
TRANSITION GUIDE

ABB Machinery Drives

ACS355 to ACS380 transition guide



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Using the transition guide

Important notice

This guide is intended for limited distribution to ABB's channel partners and customers who are replacing the ACS355 drive with the ACS380 Machinery 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 ACS355 prior to selecting and performing the actual replacement, control and parameter settings should be noted to ensure consistency in the replacement ACS380.

This checklist covers the main information you may require to guide you through the replacement process. If the ACS355 cannot be powered, the technician should gather all the information below that is not parameter related.

ACS355 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 Building Automation System communicating with the drive over a communication protocol? e.g. BACnet. 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?

This guide will help you to replace the ACS355 drive with the ACS380 Machinery 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 ACS380 product compared to the ACS355 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 ACS380 manual to assist with the commissioning process.

Selecting and sizing the drive

Type designation 200V-240V (1-Phase)

1. Start with identifying type designation of your ACS355 drive.
2. Compare the motor's power and current rating from the ratings table below.
3. Compare the options on the options page.

ACS355

ACS355 - 01U - 03A7 - 2 + N827

Product Series _____

Construction _____

Size/Current _____

Voltage Rating _____

Option Codes _____

ACS380

ACS380 - 040X - 017A - 1 + K490

Product Series _____

Construction _____

Size/Current _____

Voltage _____

Option _____

Disclaimer: The tables below are meant to be used as an aid in transitioning to our new products. However, given that there are differences, there might not be a direct cross between the products, so be sure to confirm with an ABB representative that the conversion will work.

ACS355 to ACS380 Transition: $U_i = 200V$ to 240V 1-phase

ACS355 (Heavy-duty)					ACS380 (Heavy-duty)				
Base Drive Frame	Material Description	HP	kW	A	Base Drive Frame	Material Description	HP	kW	A
					R0	ACS380-040x-02A4-1	0.33	0.25	1.8
R0	ACS355-01U-02A4-2	0.5	0.37	2.2	R0	ACS380-040x-03A7-1	0.5	0.37	2.4
					R1	ACS380-040x-04A8-1	0.75	0.55	3.7
R1	ACS355-01U-04A7-2	1	0.75	4.2	R1	ACS380-040x-06A9-1	1	0.75	4.8
R1	ACS355-01U-06A7-2	1.5	1.1	6	R1	ACS380-040x-07A8-1	1.5	1.1	6.9
R2	ACS355-01U-07A5-2	2	1.5	6.8	R2	ACS380-040x-09A8-1	2	1.5	7.8
R2	ACS355-01U-09A8-2	2	2.2	8.8	R2	ACS380-040x-12A2-1	3	2.2	9.8

Definitions:

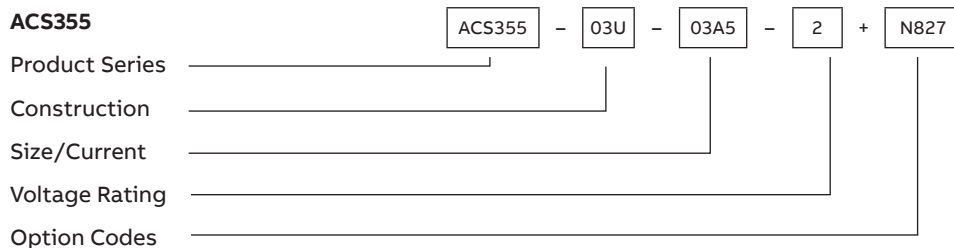
U_i Input voltage range

Selecting and sizing the drive

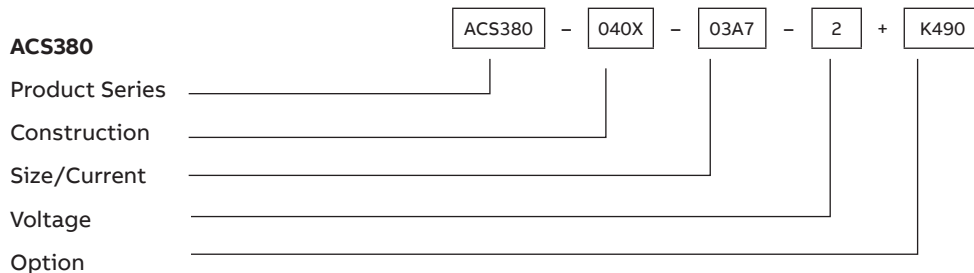
Type designation 200V-240V (3-Phase)

1. Start with identifying type designation of your ACS355 drive.
2. Compare the motor's power and current rating from the ratings table below.
3. Compare the options on the options page.

ACS355



ACS380



Disclaimer: The tables below are meant to be used as an aid in transitioning to our new products. However, given that there are differences, there might not be a direct cross between the products, so be sure to confirm with an ABB representative that the conversion will work.

ACS355 to ACS380 Transition: U_i = 200V to 240V 3-phase

ACS355 (Heavy-duty)					ACS380 (Heavy-duty)				
Base Drive Frame	Material Description	HP	kW	A	Base Drive Frame	Material Description	HP	kW	A
					R1	ACS380-040x-02A4-2	0.33	0.25	1.8
R0	ACS355-03U-02A4-2	0.5	0.37	2.2	R1	ACS380-040x-03A7-2	0.5	0.37	2.4
R0	ACS355-03U-03A5-2	0.75	0.55	3.2	R1	ACS380-040x-04A8-2	0.75	0.55	3.7
R1	ACS355-03U-04A7-2	1	0.75	4.2	R1	ACS380-040x-06A9-2	1	0.75	4.8
R1	ACS355-03U-06A7-2	1.5	1.1	6	R1	ACS380-040x-07A8-2	1.5	1.1	6.9
R1	ACS355-03U-07A5-2	2	1.5	6.8	R1	ACS380-040x-09A8-2	2	1.5	7.8
R2	ACS355-03U-09A8-2	2	2.2	8.8	R2	ACS380-040x-12A2-2	3	2.2	9.8
					R3	ACS380-040x-17A5-2	3	3	12.2
R2	ACS355-03U-17A6-2	5	4	15.8	R3	ACS380-040x-25A0-2	5	4	17.5
R3	ACS355-03U-24A4-2	7.5	5.5	22	R4	ACS380-040x-032A-2	7.5	5.5	25
R4	ACS355-03U-31A0-2	10	7.5	27.9	R4	ACS380-040x-048A-2	10	7.5	32
R4	ACS355-03U-46A2-2	15	11	41.6	R4	ACS380-040x-055A-2	15	11	48

Definitions:

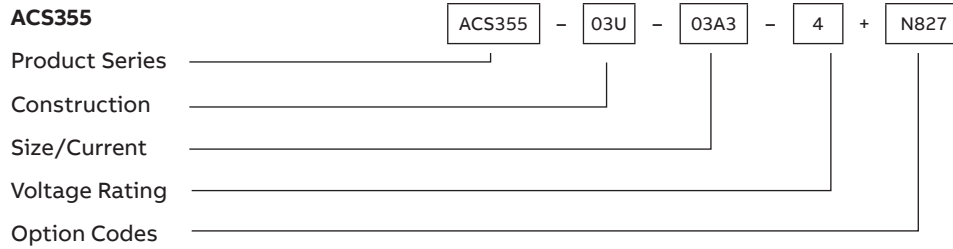
U_i Input voltage range

Selecting and sizing the drive

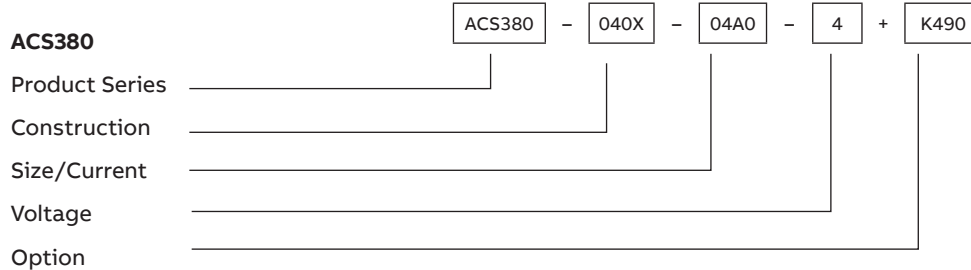
Type designation 380V-480V

1. Start with identifying type designation of your ACS355 drive.
2. Compare the motor's power and current rating from the ratings table below.
3. Compare the options on the options page.

ACS355



ACS380



Disclaimer: The tables below are meant to be used as an aid in transitioning to our new products. However, given that there are differences, there might not be a direct cross between the products, so be sure to confirm with an ABB representative that the conversion will work.

ACS355 to ACS380 Transition: $U_i = 380V$ to 480V 3-phase

ACS355 (Heavy-duty)					ACS380 (Heavy-duty)				
Base Drive Frame	Material Description	HP	kW	A	Base Drive Frame	Material Description	HP	kW	A
R0	ACS355-03U-01A2-4	0.5	0.37	1.1	R0	ACS380-040x-01A8-4	0.5	0.37	1.1
R0	ACS355-03U-01A9-4	0.75	0.55	1.7	R1	ACS380-040x-02A6-4	0.75	0.55	1.6
R1	ACS355-03U-02A4-4	1	0.75	2.2	R1	ACS380-040x-03A3-4	1	0.75	2.1
R1	ACS355-03U-03A3-4	1.5	1.1	3	R1	ACS380-040x-04A0-4	1.5	1.1	3
R1	ACS355-03U-04A1-4	2	1.5	3.7	R1	ACS380-040x-05A6-4	2	1.5	3.4
					R1	ACS380-040x-07A2-4	2	2.2	4
R1	ACS355-03U-05A6-4	3	2.2	5	R1	ACS380-040x-09A4-4	3	3	4.8
R1	ACS355-03U-08A8-4	5	4	7.9	R2	ACS380-040x-12A6-4	5	4	7.6
R3	ACS355-03U-12A5-4	7.5	5.5	11.3	R3	ACS380-040x-17A0-4	7.5	5.5	11
R3	ACS355-03U-15A6-4	10	7.5	14	R3	ACS380-040x-17A0-4	10	7.5	14
R3	ACS355-03U-23A1-4	15	11	20.8	R4	ACS380-040x-032A-4	15	11	21
R4	ACS355-03U-31A0-4	20	15	27.9	R4	ACS380-040x-038A-4	20	15	27
R4	ACS355-03U-38A0-4	25	18.5	34.2	R4	ACS380-040x-045A-4	25	18.5	34
R4	ACS355-03U-44A0-4	30	22	39.6	R4	ACS380-040x-050A-4	30	22	40

Definitions:

U_i Input voltage range

Drive Options

ACS355

Code	Variant
3AFE64532871	DriveWindow Light 2.x
3AUA0000041141	DriveBrowser
ACS355 DEMOCASE	ACS355 Demo Case
ACS-CP-A	Advanced Control Panel
ACS-CP-C	Basic Control Panel
ACS-CP-EXT	Control Panel Mounting
ACS-CP-EXT-IP66	NEMA 4X Cabinet Panel Mounting
FCAN-01-M KIT	CANopen Adapter MultiPack Kit (20 Adapters)
FECA-01-KIT	EtherCAT® Adapter
FEPA-01	Fieldbus Adapter Power Module FPBA-01 & FCAN-01 only
FPBA-01-M KIT	PROFIBUS-DP Adapter Multi-Pack (20 Adapters)
FRSA-00	Modbus RTU PCB
J402 MPOT-01	Speed Pot, Start/Stop & Fw/Rev Switches
K451 FDNA-01-KIT	DeviceNet Adapter
K454 FPBA-01-KIT	PROFIBUS-DP Adapter
K457 FCAN-01-KIT	CANopen Adapter
K458 FMBA-01-KIT	Modbus RTU Adapter
K462	ControlNet adapter FCNA-01
K466 FENA-01-KIT	Ethernet IP/Modbus TCP PROFINet IO RT Adapter
K470 FEPL-02-KIT	Ethernet POWERLINK Adapter Module
K475 FENA-21-KIT	Ethernet IP/Modbus TCP/PROFINet DualPort Adapter
3AUA0000235813	VFD-Gateway: Ethernet/IP Gateway module (separately mounted)
MFD-01	FlashDrop
MPOW-01	Auxiliary Power Module
MREL-01	Relay Output Module Extension
MTAC-01	Pulse Encoder Interface
MUL1-R1	NEMA 1 Enclosure Kit
MUL1-R3	
MUL1-R4	
N826	
N827	Solar pump inverter
N828	Low ambient start
N830	Enhanced Sequence Program
OCAT-01	Panel Extension Cable
OPCA-01	RJ45/DB9 Adapter
OPMP-01	Cabinet Panel Mounting
SEDG-01	Ethernet to DeviceNet Gateway

ACS380

Code	Variant
ACS-AP-I***	Assistant Control Panel
ACS-AP-S***	Assistant Control Panel
ACS-AP-W***	Assistant Control Panel with Bluetooth® interface
ACS-BP-S***	Basic Control Panel
ACS380 DEMOCASE	ACS380 Demo Case with US cord
BCBL-01***	Programming Cable
BSPL-01***	Panel bus splitter
BPLG-01***	Termination plug
CCA-01***	Cold configuration tool
(download)	Drive composer entry
DCPT-01-KIT***	Drive composer pro
DCPT-01-KIT(10)***	Drive composer pro multi- user license - 10 copies
DCPT-01-KIT(20)***	Drive composer pro multi- user license - 20 copies
DPMP-01***	Control panel door mounting kit, flush mount, Type 12 (IP54) with EMC shield
DPMP-02***	Control panel door mounting kit, surface mount, Type 12 (IP65)
DPMP-04***	Control panel door mounting kit, surface mount, Type 3, 3R, 4, 4X (IP66) outdoor duty
DPMP-06***	Control panel door mounting kit, flush mount, Type 12
DPMP-08***1	Control panel door mounting kit, surface mount, Type 4, 4X (IP69k) indoor duty
K451**	DeviceNet adapter module FDNA-01
K454**	PROFIBUS-DP adapter module FPBA-01(-M)
K457**	CANopen adapter module FCAN-01(-M)
K469**	EtherCAT adapter module FECA-01(-M)
K470**	Ethernet POWERLINK adapter module FEPL-02
K475**	Ethernet adapter module Ethernet/IP, Modbus/TCP, or PROFINET FENA-21(-M)
K490***	Ethernet/IP adapter module FEIP-21
K491***	Modbus/TCP adapter module FMBT-21
K492***	PROFINET IO adapter module FPNO-21
K495***	CANopen interface module BCAN-11
L534*	24V Auxiliary Power Extension Module BAPO-01
L511*	Relay Extension Module BREL-01
L515*	BIO-01 I/O extension for Fieldbus
L535*	Pulse Encoder Interface Module BTAC-02
L538**	I/O module for 040S drive BMIO-01
Q986	PROFIsafe adapter module FSPS-21
3AUA0000235813	VFD-Gateway: Ethernet/IP Gateway module (separately mounted)
R700**	English manuals - printed copies
R707**	French manuals - printed copies
R708**	Spanish manuals - printed copies
---	Manuals in other languages
---	Mobile Connect
---	UL Type 1 enclosure kits

Notes:

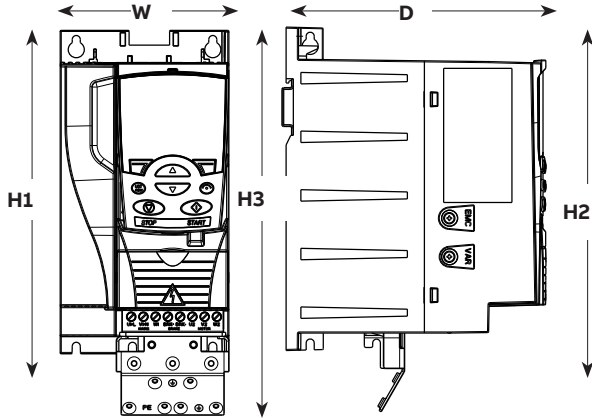
* Indicates option is available both as a configuration code and as a field mountable kit

** Indicates option is available ONLY as a configuration code

*** Enter as separate line item, not part of configuration code

Dimensions and comparison tables

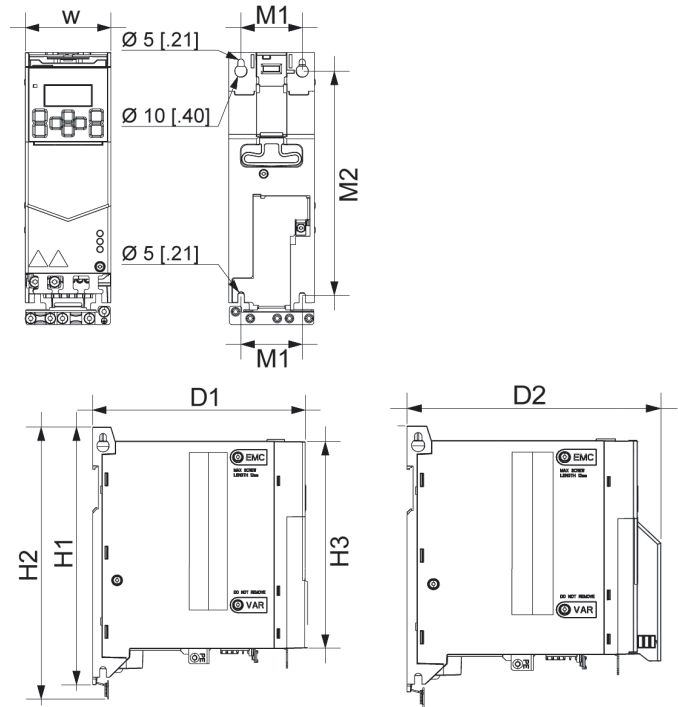
ACS355-03U UL Type Open / IP20



Frame Size	Dimensions (in)					Weight (lb)
	H1	H2	H3	W	D	
R0	6.65	7.95	9.41	2.76	6.34	2.6
R1	6.65	7.95	9.41	2.76	6.34	2.6
R2	6.65	7.95	9.41	4.13	6.5	3.3
R3	6.65	7.95	9.29	6.65	6.65	5.5
R4	7.13	7.95	9.61	10.24	6.65	9.7

H1 = Height without fastenings and clamping plate
H2 = Height with fastenings but without clamping plate
H3 = Height with fastenings and clamping plate
W = Width
D = Depth

ACS380-040x UL Type Open / IP20



Frame Size	Dimensions (in)								Weight (lb)
	H1	H2	H3	W	D1	D2	M1	M2	
R0	8.07	8.66	6.69	2.76	6.85	7.52	1.97	7.52	3.1
R1	8.07	8.66	6.69	2.76	6.85	7.52	1.97	7.52	3.5
R2	8.07	8.66	6.69	3.74	6.85	7.52	2.95	7.52	4.2
R3	8.07	8.66	6.69	6.65	6.85	7.52	5.83	7.52	6.4
R4	8.07	8.66	6.69	10.24	6.85	7.52	9.21	7.52	12.7

H1 = Mounting surface height - back
H2 = Height including grounding plate - back
H3 = Enclosure height - front
W = Width
D1 = Depth
D2 = Depth 2*)
M1 = Mounting hole distance 1
M2 = Mounting hole distance 2

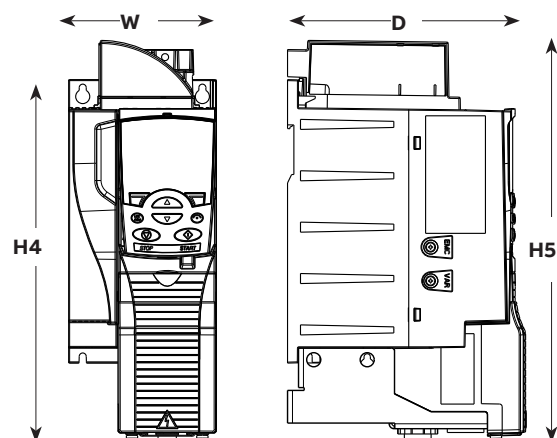
Mounting dimensions and weights

Frame Size	Mounting Dimensions (in)		Overall Dimensions (in)			Weight (lb)
	H2	W	H2	W	D1	
R0	8.66	2.76	8.66	2.76	6.85	3.1
R1	8.66	2.76	8.66	2.76	6.85	3.5
R2	8.66	3.74	8.66	3.74	6.85	4.2
R3	8.66	6.65	8.66	6.65	6.85	6.4
R4	8.66	10.24	8.66	10.24	6.85	12.7

H2 = Height including grounding plate - back
W = Width
D1 = Depth

Dimensions and comparison tables

ACS355-03U UL (NEMA) Type 1



Frame Size	Dimensions (in)				Weight (lb)
	H4	H5	W	D	
R0	10.12	11.02	2.76	6.65	3.5
R1	10.12	11.02	2.76	6.65	3.5
R2	10.12	11.1	4.13	6.65	4.2
R3	10.24	11.77	6.65	6.97	6.8
R4	10.63	12.6	10.24	6.97	11

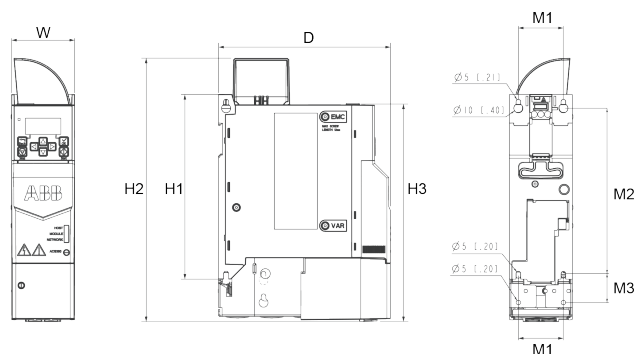
H4 = Height with fastenings and NEMA1 connection box

H5 = Height with fastenings, NEMA1 connection box and Hood

W = Width

D = Depth

ACS310-03U UL (NEMA) Type 1



Frame Size	Dimensions (in)								Weight (lb)
	H1	H2	H3	W*	D	M1	M2	M3	
R0	8.1	11.2	9.7	2.8	7.5	1.97	7.52	1.26	4.1
R1	8.1	11.5	9.7	2.8	7.5	1.97	7.52	1.26	4.5
R2	8.1	11.5	9.7	3.7	7.5	2.95	7.52	1.26	5.3
R3	8.1	13.0	10.3	6.7	7.5	5.83	7.52	1.42	7.9
R4	8.1	15.3	12.3	10.2	7.7	9.21	7.52	1.5	15.4

*A side option increases the width of the drive

H1 Height back

H2 Height

H3 Height front

W Width

D Depth

M1, M2, M3 Mounting hole distance

Mounting dimensions and weights

Frame Size	Mounting Dimensions (in)		Overall Dimensions (in)			Weight (lb)
	H2	W	H2	W	D1	
R0	8.66	2.76	8.66	2.76	6.85	4.1
R1	8.66	2.76	8.66	2.76	6.85	4.5
R2	8.66	3.74	8.66	3.74	6.85	5.3
R3	8.66	6.65	8.66	6.65	6.85	7.9
R4	8.66	10.24	8.66	10.24	6.85	15.4

H2 Height

W Width

D1 Depth

Free space requirements

ACS355

Frame	Free space requirement					
	Above ¹⁾		Below		Sides ²⁾	
	mm	in	mm	in	mm	in
R0...R4	75	3	75	3	0	0

ACS380-01

Frame	Free space requirement					
	Above ¹⁾		Below		Sides ²⁾	
	mm	in	mm	in	mm	in
R0...R4	75	3	75	3	0	0

Cable sizes and power loss data

Low installation sites and box installations

When replacing ACS355 with ACS380 you should consider the cabling lengths since the absence of conduit in ACS380 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 ACS355. This might require use of longer cables, or mounting clearances.

Horizontal cabling

Also notice that while ACS355 has multiple inlets on the bottom and on the sides of the conduit, the ACS380 has only five inlets which are located solely under the drive. This must be considered when replacing the ACS355 with the ACS380.

Maximum size diameter (AWG)

ACS310			ACS380	
Frame Size	Stranded (Supply)	Stranded (Motor)	Stranded	Frame Size
R0	14	14	10	R0
R1	10	12	10	R1
R2	10	10	10	R2
R3	8	8	6	R3
R4	2	2	2	R4

U_i = 200V to 240V 1-phase

ACS355					ACS380			
Base Drive Frame	Material Description	Max AWG - Supply	Max AWG - Motor	Max AWG - PE	Base Drive Frame	Material Description	Max AWG	Max AWG - PE
R0	ACS355-01U-02A4-2	14	18	14	R0	ACS380-040x-02A4-1	10	10
R0	ACS355-01U-03A7-2	14	18	14	R0	ACS380-040x-03A7-1	10	10
R1	ACS355-01U-04A7-2	14	18	14	R1	ACS380-040x-04A8-1	10	10
R1	ACS355-01U-06A7-2	10	14	10	R1	ACS380-040x-06A9-1	10	10
R2	ACS355-01U-07A5-2	10	14	10	R2	ACS380-040x-07A8-1	10	10
R2	ACS355-01U-09A8-2	10	12	10	R2	ACS380-040x-09A8-1	10	10
R2	ACS355-01U-12A2-1	10	12	10	R2	ACS380-040x-12A2-1	10	10

U_i = 200V to 240V 3-phase

ACS355					ACS380			
Base Drive Frame	Material Description	Max AWG - Supply	Max AWG - Motor	Max AWG - PE	Base Drive Frame	Material Description	Max AWG	Max AWG - PE
R0	ACS355-03U-02A4-2	14	18	14	R1	ACS380-040x-02A4-2	10	10
R0	ACS355-03U-03A5-2	14	18	14	R1	ACS380-040x-03A7-2	10	10
R1	ACS355-03U-04A7-2	14	18	14	R1	ACS380-040x-04A8-2	10	10
R1	ACS355-03U-06A7-2	12	14	12	R1	ACS380-040x-06A9-2	10	10
R1	ACS355-03U-07A5-2	12	14	12	R1	ACS380-040x-07A8-2	10	10
R1	ACS355-03U-09A8-2	12	14	12	R1	ACS380-040x-09A8-2	10	10
R2	ACS355-03U-12A2-2	12	12	12	R2	ACS380-040x-12A2-2	10	10
R2	ACS355-03U-17A5-2	12	12	12	R3	ACS380-040x-17A5-2	6	10
R2	ACS355-03U-25A0-2	10	10	10	R3	ACS380-040x-25A0-2	6	10
R3	ACS355-03U-24A4-2	8	8	8	R4	ACS380-040x-032A-2	2	4
R4	ACS355-03U-31A0-2	6	6	6	R4	ACS380-040x-048A-2	2	4
R4	ACS355-03U-46A2-2	2	2	4	R4	ACS380-040x-055A-2	2	4

U₁ = 380V to 480V 3-phase

ACS355					ACS380			
Base Drive Frame	Material Description	Max AWG - Supply	Max AWG - Motor	Max AWG - PE	Base Drive Frame	Material Description	Max AWG	Max AWG - PE
R0	ACS355-03U-01A2-4	14	18	14	R0	ACS380-040x-01A8-4	10	10
R0	ACS355-03U-01A9-4	14	18	14	R1	ACS380-040x-02A6-4	10	10
R1	ACS355-03U-02A4-4	14	18	14	R1	ACS380-040x-03A3-4	10	10
R1	ACS355-03U-03A3-4	12	18	12	R1	ACS380-040x-04A0-4	10	10
R1	ACS355-03U-04A1-4	12	18	12	R1	ACS380-040x-05A6-4	10	10
					R1	ACS380-040x-07A2-4	10	10
R1	ACS355-03U-05A6-4	12	14	12	R1	ACS380-040x-09A4-4	10	10
R1	ACS355-03U-08A8-4	12	12	12	R2	ACS380-040x-12A6-4	10	10
R3	ACS355-03U-12A5-4	10	10	10	R3	ACS380-040x-17A0-4	6	10
R3	ACS355-03U-15A6-4	8	8	8	R3	ACS380-040x-17A0-4	6	10
R3	ACS355-03U-23A1-4	8	8	8	R4	ACS380-040x-032A-4	2	4
R4	ACS355-03U-31A0-4	6	6	6	R4	ACS380-040x-038A-4	2	4
R4	ACS355-03U-38A0-4	4	4	4	R4	ACS380-040x-045A-4	2	4
R4	ACS355-03U-44A0-4	4	4	4	R4	ACS380-040x-050A-4	2	4

Heat/Power losses

ACS355 to ACS380 Transition: U_I = 200V to 240V 1-phase

ACS355 (Heavy-duty)						ACS380 (Heavy-duty)					
Base Drive Frame	HP	Material Description	Max heat dissipation (W)	Air Flow m3/hr	Air Flow ft3/min	Base Drive Frame	HP	Material Description	Max heat dissipation (W)	Air Flow m3/hr	Air Flow ft3/min
						R0	0.33	ACS380-040x-02A4-1	33	-	-
R0	0.5	ACS355-01U-02A4-2	47.7	-	-	R0	0.5	ACS380-040x-03A7-1	49	-	-
						R1	0.75	ACS380-040x-04A8-1	67	57	33
R1	1	ACS355-01U-04A7-2	72.4	24	14	R1	1	ACS380-040x-06A9-1	93	57	33
R1	1.5	ACS355-01U-06A7-2	97.4	24	14	R1	1.5	ACS380-040x-07A8-1	106	57	33
R2	2	ACS355-01U-07A5-2	100.5	21	12	R2	2	ACS380-040x-09A8-1	92	63	37
R2	2	ACS355-01U-09A8-2	123.5	21	12	R2	3	ACS380-040x-12A2-1	115	63	37

ACS355 to ACS380 Transition: U_I = 200V to 240V 3-phase

ACS355 (Heavy-duty)						ACS380 (Heavy-duty)					
Base Drive Frame	HP	Material Description	Max heat dissipation (W)	Air Flow m3/hr	Air Flow ft3/min	Base Drive Frame	HP	Material Description	Max heat dissipation (W)	Air Flow m3/hr	Air Flow ft3/min
						R1	0.33	ACS380-040x-02A4-2	39	57	33
R0	0.5	ACS355-03U-02A4-2	41.7	-	-	R1	0.5	ACS380-040x-03A7-2	57	57	33
R0	0.75	ACS355-03U-03A5-2	53.7	-	-	R1	0.75	ACS380-040x-04A8-2	72	57	33
R1	1	ACS355-03U-04A7-2	64.4	24	14	R1	1	ACS380-040x-06A9-2	111	57	33
R1	1.5	ACS355-03U-06A7-2	86.4	24	14	R1	1.5	ACS380-040x-07A8-2	105	57	33
R1	2	ACS355-03U-07A5-2	88.4	21	12	R1	2	ACS380-040x-09A8-2	140	57	33
R2	2	ACS355-03U-09A8-2	110.5	21	12	R2	3	ACS380-040x-12A2-2	149	63	37
						R3	3	ACS380-040x-17A5-2	265	128	75
R2	5	ACS355-03U-17A6-2	179.5	52	31	R3	5	ACS380-040x-25A0-2	398	128	75
R3	7.5	ACS355-03U-24A4-2	285.4	71	42	R4	7.5	ACS380-040x-032A-2	350	150	88
R4	10	ACS355-03U-31A0-2	327.8	96	57	R4	10	ACS380-040x-048A-2	561	150	88
R4	15	ACS355-03U-46A2-2	487.8	96	57	R4	15	ACS380-040x-055A-2	676	150	88

ACS355 to ACS380 Transition: U_I = 380V to 480V 3-phase

ACS355 (Heavy-duty)						ACS380 (Heavy-duty)					
Base Drive Frame	HP	Material Description	Max heat dissipation (W)	Air Flow m3/hr	Air Flow ft3/min	Base Drive Frame	HP	Material Description	Max heat dissipation (W)	Air Flow m3/hr	Air Flow ft3/min
R0	0.5	ACS355-03U-01A2-4	35.4	-	-	R0	0.5	ACS380-040x-01A8-4	28	-	-
R0	0.75	ACS355-03U-01A9-4	40.4	-	-	R1	0.75	ACS380-040x-02A6-4	44	57	33
R1	1	ACS355-03U-02A4-4	49.7	13	8	R1	1	ACS380-040x-03A3-4	55	57	33
R1	1.5	ACS355-03U-03A3-4	59.7	13	8	R1	1.5	ACS380-040x-04A0-4	62	57	33
R1	2	ACS355-03U-04A1-4	68.7	13	8	R1	2	ACS380-040x-05A6-4	91	57	33
						R1	2	ACS380-040x-07A2-4	100	57	33
R1	3	ACS355-03U-05A6-4	89.7	19	11	R1	3	ACS380-040x-09A4-4	140	57	33
R1	5	ACS355-03U-08A8-4	126.7	24	14	R2	5	ACS380-040x-12A6-4	165	63	37
R3	7.5	ACS355-03U-12A5-4	161.2	52	31	R3	7.5	ACS380-040x-17A0-4	259	128	75
R3	10	ACS355-03U-15A6-4	204.2	52	31	R3	10	ACS380-040x-17A0-4	390	128	75
R3	15	ACS355-03U-23A1-4	301.4	71	42	R4	15	ACS380-040x-032A-4	396	150	88
R4	20	ACS355-03U-31A0-4	407.8	96	57	R4	20	ACS380-040x-038A-4	497	150	88
R4	25	ACS355-03U-38A0-4	497.8	96	57	R4	25	ACS380-040x-045A-4	582	150	88
R4	30	ACS355-03U-44A0-4	587.8	96	57	R4	30	ACS380-040x-050A-4	672	150	88

Definitions:

U_I Input voltage range

Parameter groups

Cross-reference

Parameters are listed in numerical order with first priority given to the ACS355 menu structure, and second priority given to the ACS380 menu structure

ACS355 Group	Description	ACS380 Group	Description
01	Operating Data	→ 01	Actual Values
03	FB Actual Signals	→ 06	Control and Status Words
04	Fault History	→ 04	Warnings and Faults
--	Diagnostics	→ 05	Diagnostics
--	DI5 DI/FI Configuration	→ 11	Standard DIO, FI, FO
--	Crane Application Signals	→ 09	Crane Application Signals
10	Start/Stop/Direction	→ 20	Start/Stop/Direction
11	Reference Select	→ 22	Speed Reference Selection
		→ 28	Frequency Reference Chain
12	Constant Speeds	→ 22	Speed Reference Selection
		→ 28	Frequency Reference Chain
13	Analog inputs	→ 12	Standard AI
14	Relay Outputs	→ 10	Standard DI, RO
15	Analog Outputs	→ 13	Standard AO
--	I/O Extension module	→ 15	I/O Extension Module
16	System Controls	→ 20	Start/Stop/Direction
18	Freq In & Tran Out	→ --	
19	Timer & Counter	→ 33	Generic Timer & Counter
20	Limits	→ 30	Limits
21	Start/Stop	→ 21	Start/Stop Mode
22	Accel/Decel	→ 23	Speed Reference Ramp
		→ 28	Frequency Reference Chain
23	Speed Control	→ 25	Speed Control
24	Torque Control	→ --	
25	Critical Speeds	→ 22	Speed Reference Selection
		→ 28	Frequency Reference Chain
26	Motor Control	→ 97	Motor Control
29	Maintenance Trigger	→ --	--
30	Fault Functions	→ 31	Fault Functions

ACS355 Group	Description	ACS380 Group	Description
31	Automatic Reset	→ 31	Fault Functions
32	Supervision	→ 32	Supervision
33	Information	→ 07	System Info
34	Panel Display	→ --	--
35	Motor Temp Measurement	→ 35	Motor Thermal Protection
36	Timed Functions	→ 34	Timed Functions
--	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
43	Mech Brake Control	→ --	
--	Energy Efficiency	→ 45	Energy Efficiency
50	Encoder	→ 91	Encoder Module Setting
		→ 92	Encoder 1 Configuration
52	Panel Comm	→ 49	Panel Port Communications
		→ 51	FBA A Settings
		→ 52	FBA A Data In
		→ 53	FBA A Data Out
53	EFB Protocol	→ 58	Embedded Fieldbus
54	FBA Data In	→ 52	FBA A Data In
55	FBA Data Out	→ 53	FBA A Data Out
--	Load Analyzer	→ 36	Load Analyzer
--	Application Features	→ 76	Application Features
84	Sequence Prog	→ --	
--	Feedback Selection	→ 90	Feedback Selection
--	System	→ 96	System
98	Options	→ 58	Embedded Fieldbus
99	Start-up Data	→ 99	Motor Data

Commissioning the ACS380

Please reference the [ACS380 machinery control program firmware manual \(3AXD50000029275\)](#).





Additional information

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