

# ABB general machinery drives

## ACS350, IP66 and IP67, 0.37 to 7.5 kW / 0.5 to 10 hp

A range of ABB general machinery drives with IP66, IP67 and UL Type 4X protection classes is designed to excel in the harshest and most demanding of conditions.

Designed for the food and beverage, textile, ceramics, pulp and paper and water and waste water industries, the drives are suitable for screws, mixers, pumps, fans and conveyers especially where the machine is exposed to dust, moisture and cleaning chemicals.

The drive's hygienic design and use of materials meeting current hygiene standards, means that the drive traps no bacteria and can withstand frequent washing. The drive is certified by NSF.

A user control panel housed within a plastic window is designed to resist moist and dusty atmospheres.

The drive is designed for fast installation, parameter setting and commissioning and is based on ABB general machinery drives, possessing the same software features and hardware connections. The wall mounted drive can be located close to the process and the operator.

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### Highlights

- Smooth, slanted surfaces ensure water drains away and drive will not trap bacteria
- Certified by NSF for hygienic installations in the food and beverage industry
- Corrosion resistant die cast aluminum chassis painted in white
- The heat sink's cooling fins are completely open from top to bottom, allowing easy washing
- Tested to highest degree of protection (IP69K) for washing with pressurized hot water
- Optional input switch for fast shutdown, safety and process maintenance
- High torque for the start up of heavy loads
- Internally mounted cooling fan eliminates the need for maintenance of external moving parts
- Built-in brake chopper
- Optional pressure compensation valve for preventing water condensation within the enclosure
- Intuitive use with assistant control panel
- Silent operation of the drive

### Power and voltage range

- 3-phase, 200 to 240 V  $\pm$  10%  
0.37 to 4 kW (0.5 to 5 hp)
- 3-phase, 380 to 480 V  $\pm$  10%  
0.37 to 7.5 kW (0.5 to 10 hp)

### Options

- Input switch
- Fieldbus connection via optional modules
  - PROFIBUS DP
  - CANopen
  - DeviceNet
  - Modbus
  - Ethernet
- FlashDrop tool
- Pressure compensation valve
- DriveWindow Light for easy parametrization and graphical sequence programming

## Technical data and types

Ratings			Type code	Frame size	IP66/IP67/UL Type 4X			
$P_N$ kW	$P_N$ hp	$I_{2N}$ A			H mm	W mm	D mm	Weight kg
<b>3-phase supply voltage 200 to 240 V units</b>								
0.37	0.5	2.4	ACS350-03X-02A4-2 + B063	R1	305	195	281	7.7
0.55	0.75	3.5	ACS350-03X-03A5-2 + B063	R1	305	195	281	7.7
0.75	1	4.7	ACS350-03X-04A7-2 + B063	R1	305	195	281	7.7
1.1	1.5	6.7	ACS350-03X-06A7-2 + B063	R1	305	195	281	7.7
1.5	2	7.5	ACS350-03X-07A5-2 + B063	R1	305	195	281	7.7
2.2	3	9.8	ACS350-03X-09A8-2 + B063	R3	436	246	277	13
3	4	13.3	ACS350-03X-13A3-2 + B063	R3	436	246	277	13
4	5	17.6	ACS350-03X-17A6-2 + B063	R3	436	246	277	13
<b>3-phase supply voltage 380 to 480 V units</b>								
0.37	0.5	1.2	ACS350-03X-01A2-4 + B063	R1	305	195	281	7.7
0.55	0.75	1.9	ACS350-03X-01A9-4 + B063	R1	305	195	281	7.7
0.75	1	2.4	ACS350-03X-02A4-4 + B063	R1	305	195	281	7.7
1.1	1.5	3.3	ACS350-03X-03A3-4 + B063	R1	305	195	281	7.7
1.5	2	4.1	ACS350-03X-04A1-4 + B063	R1	305	195	281	7.7
2.2	3	5.6	ACS350-03X-05A6-4 + B063	R1	305	195	281	7.7
3	4	7.3	ACS350-03X-07A3-4 + B063	R1	305	195	281	7.7
4	5	8.8	ACS350-03X-08A8-4 + B063	R1	305	195	281	7.7
5.5	7.5	12.5	ACS350-03X-12A5-4 + B063	R3	436	246	277	13
7.5	10	15.6	ACS350-03X-15A6-4 + B063	R3	436	246	277	13

X within the type code stands for E or U.

E = Internal EMC filter connected.

U = Internal EMC filter disconnected.

B063 = IP66/IP67 enclosure

H = Height

W = Width

D = Depth

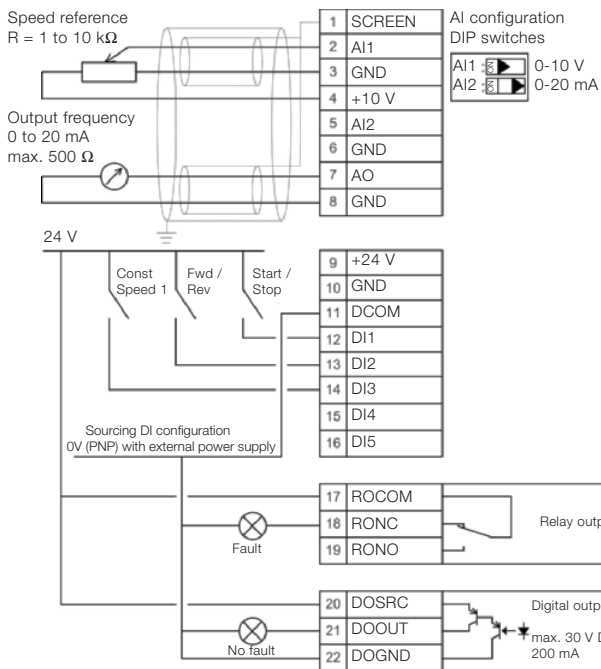


Figure 1. Inputs and outputs configuration based on ABB standard macro.

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Mains connection	
<b>Voltage and power connection</b>	3-phase, 200 to 240 V $\pm 10\%$ : 0.37 to 4 kW (0.5 to 5 hp) 3-phase, 380 to 480 V $\pm 10\%$ : 0.37 to 7.5 kW (0.5 to 10 hp)
<b>Frequency</b>	48 to 63 Hz
Motor connection	
<b>Voltage</b>	3-phase, from 0 to $U_{SUPPLY}$
<b>Frequency</b>	0 to 500 Hz
<b>Overload capacity</b> (at a max. ambient temperature of 40 °C)	1.5 x $I_{2N}$ for 1 minute every 10 minutes At start 1.8 x $I_{2N}$ for 2 s
<b>Switching frequency</b>	Default: 4 kHz Selectable: 4 to 16 kHz with 4 kHz steps
<b>Speed control</b>	Static accuracy: 20% of motor nominal slip Dynamic accuracy: < 1% s with 100% torque step
<b>Torque control</b>	Torque step rise time: < 10 ms with nominal torque Non-linearity: $\pm 5\%$ with nominal torque
Programmable control connections	
<b>Two analog inputs</b>	
Voltage signal	
Unipolar	0 (2) to 10 V, $R_{in} > 312$ k $\Omega$
Bipolar	-10 to 10 V, $R_{in} > 312$ k $\Omega$
Current signal	
Unipolar	0 (4) to 20 mA, $R_{in} = 100$ $\Omega$
Bipolar	-20 to 20 mA, $R_{in} = 100$ $\Omega$
Potentiometer reference value	10 V $\pm 1\%$ max. 10 mA, $R < 10$ k $\Omega$
Resolution	0.1%
Accuracy	$\pm 1\%$
<b>One analog output</b>	0 (4) to 20 mA, load < 500 $\Omega$
<b>Auxiliary voltage</b>	24 V DC $\pm 10\%$ , max. 200 mA
<b>Five digital inputs</b>	12 to 24 V DC with internal or external supply, PNP and NPN, pulse train 0 to 16 kHz 2.4 k $\Omega$
Input impedance	
<b>One relay output</b>	
Type	NO + NC
Maximum switching voltage	250 V AC/30 V DC
Maximum switching current	0.5 A/30 V DC; 5 A/230 V AC
Maximum continuous current	2 A rms
<b>One digital output</b>	
Type	Transistor output
Maximum switching voltage	30 V DC
Maximum switching current	100 mA/30 V DC, short circuit protected
Frequency	10 Hz to 16 kHz
Resolution	1 Hz
Accuracy	0.2%
Product compliance	
CE, cUL pending, UL pending, NSF Certified, GOST R, DIN40050-9 (IP69K)	
Environmental limits	
<b>Degree of protection</b>	IP66, IP67 and UL Type 4X, indoor use only IP69K available for IP66/IP67 variant with compatible cable glands
<b>Ambient temperature</b>	-10 to 40 °C (14 to 104 °F), no frost allowed

For more information see catalog ABB general machinery drives (3AFE68596106).

For more information please contact:

[www.abb.com/drives](http://www.abb.com/drives)

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