MANUAL SUPPLEMENT

Multiple ratings for ABB ACS380-04, ACS580-01, ACQ580-01 and ACS880-01 drives

Introduction

National Electric Code (NEC 2020) requires that drive input conductors are sized based on the drive nameplate input current rating and the output conductors are sized based on the full load motor current. There are several scenarios where this sizing procedure is not optimal including multi-motor systems, applications where a larger replacement drive is substituted in an emergency breakdown, and cases where a motor is undersized for the drive. In these situations, power distribution components are often oversized to comply with NEC requirements.

Purpose

ABB has collaborated with Underwriters Laboratories (UL) to create multiple drive ratings from 50% to 100% in 5% increments for the ACS380-04, ACS580-01, ACQ580-01, and ACS880-01 drives. Because UL has approved the multiple ratings listed herein, it may be possible to oversize a drive but still select power distribution based on the motor(s) nameplated Full Load Amps (FLA). You might be able to substitute a larger available drive in place of a smaller hard-to-get drive but still use the same power distribution components of the smaller.

While designing a system using the information herein, you may find that the drive lugs will not accept the smallest allowed conductors. These cases are noted at the end of each table. An intermediate device such as a disconnect or breaker may be used to convert the desired smaller conductor to one that is accepted by the drive.

Note also that it may be possible that the branch circuit protection listed in the Branch Circuit Protection Manual Supplement (*3AXD50000645015*) or in the associated hardware manuals

- ACS380-04 Drives Hardware Manual (*3AXD50000029274*)
- ACQ580-01 Drives Hardware Manual (*3AXD50000044862*)
- ACS580-01 Drive Hardware Manual (*3AXD50000044794*)
- ACS880-01 Drives Hardware Manual (*3AUA0000078093*)

is too large to protect the smaller conductors for drives that are operating at a reduced current. These cases are noted at the end of each table.

ABB takes no responsibility in selecting power distribution devices, branch circuit protection devices or conductors. This is the responsibility of the system design engineer.

How to use this information

The steps below define how to use the multiple rating tables herein. Follow these steps to determine if the drive nameplated input current rating can be reduced, possibly allowing for smaller conductors and power distribution devices.

Note: In the tables below you will start on the right and final result will be in the middle.

1. Refer to the motor nameplate to determine the total FLA motor current and continuous horsepower (HP) required for all the motors powered by the drive in the system. For this example use 75 Amp and 24.6 HP.

2. Using the total FLA motor current and HP, locate the motor current values in the corresponding Output Current Motor FLA table.
   - Values in the table must be equal to or greater than the total FLA motor current.
   - There may be more than one occurrence of this current; note them all. Highlighted in yellow below are several choices for the 75 Amp motor example.

3. For this example, the ideal drive would be a ACS880-01-087A-2, because it is the smallest drive that can handle a 75A motor. However, only the ACS880-01-115A-2 is available, and because the need for a replacement is urgent, this drive will be chosen. (See the row in Green below.)
   - Note that the total HP rating of all the motors must be less than or equal to the HP rating in the third column of the table for the selected drive. In this example, 24.6 HP is less than 40 HP so the ACS880-01-115A-2 is still acceptable.

4. Vertically intersect the total FLA motor current value for the desired drive (ACS880-01-115A-2) with the percentage at the top of the Output Current Motor FLA table. (Blue arrow below) In this case 70%.

5. In the Scaled Drive Input Current Rating FLA table, intersect the percentage derived in step 4 with the chosen drive row. (Orange arrow below). In this example the new drive rated input current is 76.3 Amps. This new input current can be considered the drive nameplated input current. (Note that the drive input current and output current is the same at 70%. This is not always the case with all drives.)

				Scaled Drive Input Current Rating FLA											Output Current Motor FLA									
230 V ACS880-01-	Frame Size	Hp Ld	Input Current I1(A)	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	Output Current ILd (A)	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
04A6-2	R1	1	4.4	4.2	4	3.7	3.5	3.3	3.1	2.9	2.6	2.4	2.2	4.4	4.2	4	3.7	3.5	3.3	3.1	2.9	2.6	2.4	2.2
06A6-2	R1	1.5	6.3	6	5.7	5.4	5	4.7	4.4	4.1	3.8	3.5	3.2	6.3	6	5.7	5.4	5	4.7	4.4	4.1	3.8	3.5	3.2
07A5-2	R1	2	7.1	6.7	6.4	6	5.7	5.3	5	4.6	4.3	3.9	3.6	7.1	6.7	6.4	6	5.7	5.3	5	4.6	4.3	3.9	3.6
10A6-2	R1	3	10.1	9.6	9.1	8.6	8.1	7.6	7.1	6.6	6.1	5.6	5.1	10.1	9.6	9.1	8.6	8.1	7.6	7.1	6.6	6.1	5.6	5.1
16A8-2	R2	5	16	15.2	14.4	13.6	12.8	12	11.2	10.4	9.6	8.8	8	16	15.2	14.4	13.6	12.8	12	11.2	10.4	9.6	8.8	8
24A3-2	R2	7.5	23.1	21.9	20.8	19.6	18.5	17.3	16.2	15	13.9	12.7	11.6	23.1	21.9	20.8	19.6	18.5	17.3	16.2	15	13.9	12.7	11.6
031A-2	R3	10	29.3	27.8	26.4	24.9	23.4	22	20.5	19	17.6	16.1	14.7	29.3	27.8	26.4	24.9	23.4	22	20.5	19	17.6	16.1	14.7
046A-2	R4	15	44	41.8	39.6	37.4	35.2	33	30.8	28.6	26.4	24.2	22	44	41.8	39.6	37.4	35.2	33	30.8	28.6	26.4	24.2	22
061A-2	R4	20	58	55.1	52.2	49.3	46.4	43.5	40.6	37.7	34.8	31.9	29	58	55.1	52.2	49.3	46.4	43.5	40.6	37.7	34.8	31.9	29
075A-2	R5	25	71	67.5	63.9	60.4	56.8	53.3	49.7	46.2	42.6	39.1	35.5	71	67.5	63.9	60.4	56.8	53.3	49.7	46.2	42.6	39.1	35.5
087A-2	R5	30	83	78.9	74.7	70.6	66.4	62.3	58.1	54	49.8	45.7	41.5	83	78.9	74.7	70.6	66.4	62.3	58.1	54	49.8	45.7	41.5
115A-2	R6	40	109	103.6	98.1	92.7	87.2	81.8	76.3	70.9	65.4	60	54.5	109	103.6	98.1	92.7	87.2	81.8	76.3	70.9	65.4	60	54.5
145A-2	R6	50	138	131.1	124.2	117.3	110.4	103.5	96.6	89.7	82.8	75.9	69	138	131.1	124.2	117.3	110.4	103.5	96.6	89.7	82.8	75.9	69
170A-2	R7	60	162	153.9	145.8	137.7	129.6	121.5	113.4	105.3	97.2	89.1	81	162	153.9	145.8	137.7	129.6	121.5	113.4	105.3	97.2	89.1	81
206A-2	R7	75	196	186.2	176.4	166.6	156.8	147	137.2	127.4	117.6	107.8	98	196	186.2	176.4	166.6	156.8	147	137.2	127.4	117.6	107.8	98
274A-2	R8	100	260	247	234	221	208	195	182	169	156	143	130	260	247	234	221	208	195	182	169	156	143	130

6. Branch circuit protection and input conductors can be chosen based on the rerated 76.3 Amps determined in step 5, versus 109 Amps as shown on the ACS880-01-115A-2 drive nameplate. Output conductor size per NEC can be based on the total FLA motor current. If multiple motors are used, follow NEC for additional output protection that may be required for each motor.
7. Drive input fuse and circuit breaker size recommendations can be found using the appropriate hardware manual (see above) or the Branch Circuit Protection Manual Supplement (*3AXD50000645015*). The fuse and circuit breaker current ratings are the recommended maximum but can be smaller. Based on the current capability of the conductors selected, it may be necessary to reduce the fuse and circuit breaker current rating to comply with NEC.
8. Review information below each table for additional notes. Follow these steps using the tables below to determine the reduced drive input and output current rating.

ACS380-04, 200..240V

380-04	Frame	P_{Ld} (HP)	Input Current I_1 (A)	Scaled Drive Input Current Rating FLA										Output Current I_{Ld} (A)	Output Current Motor FLA									
				95%	90%	85%	80%	75%	70%	65%	60%	55%	50%		95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
-02A4-2	R1	0.5	3.5	3.3	3.2	3.0	2.8	2.6	2.5	2.3	2.1	1.9	1.8	2.3	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2
-03A7-2	R1	0.75	4.8	4.6	4.3	4.1	3.8	3.6	3.4	3.1	2.9	2.6	2.4	3.5	3.3	3.2	3.0	2.8	2.6	2.5	2.3	2.1	1.9	1.8
-04A8-2	R1	1	5.8	5.5	5.2	4.9	4.6	4.4	4.1	3.8	3.5	3.2	2.9	4.6	4.4	4.1	3.9	3.7	3.5	3.2	3.0	2.8	2.5	2.3
-06A9-2	R1	1.5	8.3	7.9	7.5	7.1	6.6	6.2	5.8	5.4	5.0	4.6	4.2	6.6	6.3	5.9	5.6	5.3	5.0	4.6	4.3	4.0	3.6	3.3
-07A8-2	R1	2	9.2	8.7	8.3	7.8	7.4	6.9	6.4	6.0	5.5	5.1	4.6	7.5	7.1	6.8	6.4	6.0	5.6	5.3	4.9	4.5	4.1	3.8
-09A8-2	R1	2	13.2	12.5	11.9	11.2	10.6	9.9	9.2	8.6	7.9	7.3	6.6	9.3	8.8	8.4	7.9	7.4	7.0	6.5	6.0	5.6	5.1	4.7
-12A2-2	R2	3	12.8	12.2	11.5	10.9	10.2	9.6	9.0	8.3	7.7	7.0	6.4	11.6	11.0	10.4	9.9	9.3	8.7	8.1	7.5	7.0	6.4	5.8
-17A5-2	R3	5	20.5	19.5	18.5	17.4	16.4	15.4	14.4	13.3	12.3	11.3	10.3	16.7	15.9	15.0	14.2	13.4	12.5	11.7	10.9	10.0	9.2	8.4
-25A0-2	R3	7.5	29.7	28.2	26.7	25.2	23.8	22.3	20.8	19.3	17.8	16.3	14.9	24.2	23.0	21.8	20.6	19.4	18.2	16.9	15.7	14.5	13.3	12.1
-032A-2	R4	10	36	34.2	32.4	30.6	28.8	27.0	25.2	23.4	21.6	19.8	18.0	30.8	29.3	27.7	26.2	24.6	23.1	21.6	20.0	18.5	16.9	15.4
-048A-2	R4	15	50.5	48.0	45.5	42.9	40.4	37.9	35.4	32.8	30.3	27.8	25.3	46.2	43.9	41.6	39.3	37.0	34.7	32.3	30.0	27.7	25.4	23.1
-055A-2	R4	20	57.6	54.7	51.8	49.0	46.1	43.2	40.3	37.4	34.6	31.7	28.8	52.8	50.2	47.5	44.9	42.2	39.6	37.0	34.3	31.7	29.0	26.4

ACS380-04, 480V

380-04	Frame	P_{Ld} (HP)	Input Current I_1 (A)	Scaled Drive Input Current Rating FLA										Output Current I_{Ld} (A)	Output Current Motor FLA									
				95%	90%	85%	80%	75%	70%	65%	60%	55%	50%		95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
-01A8-4	R0	0.75	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.4	1.3	1.2	1.6	1.5	1.4	1.4	1.3	1.2	1.1	1.0	1.0	0.9	0.8
-02A6-4	R1	1	3	2.9	2.7	2.6	2.4	2.3	2.1	2.0	1.8	1.7	1.5	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1
-03A3-4	R1	1.5	4.3	4.1	3.9	3.7	3.4	3.2	3.0	2.8	2.6	2.4	2.2	3	2.9	2.7	2.6	2.4	2.3	2.1	2.0	1.8	1.7	1.5
-04A0-4	R1	2	4.9	4.7	4.4	4.2	3.9	3.7	3.4	3.2	2.9	2.7	2.5	3.5	3.3	3.2	3.0	2.8	2.6	2.5	2.3	2.1	1.9	1.8
-05A6-4	R1	3	6.7	6.4	6.0	5.7	5.4	5.0	4.7	4.4	4.0	3.7	3.4	4.8	4.6	4.3	4.1	3.8	3.6	3.4	3.1	2.9	2.6	2.4
-07A2-4	R1	3	6.7	6.4	6.0	5.7	5.4	5.0	4.7	4.4	4.0	3.7	3.4	6	5.7	5.4	5.1	4.8	4.5	4.2	3.9	3.6	3.3	3.0
-09A4-4	R1	5	10.6	10.1	9.5	9.0	8.5	8.0	7.4	6.9	6.4	5.8	5.3	7.6	7.2	6.8	6.5	6.1	5.7	5.3	4.9	4.6	4.2	3.8
-12A6-4	R2	7.5	14.9	14.2	13.4	12.7	11.9	11.2	10.4	9.7	8.9	8.2	7.5	11	10.5	9.9	9.4	8.8	8.3	7.7	7.2	6.6	6.1	5.5
-17A0-4	R3	10	20.2	19.2	18.2	17.2	16.2	15.2	14.1	13.1	12.1	11.1	10.1	14	13.3	12.6	11.9	11.2	10.5	9.8	9.1	8.4	7.7	7.0
-25A0-4	R3	15	28.5	27.1	25.7	24.2	22.8	21.4	20.0	18.5	17.1	15.7	14.3	21	20.0	18.9	17.9	16.8	15.8	14.7	13.7	12.6	11.6	10.5
-032A-4	R4	20	35.8	34.0	32.2	30.4	28.6	26.9	25.1	23.3	21.5	19.7	17.9	27	25.7	24.3	23.0	21.6	20.3	18.9	17.6	16.2	14.9	13.5
-038A-4	R4	25	43.8	41.6	39.4	37.2	35.0	32.9	30.7	28.5	26.3	24.1	21.9	34	32.3	30.6	28.9	27.2	25.5	23.8	22.1	20.4	18.7	17.0
-045A-4	R4	30	49.4	46.9	44.5	42.0	39.5	37.1	34.6	32.1	29.6	27.2	24.7	40	38.0	36.0	34.0	32.0	30.0	28.0	26.0	24.0	22.0	20.0
-050A-4	R4	30	49.4	46.9	44.5	42.0	39.5	37.1	34.6	32.1	29.6	27.2	24.7	42	39.9	37.8	35.7	33.6	31.5	29.4	27.3	25.2	23.1	21.0

580-01 series, 208/230 V

580-01	Frame Size	P_{Ld} (HP)	Input Current I_1 (A)	Scaled Drive Input Current Rating FLA										Output Current I_{Ld} (A)	Output Current Motor FLA									
				95%	90%	85%	80%	75%	70%	65%	60%	55%	50%		95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
04A6-2	R1	1	4.6	4.4	4.1	3.9	3.7	3.5	3.2	3.0	2.8	2.5	2.3	4.6	4.4	4.1	3.9	3.7	3.5	3.2	3.0	2.8	2.5	2.3
06A6-2	R1	1.5	6.6	6.3	5.9	5.6	5.3	5.0	4.6	4.3	4.0	3.6	3.3	6.6	6.3	5.9	5.6	5.3	5.0	4.6	4.3	4.0	3.6	3.3
07A5-2	R1	2	7.5	7.1	6.8	6.4	6.0	5.6	5.3	4.9	4.5	4.1	3.8	7.5	7.1	6.8	6.4	6.0	5.6	5.3	4.9	4.5	4.1	3.8
10A6-2	R1	3	10.6	10.1	9.5	9.0	8.5	8.0	7.4	6.9	6.4	5.8	5.3	10.6	10.1	9.5	9.0	8.5	8.0	7.4	6.9	6.4	5.8	5.3
017A-2	R1	5	16.7	15.9	15.0	14.2	13.4	12.5	11.7	10.9	10.0	9.2	8.4	16.7	15.9	15.0	14.2	13.4	12.5	11.7	10.9	10.0	9.2	8.4
024A-2	R2	7.5	24	22.8	21.6	20.4	19.2	18.0	16.8	15.6	14.4	13.2	12.0	24.2	23.0	21.8	20.6	19.4	18.2	16.9	15.7	14.5	13.3	12.1
031A-2	R2	10	31	29.5	27.9	26.4	24.8	23.3	21.7	20.2	18.6	17.1	15.5	30.8	29.3	27.7	26.2	24.6	23.1	21.6	20.0	18.5	16.9	15.4
046A-2	R3	15	46	43.7	41.4	39.1	36.8	34.5	32.2	29.9	27.6	25.3	23.0	46.2	43.9	41.6	39.3	37.0	34.7	32.3	30.0	27.7	25.4	23.1
059A-2	R3	20	59	56.1	53.1	50.2	47.2	44.3	41.3	38.4	35.4	32.5	29.5	59.4	56.4	53.5	50.5	47.5	44.6	41.6	38.6	35.6	32.7	29.7
075A-2	R4	25	75	71.3	67.5	63.8	60.0	56.3	52.5	48.8	45.0	41.3	37.5	74.8	71.1	67.3	63.6	59.8	56.1	52.4	48.6	44.9	41.1	37.4
088A-2	R5	30	88	83.6	79.2	74.8	70.4	66.0	61.6	57.2	52.8	48.4	44.0	88	83.6	79.2	74.8	70.4	66.0	61.6	57.2	52.8	48.4	44.0
114A-2	R5	40	114	108.3	102.6	96.9	91.2	85.5	79.8	74.1	68.4	62.7	57.0	114	108.3	102.6	96.9	91.2	85.5	79.8	74.1	68.4	62.7	57.0
143A-2	R6	50	143	135.9	128.7	121.6	114.4	107.3	100.1	93.0	85.8	78.7	71.5	143	135.9	128.7	121.6	114.4	107.3	100.1	93.0	85.8	78.7	71.5
169A-2	R7	60	169	160.6	152.1	143.7	135.2	126.8	118.3	109.9	101.4	93.0	84.5	169	160.6	152.1	143.7	135.2	126.8	118.3	109.9	101.4	93.0	84.5
211A-2	R7	75	211	200.5	189.9	179.4	168.8	158.3	147.7	137.2	126.6	116.1	105.5	211	200.5	189.9	179.4	168.8	158.3	147.7	137.2	126.6	116.1	105.5
273A-2	R8	100	273	259.4	245.7	232.1	218.4	204.8	191.1	177.5	163.8	150.2	136.5	273	259.4	245.7	232.1	218.4	204.8	191.1	177.5	163.8	150.2	136.5
343A-2	R9	125	343	325.9	308.7	291.6	274.4	257.3	240.1	223.0	205.8	188.7	171.5	343	325.9	308.7	291.6	274.4	257.3	240.1	223.0	205.8	188.7	171.5
396A-2	R9	150	396	376.2	356.4	336.6	316.8	297.0	277.2	257.4	237.6	217.8	198.0	396	376.2	356.4	336.6	316.8	297.0	277.2	257.4	237.6	217.8	198.0

Drives with lugs that limit minimum wire size

Following the drive multiple rating guidelines herein can lead to a conductor size smaller than allowed for the drive terminals on the drives listed below. To remedy this refer to the Purpose section above. Also refer to the appropriate hardware manual section "Entry data for power cables (UL)".

Drive type code	Minimum allowed wire size (wire solid/stranded, Cu, 75°C)
580-01-169A-2	3/0 AWG
580-01-211A-2	3/0 AWG

580-01 series, 480 V

580-01	Frame Size	P_{Ld} (HP)	Input Current I_1 (A)	Scaled Drive Input Current Rating FLA										Output Current I_{Ld} (A)	Output Current Motor FLA									
				95%	90%	85%	80%	75%	70%	65%	60%	55%	50%		95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
02A1-4	R1	1	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1
03A0-4	R1	1.5	3	2.9	2.7	2.6	2.4	2.3	2.1	2.0	1.8	1.7	1.5	3	2.9	2.7	2.6	2.4	2.3	2.1	2.0	1.8	1.7	1.5
03A5-4	R1	2	3.5	3.3	3.2	3.0	2.8	2.6	2.5	2.3	2.1	1.9	1.8	3.5	3.3	3.2	3.0	2.8	2.6	2.5	2.3	2.1	1.9	1.8
04A8-4	R1	3	4.8	4.6	4.3	4.1	3.8	3.6	3.4	3.1	2.9	2.6	2.4	4.8	4.6	4.3	4.1	3.8	3.6	3.4	3.1	2.9	2.6	2.4
06A0-4	R1	3	6	5.7	5.4	5.1	4.8	4.5	4.2	3.9	3.6	3.3	3.0	6	5.7	5.4	5.1	4.8	4.5	4.2	3.9	3.6	3.3	3.0
07A6-4	R1	5	7.6	7.2	6.8	6.5	6.1	5.7	5.3	4.9	4.6	4.2	3.8	7.6	7.2	6.8	6.5	6.1	5.7	5.3	4.9	4.6	4.2	3.8
012A-4	R1	7.5	12	11.4	10.8	10.2	9.6	9.0	8.4	7.8	7.2	6.6	6.0	12	11.4	10.8	10.2	9.6	9.0	8.4	7.8	7.2	6.6	6.0
014A-4	R2	10	14	13.3	12.6	11.9	11.2	10.5	9.8	9.1	8.4	7.7	7.0	14	13.3	12.6	11.9	11.2	10.5	9.8	9.1	8.4	7.7	7.0
023A-4	R2	15	23	21.9	20.7	19.6	18.4	17.3	16.1	15.0	13.8	12.7	11.5	23	21.9	20.7	19.6	18.4	17.3	16.1	15.0	13.8	12.7	11.5
027A-4	R3	20	27	25.7	24.3	23.0	21.6	20.3	18.9	17.6	16.2	14.9	13.5	27	25.7	24.3	23.0	21.6	20.3	18.9	17.6	16.2	14.9	13.5
034A-4	R3	25	34	32.3	30.6	28.9	27.2	25.5	23.8	22.1	20.4	18.7	17.0	34	32.3	30.6	28.9	27.2	25.5	23.8	22.1	20.4	18.7	17.0
044A-4	R3	30	44	41.8	39.6	37.4	35.2	33.0	30.8	28.6	26.4	24.2	22.0	44	41.8	39.6	37.4	35.2	33.0	30.8	28.6	26.4	24.2	22.0
052A-4	R4	40	52	49.4	46.8	44.2	41.6	39.0	36.4	33.8	31.2	28.6	26.0	52	49.4	46.8	44.2	41.6	39.0	36.4	33.8	31.2	28.6	26.0
065A-4	R4	50	65	61.8	58.5	55.3	52.0	48.8	45.5	42.3	39.0	35.8	32.5	65	61.8	58.5	55.3	52.0	48.8	45.5	42.3	39.0	35.8	32.5
077A-4	R4	60	77	73.2	69.3	65.5	61.6	57.8	53.9	50.1	46.2	42.4	38.5	77	73.2	69.3	65.5	61.6	57.8	53.9	50.1	46.2	42.4	38.5
078A-4	R5	60	77	73.2	69.3	65.5	61.6	57.8	53.9	50.1	46.2	42.4	38.5	77	73.2	69.3	65.5	61.6	57.8	53.9	50.1	46.2	42.4	38.5
096A-4	R5	75	96	91.2	86.4	81.6	76.8	72.0	67.2	62.4	57.6	52.8	48.0	96	91.2	86.4	81.6	76.8	72.0	67.2	62.4	57.6	52.8	48.0
124A-4	R6	100	124	117.8	111.6	105.4	99.2	93.0	86.8	80.6	74.4	68.2	62.0	124	117.8	111.6	105.4	99.2	93.0	86.8	80.6	74.4	68.2	62.0
156A-4	R7	125	156	148.2	140.4	132.6	124.8	117.0	109.2	101.4	93.6	85.8	78.0	156	148.2	140.4	132.6	124.8	117.0	109.2	101.4	93.6	85.8	78.0
180A-4	R7	150	180	171.0	162.0	153.0	144.0	135.0	126.0	117.0	108.0	99.0	90.0	180	171.0	162.0	153.0	144.0	135.0	126.0	117.0	108.0	99.0	90.0
240A-4	R8	200	240	228.0	216.0	204.0	192.0	180.0	168.0	156.0	144.0	132.0	120.0	240	228.0	216.0	204.0	192.0	180.0	168.0	156.0	144.0	132.0	120.0
260A-4	R8	200	260	247.0	234.0	221.0	208.0	195.0	182.0	169.0	156.0	143.0	130.0	260	247.0	234.0	221.0	208.0	195.0	182.0	169.0	156.0	143.0	130.0
302A-4	R9	250	302	286.9	271.8	256.7	241.6	226.5	211.4	196.3	181.2	166.1	151.0	302	286.9	271.8	256.7	241.6	226.5	211.4	196.3	181.2	166.1	151.0
361A-4	R9	300	361	343.0	324.9	306.9	288.8	270.8	252.7	234.7	216.6	198.6	180.5	361	343.0	324.9	306.9	288.8	270.8	252.7	234.7	216.6	198.6	180.5
414A-4	R9	350	414	393.3	372.6	351.9	331.2	310.5	289.8	269.1	248.4	227.7	207.0	414	393.3	372.6	351.9	331.2	310.5	289.8	269.1	248.4	227.7	207.0

Drives with lugs that limit minimum wire size

Following the drive multiple rating guidelines herein can lead to a conductor size smaller than allowed for the drive terminals on the drives listed below. To remedy this refer to the Purpose section above. Also refer to the appropriate hardware manual section "Entry data for power cables (UL)".

Drive type code	Minimum allowed wire size (wire solid/stranded, Cu, 75°C)
580-01-156A-4	3/0 AWG
580-01-180A-4	3/0 AWG

Drives requiring fuses sized smaller than specified in the HW manual

If the drive in the table below is being utilized at 50% of its rating, the maximum allowed fuse size must be followed. This value is reduced from that shown in the HW manual.

	Maximum fuse allowed for multiple rating % (A)
Drive	50%
580-01-014A-4	25

580-01 series, 575 V

580-01	Frame Size	P_{Ld} (HP)	Input Current I_1 (A)	Scaled Drive Input Current Rating FLA										Output Current I_{Ld} (A)	Output Current Motor FLA									
				95%	90%	85%	80%	75%	70%	65%	60%	55%	50%		95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
02A7-6	R2	2	2.7	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.6	1.5	1.4	2.7	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.6	1.5	1.4
03A9-6	R2	3	3.9	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.3	2.1	2.0	3.9	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.3	2.1	2.0
06A1-6	R2	5	6.1	5.8	5.5	5.2	4.9	4.6	4.3	4.0	3.7	3.4	3.1	6.1	5.8	5.5	5.2	4.9	4.6	4.3	4.0	3.7	3.4	3.1
09A0-6	R2	7.5	9	8.6	8.1	7.7	7.2	6.8	6.3	5.9	5.4	5.0	4.5	9	8.6	8.1	7.7	7.2	6.8	6.3	5.9	5.4	5.0	4.5
011A-6	R2	10	11	10.5	9.9	9.4	8.8	8.3	7.7	7.2	6.6	6.1	5.5	11	10.5	9.9	9.4	8.8	8.3	7.7	7.2	6.6	6.1	5.5
017A-6	R2	15	17	16.2	15.3	14.5	13.6	12.8	11.9	11.1	10.2	9.4	8.5	17	16.2	15.3	14.5	13.6	12.8	11.9	11.1	10.2	9.4	8.5
022A-6	R3	20	22	20.9	19.8	18.7	17.6	16.5	15.4	14.3	13.2	12.1	11.0	22	20.9	19.8	18.7	17.6	16.5	15.4	14.3	13.2	12.1	11.0
027A-6	R3	25	27	25.7	24.3	23.0	21.6	20.3	18.9	17.6	16.2	14.9	13.5	27	25.7	24.3	23.0	21.6	20.3	18.9	17.6	16.2	14.9	13.5
032A-6	R3	30	32	30.4	28.8	27.2	25.6	24.0	22.4	20.8	19.2	17.6	16.0	32	30.4	28.8	27.2	25.6	24.0	22.4	20.8	19.2	17.6	16.0
041A-6	R5	40	41	39.0	36.9	34.9	32.8	30.8	28.7	26.7	24.6	22.6	20.5	41	39.0	36.9	34.9	32.8	30.8	28.7	26.7	24.6	22.6	20.5
052A-6	R5	50	52	49.4	46.8	44.2	41.6	39.0	36.4	33.8	31.2	28.6	26.0	52	49.4	46.8	44.2	41.6	39.0	36.4	33.8	31.2	28.6	26.0
062A-6	R5	60	62	58.9	55.8	52.7	49.6	46.5	43.4	40.3	37.2	34.1	31.0	62	58.9	55.8	52.7	49.6	46.5	43.4	40.3	37.2	34.1	31.0
077A-6	R5	75	77	73.2	69.3	65.5	61.6	57.8	53.9	50.1	46.2	42.4	38.5	77	73.2	69.3	65.5	61.6	57.8	53.9	50.1	46.2	42.4	38.5
099A-6	R7	100	99	94.1	89.1	84.2	79.2	74.3	69.3	64.4	59.4	54.5	49.5	99	94.1	89.1	84.2	79.2	74.3	69.3	64.4	59.4	54.5	49.5
125A-6	R7	125	125	118.8	112.5	106.3	100.0	93.8	87.5	81.3	75.0	68.8	62.5	125	118.8	112.5	106.3	100.0	93.8	87.5	81.3	75.0	68.8	62.5
144A-6	R8	150	144	136.8	129.6	122.4	115.2	108.0	100.8	93.6	86.4	79.2	72.0	144	136.8	129.6	122.4	115.2	108.0	100.8	93.6	86.4	79.2	72.0
192A-6	R9	200	192	182.4	172.8	163.2	153.6	144.0	134.4	124.8	115.2	105.6	96.0	192	182.4	172.8	163.2	153.6	144.0	134.4	124.8	115.2	105.6	96.0
242A-6	R9	250	242	229.9	217.8	205.7	193.6	181.5	169.4	157.3	145.2	133.1	121.0	242	229.9	217.8	205.7	193.6	181.5	169.4	157.3	145.2	133.1	121.0
271A-6	R9	250	271	257.5	243.9	230.4	216.8	203.3	189.7	176.2	162.6	149.1	135.5	271	257.5	243.9	230.4	216.8	203.3	189.7	176.2	162.6	149.1	135.5

Drives with lugs that limit minimum wire size

Following the drive multiple rating guidelines herein can lead to a conductor size smaller than allowed for the drive terminals on the drives listed below. To remedy this refer to the Purpose section above. Also refer to the appropriate hardware manual section "Entry data for power cables (UL)".

Drive type code	Minimum allowed wire size (wire solid/stranded, Cu, 75°C)
580-01-041A-6	6 AWG
580-01-052A-6	6 AWG
580-01-062A-6	6 AWG
580-01-077A-6	6 AWG
580-01-099A-6	3/0 AWG
580-01-192A-6	3/0 AWG
580-01-242A-6	3/0 AWG
580-01-271A-6	3/0 AWG

Drives requiring fuses sized smaller than specified in the HW manual

If the drive in the table below is being utilized at 50%, 55%, or 60% of its rating, the maximum allowed fuse size must be followed. This value is reduced from that shown in the HW manual.

	Maximum fuse allowed for multiple rating % (A)		
Drive	50%	55%	60%
580-01-041A-6	80	90	90

ACS880-01, 230V

880-01-	Frame Size	P_{Ld} (HP)	Input Current I_1 (A)	Scaled Drive Input Current Rating FLA										Output Current I_{Ld} (A)	Output Current Motor FLA									
				95%	90%	85%	80%	75%	70%	65%	60%	55%	50%		95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
04A6-2	R1	1	4.4	4.2	4.0	3.7	3.5	3.3	3.1	2.9	2.6	2.4	2.2	4.4	4.2	4.0	3.7	3.5	3.3	3.1	2.9	2.6	2.4	2.2
06A6-2	R1	1.5	6.3	6.0	5.7	5.4	5.0	4.7	4.4	4.1	3.8	3.5	3.2	6.3	6.0	5.7	5.4	5.0	4.7	4.4	4.1	3.8	3.5	3.2
07A5-2	R1	2	7.1	6.7	6.4	6.0	5.7	5.3	5.0	4.6	4.3	3.9	3.6	7.1	6.7	6.4	6.0	5.7	5.3	5.0	4.6	4.3	3.9	3.6
10A6-2	R1	3	10.1	9.6	9.1	8.6	8.1	7.6	7.1	6.6	6.1	5.6	5.1	10.1	9.6	9.1	8.6	8.1	7.6	7.1	6.6	6.1	5.6	5.1
16A8-2	R2	5	16	15.2	14.4	13.6	12.8	12.0	11.2	10.4	9.6	8.8	8.0	16.0	15.2	14.4	13.6	12.8	12.0	11.2	10.4	9.6	8.8	8.0
24A3-2	R2	7.5	23.1	21.9	20.8	19.6	18.5	17.3	16.2	15.0	13.9	12.7	11.6	23.1	21.9	20.8	19.6	18.5	17.3	16.2	15.0	13.9	12.7	11.6
031A-2	R3	10	29.3	27.8	26.4	24.9	23.4	22.0	20.5	19.0	17.6	16.1	14.7	29.3	27.8	26.4	24.9	23.4	22.0	20.5	19.0	17.6	16.1	14.7
046A-2	R4	15	44	41.8	39.6	37.4	35.2	33.0	30.8	28.6	26.4	24.2	22.0	44.0	41.8	39.6	37.4	35.2	33.0	30.8	28.6	26.4	24.2	22.0
061A-2	R4	20	58	55.1	52.2	49.3	46.4	43.5	40.6	37.7	34.8	31.9	29.0	58.0	55.1	52.2	49.3	46.4	43.5	40.6	37.7	34.8	31.9	29.0
075A-2	R5	25	71	67.5	63.9	60.4	56.8	53.3	49.7	46.2	42.6	39.1	35.5	71.0	67.5	63.9	60.4	56.8	53.3	49.7	46.2	42.6	39.1	35.5
087A-2	R5	30	83	78.9	74.7	70.6	66.4	62.3	58.1	54.0	49.8	45.7	41.5	83.0	78.9	74.7	70.6	66.4	62.3	58.1	54.0	49.8	45.7	41.5
115A-2	R6	40	109	103.6	98.1	92.7	87.2	81.8	76.3	70.9	65.4	60.0	54.5	109.0	103.6	98.1	92.7	87.2	81.8	76.3	70.9	65.4	60.0	54.5
145A-2	R6	50	138	131.1	124.2	117.3	110.4	103.5	96.6	89.7	82.8	75.9	69.0	138.0	131.1	124.2	117.3	110.4	103.5	96.6	89.7	82.8	75.9	69.0
170A-2	R7	60	162	153.9	145.8	137.7	129.6	121.5	113.4	105.3	97.2	89.1	81.0	162.0	153.9	145.8	137.7	129.6	121.5	113.4	105.3	97.2	89.1	81.0
206A-2	R7	75	196	186.2	176.4	166.6	156.8	147.0	137.2	127.4	117.6	107.8	98.0	196.0	186.2	176.4	166.6	156.8	147.0	137.2	127.4	117.6	107.8	98.0
274A-2	R8	100	260	247.0	234.0	221.0	208.0	195.0	182.0	169.0	156.0	143.0	130.0	260.0	247.0	234.0	221.0	208.0	195.0	182.0	169.0	156.0	143.0	130.0

Drives with lugs that limit minimum wire size

Following the drive multiple rating guidelines herein can lead to a conductor size smaller than allowed for the drive terminals on the drives listed below. To remedy this refer to the Purpose section above. Also refer to the appropriate hardware manual section "Entry data for power cables (UL)".

Drive type code	Minimum allowed wire size (wire solid/stranded, Cu, 75°C)
ACS880-01-075A-2	6 AWG

ACS880-01, 480 V

880-01-	Frame Size	P_{Ld} (HP)	Input Current I_1 (A)	Scaled Drive Input Current Rating FLA										Output Current I_{Ld} (A)	Output Current Motor FLA									
				95%	90%	85%	80%	75%	70%	65%	60%	55%	50%		95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
02A1-5	R1	1	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1
03A0-5	R1	1.5	3	2.9	2.7	2.6	2.4	2.3	2.1	2.0	1.8	1.7	1.5	3	2.9	2.7	2.6	2.4	2.3	2.1	2.0	1.8	1.7	1.5
03A4-5	R1	2	3.4	3.2	3.1	2.9	2.7	2.6	2.4	2.2	2.0	1.9	1.7	3.4	3.2	3.1	2.9	2.7	2.6	2.4	2.2	2.0	1.9	1.7
04A8-5	R1	3	4.8	4.6	4.3	4.1	3.8	3.6	3.4	3.1	2.9	2.6	2.4	4.8	4.6	4.3	4.1	3.8	3.6	3.4	3.1	2.9	2.6	2.4
05A2-5	R1	3	5.2	4.9	4.7	4.4	4.2	3.9	3.6	3.4	3.1	2.9	2.6	5.2	4.9	4.7	4.4	4.2	3.9	3.6	3.4	3.1	2.9	2.6
07A6-5	R1	5	7.6	7.2	6.8	6.5	6.1	5.7	5.3	4.9	4.6	4.2	3.8	7.6	7.2	6.8	6.5	6.1	5.7	5.3	4.9	4.6	4.2	3.8
11A0-5	R1	7.5	11	10.5	9.9	9.4	8.8	8.3	7.7	7.2	6.6	6.1	5.5	11	10.5	9.9	9.4	8.8	8.3	7.7	7.2	6.6	6.1	5.5
014A-5	R2	10	14	13.3	12.6	11.9	11.2	10.5	9.8	9.1	8.4	7.7	7.0	14	13.3	12.6	11.9	11.2	10.5	9.8	9.1	8.4	7.7	7.0
021A-5	R2	15	21	20.0	18.9	17.9	16.8	15.8	14.7	13.7	12.6	11.6	10.5	21	20.0	18.9	17.9	16.8	15.8	14.7	13.7	12.6	11.6	10.5
027A-5	R3	20	27	25.7	24.3	23.0	21.6	20.3	18.9	17.6	16.2	14.9	13.5	27	25.7	24.3	23.0	21.6	20.3	18.9	17.6	16.2	14.9	13.5
034A-5	R3	25	34	32.3	30.6	28.9	27.2	25.5	23.8	22.1	20.4	18.7	17.0	34	32.3	30.6	28.9	27.2	25.5	23.8	22.1	20.4	18.7	17.0
040A-5	R4	30	40	38.0	36.0	34.0	32.0	30.0	28.0	26.0	24.0	22.0	20.0	40	38.0	36.0	34.0	32.0	30.0	28.0	26.0	24.0	22.0	20.0
052A-5	R4	40	52	49.4	46.8	44.2	41.6	39.0	36.4	33.8	31.2	28.6	26.0	52	49.4	46.8	44.2	41.6	39.0	36.4	33.8	31.2	28.6	26.0
065A-5	R5	50	65	61.8	58.5	55.3	52.0	48.8	45.5	42.3	39.0	35.8	32.5	65	61.8	58.5	55.3	52.0	48.8	45.5	42.3	39.0	35.8	32.5
077A-5	R5	60	77	73.2	69.3	65.5	61.6	57.8	53.9	50.1	46.2	42.4	38.5	77	73.2	69.3	65.5	61.6	57.8	53.9	50.1	46.2	42.4	38.5
096A-5	R6	75	96	91.2	86.4	81.6	76.8	72.0	67.2	62.4	57.6	52.8	48.0	96	91.2	86.4	81.6	76.8	72.0	67.2	62.4	57.6	52.8	48.0
124A-5	R6	100	124	117.8	111.6	105.4	99.2	93.0	86.8	80.6	74.4	68.2	62.0	124	117.8	111.6	105.4	99.2	93.0	86.8	80.6	74.4	68.2	62.0
156A-5	R7	125	156	148.2	140.4	132.6	124.8	117.0	109.2	101.4	93.6	85.8	78.0	156	148.2	140.4	132.6	124.8	117.0	109.2	101.4	93.6	85.8	78.0
180A-5	R7	150	180	171.0	162.0	153.0	144.0	135.0	126.0	117.0	108.0	99.0	90.0	180	171.0	162.0	153.0	144.0	135.0	126.0	117.0	108.0	99.0	90.0
240A-5	R8	200	240	228.0	216.0	204.0	192.0	180.0	168.0	156.0	144.0	132.0	120.0	240	228.0	216.0	204.0	192.0	180.0	168.0	156.0	144.0	132.0	120.0
260A-5	R8	200	260	247.0	234.0	221.0	208.0	195.0	182.0	169.0	156.0	143.0	130.0	260	247.0	234.0	221.0	208.0	195.0	182.0	169.0	156.0	143.0	130.0
302A-5	R9	250	302	286.9	271.8	256.7	241.6	226.5	211.4	196.3	181.2	166.1	151.0	302	286.9	271.8	256.7	241.6	226.5	211.4	196.3	181.2	166.1	151.0
361A-5	R9	300	361	343.0	324.9	306.9	288.8	270.8	252.7	234.7	216.6	198.6	180.5	361	343.0	324.9	306.9	288.8	270.8	252.7	234.7	216.6	198.6	180.5
414A-5	R9	350	414	393.3	372.6	351.9	331.2	310.5	289.8	269.1	248.4	227.7	207.0	414	393.3	372.6	351.9	331.2	310.5	289.8	269.1	248.4	227.7	207.0

Drives with lugs that limit minimum wire size

Following the drive multiple rating guidelines herein can lead to a conductor size smaller than allowed for the drive terminals on the drives listed below. To remedy this refer to the Purpose section above. Also refer to the appropriate hardware manual section "Entry data for power cables (UL)".

Drive type code	Minimum allowed wire size (wire solid/stranded, Cu, 75°C)
ACS880-01-065A-5	6 AWG
ACS880-01-077A-5	6 AWG
ACS880-01-096A-5	4 AWG
ACS880-01-302A-5	3/0 AWG

ACS880-01, 575 V

880-01-	Frame Size	P_{Ld} (HP)	Input Current I_1 (A)	Scaled Drive Input Current Rating FLA										Output Current I_{Ld} (A)	Output Current Motor FLA									
				95%	90%	85%	80%	75%	70%	65%	60%	55%	50%		95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
07A4-7	R3	5	7	6.7	6.3	6.0	5.6	5.3	4.9	4.6	4.2	3.9	3.5	7	6.7	6.3	6.0	5.6	5.3	4.9	4.6	4.2	3.9	3.5
09A9-7	R3	7.5	9.4	8.9	8.5	8.0	7.5	7.1	6.6	6.1	5.6	5.2	4.7	9.4	8.9	8.5	8.0	7.5	7.1	6.6	6.1	5.6	5.2	4.7
14A3-7	R3	10	13.6	12.9	12.2	11.6	10.9	10.2	9.5	8.8	8.2	7.5	6.8	13.6	12.9	12.2	11.6	10.9	10.2	9.5	8.8	8.2	7.5	6.8
019A-7	R3	15	18	17.1	16.2	15.3	14.4	13.5	12.6	11.7	10.8	9.9	9.0	18	17.1	16.2	15.3	14.4	13.5	12.6	11.7	10.8	9.9	9.0
023A-7	R3	20	22	20.9	19.8	18.7	17.6	16.5	15.4	14.3	13.2	12.1	11.0	22	20.9	19.8	18.7	17.6	16.5	15.4	14.3	13.2	12.1	11.0
027A-7	R3	25	27	25.7	24.3	23.0	21.6	20.3	18.9	17.6	16.2	14.9	13.5	27	25.7	24.3	23.0	21.6	20.3	18.9	17.6	16.2	14.9	13.5
035A-7	R5	40	41	39.0	36.9	34.9	32.8	30.8	28.7	26.7	24.6	22.6	20.5	41	39.0	36.9	34.9	32.8	30.8	28.7	26.7	24.6	22.6	20.5
042A-7	R5	50	52	49.4	46.8	44.2	41.6	39.0	36.4	33.8	31.2	28.6	26.0	52	49.4	46.8	44.2	41.6	39.0	36.4	33.8	31.2	28.6	26.0
049A-7	R5	50	52	49.4	46.8	44.2	41.6	39.0	36.4	33.8	31.2	28.6	26.0	52	49.4	46.8	44.2	41.6	39.0	36.4	33.8	31.2	28.6	26.0
061A-7	R6	60	62	58.9	55.8	52.7	49.6	46.5	43.4	40.3	37.2	34.1	31.0	62	58.9	55.8	52.7	49.6	46.5	43.4	40.3	37.2	34.1	31.0
084A-7	R6	75	77	73.2	69.3	65.5	61.6	57.8	53.9	50.1	46.2	42.4	38.5	77	73.2	69.3	65.5	61.6	57.8	53.9	50.1	46.2	42.4	38.5
098A-7	R7	100	99	94.1	89.1	84.2	79.2	74.3	69.3	64.4	59.4	54.5	49.5	99	94.1	89.1	84.2	79.2	74.3	69.3	64.4	59.4	54.5	49.5
119A-7	R7	125	125	118.8	112.5	106.3	100.0	93.8	87.5	81.3	75.0	68.8	62.5	125	118.8	112.5	106.3	100.0	93.8	87.5	81.3	75.0	68.8	62.5
142A-7	R8	150	144	136.8	129.6	122.4	115.2	108.0	100.8	93.6	86.4	79.2	72.0	144	136.8	129.6	122.4	115.2	108.0	100.8	93.6	86.4	79.2	72.0
174A-7	R8	200	180	171.0	162.0	153.0	144.0	135.0	126.0	117.0	108.0	99.0	90.0	180	171.0	162.0	153.0	144.0	135.0	126.0	117.0	108.0	99.0	90.0
210A-7	R9	250	242	229.9	217.8	205.7	193.6	181.5	169.4	157.3	145.2	133.1	121.0	242	229.9	217.8	205.7	193.6	181.5	169.4	157.3	145.2	133.1	121.0
271A-7	R9	250	271	257.5	243.9	230.4	216.8	203.3	189.7	176.2	162.6	149.1	135.5	271	257.5	243.9	230.4	216.8	203.3	189.7	176.2	162.6	149.1	135.5

Drives with lugs that limit minimum wire size

Following the drive multiple rating guidelines herein can lead to a conductor size smaller than allowed for the drive terminals on the drives listed below. To remedy this refer to the Purpose section above. Also refer to the appropriate hardware manual section "Entry data for power cables (UL)".

Drive type code	Minimum allowed wire size (wire solid/stranded, Cu, 75°C)
ACS880-01-042A-7	6 AWG
ACS880-01-049A-7	6 AWG
ACS880-01-061A-7	4 AWG
ACS880-01-084A-7	4 AWG
ACS880-01-098A-7	3/0 AWG
ACS880-01-142A-7	1/0 AWG
ACS880-01-174A-7	1/0 AWG
ACS880-01-210A-7	3/0 AWG
ACS880-01-271A-7	3/0 AWG

Drives requiring fuses sized smaller than specified in the HW manual

If the drive in the table below is being utilized at 50% or 55% of its rating, the maximum allowed fuse size must be followed. This value is reduced from that shown in the HW manual.

Maximum fuse allowed for multiple rating % (A)		
Drive	50%	55%
ACS880-01-09A9-5	15	*
ACS880-01-014A-5	25	*
ACS880-01-019A-5	35	*
ACS880-01-023A-5	40	45

If * refer to HW manual