

ABB MACHINERY DRIVES

ABB machinery drives

ACS380, 0.25 to 22 kW



Thanks to its reliable performance and ease of integration, the ACS380 is an all-compatible machinery drive ideal for machine building.

Reliable performance for your application

The ACS380 machinery drive is ideal for machine building thanks to its excellent motor control, long-lasting design and connectivity with all major industrial automation networks. Examples of typical ACS380 applications are mixers, conveyors, extruders, cranes and textile machinery.

Ease of integration

The ACS380 drive has many advanced features built-in as standard. A selection of variants and options allow the drive to be optimized for various fieldbus communication, I/O and EMC requirements. With the integrated functional safety features, the ACS380 drive can be part of the machine's safety system. The drive is easy to adapt for various machines thanks to its good programmability.

Designed to last 10 years or more

Design features including coated circuit boards, minimized airflow through the electronics, and up to 50 °C operating temperature without derating make the ACS380 a safe choice for customers expecting high reliability. This is further enhanced by a full load test that is carried out on every single drive during production.



Technical data

Voltage and power range	1-phase, 200 to 240 V, +10%/-15% 0.25 to 3.0 kW (1/3 to 3 HP) 3-phase, 200 to 240 V, +10%/-15% 0.25 to 15 kW (1/3 to 20 HP) 3-phase, 380 to 480 V, +10%/-15% 0.37 to 22 kW (1/2 to 30 HP) Built-in brake chopper and common DC connection with internal charging circuit
Frequency	50/60 Hz ±5%
Efficiency class (IEC 61800-9-2)	IE2
Degree of protection	IP20 as standard (Optional UL type 1 kit)
Operating temperature	-10 to +50 °C (14 to 122 °F) without derating, up to +60 °C (140 °F) with derating (except R0)
Altitude	All variants 0 to 2000 m, derating above 1000 m (3300 ft) 3-phase, 380 to 480 V drives 0 to 4000 m (see manual for usage restriction at 4000 m), derating above 1000 m (3300 ft)
Compliance	CE, RoHS, UL, cUL, EAC, KC, RCM, UKCA, TÜV certification (safety functions), Ecodesign
Safety	Safe torque off (STO) acc. to EN/IEC 61800-5-2: IEC 61508 ed2: SIL 3, IEC 61511: SIL 3, IEC 62061: SIL CL 3, EN ISO 13849-1: PL e
EMC	EMC category C1 with an external filter, and EMC categories C2 and C3 with an internal filter, according to EMC Directive 2014/30/EU, EN 61800-3:2004 + A1 2012
User interface	Integrated, icon-based control panel
Drive programming	Adaptive programming

Connectivity variants

Base variant connections	Two digital inputs, one relay output, STO (SIL 3), tool connection (RJ-45), control options as loose items
Standard variant connections	Four digital inputs, two digital input/outputs, two analog inputs one analog output, one relay outputs, STO (SIL 3), tool connection (RJ-45), Modbus RTU
Configured variant connections	Two digital inputs, one relay output, STO (SIL 3), tool connection (RJ-45), selected control options with the drive

Control options

Fieldbus options	FDNA-01 DeviceNet™ FPBA-01 PROFIBUS DP FCAN-01 CANopen® FECA-01 EtherCAT® FEPL-02 Ethernet POWERLINK FEIP-21 Ethernet/IP™ FMBT-21 Modbus/TCP FPNO-21 PROFINET IO BCAN-11 CANopen®
Safety functions module	FSFS-21 PROFIsafe with PROFINET IO
I/O option modules	BTAC-02 Encoder interface with External +24 V DC support BREL-01 External relay option (four relay outputs) BAPO-01 External +24 V DC support BIO-01 I/O Extension module (front option, can be used together with fieldbus) BMIO-01 I/O & Modbus extension (front option)
PC tools and accessories	BCBL-01 USB to RJ-45 data cable Drive composer entry, free download from ABB website Drive composer pro
Control panel options	ACS-AP-S assistant control panel ACS-AP-I assistant control panel ACS-AP-W assistant control panel with Bluetooth interface ACS-BP-S basic control panel

Pre-assembled options (front and side options) with configured variant only

Learn more from ACS380 website



Online manuals for the ACS380 drives



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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Key features

Excellent motor control

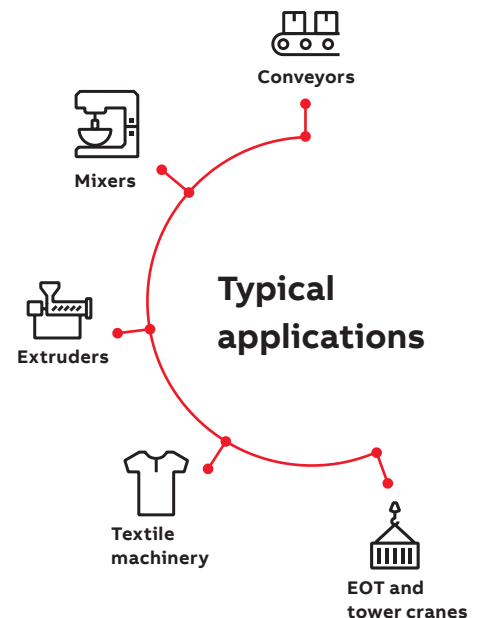
- Support for asynchronous, permanent magnet and synchronous reluctance motors
- Excellent speed and torque control
- Support for encoder feedback (option)

Ease of integration

- Connectivity with all major industrial automation networks
- Safe torque off (STO) is built-in as a standard, and can be controlled via PROFIsafe with an optional module
- Adaptive programming for customizing the drive for a wide range of applications
- Part of ABB all-compatible drives portfolio, all with a similar user interface and PC tools

Designed to last 10 years or more

- Coated circuit boards as standard
- Minimized airflow through the electronics
- Design for up to 50 °C without derating
- All drives tested during production at maximum temperatures with full nominal loads



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