
COMPARISON GUIDE

ABB General Purpose Drives

ACS550 to ACS580 comparison guide

Wall-mount units frame R1-R9



Related documents

[ACS580 Standard Control Program Firmware Manual](#) publication number 3AXD50000016097

[ACS580-01 Drives Hardware Manual](#) publication number 3AXD50000044794

[ACS580 General Purpose Drives Catalog](#) publication number ACS580-PHTC01U-EN

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Using the comparison guide

Important notice

This guide is intended for limited distribution to ABB's channel partners and customers who are replacing the ACS550 drive with the ACS580 General Purpose drive. ABB has prepared this document to aid sales associates, authorized channel partners and customers in the drive replacement. Every attempt has been made to ensure the accuracy of the information.

All installation and electrical work should be carried out by a trained professional. ABB takes no responsibility for any damages or other liability whatsoever (including any consequential damages, even if ABB or an ABB representative had advised of the possibility of such damages) resulting from the use or selection of this document for any information, apparatus, method, process, or similar item disclosed in this guide. Specification is subject to change without notice.

Before beginning, some basic checklist items

All information regarding the control of your application should be gathered from the ACS550 prior to selecting and performing the actual replacement, control and parameter settings should be noted to ensure consistency in the replacement ACS580.

This checklist covers the main information you may require to guide you through the replacement process. If the ACS550 cannot be powered, the technician should gather all the information below that is not parameter related.

ACS550 upgrade basics

- ☐ Record nominal power, current, voltage, etc. ratings taken from your motor nameplate (to use in the ratings comparison tables)
- ☐ What type of signal is the speed/frequency command? e.g. 0-10VDC, 4-20 mA, via communications, or other?
- ☐ Where is the speed/frequency command landed on the drive?
- ☐ What type of signal is the start/stop command? e.g. a relay closure, via communications, or other?
- ☐ Where is the start/stop command terminated on the drive?
- ☐ Are there any other control or reference sources that require additional IO options?
- ☐ Are you using a door-mounted control panel on an enclosure door? If so, consider appropriate kit/method for replacement keypad.
- ☐ Are you using a door-mounted control panel? Consider this when choosing options
- ☐ Consider the dimensions and mounting requirements, cable sizes and heat losses
- ☐ Review the control terminal wiring and ensure the cable lengths are sufficient
- ☐ Is the drive controlled by a communication protocol? e.g. Modbus TCP. If so, document the appropriate communication settings, such as MAC ID, Device Object Instance ID, Baud, etc.
- ☐ Are there any analog outputs from the drive that are wired to another device? If so, document the type of signal (e.g. 4-20 mA), where it was terminated on the drive, what it was used for, and any scaling of the signal.
- ☐ Are there any relay outputs from the drive that are wired to another device? If so, document where it was landed on the drive and what it was used for.
- ☐ Are there any other control or reference sources that require additional IO options?
- ☐ If the existing ACS550 is using an encoder module then the replacement must be an ACS880. The ACS580 does not offer an encoder card.
- ☐ If the existing ACS550 drive relies on a NEMA 4X control panel mounting kit, be aware that the equivalent is not available with the ACS580 at the time of this publication.
- ☐ If the existing ACS550 is controlled by a communication protocol, please contact ABB for Technical Assistance, Application Notes, and Add-on instructions since not all revisions are compatible.

This guide will help you to replace the ACS550 drive with the ACS580 General Purpose drive. Follow the steps outlined in this guide to find the optimal replacement product and to expedite the replacement process.

Step 1: Sizing of the drive and selecting options

Compare power range, mounting methods and dimensions to select the appropriate ACS580 product compared to the ACS550 drive, see the checklist items for some useful guidance.

Step 2: Wiring and parameter setup

Compare electrical data and basic parameter range for optimal replacement. Use the replacement ACS580 manual to assist with the commissioning process.

Selecting and sizing the drive

Type designation 200V-240V

1. Start with identifying type designation of your ACS550 drive.
2. Compare the motor's power and current rating from the ratings table below. For heavy-duty and other ratings, check Hardware Manual (see [Related documents](#)).
3. Compare the options on the options page.

Example:

ACS550	-	U1	-	017A	-	2	+	B055
ACS580	-	01	-	017A	-	2	+	B056

U _i = 208V to 240V 3-phase Power ratings are valid at nominal output voltage 208V 50/60Hz			
Power (HP)	Material Description	Current (A)	Base Drive Frame
1	ACS550-U1-04A6-2	4.6	R1
1.5	ACS550-U1-06A6-2	6.6	
2	ACS550-U1-07A5-2	7.5	
3	ACS550-U1-012A-2	11.8	
5	ACS550-U1-017A-2	16.7	
7.5	ACS550-U1-024A-2	24.2	R2
10	ACS550-U1-031A-2	30.8	
15	ACS550-U1-046A-2	46.2	R3
20	ACS550-U1-059A-2	59.4	
25	ACS550-U1-075A-2	74.8	R4
30	ACS550-U1-088A-2	88	
40	ACS550-U1-114A-2	114	
50	ACS550-U1-143A-2	143	R6
60	ACS550-U1-178A-2	178	
75	ACS550-U1-221A-2	221	
100	ACS550-U1-248A-2	248	

U _i = 208V 1-phase Power ratings are valid at nominal output voltage 208V 50/60Hz			
Power (HP)	Material Description	Current (A)	Base Drive Frame

U _i = 200V to 240V 3-phase Power ratings are valid at U _N = 208V/230V 50/60Hz			
Base Drive Frame	Power (HP)	Material Description	Current (A)
R1	1	ACS580-01-04A6-2	4.6
	1.5	ACS580-01-06A6-2	6.6
	2	ACS580-01-07A5-2	7.5
	3	ACS580-01- 10A6-2	10.6
	5	ACS580-01-017A-2	16.7
R2	7.5	ACS580-01-024A-2	24.2
	10	ACS580-01-031A-2	30.8
R3	15	ACS580-01-046A-2	46.2
	20	ACS580-01-059A-2	59.4
R4	25	ACS580-01-075A-2	74.8
R5	30	ACS580-01-088A-2	88
	40	ACS580-01-114A-2	114
R6	50	ACS580-01-143A-2	143
R7	60	ACS580-01-169A-2	169
	75	ACS580-01-211A-2	211
R8	100	ACS580-01-273A-2	273

U _i = 240V 1-phase Power ratings are valid at U _N = 230V 50/60Hz UL-approved			
Base Drive Frame	Power (HP)	Material Description	Current (A)
R1	0.5	ACS580-01-04A6-2	2.2
	0.75	ACS580-01-06A6-2	3.2
	1	ACS580-01-07A5-2	4.2
	1.5	ACS580-01- 10A6-2	6.0
	2	ACS580-01-017A-2	6.8
R2	3	ACS580-01-024A-2	9.6
	5	ACS580-01-031A-2	15.2
R3	7.5	ACS580-01-046A-2	22
	10	ACS580-01-059A-2	28
R4	10	ACS580-01-075A-2	28
R5	15	ACS580-01-088A-2	42
	20	ACS580-01-114A-2	54
R6	25	ACS580-01-143A-2	68
R7	30	ACS580-01-169A-2	80
	40	ACS580-01-211A-2	104
R8	50	ACS580-01-273A-2	130

The ACS550 -xx-xxxx-2 (208...240V series) can be used with a single phase supply, if output current is derated by 50%. Please note this rule does not apply to the ACS580; follow the next table instead.

Notes:

Ratings apply at an ambient temperature of 40°C (104°F) unless otherwise noted.

To achieve the rated motor power given in the table, the rated current of the drive must be higher than or equal to the rated motor current.

Definitions:

A Drive current, continuous RMS output current allowing 110% overload for 1 minute every 10 minutes.

HP Drive or package power, typical motor power

U_N Nominal output voltage of the drive

U_i Input voltage range

Selecting and sizing the drive

Type designation 380V-480V

1. Start with identifying type designation of your ACS550 drive.
2. Compare the motor's power and current rating from the ratings table below. For heavy-duty and other ratings, check Hardware Manual (see [Related documents](#)).
3. Compare the options on the options page.

Example:

ACS550	-	U1	-	012A	-	4	+	B055
ACS580	-	01	-	012A	-	4	+	B056

$U_1 = 380V$ to 480V 3-phase

Power ratings are valid at nominal output voltage 460V 50/60Hz

Power (HP)	Material Description	Current (A)	Base Drive Frame
			R1
1-1.5	ACS550-U1-03A3-4	3.3	
2	ACS550-U1-04A1-4	4.1	
3	ACS550-U1-06A9-4	6.9	
5	ACS550-U1-08A8-4	8.8	
7.5	ACS550-U1-012A-4	11.9	
10	ACS550-U1-015A-4	15.4	R2
15	ACS550-U1-023A-4	23	
20	ACS550-U1-031A-4	31	R3
25	ACS550-U1-038A-4	38	
30	ACS550-U1-045A-4	44	
40	ACS550-U1-059A-4	59	R4
50	ACS550-U1-072A-4	72	
60	ACS550-U1-078A-4	77	
75	ACS550-U1-097A-4	96	
100	ACS550-U1-125A-4	124	R5
125	ACS550-U1-157A-4	157	R6
150	ACS550-U1-180A-4	180	
200	ACS550-U1-246A-4	245	

See notes and definitions on page 4

$U_1 = 380V$ to 480V 3-phase

Power ratings are valid at $U_N = 460V$ 50/60Hz

Base Drive Frame	Power (HP)	Material Description	Current (A)
R1	1	ACS580-01-02A1-4	2.1
	1.5	ACS580-01-03A0-4	3.0
	2	ACS580-01-03A5-4	3.5
	3	ACS580-01-04A8-4	4.8
	5	ACS580-01-07A6-4	7.6
	7.5	ACS580-01-012A-4	12
R2	10	ACS580-01-014A-4	14
	15	ACS580-01-023A-4	23
R3	20	ACS580-01-027A-4	27
	25	ACS580-01-034A-4	34
	30	ACS580-01-044A-4	44
R4	40	ACS580-01-052A-4	52
	50	ACS580-01-065A-4	65
	60	ACS580-01-077A-4	77
R5	75	ACS580-01-096A-4	96
R6	100	ACS580-01-124A-4	124
R7	125	ACS580-01-156A-4	156
	150	ACS580-01-180A-4	180
R8	200	ACS580-01-240A-4	240
R9	250	ACS580-01-302A-4	302
	300	ACS580-01-361A-4	361
	350	ACS580-01-414A-4	414

Consult factory

Selecting and sizing the drive

Type designation 500V-600V

1. Start with identifying type designation of your ACS550 drive.
2. Compare the motor's power and current rating from the ratings table below. For heavy-duty and other ratings, check Hardware Manual (see [Related documents](#)).
3. Compare the options on the options page.

Example:

ACS550	-	U1	-	011A	-	6	+	B055
ACS580	-	01	-	011A	-	6	+	B056

$U_i = 500V$ to 600V 3-phase

Power ratings are valid at nominal output voltage 575V 50/60Hz

Power (HP)	Material Description	Current (A)	Base Drive Frame
2	ACS550-U1-02A7-6	2.7	R2
3	ACS550-U1-03A9-6	3.9	
5	ACS550-U1-06A1-6	6.1	
7.5	ACS550-U1-09A0-6	9.0	
10	ACS550-U1-011A-6	11	
15	ACS550-U1-017A-6	17	R3
20	ACS550-U1-022A-6	22	
25	ACS550-U1-027A-6	27	
30	ACS550-U1-032A-6	32	
40	ACS550-U1-041A-6	41	
50	ACS550-U1-052A-6	52	R4
60	ACS550-U1-062A-6	62	
75	ACS550-U1-077A-6	77	
100	ACS550-U1-099A-6	99	
125	ACS550-U1-125A-6	125	
150	ACS550-U1-144A-6	144	R6

$U_i = 500V$ to 600V 3-phase

Power ratings are valid at $U_N = 575V$ 50/60Hz

Base Drive Frame	Power (HP)	Material Description	Current (A)
R2	2	ACS580-01-02A7-6	2.7
	3	ACS580-01-03A9-6	3.9
	5	ACS580-01-06A1-6	6.1
	7.5	ACS580-01-09A0-6	9.0
	10	ACS580-01-011A-6	11
R3	15	ACS580-01-017A-6	17
	20	ACS580-01-022A-6	22
	25	ACS580-01-027A-6	27
	30	ACS580-01-032A-6	32
	40	ACS580-01-041A-6	41
R5	50	ACS580-01-052A-6	52
	60	ACS580-01-062A-6	62
	75	ACS580-01-077A-6	77
	100	ACS580-01-099A-6	99
	125	ACS580-01-125A-6	125
R7	150	ACS580-01-144A-6	144
	200	ACS580-01-192A-6	192
	250	ACS580-01-242A-6	242
	250	ACS580-01-271A-6	271

See notes and definitions on page 4

Identify your drive and options:

Product series _____

Types and construction _____

Rating _____

Voltage _____

Options _____

Product series _____

Types and construction _____

Rating _____

Voltage _____

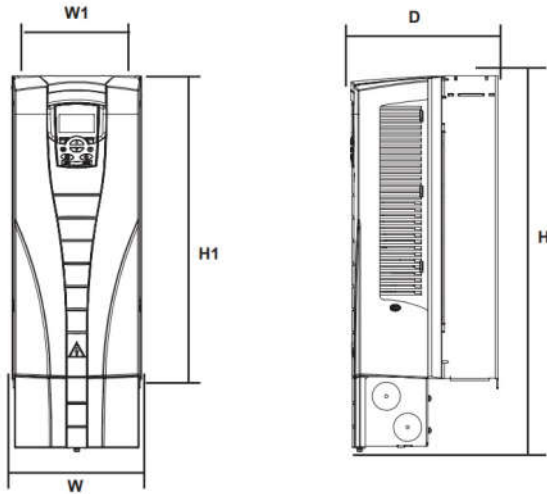
Options _____

o = standard with drive
x = ordering with separate material code

USB programming through Local/Remote control panel
 * External +24V input for frames R1-R5 require CMOD-01.
 ** Requires mini-USB cable to ABB Drive Control Panel
 *** Requires ACS-AP-W Bluetooth Control Panel

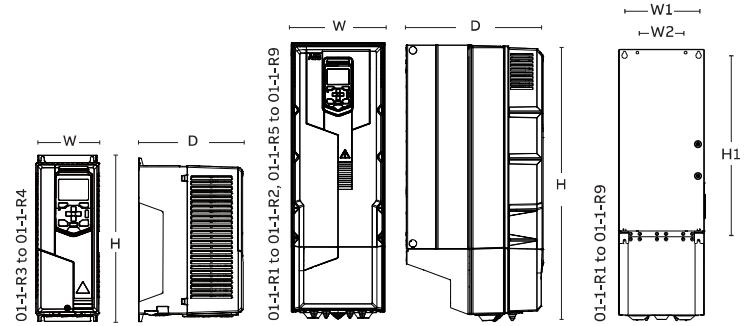
Dimensions and comparison tables

ACS550-U1 UL (NEMA) Type 1 Wall-mounted drives up to 200 hp



H = Height including conduit box
H1 = Height to mounting centers
W = Width
W1 = Width to mounting centers

ACS580-01 UL (NEMA) Type 1 Wall-mounted drives up to 350 hp



ACS580-01 with integrated
conduit box (R3-R4)

ACS580-01 with removeable
conduit box (R1-R2, R5-R9)

ACS550-U1 wall-mounted UL (NEMA) Type 1 (All Voltages)

Dim Ref	Height (H)	Width (W)	Depth (D)	Weight
	in	in	in	lb
Ux1-1	14.5	4.9	8.3	14.3
Ux1-2	18.5	4.9	8.7	19.8
Ux1-3	23.0	8.0	9.1	35.0
Ux1-4	27.1	8.0	10.3	53.0
Ux1-5	29.0	10.4	11.3	75.0
Ux1-6	34.6	11.8	15.8	152.0

ACS550-U1 mounting dimensions
UL (NEMA) Type 1 (All Voltages)

Dim Ref	Height (H1)	Width (W1)
	in	in
Ux1-1	12.5	3.9
Ux1-2	16.4	3.9
Ux1-3	18.6	6.3
Ux1-4	22.8	6.3
Ux1-5	23.2	9.4
Ux1-6	26.6	10.4

ACS580-01, wall-mounted UL (NEMA) Type 1 (All Voltages)

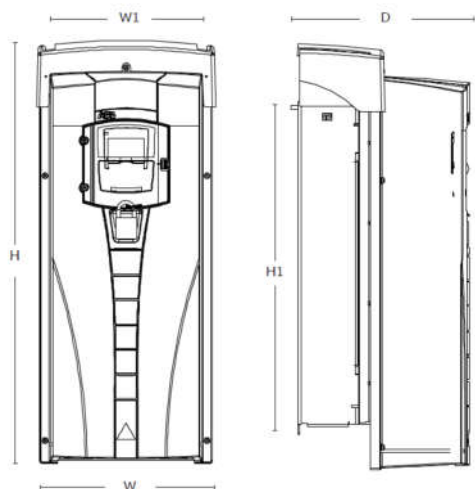
Dim Ref	Height (H)	Width (W)	Depth (D)	Weight
	in	in	in	lb
R1	14.69	4.92	8.78	10.1
R2	18.62	4.92	9.00	14.6
R3	19.29	7.99	9.02	26.0
R4	25.04	7.99	10.12	41.9
R5	28.82	7.99	11.61	62.4
R6	28.62	9.92	14.53	93.5
R7	34.65	11.18	14.57	119.1
R8	37.99	11.81	15.47	152.2
R9	37.60	14.96	16.46	213.9

ACS580-01 mounting dimensions
UL (NEMA) Type 1 (All Voltages)

Dim Ref	Height (H1)	Width (W1)	Width (W2)
	in	in	in
R1	12.48	3.86	3.86
R2	16.42	3.86	3.86
R3	18.62	6.30	6.30
R4	24.37	6.30	3.86
R5	22.87	6.30	3.86
R6	20.91	8.37	6.30
R7	22.95	9.65	6.30
R8	25.91	10.33	8.43
R9	25.91	13.58	7.87

Dimensions and comparison tables

ACS550-U1 UL (NEMA) Type 12 (option +B055) Wall-mounted drives up to 200 hp



H = Height including conduit box
H1 = Height to mounting centers
W = Width
W1 = Width to mounting centers

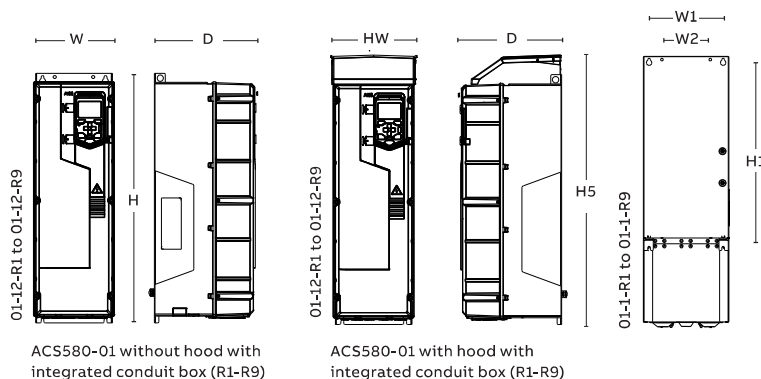
ACS550-U1 wall-mounted UL (NEMA) Type 12 (All Voltages)

Dim Ref	Height (H)	Width (W)	Depth (D)	Weight
	in	in	in	lb
Ux12-1	18.1	8.7	9.2	18.0
Ux12-2	22.1	8.7	9.6	25.0
Ux12-3	24.8	10.5	10.0	41.0
Ux12-4	29.9	10.5	11.2	58.0
Ux12-5	30.5	14.5	12.1	85.0
Ux12-6	36.4	16.1	16.6	190.0

**ACS550-U1 mounting dimensions
UL (NEMA) Type 1 (All Voltages)**

Dim Ref	Height (H1)	Width (W1)
	in	in
Ux1-1	12.5	3.9
Ux1-2	16.4	3.9
Ux1-3	18.6	6.3
Ux1-4	22.8	6.3
Ux1-5	23.1	9.4
Ux1-6	26.6	10.4

ACS580-01 UL (NEMA) Type 12 (option +B056) Wall-mounted drives up to 350 hp



ACS580-01 without hood with
integrated conduit box (R1-R9)

ACS580-01 with hood with
integrated conduit box (R1-R9)

ACS580-01, wall-mounted UL (NEMA) Type 12 (All Voltages)

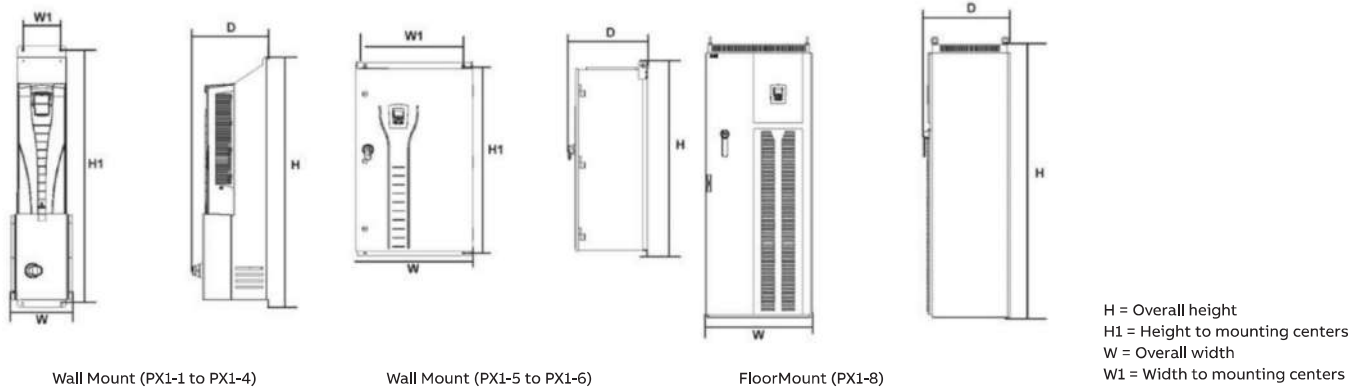
Dim Ref	Height	Height (H5)	Width	Depth	Weight
	(in)	(in)	(in)	(in)	(lb)
R1	15.87	17.78	5.04	9.17	10.6
R2	19.80	21.49	5.04	9.41	15.0
R3	19.29	20.93	8.11	9.33	28.7
R4	25.04	27.03	7.99	10.43	44.1
R5	28.82	32.01	7.99	12.60	64.0
R6	28.62	34.81	9.92	14.96	94.8
R7	34.65	40.86	11.18	15.00	123.5
R8	37.99	44.23	11.81	17.80	169.8
R9	37.60	46.75	14.96	18.78	227.1

**ACS580 mounting dimensions
UL (NEMA) Type 12 (All Voltages)**

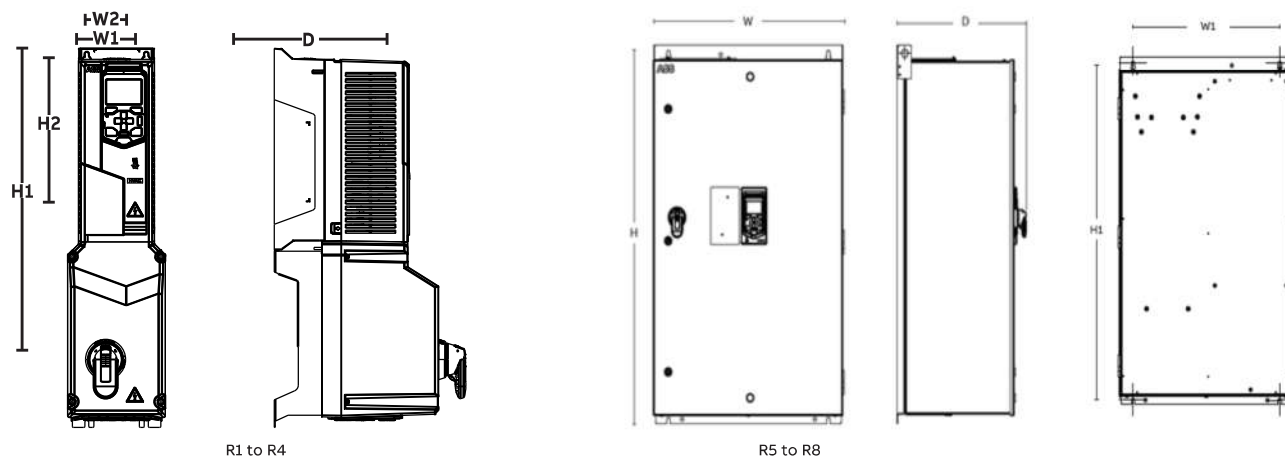
Dim Ref	Height (H1)	Width (W1)	Width (W2)
	in	in	in
R1	12.48	3.86	3.86
R2	16.42	3.86	3.86
R3	18.62	6.30	6.30
R4	24.37	6.30	3.86
R5	22.87	6.30	3.86
R6	20.91	8.37	6.30
R7	22.95	9.65	6.30
R8	25.91	10.33	8.43
R9	25.91	13.58	7.87

Dimensions and comparison tables

ACS550-PC and ACS550-PD, packaged drive with disconnect means, UL (NEMA) Type 1



ACS580-0P, packaged drive with disconnect means, UL (NEMA) Type 1



ACS550-PC and ACS550-PD, packaged drive with disconnect means, UL (NEMA) Type 1 (All Voltages)

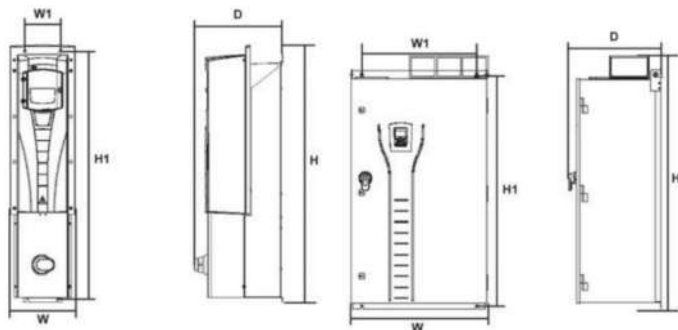
Dim Ref	Height (H1)	Width (W1)	Height (H)	Width (W)	Depth (D)	Weight
	in	in	in	in	in	lb
PX1-1	28.0	3.9	28.7	7.8	11.2	33
PX1-2	32.0	3.9	32.6	7.8	11.2	42
PX1-3	38.7	6.3	39.9	10.2	11.9	75
PX1-4	44.0	6.3	45.2	10.2	13.1	95
PX1-5	46.3	23.6	47.7	28.1	19.0	267
PX1-6	46.3	23.6	47.7	28.1	19.0	359
PX1-8	Free standing		83.7	31.7	25.9	794

ACS580-0P, packaged drive with disconnect means, UL (NEMA) Type 1 (All Voltages)

Dim Ref	Height (H2)	Width (W2)	Height (H1)	Width (W1)	Depth (D)	Weight
	in	in	in	in	in	lb
R1	12.48	3.86	24.60	6.34	12.42	18.1
R2	16.42	3.86	28.49	6.34	12.63	22.0
R3	18.75	6.30	34.86	8.39	13.22	39.0
R4	24.49	6.30	40.61	8.39	14.26	60.0
R5-R8	46.26		47.72	28.24	19.04	359.0

Dimensions and comparison tables

ACS550-PC and ACS550-PD, packaged drive with disconnect means, UL (NEMA) Type 12

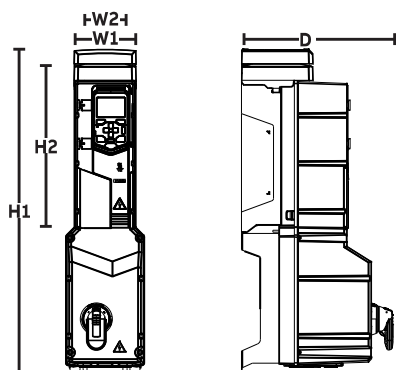


Wall Mount (PX12-1 to PX12-4)

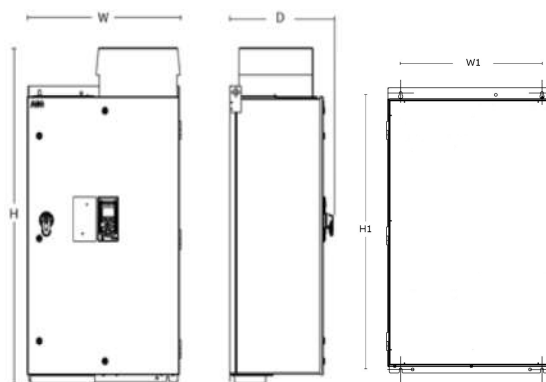
Wall Mount (PX12-5 to PX12-6)

H = Overall height
H1 = Height to mounting centers
W = Overall width
W1 = Width to mounting centers

ACS580-OP, packaged drive with disconnect means, UL (NEMA) Type 12



R1 to R4



R5 to R8

ACS550-PC and ACS550-PD, packaged drive with disconnect means, UL (NEMA) Type 12 (All Voltages)

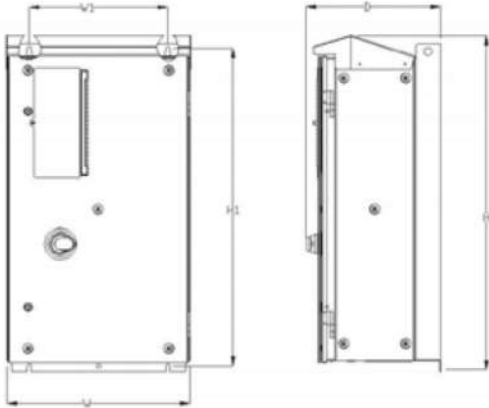
Dim Ref	Height (H1)	Width (W1)	Height (H)	Width (W)	Depth (D)	Weight
	in	in	in	in	in	lb
PX12-1	28.0	3.9	29.3	8.7	11.2	37.0
PX12-2	32.0	3.9	33.2	8.7	11.6	46.0
PX12-3	38.7	6.3	40.6	10.5	11.9	79.0
PX12-4	44.0	6.3	45.8	10.5	13.1	99.0
PX12-5	46.3	23.6	54.3	28.1	19.0	267.0
PX12-6	46.3	23.6	54.3	28.1	19.0	359.0
PX12-8	Free standing		93.6	31.7	25.9	838.0

ACS580-OP, packaged drive with disconnect means, UL (NEMA) Type 12 (All Voltages)

Dim Ref	Height (H2)	Width (W2)	Height (H1)	Width (W1)	Depth (D)	Weight
	in	in	in	in	in	lb
R1	12.48	3.86	26.50	6.50	12.40	18.1
R2	16.42	3.86	30.22	6.50	12.64	22.0
R3	18.75	6.30	36.51	8.39	13.22	39.0
R4	24.49	6.30	42.54	8.39	14.26	60.0
R5-R8	46.26	23.62	48.07	28.24	19.04	359.0

Dimensions and comparison tables

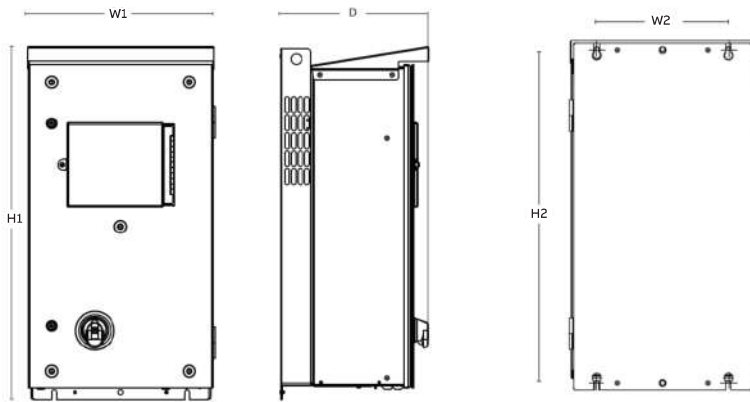
ACS550-PC and ACS580-PD, packaged drive with disconnect means, UL (NEMA) Type 3R



Wall Mount (PX3R-1 to PX3R-6)

H = Overall height
H1 = Height to mounting centers
W = Overall width
W1 = Width to mounting centers

ACS580-OP, packaged drive with disconnect means, UL (NEMA) Type 3R



R1 to R4

H1 = Overall height
H2 = Height to mounting centers
W1 = Overall width
W2 = Width to mounting centers

ACS550-PC and ACS580-PD, packaged drive with disconnect means, UL (NEMA) Type 3R (All Voltages)

Dim Ref	Height (H1)	Width (W1)	Height (H)	Width (W)	Depth (D)	Weight
	in	in	in	in	in	lb
PX3R-1	31.9	12.6	34.0	17.8	13.5	128.0
PX3R-2	31.9	12.6	34.0	17.8	13.5	134.0
PX3R-3	36.1	15.7	38.1	20.9	15.3	176.0
PX3R-4	36.1	15.7	38.1	20.9	15.3	194.0
PX3R-5	34.5	28.5	39.0	30.0	15.5	203.0
PX3R-6	46.5	34.5	51.0	36.0	21.5	395.0

ACS580-OP, packaged drive with disconnect means, UL (NEMA) Type 3R (All Voltages)

Dim Ref	Height (H1)	Width (W1)	Height (H2)	Width (W2)	Depth (D)	Weight
	in	in	in	in	in	lb
R1, R2	31.90	12.60	33.35	17.70	13.98	77.0
R3, R4	39.30	15.70	40.71	20.71	15.40	176.0



Flange Kit Dimensions and Comparison Tables

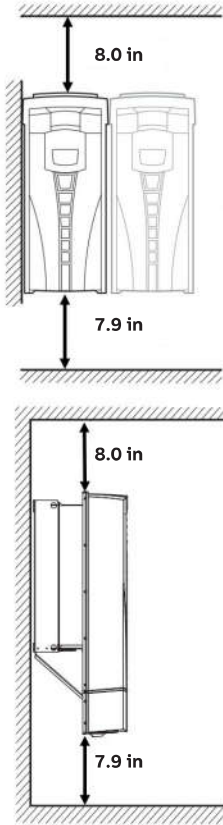


ACS550 (All Voltages)				
Flange Kit	Cutout Height (H1)	Cutout Width (W1)	Outer Dim Height (H)	Outer Dim Width (W)
	in	in	in	in
FMK-A-R1	15.75	5.67	17.01	8.11
FMK-A-R2	18.58	5.67	20.95	8.11
FMK-A-R3	21.02	8.58	23.39	9.81
FMK-A-R4	26.30	8.58	28.54	9.81
FMK-B-R1	15.75	5.67	17.01	8.11
FMK-B-R2	18.58	5.67	20.95	8.11
FMK-B-R3	21.02	8.58	23.39	9.81
FMK-B-R4	26.30	8.58	28.54	9.81

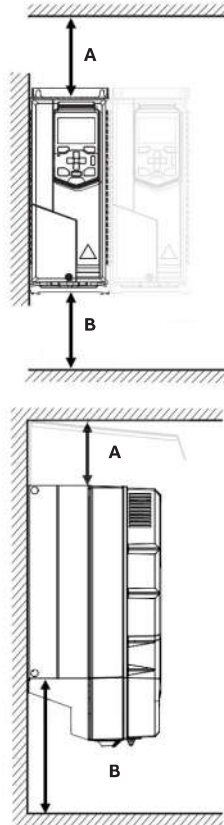
ACS580 (All Voltages)				
Flange Kit	Cutout Height (H1)	Cutout Width (W1)	Outer Dim Height (H)	Outer Dim Width (W)
	in	in	in	in
FMK-A/B-R1	16.10	5.91	18.15	8.11
FMK-A/B-R2	19.65	5.91	21.69	8.11
FMK-A/B-R3	21.65	9.06	24.13	11.42
FMK-A/B-R4	27.40	9.06	30.55	11.42
FMK-A/B-R5	27.42	9.06	30.55	11.42
FMK-A/B-R6	23.43	11.73	26.46	14.72
FMK-A/B-R7	25.47	12.99	28.43	15.98
FMK-A/B-R8	28.62	13.62	32.05	17.06
FMK-A/B-R9	28.62	16.73	31.65	19.76

Free space requirements

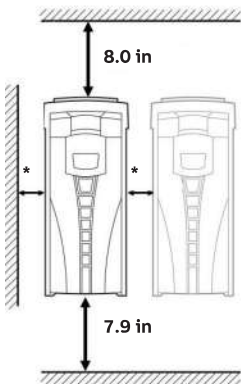
Vertically mounted side by side
ACS550-U1 UL (NEMA) Type 1/12
R1..R6



Vertically mounted side by side
ACS580-01 UL (NEMA) Type 1/12

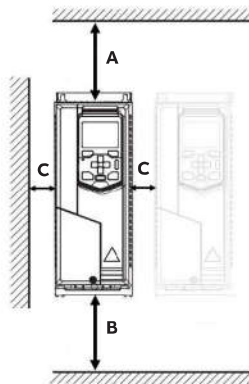


Vertically mounted alone
ACS550-U1 UL (NEMA) Type 1/12
R1..R6



* Any

Vertically mounted alone
ACS580-01 UL (NEMA) Type 1/12



ACS580 Vertically Mounted Side by Side Free Space

Frame Size	Vertical Installation Free Space	
	Above A ¹ (in)	Below B ² (in)
R1	7.87	7.87
R2	7.87	7.87
R3	7.87	7.87
R4	7.87	7.87
R5	7.87	7.87
R6	7.87	11.81
R7	7.87	11.81
R8	7.87	11.81
R9	7.87	11.81

1) Free space above is measured from the frame, not from the hood used in UL (NEMA) Type 12 frames.

Note: The height of the hood for frames R4 and R9 exceeds the requirement for free space above in these frames.

	Frame R4	Frame R9
Hood Height (in)	2.83	9.06

2) Free space below is always measured from the drive frame, not from the conduit box

ACS580 Vertically Mounted Alone Free Space

Frame Size	Vertical Installation Free Space		
	Above A ¹ (in)	Below B ² (in)	Beside C ³ (in)
R1	5.91	3.39	5.91
R2	5.91	3.39	5.91
R3	7.87	2.09	5.91
R4	2.09	7.87	5.91
R5	3.94	7.87	5.91
R6	6.10	11.81	5.91
R7	6.10	11.81	5.91
R8	6.10	11.81	5.91
R9	7.87	11.81	5.91

1) Free space above is measured from the frame, not from the hood used in UL (NEMA) Type 12 frames.

Note: The height of the hood for frames R4 and R9 exceeds the requirement for free space above in these frames.

	Frame R4	Frame R9
Hood Height (in)	2.83	9.06

2) Free space below is always measured from the drive frame, not from the conduit box

3) Free space between the drive and other objects, e.g walls

Cable sizes and power loss data

Low installation sites and box installations

When replacing ACS550 with ACS580 you should consider the cabling lengths since the absence of conduit in ACS580 frames R3 and smaller may require you to lower the mounting points if the cable does not have sufficient stretch. Frames R6 and larger must have 11.8 inches free space below the drive – measured from the fan which is higher than the free space requirement on ACS550. This might require use of longer cables, or mounting clearances.

Horizontal cabling

Also notice that while ACS550 has multiple inlets on the bottom and on the sides of the conduit, the ACS580 has only five inlets which are located solely under the drive. This must be considered when replacing the ACS550 with the ACS580.

Maximum size diameter (AWG)

ACS550		ACS580	
Frame size	Stranded	Stranded	Frame size
R1	8	10	R1
R2	8	6	R2
R3	3	2	R3
R4	1/0	1	R4
R5	2/0	2/0	R5
R6	350 MCM	300 MCM	R6
-		500 MCM	R7
-		2 x 300 MCM	R8
-		2 x 500 MCM	R9

The following type codes have smaller maximum cable sizes than their compared ACS550*:

	HP	Type	A	ACS550 Max AWG	ACS580 Max AWG
208/230V					
R1	1	ACS580-01-04A6-2	4.6	8	10
	1.5	ACS580-01-06A6-2	6.6	8	10
	2	ACS580-01-07A5-2	7.5	8	10
	3	ACS580-01-10A6-2	10.6	8	10
	5	ACS580-01-017A-2	16.7	8	10
R4	25	ACS580-01-075A-2	74.8	1/0	1
R6	50	ACS580-01-143A-2	143	350 MCM	300 MCM
460V					
R1	1	ACS580-01-02A1-4	2.1	8	10
	1.5	ACS580-01-03A0-4	3.0	8	10
	2	ACS580-01-03A5-4	3.5	8	10
	3	ACS580-01-04A8-4	4.8	8	10
	5	ACS580-01-07A6-4	7.6	8	10
	7.5	ACS580-01-012A-4	12	8	10
R4	40	ACS580-01-052A-4	52	1/0	1
	50	ACS580-01-065A-4	65	1/0	1
	60	ACS580-01-077A-4	77	1/0	1
600V					
R3	30	ACS580-01-032A-6	32	3	2
R5	75	ACS580-01-077A-6	77	350 MCM	2/0

* Data only applicable to ACS550-01 and ACS580-01

Heat/Power losses

U_i = 208V to 240V 3-phase

Power ratings are valid at nominal output voltage 208V 50/60Hz

Base Drive Frame	Hp	Material Description	Max heat dissipation (W)	Air Flow m ³ /hr	Air Flow ft ³ /min
R1	1	ACS550-U1-04A6-2	55	44	26
	1.5	ACS550-U1-06A6-2	73	44	26
	2	ACS550-U1-07A5-2	81	44	26
	3	ACS550-U1-012A-2	116	44	26
	5	ACS550-U1-017A-2	161	44	26
R2	7.5	ACS550-U1-024A-2	227	88	52
	10	ACS550-U1-031A-2	285	88	52
R3	15	ACS550-U1-046A-2	420	134	79
	20	ACS550-U1-059A-2	536	134	79
R4	25	ACS550-U1-075A-2	671	280	165
	30	ACS550-U1-088A-2	786	280	165
	40	ACS550-U1-114A-2	1014	280	165
R6	50	ACS550-U1-143A-2	1268	405	238
	60	ACS550-U1-178A-2	1575	405	238
	75	ACS550-U1-221A-2	1952	405	238
	100	ACS550-U1-248A-2	2189	405	238

U_i = 380V to 480V 3-phase

Power ratings are valid at nominal output voltage 460V 50/60Hz

Base Drive Frame	Hp	Material Description	Max heat dissipation (W)	Air Flow m ³ /hr	Air Flow ft ³ /min
R1	1	ACS550-U1-03A3-4	40	44	26
	1.5	ACS550-U1-03A3-4	40	44	26
	2	ACS550-U1-04A1-4	52	44	26
	3	ACS550-U1-06A9-4	97	44	26
	5	ACS550-U1-08A8-4	127	44	26
	7.5	ACS550-U1-012A-4	172	44	26
R2	10	ACS550-U1-015A-4	232	88	52
	15	ACS550-U1-023A-4	337	88	52
R3	20	ACS550-U1-031A-4	457	134	79
	25	ACS550-U1-038A-4	562	134	79
	30	ACS550-U1-045A-4	667	134	79
R4	40	ACS550-U1-059A-4	907	280	165
	50	ACS550-U1-072A-4	1120	280	165
	60	ACS550-U1-078A-4	1295	280	165
	75	ACS550-U1-097A-4	1440	280	165
R5	100	ACS550-U1-125A-4	1940	168	238
R6	125	ACS550-U1-157A-4	2310	405	238
	150	ACS550-U1-180A-4	2810	405	238
	200	ACS550-U1-246A-4	3260	405	238
R8	250	ACS550-U1-316A-4*			
	300	ACS550-U1-368A-4*			
	350	ACS550-U1-414A-4*			

* floor standing so not direct comparison to ACS580 wall mounted drives

U_i = 200V to 240V 3-phase

Power ratings are valid at U_n = 208V/230V 50/60Hz

Base Drive Frame	Hp	Material Description	Max heat dissipation (W)	Air Flow m ³ /hr	Air Flow ft ³ /min
R1	1	ACS580-01-04A6-2	45	43	25
	1.5	ACS580-01-06A6-2	55	43	25
	2	ACS580-01-07A5-2	66	43	25
	3	ACS580-01-10A6-2	84	43	25
	5	ACS580-01-017A-2	133	43	25
R2	7.5	ACS580-01-024A-2	174	101	59
	10	ACS580-01-031A-2	228	101	59
R3	15	ACS580-01-046A-2	322	179	105
	20	ACS580-01-059A-2	430	179	105
R4	25	ACS580-01-075A-2	525	288	170
R5	30	ACS580-01-088A-2	619	139	82
	40	ACS580-01-114A-2	835	139	82
R6	50	ACS580-01-143A-2	1035	435	256
R7	60	ACS580-01-169A-2	1251	450	265
	75	ACS580-01-211A-2	1251	450	265
R8	100	ACS580-01-273A-2	2061	550	324

U_i = 380V to 480V 3-phase

Power ratings are valid at U_n = 460V 50/60Hz

Base Drive Frame	Hp	Material Description	Max heat dissipation (W)	Air Flow m ³ /hr	Air Flow ft ³ /min
R1	1	ACS580-01-02A1-4	45	43	25
	1.5	ACS580-01-03A0-4	55	43	25
	2	ACS580-01-03A5-4	66	43	25
	3	ACS580-01-04A8-4	84	43	25
	5	ACS580-01-07A6-4	133	43	25
	7.5	ACS580-01-012A-4	174	43	25
R2	10	ACS580-01-014A-4	228	101	59
	15	ACS580-01-023A-4	322	101	59
R3	20	ACS580-01-027A-4	430	179	105
	25	ACS580-01-034A-4	525	179	105
	30	ACS580-01-044A-4	619	179	105
R4	40	ACS580-01-052A-4	835	134	79
	50	ACS580-01-065A-4	1024	134	79
	60	ACS580-01-077A-4	1240	288	79
R5	75	ACS580-01-096A-4	1510	139	82
R6	100	ACS580-01-124A-4	1476	435	256
R7	125	ACS580-01-156A-4	1976	450	265
	150	ACS580-01-180A-4	2346	450	265
R8	200	ACS580-01-240A-4	3336	550	324
R9	250	ACS580-01-302A-4	4836	1150	677
	300	ACS580-01-361A-4	4836	1150	677
	350	ACS580-01-414A-4	6036	1150	677

See notes and definitions on page 4

Heat/Power losses

U _i = 500V to 600V 3-phase Power ratings are valid at nominal output voltage 575V 50/60Hz					
Base Drive Frame	Hp	Material Description	Max heat dissipation (W)	Air Flow m ³ /hr	Air Flow ft ³ /min
R2	2	ACS550-U1-02A7-6	46	88	52
	3	ACS550-U1-03A9-6	68	88	52
	5	ACS550-U1-06A1-6	124	88	52
	7.5	ACS550-U1-09A0-6	170	88	52
	10	ACS550-U1-011A-6	232	88	52
	15	ACS550-U1-017A-6	337	88	52
R3	20	ACS550-U1-022A-6	457	134	79
	25	ACS550-U1-027A-6	562	134	79
R4	30	ACS550-U1-032A-6	667	280	165
	40	ACS550-U1-041A-6	907	280	165
	50	ACS550-U1-052A-6	1120	280	165
	60	ACS550-U1-062A-6	1295	280	165
R6	75	ACS550-U1-077A-6	1504	405	238
	100	ACS550-U1-099A-6	1821	405	238
	125	ACS550-U1-125A-6	2442	405	238
	150	ACS550-U1-144A-6	2813	405	238

U _i = 500V to 600V 3-phase Power ratings are valid at U _N = 575V 50/60Hz					
Base Drive Frame	Hp	Material Description	Max heat dissipation (W)	Air Flow m ³ /hr	Air Flow ft ³ /min
R2	2	ACS580-01-02A7-6	66	101	59
	3	ACS580-01-03A9-6	84	101	59
	5	ACS580-01-06A1-6	133	101	59
	7.5	ACS580-01-09A0-6	174	101	59
	10	ACS580-01-011A-6	228	101	59
	15	ACS580-01-017A-6	322	101	59
	20	ACS580-01-022A-6	430	179	105
R3	25	ACS580-01-027A-6	525	179	105
	30	ACS580-01-032A-6	619	139	82
R5	40	ACS580-01-041A-6	835	139	82
	50	ACS580-01-052A-6	1024	139	82
	60	ACS580-01-062A-6	1240	139	82
	75	ACS580-01-077A-6	1510	139	82
R7	100	ACS580-01-099A-6	2061	450	265
	125	ACS580-01-125A-6	2466	450	265
R8	150	ACS580-01-144A-6	3006	550	265
R9	200	ACS580-01-192A-6	4086	1150	324
	200	ACS580-01-242A-6	4086	1150	677
	250	ACS580-01-271A-6	4896	1150	677

See notes and definitions on page 4

Control terminal wiring

ACS550 to ACS580 I/O terminals using Defaults

ACS550			ACS580		
Default Macro Connections	Meaning	Terminal	Terminal	Meaning	Default Connections
Reference Voltage and Analog Inputs and Outputs			Reference Voltage and Analog Inputs and Outputs		
Signal Cable Shield (Screen)	SCR	1	1	SCR	Signal Cable Shield (Screen)
External Reference 0(2)...10V or 0(4)...20mA	AI1	2	2	AI1	Output Frequency/Speed Reference: 0 to 10 V
Analog Input Circuit Common	AGND	3	3	AGND	Analog Input Circuit Common
Reference Voltage 10VDC	10V	4	4	10V	Reference Voltage 10VDC
Not used	AI2	5	5	AI2	Not used
Analog Input Circuit Common	AGND	6	6	AGND	Analog Input Circuit Common
Output Frequency: 0(4)...20mA	AO1	7	7	AO1	Output Frequency: 0...20mA
Output Current: 0(4)...20mA	AO2	8	8	AO2	Output Current: 0...20mA
Analog Input Circuit Common	AGND	9	9	AGND	Analog Input Circuit Common
Aux. Voltage Output and Programmable Digital Inputs			Aux. Voltage Output and Programmable Digital Inputs		
Aux. Voltage Output +24V DC	24V	10	10	24V	Aux. Voltage Output +24V DC Max 250mA
Aux. Voltage Output Common	GND	11	11	GND	Aux. Voltage Output Common
Digital Input Common For All	DCOM	12	12	DCOM	Digital Input Common for All
Start/Stop: Activate to Start Drive	DI1	13	13	DI1	Start (0)/Start (1)
Fwd/Rev: Activate to reverse rotation direction	DI2	14	14	DI2	Forward (0) / Reverse (1)
Constant (Preset) Speed 1	DI3	15	15	DI3	Constant Freq/Speed Selection
Constant (Preset) Speed 2	DI4	16	16	DI4	Constant Freq/Speed Selection
Ramp pair selection, to activate 2nd acc/dec	DI5	17	17	DI5	Ramp Set 1 (0) / Ramp Set 2 (1)
Not Configured	DI6	18	18	DI6	Not Configured
Relay Outputs			Relay Outputs		
Relay Output 1 Common	R01C	19	19	R01C	Relay Output 1 Common
	R01A	20	20	R01A	
Default Operation Ready -19 connected to 21	R01B	21	21	R01B	Ready run - 19 connected to 21
Relay Output 2 Common	R02C	22	22	R02C	Relay Output 2 Common
	R02A	23	23	R02A	
Default Operation Running -22 connected to 24	R02B	24	24	R02B	Running - 22 connected to 24
Relay Output 3 Common	R03C	25	25	R03C	Relay Output 3 Common
Default operation Fault -25 connected to 26	R03A	26	26	R03A	Fault (-1) - 25 connected to 26
	R03B	27	27	R03B	
Embedded Fieldbus			Embedded Fieldbus		
Signal Cable Shield (Screen)	SCR	28	29	B-	Embedded Fieldbus, EFB (EIA-485)
Embedded Fieldbus, EFB (EIA-485)	B+	29	30	A-	
	A-	30	31	DGND	
	AGND	31		TERM	Termination Switch S4
Signal Cable Shield (Screen)	SCR	32		BIAS	Bias Resistor Switch S5
			Safe Torque Off		
			34	OUT1	Safe Torque Off. Factory Connection. Both circuits MUST be closed for the drive to start.
			35	OUT2	
			36	SGND	
			37	IN1	
			38	IN2	

Total load capacitor of the Auxiliary voltage output +24V (X2:10) is 6.0 W (250 mA / 24 V DC).
Digital inputs DI1...DI5 also support 10 to 24 V AC.

Parameter groups

Cross-reference

Parameters are listed in numerical order with first priority given to the ACS550 menu structure, and second priority given to the ACS580 menu structure.

A few parameters are classified in different groups, therefore this table is not exhaustive, but only a starting guide. Consult the Firmware Manual for a thorough list.

ACS550 Group	Description	ACS580 Group	Description
01	Operating Data	→ 01	Actual Values
03	FB Actual Signals	→ 03	Input References
04	Fault History	→ 04	Warnings and Faults
--	--	→ 05	Diagnostics
--	---	→ 11	Standard DIO/FI/ FO
10	Start/Stop/Direction	→ 20	Start/Stop/Direction
11	Reference Select	→ 22	Speed ref. sel.
		→ 28	Frequency chain
12	Constant Speeds	→ 22	Speed ref. sel.
		→ 28	Frequency chain
13	Analog inputs	→ 12	Standard AI
14	Relay Outputs	→ 10	Standard DI/RO
15	Analog Outputs	→ 13	Standard AO
16	System Controls	→ 96	System
20	Limits	→ 30	Limits
21	Start/Stop Mode	→ 21	Start/Stop Mode
22	Accel/Decel	→ 23	Speed ref. ramp
		→ 28	Frequency chain
23	Speed Control	→ 25	Speed Control
24	Torque Control	→ --	--
25	Critical Speeds	→ 22	Speed ref. sel.
		→ 28	Frequency chain
26	Motor Control	→ 97	Motor Control
29	Maintenance Trigger	→ --	--
30	Fault Functions	→ 31	Fault Functions

ACS550 Group	Description	ACS580 Group	Description
31	Automatic Reset	→ 31	Fault Functions
32	Supervision	→ 32	Supervision
33	Information	→ 7	System Info
34	Panel Display	→ --	--
35	Motor Temp Measurement	→ 35	Motor Thermal Protection
36	Timed Functions	→ 34	Timed Functions
37	User Load Curve	→ 37	User Load Curve
40	Process PID Set 1	→ 40	Process PID Set 1
41	Process PID Set 2	→ 41	Process PID Set 2
42	Ext/Trim PID	→ 71	External PID 1
45	Energy Saving	→ 45	Energy Efficiency
51	Ext. Comm Module	→ 50	Fieldbus Adapter (FBA)
52	Panel Comm	→ 51	FBA A Settings
		→ 52	FBA A Data In
		→ 53	FBA A Data Out
		→ 49	Panel Port Comms
53	EFB Protocol	→ 58	Embedded Fieldbus
64	Load Analyzer	→ 36	Load Analyzer
81	PFC Control	→ 76	PFC Configuration
		→ 77	PFC Maintenance
--	--	→ 95	HW Configurations
98	Options	→ 58	Embedded Fieldbus
99	Motor Data	→ 99	Motor Data
9904	Motor Control Mode	→ 99.04	Motor Control Mode



Additional information

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ABB Inc.
16250 W. Glendale Drive
New Berlin, WI 53151
(800) 752-0696

ABB Inc.
800 Hymus Boulevard
Saint-Laurent, QC
H4S 0B5