

LOW VOLTAGE AC DRIVES

ABB general purpose drives ACS560 – 0.75 to 160 kW



ACS560 general purpose drives are 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 delightful experience for users.

High reliability

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, many applications

ACS560 is available up to 160 kW, with specifications and features needed for variable torque and constant torque applications, helping customers to select one product family for entire general purpose application needs.

Easier than ever before

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 reduces logic development and commissioning efforts.

Integrated essentials

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 an all integrated solution.



Rating, types and voltages

Cabinet mounted drive ACS560

3-phase, $U_N = 380, 400, 415 \text{ V}$

Type	Frame	Nominal Ratings			Max. output current	Light overload 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	0.75	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	4	7.2	10.1	3	4	6.8	2.2	3	5.6
ACS560-01-09A4-4	R0	3.7	5	9.4	13	4	5	8.9	3.0	4	7.2
ACS560-01-12A6-4	R1	5.5	7.5	12.6	16.9	5.5	7.5	12	3.7	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	15	25	30.6	11	15	23.8	7.5	10	17
ACS560-01-033A-4	R3	15	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	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	44.6
ACS560-01-073A-4	R4	37	50	73	104	37	50	68.4	30.0	40	61
ACS560-01-088A-4	R5	45	60	88	122	45	60	82.7	37	50	72
ACS560-01-106A-4	R5	55	75	106	148	55	75	99.8	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	180	246	350.2	132	180	234	110	150	206
ACS560-01-293A-4	R8	160	215	293	418.2	160	215	278	132	180	246*

ACS-BP-S Basic Control Panel as standard delivery

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.
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Light overload use

I_{Ld}	Continuous current when its 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.

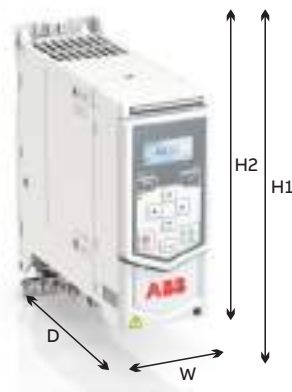
Heavy-duty use

I_{Hd}	Continuous current when its used in Heavy duty applications, allows 150% of I_{Hd} for 1 minute every 10 minutes. * Continuous current when its used in Heavy duty applications, allows 130% of I_{Hd} for 1 minute every 10 minutes.
P_{Hd}	Typical motor power in heavy-duty use.

Dimensions and weight (IP20)

Frames	Height		Width		Depth	Weight
	H1 mm	H2 mm	W mm	D mm		
R0	223	-	73	207		1.6
R1	223	-	97	207		1.9
R2	220	-	172	207		2.9
R3	490	-	203	229		14.9
R4	636	-	203	257		19.0
R5	719	600	203	296		28.3
R6	722	548	252	369		42.4
R7	839	600	284	371		54.0
R8	943	680	300	394		69.0

H1 - Height of front side
H2 - Height of back side (without cable connecting box)
W - Width
D - Depth



Type designation: ACS560-01-02A6-4+xxxx

Product series

Construction

Current rating

Voltage rating

Option codes

Order code information

Options

+ Code Options	Code	Name	Description
Field Bus (any one) (To add any fieldbus option other than modbus RTU in R0-R2 frames, contact ABB sales channel)	+K454	FPBA-01	PROFIBUS DP. DPV0/DPV1
	+K457	FCAN-01	CANopen®
	+K469	FECA-01	EtherCAT®
	+K458	FSCA-01	Modbus RTU
	+K473	FENA-11	EtherNet/IP™, PROFINET IO, Modbus TCP
	+K475	FENA-21	Two port EtherNet/IP™, Modbus TCP, PROFINET IO
Control Panel (any of this plus code will replace ACS-BP-S, basic panel from delivery package)	+L515	BIO-01	IO extension for R0-R2 frames with fieldbus option, 3xDI, 1xAI, 1xDO.
	+J400	ACS-AP-S	Assistant control panel with Hindi
	+J425	ACS-AP-I	All-compatible assistant control panel with Hindi
	+J429	ACS-AP-W	Bluetooth control panel with Hindi
Cables	+J424	RDUM-01	Blank module for control panel slot(required for door mounting)
	+J431	BCBL-01	USB to RJ45 PC communication cable(RS485)
Printed Manuals	+R700	EN	ACS560-01 drives (0.75 to 160 kW) hardware and firmware manual (EN)
	TBD	HI	ACS560-01 drives (0.75 to 160 kW) hardware and firmware manual (HI)
Conduit Box	+P944	Conduit Box	Cable conduit box for R5-R8 frames(built-in in R0-R4 frames)

Options

PC Tools	3AUA0000108087	DCPT-01	Drive composer pro PC tool (single user licence)
	3AUA0000145150	DCPT-10	Drive composer pro PC tool (10 users licence)
	3AUA0000145151	DCPT-20	Drive composer pro (20 users licence)
Note: Drive composer entry(free version) PC tool can be downloaded from http://abb.com/drives			
Cabinet door mounting kit	3AXD50000010763	DPMP-EXT*	Door mounting kit for the panel (for one drive, contains both DPMP-02 and CDPI-01).
	3AUA0000108878	DPMP-01**	Control panel mounting platform (flush)
	3AXD50000009374	DPMP-02**	Control panel mounting platform (surface)
Remote Monitoring	3AUA0000094517	NETA-21	Remote Monitoring
Configuration Adaptor	3AXD50000019865	CCA-01	Cold configurator adapter,
External Input Choke	3AYN477110-CHK1A	CHK-01	For 2.6-4 A drives
	3AYN477110-CHK2A	CHK-02	For 5.6 - 7.2 A drives
	3AYN477110-CHK3A	CHK-03	For 9.4-12.6 A drives
	3AYN477110-CHK4A	CHK-04	For 17 A drives
	3AYN477110-CHK5A	CHK-05	For 25 A drives

*Suitable only for frames R3 - R8.

** Need RDUM-01 (+J424) additionally to have complete door mounting kit.

Brake Resistors	3AYNSBR-RES99	RES99	2.2 KW max power*
	3AYNSBR-RES53	RES53	4 KW max power*
	3AYNSBR-RES32	RES32	7.5 KW max power*
	3AYNSBR-RES23	RES23	11 KW max power*
	3AYNSBR-RES16	RES16	15 KW max power*
	3AYNSBR-RES10	RES10	22 KW max power*
	3AYNSBR-RESM99	RESM99	2.2 KW max power**
	3AYNSBR-RESM53	RESM53	4 KW max power**
	3AYNSBR-RESM32	RESM32	7.5 KW max power**
	3AYNSBR-RESM23	RESM23	11 KW max power**
	3AYNSBR-RESM16	RESM16	15 KW max power**
	3AYNSBR-RESM10	RESM10	22KW max power**

*1 min/5 min duty cycle

**1 Sec/2 min duty cycle

Output filter	3 AYN 477 110-011	NOCH0016-60	Du/dt filter(IP00) for R0,R1 frame
	3 AYN 477 110-012	NOCH0030-60	Du/dt filter(IP00) for R2 frame
	3 AYN 477 110-013	NOCH0070-60	Du/dt filter(IP00) for R3, R4 frame
	3 AYN 477 110-014	NOCH0120-60	Du/dt filter(IP00) for R5,R6 frame
	68490308L	FOCH0260-50	Du/dt filter(IP00) for R7, R8 frame
Direct order codes(Service)	3AXD50000028828 ACS-BP-S Basic control panel(part of standard delivery) 3AXD50000042620 ACS560 QIG ACS560-01 drives Quick installation and start-up guide (EN & HI)		

Technical details

Mains Connection

Voltage and power range	3-phase, U_N 380 to 480 V, +10%/-15% from 0.75 up to 160 kW
Frequency	50/60 Hz \pm 5%
Power factor	$\cos\phi = 0.98$
Efficiency (at nominal power)	98%

Motor Connection

Voltage	0 to U_N , 3-phase
Frequency	0 to 500 Hz
Motor control	Scalar and vector control
Speed control	Static accuracy: 20% of motor nominal slip Dynamic accuracy: 1% seconds with 100% torque step

Product compliance

CE
Low Voltage Directive 2006/95/EC, EN 61800-5-1: 2007
Machinery Directive 2006/42/EC, EN 61800-5-2: 2007
EMC Directive 2004/108/EC, EN 61800-3: 2004 + A1: 2012
Quality assurance system ISO 9001 and Environmental system ISO 14001
Waste electrical and electronic equipment directive (WEEE) 2002/96/EC
RoHS directive 2011/65/EU
EAC
EMC according to EN 61800-3: 2004 + A1: 2012
ACS560 with built-in C3 category filter as standard

Environmental limits

Ambient temperature

Transport	-40 to +70 °C
Storage	-40 to +70 °C
Operation area	-15 to +40 °C no frost allowed R0 to R2 frames: No deration needed up to 50 °C, deration needed above +50 °C to +55 °C R3 to R8 frames: +40 to +55 °C deration needed Refer HW manual for more information
Coating	Coated circuit boards
Cooling method	
Air-cooled	Dry clean air
Altitude	
0 to 1,000 m	Without deration
1,000 to 4,000 m	With deration of 1%/100 m
Relative humidity	5 to 95%, no condensation allowed
Degree of protection	IP20
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
Contamination levels	No conductive dust allowed
Storage	IEC 60721-3-1, Class 1C2 (chemical gases), Class 1S2 (solid particles)*
Operation	IEC 60721-3-3, Class 3C2 (chemical gases), Class 3S2 (solid particles)*
Transportation	IEC 60721-3-2, Class 2C2 (chemical gases), Class 2S2 (solid particles)*
* C = chemically active substances	
S = mechanically active substances	



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