ACH580-01 BxR, UL Type 1/12 Frame R2/R3/R4

Base drive replacement instructions

Purpose or Scope

The following are the instructions for replacing an ACH580-01 UL Type 1 and 12 (Frames R2, R3 & R4) drive in BxR enclosures.

Equipment required*:

– Replacement drive (see note below)
– T20 bit
– T25 bit
– T30 bit
– PZ2 bit
– PZ3 bit
– Torque wrench
– Zip ties

Basic overview of steps

– Back-up drive parameters (if you can)
– Remove power and verify after 5 minutes
– Open enclosure
– Disconnect all wiring
– Remove flange plate
– Remove drive
– Prepare replacement drive
– Remove conduit assembly
– Install in reverse order
– Check connections
– Power drive
– Reprogram and test

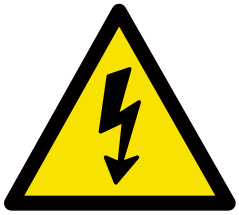
Notes and cautions

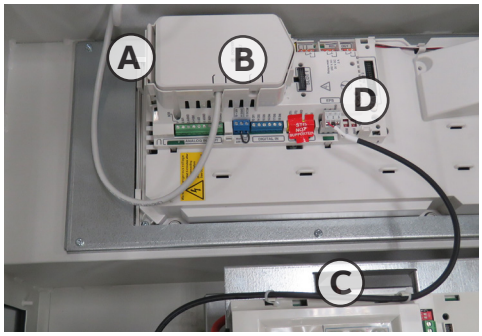
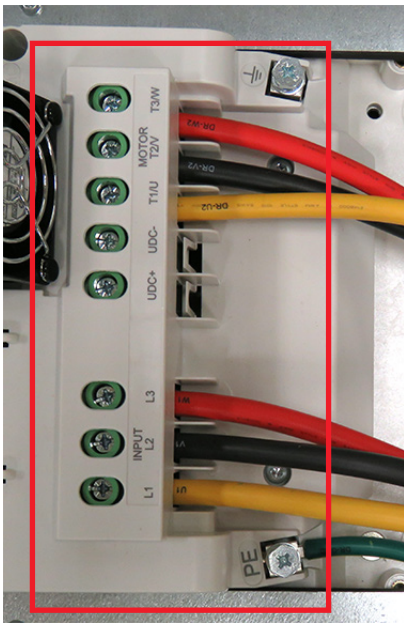
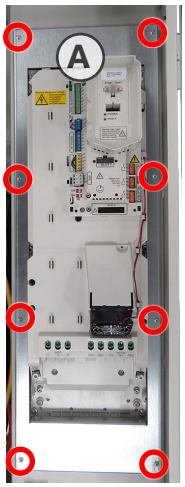
CAUTION! Review complete safety and electrical considerations prior to replacing the drive. See ACH580 IOM (3AXD50000049127).

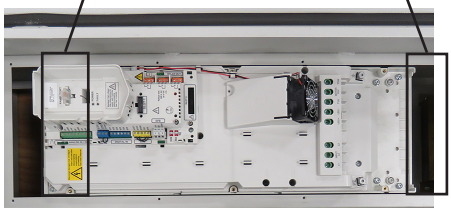
CAUTION! Two people are recommended for this job. The drive is heavy and can fall, causing property damage and injury.

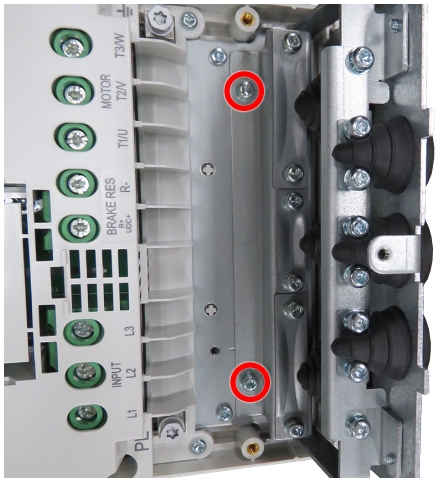
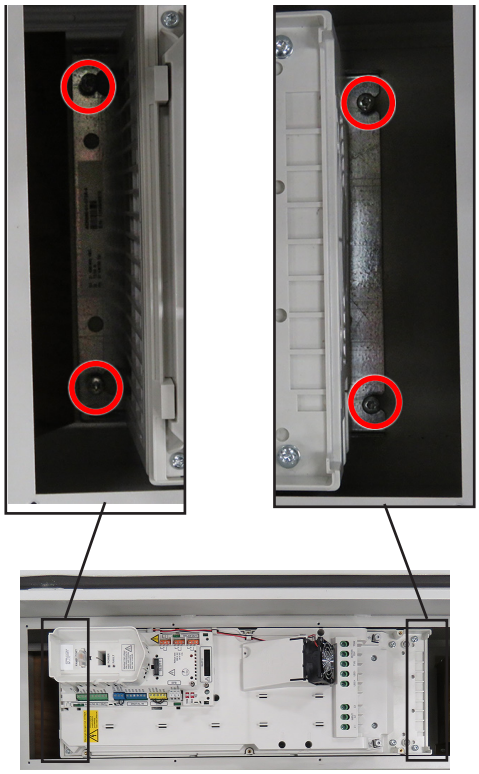
NOTE: UL Type 12 drives require a UL Type 12 replacement drive, UL Type 1 drives are not allowed as substitutes for UL Type 12.

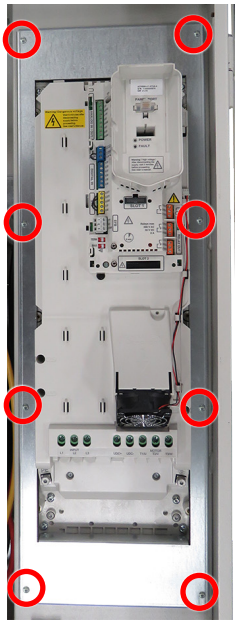
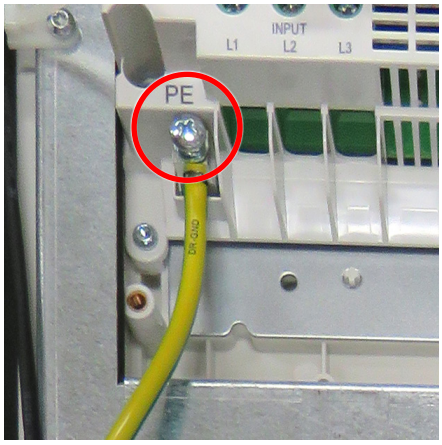
* Not all of these tools are needed for each frame size.

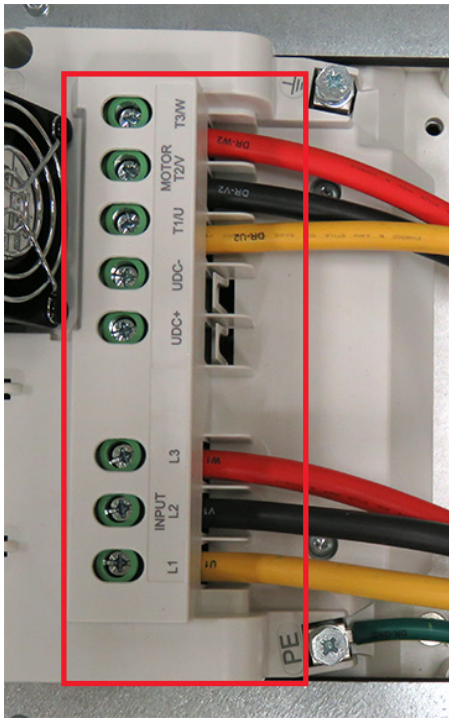
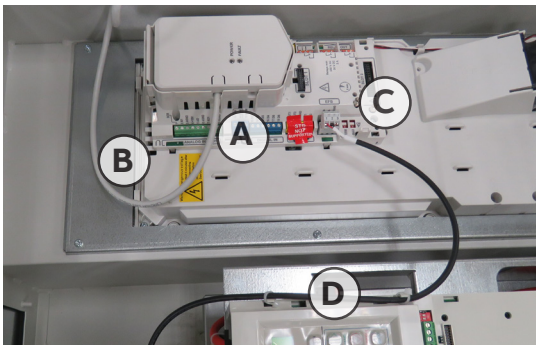
Step	Instruction	Diagram
1	**NOTE:** If needed, back-up parameters prior to disconnecting power. Turn off source power and wait 5 minutes for the DC bus capacitors to discharge. Turn handle to the off position.	
2	Rotate latches clockwise and open the enclosure door.	
3	Perform voltage check to confirm no voltage is present. **NOTE:** If you have control wiring connected to the control unit, disconnect at this time.	

Step	Instruction	Diagram
4	Cut zip tie (A) and remove the CDPI (B) from drive. Set aside. Cut zip tie (C) and disconnect the RS485 cable (D) from the drive by pulling out the terminal block. **NOTE:** Remove any additional drive I/O wiring.	
5	Using a PZ2 bit, loosen and remove wires from the input terminals of the drive. Using a PZ2 bit, loosen and remove wires from the motor terminals of the drive. Using a PZ3 bit, loosen and remove ground wire from the drive.	
6	Using a T20 bit, loosen and remove eight (8) screws securing the flange plate (A). Save hardware.	

Step	Instruction	Diagram
7	Using a T30 bit, loosen the four (4) M6 screws securing the drive, four (4) turns of the screw. **NOTE:** Do not remove the screws completely. Only loosen enough to be able to lift the drive off the screws.	
8	Carefully push the drive up, lift the drive off the screws and out of enclosure.	
9	Unpack the replacement drive. **UL Type 12:** UL Type 12 drives require a UL Type 12 replacement drive, UL Type 1 are not allowed as substitutes for UL Type 12. Using a T20 bit, loosen screws securing the cover. Recycle drive cover. **UL Type 12:** Recycle the hood that was included in the box and the drive cover that was removed.	

Step	Instruction	Diagram
10	**R2 Frame:** Using a T20 bit, loosen and remove two (2) M4x8 screws. Remove conduit assembly. **R3 Frame:** Using a T20 bit, loosen and remove two (2) M4x16 screws. Remove conduit assembly. **R4 Frame:** Using a T25 bit, loosen and remove four (4) M5x25 screws. Remove conduit assembly. Recycle the conduit assembly and hardware.	
11	**CAUTION!** Use two people to install the drive. Slide the drive mounting holes over the four (4) screws and slide drive in place. Torque all four (4) mounting screws to 27 in-lb (3 Nm).	

Step	Instruction	Diagram
12	Place collar around drive. Secure the drive using the six (6) M4x20 screws that were removed earlier. Using a T20 bit, torque to 14 in-lb (1.5 Nm).	
13	Secure the ground wire to the drive. **R2 & R3 Frame:** Using a PZ3 bit, torque to 14 in-lb (1.5 Nm). **R4 Frame:** Using a PZ3 bit, torque to 26 in-lb (2.9 Nm).	

Step	Instruction	Diagram
14	Connect the input wires (from fuse block) to the input terminals of the drive. Yellow U1 to L1 Black V1 to L2 Red W1 to L3 **R2 Frame:** Using a PZ2 bit, torque to 14 in-lb (1.5 Nm). **F3 Frame:** Using a PZ2 bit, torque to 31 in-lb (3.5 Nm). **R4 Frame:** Using a T20 bit, torque to 35 in-lb (4 Nm). Connect the motor wires (from 1M contactor) to motor terminals of the drive. Yellow U2 to T1/U Black V2 to T2/V Red W2 to T3/W **R2 Frame:** Using a PZ2 bit, torque to 14 in-lb (1.5 Nm). **F3 Frame:** Using a PZ2 bit, torque to 31 in-lb (3.5 Nm). **R4 Frame:** Using a T20 bit, torque to 35 in-lb (4 Nm).	
15	Re-install the CDPI (A) into control unit and secure with two zip ties (B). Reconnect the RS485 terminal block (C) to EFB on control unit and secure with two zip ties (D). Reconnect any control wiring removed in steps 3 and 4. **WARNING!** This configuration does not support Safe Torque Off (STO) functionality in bypass mode.	
16	Close the door and rotate latches counterclockwise.	

Step	Instruction	Diagram
17	Power and reprogram the drive.	
18	Test and verify drive operation and motor direction.	
19	Back-up and save parameters to the keypad prior to putting the drive back into service.	