ABB machinery drives
ACS380, 0.25 to 22 kW

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 reliable performance for their machine.

- **Persistent performance for your application**
  The ACS380 machinery drive is ideal for machine building thanks to its robust and compact design, good motor control performance and built-in functions such as safe torque off (SIL 3) and embedded machine control functions like mechanical brake control. Examples of typical ACS380 applications are for example mixers, centrifuges, conveyors and cranes.

- **Easy to adapt and configure to machines**
  With ACS380, commissioning and use is quick and easy thanks to its intuitive control panel, and having all the essential features built-in. Configuration can even be made to unpowered drives. The drive can be adapted to various needs thanks to its good programmability including even extensive PLC type block programming and extensive selection of variants and options allowing the drive to be optimized e.g. for various communication, I/O and EMC requirements.

- **Reliability and consistent high quality**
  The ACS380 drives have improved durability and reliability in harsh conditions, including coated circuit boards, optimized air flow and tolerance for up to 60 °C ambient temperature. All drives are tested during production at maximum temperatures with nominal loads. Tests cover both performance and all protective functions.
Technical data

**Mains connection**

| Voltage and power range | 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 22 kW (0.5 to 30 HP)  
Built-in braking chopper and common DC connection with internal charging circuit |
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<tbody>
<tr>
<td>Frequency</td>
<td>50/60 Hz ±5%</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP20 as standard (UL open type)</td>
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<tr>
<td>Ambient conditions</td>
<td>-10 to +50 °C (14 to 122 °F), up to +60 °C (140 °F) with derating (except R0)</td>
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| Altitude                  | All variants 0 to 2000 m, derating above 1000 m (3300 ft)  
3-phase, 380 to 480 V drives 0 to 4000 m (3300 ft) |
| Compliance                | CE, RoHS, UL, cUL, EAC, CSA, TÜV NORD           |
| Safety                    | Safe torque off (STO) acc. to EN/IEC 61800-5-2: IEC 61508 ed2:  
| EMC                       | EMC category C2 (200 V & 400 V) or EMC category C4 (200 V) and  
C3 (400 V), according to EMC Directive 2014/30/EU,  
| User interface            | Integrated icon-based control panel             |
| Drive programming         | Adaptive programming                            |

**Connectivity types**

| 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 |
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<tr>
<td>Configured variant connections</td>
<td>Two digital inputs, one relay output, STO (SIL 3), tool connection (RJ-45), one preconfigured protocol</td>
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| Preconfigured fieldbus protocols | 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  
EtherNet/IP with 2 x RJ-45  
Modbus TCP with 2 x RJ-45 |
| Control options              | 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) |
| PC tools and accessories      | 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 |
| Control panel options        | ACS-AP-S assistant control panel  
ACS-AP-W assistant control panel with Bluetooth interface  
ACS-BP-S basic control panel |

Reliable. Adaptable. All-compatible.

**For persistent performance**

- Support for asynchronous, permanent magnet and synchronous reluctance motors
- High speed and torque control performance with 3-phase current transducers
- Support for encoder feedback (option)
- Integrated brake chopper
- Integrated safe torque off (STO)
- Support for remote and Bluetooth access

**For easy configuration**

- Compatible with a wide range of fieldbus protocols
- Preconfigured fieldbus modules for easy commissioning
- Possibility to extend I/O
- External +24 V AC/DC (option)
- Different EMC variants with integrated filter
- Adaptive programming for customizing the drive for the application
- Support for configuration for unpowered drives
- Member of all-compatible drives portfolio with similar user interface and PC tools

**For reliability and constant quality**

- Coated boards as standard
- Minimized air flow through the control section
- Advanced ground fault protection by 3-phase current transducers
- Design for up to 60 °C
- All drives tested during production at maximum temperatures with full nominal loads

Video playlist: ACS380 how-to videos

For more information contact your local ABB representative or visit:

- abb.com/drives
- abb.com/drivespartners
- abb.com/motors&generators

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