

LOW VOLTAGE AC DRIVE

# ABB general purpose drives

## ACS560 – 0.75 to 250 kW



ACS560 general purpose drives are the best fit for all variable and constant torque applications such as industrial pumps, fans, compressors, conveyors, mixers and extruders. It ensures highest performance, reliable operation and ease of use resulting in an optimal experience for users.

### High reliability superior performance

Coated printed circuit boards, optimized air flow design for increased ambient temperature support, built-in protection functions and ABB's long-term reliability tests guarantee consistent operation and longer life.

### One product, multiple applications

ACS560 is available with wider power range upto 250 kW and wider voltage range 3Ph 380V....480V, and able to run both variable torque and constant torque applications, helping customers to select one product family for entire general purpose application needs.

### Everything you need, built-in

Built-in brake chopper, safe torque off function, alpha numeric control panel display, default input outputs, integrated conduit plates, EMC filter, Modbus RTU features make it all integrated solution.

### Effortless and safe operation

ACS560 drive has built-in essential features that reduces commissioning and setup time. Hindi language and smart menu features in assistant control panels, wireless communication with Bluetooth control panel provides superior user experience. Auto configuration of fieldbus and input output modules helps in quick configuration. Application control macros reduce logic development and commissioning efforts.



# Ratings, types and voltages

## ACS560 drives for cabinet mounting: 3 Phase 380.....480V $U_N=400V$

Drive Typecode	Frames	Nominal use				Light duty use			Heavy duty use		
		$P_N$ (kW)	$P_N$ (hP)	$I_N$ (A)	$I_{max}$ (A)	$P_{LD}$ (kW)	$P_{LD}$ (hP)	$I_{LD}$ (A)	$P_{HD}$ (kW)	$P_{HD}$ (hP)	$I_{HD}$ (A)
ACS560-01-02A6-4	R0	0.75	1	2.6	3.2	0.75	1	2.5	0.55		1.8
ACS560-01-03A3-4	R0	1.1	1.5	3.3	4.7	1.1	1.5	3.1	0.75	1	2.6
ACS560-01-04A0-4	R0	1.5	2	4	5.9	1.5	2	3.8	1.1	1.5	3.3
ACS560-01-05A6-4	R0	2.2	3	5.6	7.2	2.2	3	5.3	1.5	2	4
ACS560-01-07A2-4	R0	3.0	4	7.2	10.1	3.0	4	6.8	2.2	3	5.6
ACS560-01-09A4-4	R0	4.0	5	9.4	13	4.0	5	8.9	3	4	7.2
ACS560-01-12A6-4	R1	5.5	7.5	12.6	16.9	5.5	7.5	12	4	5	9.4
ACS560-01-017A-4	R2	7.5	10	17	22.7	7.5	10	16.2	5.5	7.5	12.6
ACS560-01-025A-4	R2	11.0	15	25	30.6	11	15	23.8	7.5	10	17
ACS560-01-033A-4	R3	15.0	20	33	44.3	15	20	30.4	11	15	24.6
ACS560-01-039A-4	R3	18.5	25	39	56.9	18.5	25	36.1	15	20	31.6
ACS560-01-046A-4	R3	22.0	30	46	67.9	22	30	42.8	18.5	25	37.7
ACS560-01-062A-4	R4	30	40	62	76	30	40	58	22	30	45
ACS560-01-073A-4	R4	37	50	73	104	37	50	68	30	40	61
ACS560-01-089A-4	R4	45	60	89	130	45	60	83	37	50	72
ACS560-01-088A-4	R5	45	60	88	122	45	60	83	37	50	72
ACS560-01-106A-4	R5	55	75	106	148	55	75	100	45	60	87
ACS560-01-145A-4	R6	75	100	145	178	75	100	138	55	75	105
ACS560-01-169A-4	R7	90	120	169	247	90	120	161	75	100	145
ACS560-01-206A-4	R7	110	150	206	287	110	150	196	90	120	169
ACS560-01-246A-4	R8	132	175	246	350	132	175	234	110	150	206
ACS560-01-293A-4	R8	160	215	293	418	160	215	278	132	175	246*
ACS560-01-363A-4	R9	200	265	363	498	200	265	345	160	215	293
ACS560-01-430A-4	R9	250	335	430	545	200	335	400	200	265	363**
ACS560-01-490A-4	R8	250	335	490	600	250	335	480	200	265	385

ACS-BP-S Basic Control Panel as standard delivery (+1404)

ACS560-01 shall be available only in IP20 option, frames R5-R9 does not have any possibility for conduit box.

6xDI, 3xRO, 2xAI, 2xAO, STO and Embedded Modbus RTU are standard features. 1 DI is configurable for Frequency input, 1 AO is configurable for V/I.

For derating at higher altitudes, temperatures or switching frequencies, refer to HW manuals

### Nominal Ratings

$I_N$  Rated current available continuously without overload ability at +40 °C, deration not required for R0 to R2 frames up to +50 °C

$P_N$  Typical motor power in no-overload use.

### Maximum Output Current

$I_{max}$  Maximum output current. Available for 2 seconds at start, then as long as allowed by drive temperature.

### Light duty use

$I_{LD}$  Continuous current when it's used in Light duty applications, allows 110% of  $I_{LD}$  for 1 minute every 10 minutes

$P_{LD}$  Typical motor power in light-duty use

### Heavy duty use

$I_{HD}$  Continuous current when it's used in Heavy duty applications, allows 150% of  $I_{HD}$  for 1 minute every 10 minutes

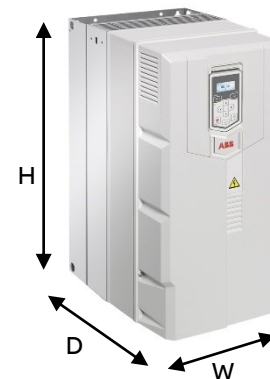
\* Continuous current when it's used in Heavy duty applications, allows 130% of  $I_{HD}$  for 1 minute every 10 minutes

\*\* Continuous current when it's used in Heavy duty applications, allows 125% of  $I_{HD}$  for 1 minute every 10 minutes

$P_{HD}$  Typical motor power in heavy-duty use

## Dimensions and weight

Frames	Height (mm)	Width (mm)	Depth (mm)	Weight (kg)
R0	223	73	207	1.6
R1	223	97	207	1.9
R2	220	172	207	2.9
R3	490	203	229	12
R4	636	203	257	19
R5	596	203	295	28.3
R6	549	252	369	42.4
R7	601	284	370	54
R8	680	300	393	69
R9	680	380	418	97



## Options\*

### Communication protocol options

+Code	Fieldbus protocol	Adapter
+K454	PROFIBUS DP, DPV0/DPV1	FPBA-01
+K490	Two-Port EtherNet/IP Adapter	FEIP-21
+K491	Two-Port Modbus/TCP Adapter	FMBT-21
+K492	Two-Port PROFINET IO Adapter	FPNO-21
+K451	DeviceNet	FDNA-01



### Connectivity options

+Code	Connectivity option	Adapter
+L501	External 24 V AC and DC	CMOD-01
+L534	External 24 V DC (side option), for R0-R2 frames	BAPO-01
+L511	Relay o/p extension module, for R0-R2 frames	BREL-01
+L515	IO extension for R0-R2 frames along with Fieldbus card	BIO-01

### User Interface Modules

+Code	Control Panel Description	Panel
+J404	Basic Control Panel (standard)	ACS-BP-S
+J400	Advanced Control Panel with Hindi	ACS-AP-S
+J425	Intuitive Control Panel with Hindi	ACS-AP-I
+J429	Bluetooth based control panel (Hindi)	ACS-AP-W
+J424	Blank module for control panel slot (required for door mounting)	RDUM-01



### Printed Manuals

+Code	Connectivity Option	Adapter
+R700	User Manuals (English) Printed copies	EN
+R701	User Manuals (Hindi) Printed copies	HI



\* For more optional cards, kindly refer the detail product catalog or Hardware manual

# Technical Specification

Mains connection		Environmental Limits	
Voltage & Power Range	3Ph, U <sub>N</sub> 380...480V, +10% / -15% form 0.75 kW to 250 kW	Ambient temperature	
Frequency	50/60 Hz ±5%	Transport	-40 to +70 °C
Power Factor (fundamental)	cos Φ : 0.98 at nominal load	Storage	
Efficiency (at Nominal load)	98% (including input choke for R3-R9)	Operation area	-15 to +55 °C. No frost allowed R0 to R2 from -15 to +50 °C no derating R3 to R9 from -15 to +40 °C no derating derating at 1%/1 °C rise in temperature for R0-R2 (+50°C to +55°C) for R3-R9 (+40°C to +55°C)
Motor Connection		Cooling method	Air-cooled, Dry clean air (speed controlled)
Voltage	0 to U <sub>N</sub> , 3-phase	Altitude	0 to 1,000 m Without derating 1,000 to 4,000 m with derating of 1%/100 m
Frequency	0 to 500 Hz	Relative humidity	5 to 95%, no condensation allowed
Motor Control	Scalar and vector control	Degree of protection	IP20
Speed Control	Static accuracy: 20% of motor nominal slip Dynamic accuracy: 1% seconds with 100% torque step	Functional safety	Safe torque off (STO according EN 61800-5-2) IEC 61508 ed2: SIL 3. IEC 61511: SIL 3. IEC 62061: SIL CL 3. EN ISO 13849-1: PL e
Torque Control	Torque step rise time: <10 ms with nominal torque Non-linearity: ± 5% with nominal torque	Contamination level	No conductive dust allowed
Max. recommended motor cable length	R0-R2 : 100 m R3-R9 : 300 m (kindly refer HW manual for more details)	Storage	IEC 60721-3-1. Class 1C2 (chemical gases). Class 1S2 (solid particles) <sup>*)</sup>
Product Compliance		Operation area	IEC 60721-3-3. Class 3C3 (chemical gases). Class 3S3 (solid particles) <sup>*)</sup>
CE		Transportation	IEC 60721-3-2. Class 2C2 (chemical gases) Class 2S2 (solid particles) <sup>*)</sup>
Low Voltage Directive 2014/34/EU, EN 61800-5-1: 2007		*) C: Chemically active substances S: Mechanically active substances	
Machinery Directive 2006/42/EC, EN 61800-5-2: 2007			
EMC Directive 2014/30/EU, EN 61800-3: 2004 + A1: 2012			
RoHS directive 2011/65/EU			
Quality assurance system ISO 9001 and Environmental system ISO 14001			
Waste electrical and electronic equipment directive (WEEE) 2002/96/EC			
Ecodesign (EU) 2019/1781			
Harmonics Compliance			
Built-in optimized dual DC choke / AC Choke as standard in ACS560-01 (R3-R9) meets the requirements of IEC 61000-3-12:2011.			
EMC according to EN 61800-3:2004 + A1:2012			
Frames R0 to R9 with built-in C2 category filter as standard offer			

Please visit ACS560 website for more details

