) IEC 61508 ed2: SIL 3, IEC 61511: SIL 3, IEC 62061: SIL CL 3, EN ISO 13849-1: PL e
Communication protocols	
Standard (EIA-485): Modbus RTU. Optional: EtherNet/IP, EtherNet, Profibus DP, POWERLINK, Modbus/TCP, EtherCAT, PROFINET IO, CANopen, ControlNet, DeviceNet, PROFISafe and CIP Safety (for STO and SS1-t)	
EMC	
EN 61800-3:2004+A1:2012: built-in C3 filter, optional built-in C2 filter	
Environmental limits	
Operational temperature	From 0 to +40 °C, no frost allowed From +40 to +50 °C with derating
Cooling method	Air-cooled
Altitude	0 to 1000 m, 1000 to 4000 m with derating
Relative humidity	5 to 95%, no condensation allowed
Protection class	IP21 as standard, IP42 and IP54 as options
Contamination levels at operation	No conductive dust allowed IEC 60721-3-3:2019 and ISO 9223 C3 (chemical agents), 3S6 (solid particles)