Micro drives
ACS255 IP66/NEMA 4X for harsh environments

Compact and available with rugged construction solves application problems in harsh environments - dusty, dirty, humid, wet, and even frequent washdown. Optional front-mounted operator controls eliminate the need for a separate control panel.

ABB micro drive ACS255 with IP66/NEMA 4X enclosure is designed for applications such as; packaging machinery, mixers, pumps, fans and conveyors, which are installed in harsh environments containing dust, moisture and cleaning chemicals. The drive’s design and ease of setup benefit a broad range of industries.

Part of ABB micro drives portfolio
The ACS255 drive is part of ABB’s complete micro drive range, which offers a solution for every need:
• Drives for simple to more complex machines
• Full voltage range from 110 to 600 V
• IP66 enclosure
• Power range from 0.5 to 10 hp

NEMA4X/IP66 washdown protection
The drive is constructed with corrosion resistant materials for durability and increased survival in wet, dirty, or washdown applications. The drive’s smooth contours, sealed ABS plastic enclosure and corrosion resistant heat sink are ideal for food and beverage applications. The integrated keypad provides straightforward drive commissioning and maintenance in extreme environments.

Key features
• Built-in macros and only the essential parameters make commissioning straightforward
• Can be mounted directly on processing equipment installed in extreme environments
• Conduit cable entry
• Intuitive keypad control
• +F278 operator controls option includes: Input disconnect, FWD/OFF/REV selector, and Speed potentiometer
• IP66/NEMA 4X dust and water proof design
• Designed for wash-down applications
• Specially coated corrosion resistant heat sink
• No external cooling fans to replace
• Modbus RTU fieldbus as standard
• Built-in brake chopper (except frame E1)
Output ratings and Type designation

<table>
<thead>
<tr>
<th>Output ratings</th>
<th>Type designation</th>
<th>Frame size</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
<th>Weight</th>
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<tr>
<td>1-phase AC supply, 110 to 120 V</td>
<td></td>
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<tr>
<td>0.5 hp</td>
<td>0.37</td>
<td>ACS255-01U-02A3-1+B063(+F278)</td>
<td>E1</td>
<td>9.13</td>
<td>6.34</td>
<td>7.05</td>
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<tr>
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<tr>
<td>1-phase AC supply, 200 to 240 V</td>
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<td>0.37</td>
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P_N for kW = Typical motor power at 400V in normal use
P_N for Hp = Typical motor power at 480V in normal use
I_N for A = Continuous rms current. 50% overload is allowed for one minute in ten minutes
U within the type code = no EMC filter
+B063 = IP66/UL TYPE 4X enclosure without input disconnect.
+B063+F278 = IP66/UL TYPE 4X enclosure with input disconnect and operator controls.

Standard I/O configurations

Standard I/O configuration for advanced 600 V

Mains connection

Supply voltage: 3-ph, 380 to 480 V ±10%; 0.5 to 10 hp
Frequency: 48 to 63 Hz
Phase imbalance: 3% maximum allowed

Motor connection

Motor types: Asynchronous induction motors, Permanent magnet synchronous motors
Frequency: 0 to 500 Hz, 0.1 Hz resolution
Overload capacity: 150% of rated amps for 1 minute
Switching frequency: 4-32kHz (6kHz default)

Control types: Scalar U/f, Sensorless vector speed control, PM motor vector speed control, BLDC motor speed control (contact factory)

Environmental limits

Temperature: Storage: ~40 to 60°C
Relative humidity: Lower than 95% (without condensation)

Vibration: Conforms to EN61800-5-1

Product compliance

UL, cUL, C-Tick, CE listing/conformance, RoHS Compliant

Programmable control connections

Power supply: 24 Volt DC, 100mA, Short Circuit Protected
Digital inputs: 10 Volt DC, 5mA for Potentiometer

Analog inputs: 0-10 VDC, 0 or -4-20mA, bi-polar
Resolution: 12 bits

Analog outputs: Response time: < 4ms
Accuracy: ± 2% full scale
Parameter adjustable scaling and offset

Programmable outputs: Maximum Voltage: 250 VAC, 30 VDC

Relay output: Switching Current Capacity: 6A AC, 5A DC

Analog outputs: 0 to 10 Volt

PI control: Internal PI Controller

Serial communication: Modbus RTU (EIS-485)