

ABB machinery drives  
ACS380, 0.25 to 7.5 kW  
for persistent predictability



The ACS380 machinery drive is part of ABB's all-compatible drives portfolio. This compact and adaptable drive is designed for machine builders requiring persistent and predictable performance for their machine.



The innovation behind all-compatible is ABB's new common drives architecture, designed to simplify access and operation, optimize energy efficiency and maximize output with performance.

### Persistent predictability

The ACS380 machinery drive is best suited for machine building in the food and beverage, material handling and textile industries. The drive is designed to be used in applications such as mixers, centrifuges, conveyors and cranes requiring accurate speed and torque control. The ACS380 offering consists of different EMC and connectivity variants with readily customized industrial fieldbus protocols (such as PROFIBUS DP, CANopen®, EtherCAT® and PROFINET IO) and required EMC level to ensure seamless integration into automation systems.

ACS380 drives offer enhanced usability with the built-in icon based user interface and other optional control

panels. The Drive composer PC tool comes with extensive drive monitoring and process tuning capabilities, including adaptive programming for flexibility to meet different machinery requirements. Additional features include safe torque off (STO), EMC C2 filter and brake chopper built-in as standard, resulting in a compact design that saves both space and reduces time needed for installation. Motor control has been optimized to fit the specific needs of machine building.

### Learn it once, use it everywhere

If an application requires more than an ACS380 machinery drive, the common drives architecture enables a smooth transition to other all-compatible drives in the ABB portfolio, such as the ACS880 machinery drives. The drives share the same user interfaces and options, enabling operators to apply the same knowledge gained with the ACS380 drives.



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### Mains connection

<b>Voltage and power range</b>	1-phase, 200 to 240 V, +10%/-15% 0.25 to 2.2 kW (1/3 to 3 HP) 3-phase, 380 to 480 V, +10%/-15% 0.37 to 7.5 kW (0.5 to 10 HP) Built-in braking chopper and common DC connection with internal charging circuit
<b>Frequency</b>	50/60 Hz ±5%
<b>Degree of protection</b>	IP20 as standard (UL open type)
<b>Ambient conditions</b>	-10 to +50 °C (14 to 122 °F), up to +60 °C (140 °F) with derating (except R0).
<b>Altitude</b>	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)
<b>Compliance</b>	CE, RoHS, UL, cUL (pending), EAC (pending), CSA (pending), TÜV NORD (pending)
<b>Safety</b>	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
<b>EMC</b>	EMC category C2 (200 V & 400 V) or EMC category C4 (200 V) and C3 (400 V), according to EMC Directive 2014/30/EU, EN 61800-3:2004 + A1 2012
<b>User interface</b>	Integrated icon-based control panel
<b>Drive programming</b>	Adaptive programming

### Connectivity types

<b>Standard variant connections</b>	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
<b>Configured variant connections</b>	Two digital inputs, one relay output, STO (SIL 3), tool connection (RJ-45), one preconfigured protocol
<b>Preconfigured fieldbus protocols</b>	PROFIBUS DP with DSUB-9 connector CANopen® with plug-in terminal block or with DSUB-9 connector EtherCAT® with 2 x RJ-45 PROFINET IO with 2 x RJ-45 (supports also EtherNet/IP™ and Modbus TCP)

### Control options

<b>Other supported fieldbus protocols (without preconfiguration)</b>	EtherNet POWERLINK with 2 x RJ-45
<b>Extension modules</b>	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
<b>PC tools and accessories</b>	BCBL-01 USB to RJ-45 data cable Drive composer tool entry, available for free via ABB website Drive composer tool pro Automation builder and Drive Manager for single point of commissioning through PROFIBUS and PROFINET networks
<b>Control panel options</b>	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

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

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