

ACH580- BxR & VxR

Bypass control unit replacement instructions

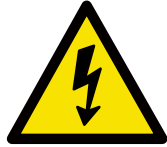
Purpose or Scope

The following set of instructions will guide the technician with the proper replacement of the Bypass Control Unit (RBCU, part number 3AXD50000328055). Proper installation will require both hardware and software changes.

Equipment required:

- No. 1 slotted screwdriver
- No. T15 torx head screwdriver or bit

Notes and cautions



WARNING! The incoming power to the ACH580 adjustable speed AC drive with E-Cclipse Bypass should be disconnected and locked out before changing the Bypass Control Unit (RBCU).

WARNING! Ensure proper PPE is worn and that the proper safety precautions are followed at all times during this installation. Follow local Lock Out Tag Out (LOTO) procedures to ensure equipment cannot be placed into a dangerous state while work is being conducted.

Step	Instruction	Diagram
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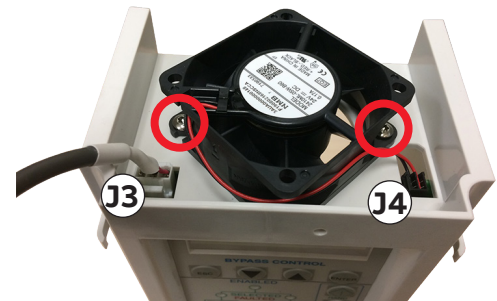
- 1** If possible, document changes in existing Bypass Control Unit by viewing the Changed Parameter section via the bypass keyboard. In addition, note parameter values in groups 50, 51, 52, 53, and 58 by hand. Any modifications made in these parameter groups are not logged in the Changed Parameter section.

- 2** Move the circuit breaker or disconnect handle to the "OFF" position to remove incoming supply voltage from Bypass Unit.



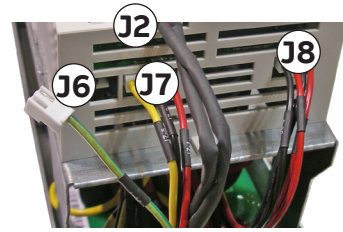
- 3** Unplug the RS-485 connection by squeezing and gently pulling upward on from the J3 plug located on the top of RBCU.

- 4** Remove Fan, if installed, by removing the two torx screws located on either side of the fan as shown in the photo to the right. Unplug the power connection by squeezing and gently pulling upward on the J4 plug located on the top of RBCU.

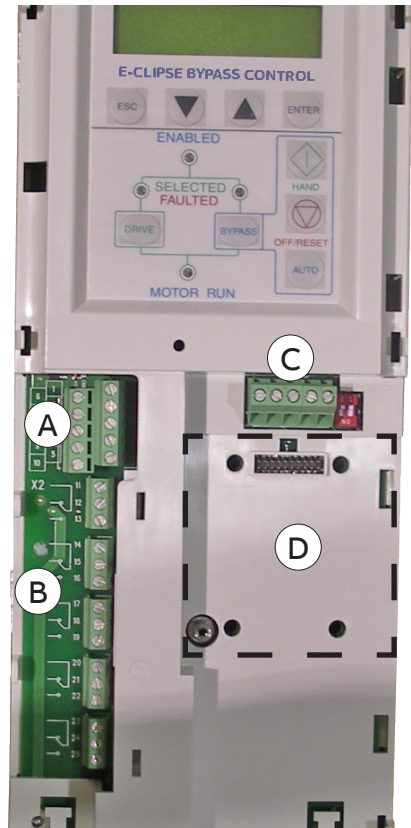


Step	Instruction	Diagram
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- 5** Unplug the following four (4) connections from the bottom of the RBCU by squeezing and gently pulling upward:
- J7 power plug, 3 phase AC line
 - J6 cable, chassis ground
 - J2 plug, CT harness from the current transducer
 - J8 plug, cable to contactor coils



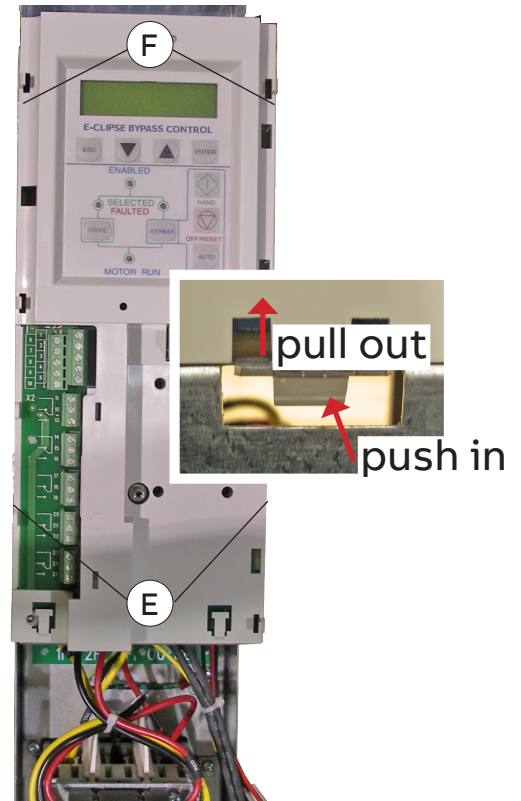
- 6** Remove digital input (A) and output wires (B) from front of RBCU making sure wires are properly identified for re-installation.



- 7** Remove communication cables (C) from front of RBCU making sure wires are properly identified for re-installation. If optional communication module (D) is used, remove module by loosening screw that is held by the communication module standoff.

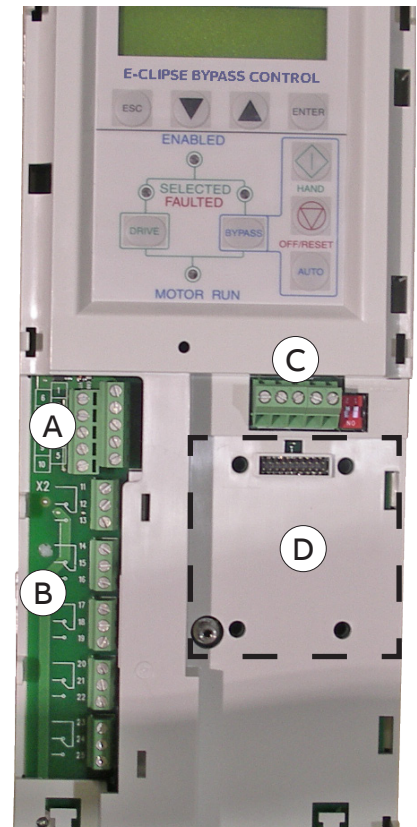
Step	Instruction	Diagram
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- 8** Push in the lower tabs (E) and pull out from the bottom of the RBCU.

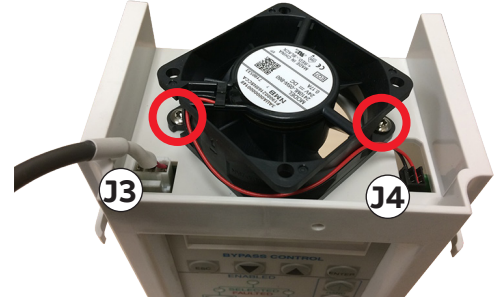
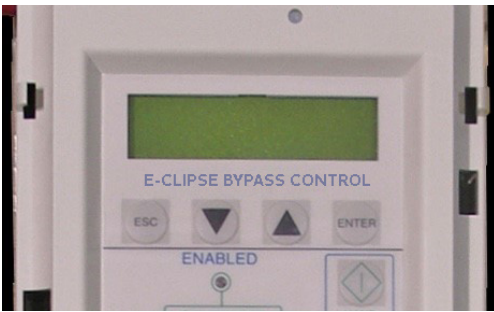
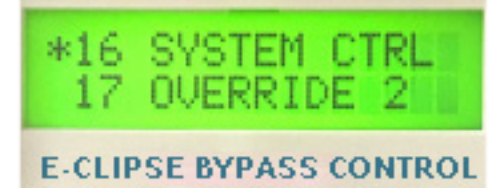



- 9** Push in the upper tabs (F) and pull out from the top of the RBCU.


- 10** Snap new RBCU into mounting holes.



- 11** Reconnect the wires for the Input (A), Output (B) and Communication cables (C) removed in step 6 and 7. If applicable, reinstall communication module (D). Terminals should be tightened to 3.6 lb-in. (0.4 Nm).

Step	Instruction	Diagram
12	Reinstall RS-485 connector (J3) and fan connection (J4), if installed; that were removed from RBCU in steps 3 and 4. Tighten fan screw to 8.8 lb-in (1 Nm).	
13	Reapply power to the Bypass Unit.	
14	Drive and motor parameters automatically transfer from the drive to the new RBCU via the RS-485 link. Make the below parameter change on the ACH580, if the bypass keypad shows either of the following diagnostic messages: Alarm 4013: Drive Link Error Fault 3019: Drive Link Fault Set parameter 95.21 bit 5 to "Bypass present". This will automatically set up the ACH580 to support the bypass.	
15	From the operating screen of the bypass, press "enter" on the bypass keypad. Use the Up (▲) or Down (▼) arrow key to navigate the menu until *PARAMETER LIST is displayed. Press "ENTER".	
16	Use the Down arrow key to navigate to "**16 SYSTEM CTRL" and press "ENTER".	
17	Use the Down arrow key to navigate to parameter "1618 PASS CODE" and press "ENTER". Change the value to "123" and press "ENTER".	

Step	Instruction	Diagram
18	Use the Down arrow key to navigate to parameter “1642 ABB ACCESS” and press “ENTER”. Change the value to “OPEN” and press “ENTER”.	
19	Press “ESC”. Use the Up arrow key to navigate to “*04 FAULT LOG” and press “ENTER”.	
20	Access to Parameter group 105 is gained by pressing and holding the “ESC”, “Up” and “Down” arrow keys at the same time for several seconds until the screen goes momentarily blank. At this time, stop pressing the three keys.	 
21	When the screen display returns, press “ESC” key once, then press the “Up” arrow key until *105 is displayed and press “ENTER”.	
22	<p>If the value in 10509 is not “0”, verify the setting in Appendix A, Tables A1, A2, or A3 to ensure it match the drive size. If it matches, press “ENTER” or “ESC”.</p> <p>If the value in 10509 is “0” or does not match the value in Appendix A, then program this parameter to match the drive size based on Appendix A, Tables A1, A2, or A3 and press “ENTER”.</p> <p>If “0” is the only available option in 10509, refer to Appendix B before continuing.</p>	

Step	Instruction	Diagram
23	Scroll to 10511, press “Enter”, value should show “0” and be flashing, press the up arrow to change value to “3” and press “Enter” to save the value. The parameter value reverts to “0” after it is saved.	
24	Cycle power on the Bypass and the unit should be ready to operate. Consult the corresponding user’s manual if either bypass or drive are displaying alarms or faults other than those listed in step 14.	

Appendix A. Drive Rating Selection Tables.

Table A1: 200 to 240 Volt Rating Codes

200 to 240 Volt Rating Table			Parameter 11201		Parameter 10509	
HP	Current	Frame	ACH580-01	ACH580-31	ACH580-BxR	ACH580-VxR
1.0	04A6-2	R1	2830	N/A	46151	4758
1.5	06A6-2	R1	2831	N/A	46151	4758
2	07A5-2	R1	2832	N/A	46151	4758
3	012A-2	R1	2833	N/A	46151	4758
5	017A-2	R1	2835	N/A	2426	46111
7.5	024A-2	R2	2836	N/A	2426	46111
10	031A-2	R2	2837	N/A	46722	46722
15	046A-2	R3	2838	N/A	18653	18653
20	059A-2	R3	2840	N/A	18653	18653
25	075A-2	R4	2841	N/A	18653	18653
30	088A-2	R4	2842	N/A	39323	N/A
40	114A-2	R4	2843	N/A	39330	N/A
50	143A-2	R6	2870	N/A	39347	N/A
60	178A-2	R6	2872	N/A	39354	N/A
75	221A-2	R6	2874	N/A	39361	N/A
100	273A-2	R6	2876	N/A	39378	N/A



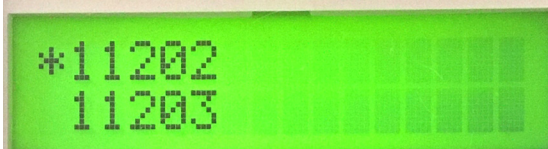

Table A2: 380 to 480 Volt Rating Codes

380 to 480 Volt Rating Table			Parameter 11201		Parameter 10509	
HP	Current	Frame	ACH580-01	ACH580-31	ACH580-BxR	ACH580-VxR
1.0	02A1-4	R1	2800	N/A	46151	4758
1.5	03A3-4	R1	2802	N/A	46151	4758
2.0	04A1-4	R1	2803	N/A	46151	4758
3.0	06A9-4	R1	2804	N/A	46151	4758
5.0	08A8-4	R1	2806	2900	46151	4758
7.5	012A-4	R1	2807	2902	46151	4758
10	015A-4	R2	2808	2904	2426	46111
15	023A-4	R2	2809	2906	2426	46111
20	031A-4	R3	2810	2908	46722	46722
25	038A-4	R3	2812	2910	46722	46722
30	045A-4	R3	2813	2912	46722	46722
40	059A-4	R4	2822	2914	18653	18653
50	072A-4	R4	2823	2916	18653	18653
60	078A-4	R4	2826	2918	18653	18653
75	097A-4	R4	2825	2920	39323	N/A
100	125A-4	R5	2851	2922	39330	N/A
125	157A-4	R6	2852	2924	39354	N/A
150	180A-4	R6	2853	2926	39354	N/A
200	246A-4	R6	2854	2928	39361	N/A
250	316A-4	R8	2856	2929	15642	N/A
300	368A-4	R8	2857	2930	15642	N/A
350	414A-4	R8	2858	2931	15642	N/A

Table A3: 500 to 600 Volt Rating Codes

500 to 600 Volt Rating Table			Parameter 11201		Parameter 10509	
HP	Current	Frame	ACH580-01	ACH580-31	ACH580-BxR	ACH580-VxR
2.0	02A7-6	R2	2041	N/A	46151	2426
3.0	03A9-6	R2	2042	N/A	46151	2426
5.0	06A1-6	R2	2044	N/A	46151	2426
7.5	09A0-6	R2	2045	N/A	46151	2426
10	011A-6	R2	2046	N/A	46151	2426
15	017A-6	R2	2047	N/A	46111	2426
20	022A-6	R3	2048	N/A	46722	46722
25	027A-6	R3	2050	N/A	46722	46722
30	032A-6	R4	2051	N/A	46722	46722
40	041A-6	R4	2052	N/A	15471	46722
50	052A-6	R4	2053	N/A	18243	18653
60	062A-6	R4	2054	N/A	18243	18653
75	077A-6	R6	2055	N/A	18243	18653
100	099A-6	R6	2150	N/A	39323	N/A
125	125A-6	R6	2152	N/A	39330	N/A
150	144A-6	R6	2154	N/A	39347	N/A

Appendix B. Manual Drive Data Entry

Step	Instruction	Diagram
B1	From inside parameter group 105, press the “ESC” key once and press the Down arrow key five (5) times until parameter group *112 is displayed and press “ENTER”.	 <p>E-CLIPSE BYPASS CONTROL</p>
B2	Navigate to parameter 11201 and press “Enter”. Change the value to the drive type code corresponding to the drive listed in the tables in Appendix A.	 <p>E-CLIPSE BYPASS CONTROL</p>
B3	Press the “ESC” key once, then the Down arrow once to display *11203 and press “ENTER”. Program the motor nominal voltage, and press “Enter”. Navigate to parameter 11203, program the motor nominal current, and press “Enter”. Navigate to parameter 11204, program the motor nominal horsepower, and press “Enter”.	 <p>E-CLIPSE BYPASS CONTROL</p>
B4	Press the “ESC” key once, press the Up arrow five (5) times until *105 is displayed and press “ENTER”.	
B5	Navigate to parameter 10511. Change the value to “3” and press “Enter”. The parameter value reverts to “0” after it is saved. Cycle power to the bypass. Return to step 16.	 <p>E-CLIPSE BYPASS CONTROL</p>