

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.

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
3-phase supply voltage 200 to 240 V units								
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
3-phase supply voltage 380 to 480 V units								
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

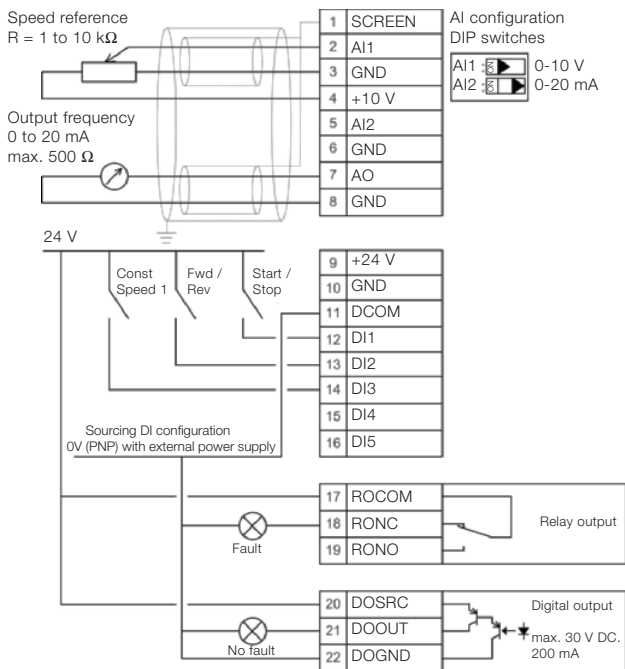


Figure 1. Inputs and outputs configuration based on ABB standard macro.

Mains connection	
Voltage and power connection	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)
Frequency	48 to 63 Hz
Motor connection	
Voltage	3-phase, from 0 to U_{SUPPLY}
Frequency	0 to 500 Hz
Overload capacity (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
Switching frequency	Default: 4 kHz Selectable: 4 to 16 kHz with 4 kHz steps
Speed control	Static accuracy: 20% of motor nominal slip Dynamic accuracy: < 1% s with 100% torque step
Torque control	Torque step rise time: < 10 ms with nominal torque Non-linearity: $\pm 5\%$ with nominal torque
Programmable control connections	
Two analog inputs	
Voltage signal	Unipolar: 0 (2) to 10 V, $R_{in} > 312$ k Ω Bipolar: -10 to 10 V, $R_{in} > 312$ k Ω
Current signal	Unipolar: 0 (4) to 20 mA, $R_{in} = 100$ Ω Bipolar: -20 to 20 mA, $R_{in} = 100$ Ω
Potentiometer reference value	10 V $\pm 1\%$ max. 10 mA, $R < 10$ k Ω
Resolution	0.1%
Accuracy	$\pm 1\%$
One analog output	0 (4) to 20 mA, load < 500 Ω
Auxiliary voltage	24 V DC $\pm 10\%$, max. 200 mA
Five digital inputs	12 to 24 V DC with internal or external supply, PNP and NPN, pulse train 0 to 16 kHz 2.4 k Ω
Input impedance	
One relay output	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
One digital output	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	
Degree of protection	IP66, IP67 and UL Type 4X, indoor use only IP69K available for IP66/IP67 variant with compatible cable glands
Ambient temperature	-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

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