2. List of related manuals

Drive hardware manuals and guides  
Code (English)  
AC8880-01 hardware manual 3AAU0000785903  
AC8880 quick installation guide for frames R1 to R3 3AAU0000785366  
AC8880 quick installation guide for frames R4 to R5 3AAU0000786066  
AC8880-01 drives for cabinet installation (option +P94, +P946 supplement) 3AAU0000145446  
AC8880-01 assembly drawings for cable entry boxes of R3 frames R5 to R9 3AAU0000109677  
ACS-P/+ assistant control panels user’s manual 3ACD0000104977  
Vibration dampers for ACS880-01 drives (frames R4, R5, option +C131) installation 3ACD0000133899  
ACS880-01 main type-approved drives (option +C132) supplement 3ACD0000105217

Drive firmware manuals and guides  
AC8880 standard control program firmware manual 3AAU0000859967  
Quick start-up guide for ACS880 drives with primary control program 3AAU0000908624

Option manuals and guides  
AC8880-01 digital I/O extension module user’s manual 3AAU0000124966  
Other manuals and quick guides for I/O extension modules, fieldbus adapters, etc. 3AAU0000908624

You can find manuals and other product documents in PDF format on the Internet. See section manuals not available in the Document library, contact your local ABB representative.

ACS880-01 manuals

3. Packing List

The following items are included in the box:

1. ACS880 Extension Box drive unit (See ratings chart for size and ratings)
2. ACS880 Extension Box Quick Guide (this document)
3. ACS880 Quick Start Guide
4. ACS880 Manuals on CD
5. ACS880 Extension Box schematic diagram and layout drawing

4. Drive Ratings Table and Plus Code Variants

5. Installation

1. Unpacking the unit

Détermine the protective wrapping from the shipping pallet. Remove the unit by unscrewing the four bolts.

2. Mounting

a. See Technical specifications section for environmental conditions.
b. The unit must be installed in an upright position with the back panel against a wall.
c. The mounting wall must be vertical, non-flammable and strong enough to hold the weight of the unit. The material below and above the unit should not be non-flammable.
d. Unit has four (4) mounting holes. (Frame F3 has five (5).)

3. Lifting

Lift the unit into place. See ratings table for weight. Lifting equipment must be used to lift the back panel to avoid lifting eyes which are on units F5 and above. DO NOT use the drive lifting eyes which are not rated for the additional weight of the back panel.

4. Minimum Clearance

a. Above unit: 8 inches (area becomes hot)
b. Below unit: 12 inches
c. Left side: 0 inches
d. Right side: 2 inches to allow for door swing
e. Between units: 2 inches to allow for door swing

5. Additional Clearance

a. Air flows from bottom to top. Allow enough free space above and below the drive for cooling, service and maintenance.
b. Allow enough free space in front of the drive for operation, service and maintenance.

6. Cable entry and exit connections

a. See Figure 3 for instructions for connection to the top and/or the bottom of the box for both the motor and the line connections. Condut knockouts are provided for this purpose. There are four (4) knockouts on the top and four (4) on the bottom.

b. Knockout Dimensions:
   - F2 – F5: Suitable for (QTY 2) 1/2" conduit and (QTY 2) 1/2" conduit
   - F6 – F8: Suitable for (QTY 2) 1/2" conduit and (QTY 2) ¾" conduit
   - F9 – F12: Suitable for (QTY 2) 1/2" conduit and (QTY 2) ¾" conduit

*NOTE: For Frame F6-R6 or F6-R7, top cable entry is suggested.
7. Control Power Transformer (G304)

1. Optional control power transformer ratings
   a. Input voltage: 208V, 230, 480, 575 Vac
   b. Output voltage: 115 Vac
   c. Rated power: 100 VA
   d. Available power: 100 VA (drive control power is not fed from this device)

2. Primary wiring connections: 230V and 480V units using Micron B100MBT13RK
   a. 480 Volt: H1 and H4
   b. 230 Volt: H2 and H4

3. Primary wiring connections: 575V units using Micron B150WX13RK
   a. 575 Volt: H1 and H4

8. Drive Output (d/v/dt) Filter (E205) - UL Type 1 only

1. Optional output (d/v/dt) filter heat dissipation

9. Switches and Pilot Lights (G3xx, G4xx) - UL Type 12 only

1. Optional switch
2. Pilot light (default)
3. Control power transformer
4. Motor (not filtered)
5. Motor (filtered)
6. Quick Guide
8. Quick Guide
10. Technical Specifications

1. In addition to the following, see ACS880-01 Hardware Manual, chapter:

   Technical Specifications
   a. Environment: -15 to 40°C (5 to 104°F), -15 to 50°C (31°F to 122°F) w/derate. No frost allowed.
   b. Cooling, UL Type 1 (P151): 3-10 HP forced air via VFD, 15 HP above: non-ventilated
   c. Cooling, UL Type 12 (P564): non-ventilated
   d. Input voltage range: standard: 208-575 V; 380-690 V; 525-720 V
   e. Input voltage range - with optional control power transformer (G304): 208V, 230, 480, 575 Vac
   f. Short circuit rating (UL 508C): 100000 rms symmetrical Ampereps up to 6000 V when protected by class J fuses. Fuses to be installed upstream of the supplied drive.
   g. Short circuit rating (UL 508C): 100000 rms symmetrical Ampereps up to 6000 V when protected by class J fuses.
   h. Frequency: standard - 50/60 Hz
   i. Frequency - with optional d/v/dt filter (E205): 0 - 60 Hz
   j. Approves - The ACS880 Extension Box is dULus Listed per UL508A

10. Technical Specifications

1. In addition to the following, see ACS880-01 Hardware Manual, chapter:

   Technical Specifications
   a. Environment: -15 to 40°C (5 to 104°F), -15 to 50°C (31°F to 122°F) w/derate. No frost allowed.
   b. Cooling, UL Type 1 (P151): 3-10 HP forced air via VFD, 15 HP above: non-ventilated
   c. Cooling, UL Type 12 (P564): non-ventilated
   d. Input voltage range: standard: 208-575 V; 380-690 V; 525-720 V
   e. Input voltage range - with optional control power transformer (G304): 208V, 230, 480, 575 Vac
   f. Short circuit rating (UL 508C): 100000 rms symmetrical Ampereps up to 6000 V when protected by class J fuses. Fuses to be installed upstream of the supplied drive.
   g. Short circuit rating (UL 508C): 100000 rms symmetrical Ampereps up to 6000 V when protected by class J fuses.
   h. Frequency: standard - 50/60 Hz
   i. Frequency - with optional d/v/dt filter (E205): 0 - 60 Hz
   j. Approves - The ACS880 Extension Box is dULus Listed per UL508A

11. Fuses

1. Control power transformer
   a. Primary: (2) FNQR-1-16
   b. Secondary: (1) FNRM-2

2. Drive input fuses and overload protection fuses

12. Main Cooling Fan Replacement

1. R1 to R5: The main cooling fan is located on the top of the base drive.
   a. Remove the cooling fan mounting screws (2) with a screwdriver by reaching behind the extension box from below.
   b. Method 2: After disconnecting the wires, remove the base drive from the back panel by removing only the two mounting nuts at the top. (Nuts at the bottom should not be removed.) Use the lifting eyes on the base drive to remove and lift the unit gain access to the cooling fan at the bottom. To remount the base drive, slide the slots at the bottom over the two lower studs and drop the base drive onto the top two studs. Reattach the nuts. Reconect the wires.
   c. For fan replacement, follow the instructions in the ACS880-01 Hardware Manual, chapter: Fans.

13. Drive Removal Procedure

Use the same procedure as Method 2 above to remove the base drive for all of the frames.