ABB Drive Products

# ACS880-0P

## Sensia CE Supplemental Manual

# Table of Contents

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# Safety Instructions

**Contents of this chapter**

This chapter contains the safety instructions which you must obey when you install and operate the drive and do maintenance on the drive. If you ignore the safety instructions, injury, death, or damage can occur.

**Use of warnings and notes**

Warnings tell you about conditions which can cause injury or death, or damage to the equipment. They also tell you how to prevent the danger. Notes draw attention to a particular condition or fact, or give information on a subject. The manual uses these warning symbols:

| | |
|---|---|
|  | **Electricity warning** tells about hazards from electricity which can cause injury or death, or damage to the equipment. |
|  | **General warning** tells about conditions, other than those caused by electricity, which can cause injury or death, or damage to the equipment. |
|  | **Electrostatic sensitive devices warning** tells you about the risk of electrostatic discharge which can cause damage to the equipment. |

**General safety in installation, start-up and maintenance**

These instructions are for all personnel that install the drive and do maintenance work on it.

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⚠ **WARNING!** Obey these instructions. If you ignore them, injury or death, or damage to the equipment can occur.

- Use safety shoes with a metal toe cap to avoid foot injury. Wear protective gloves and long sleeves. Some parts have sharp edges.
- Handle the drive carefully.
- Lift the drive with a lifting device. Use the lifting eyes of the drive.
- Do not tilt the drive. The drive is heavy, and its center of gravity is high. An overturning drive can cause physical injury.
- Beware of hot surfaces. Some parts, such as heatsinks of power semiconductors, remain hot for a while after disconnection of the electrical supply.
- Keep the drive in its package or protect it otherwise from dust and burr from drilling and grinding until you install it.
- Also protect the installed drive against dust and burr. Electrically conductive debris inside the drive may cause damage or malfunction.
- Vacuum clean the area below the drive before the start-up to prevent the drive cooling fan from drawing the dust inside the drive.
- Do not cover the air inlet and outlet when the drive runs.
- Make sure that there is sufficient cooling. See Chapter 3, Mechanical Installation.
- Before you connect voltage to the drive, make sure that the drive covers are on. Keep the covers on during the operation.
- Before you adjust the drive operation limits, make sure that the motor and all driven equipment can operate throughout the set operation limits.
- Before you activate the automatic fault reset or automatic restart functions of the drive control program, make sure that no dangerous situations can occur. These functions reset the drive automatically and continue operation after a fault or supply break. If these functions are activated, the installation must be clearly marked as defined in IEC/EN 61800-5-1, subclause 6.5.3, for example, “THIS MACHINE STARTS AUTOMATICALLY”.
- If you have connected safety circuits to the drive (for example, emergency stop and Safe torque off), validate them at the start up. For the validation of the Safe torque off, *see ACS880 standard control program firmware manual (3AUA0000085967).* For the validation of other safety circuits, see the instructions provided with them.

**Note:**

- If you select an external source for start command and it is on, and the start command is level-triggered, the drive will start immediately after fault reset. See parameters 20.02 Ext1 start trigger type and 20.07 Ext2 start trigger type in *ACS880 standard control program firmware manual (3AUA0000085967).*
- When the control location is not set to Local (text Local is not shown on the top row of the panel and parameter 19.17 Local control disable has value Disabled), the stop key on the control panel will not stop the drive.
- Do not attempt to repair a malfunctioning drive; contact your local representative for replacement or repair by authorized persons.

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**General safety in operation**

These instructions are for all personnel that operate the drive.

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**WARNING!** Obey these instructions. If you ignore them, injury or death, or damage to the equipment can occur.

• Do not power up the drive more than five times in ten minutes. Too frequent power-ups can damage the charging circuit of the DC capacitors. If you need to start or stop the drive, use the control panel start and stop keys or commands through the I/O terminals of the drive.

• Give a stop command to the drive before you reset a fault. If you have an external source for the start command and the start is on, the drive will start immediately after the fault reset, unless you configure the drive for pulse start. See the firmware manual.

• Before you activate automatic fault reset functions of the drive control program, make sure that no dangerous situations can occur. These functions reset the drive automatically and continue operation after a fault. Note: When the control location is not set to Local, the stop key on the control panel will not stop the drive

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## Electrical safety in installation, start-up and maintenance

### Electrical safety precautions

These warnings are for all personnel who do work on the drive, motor cable or motor.

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**WARNING!** Obey these instructions. If you ignore them, injury or death, or damage to the equipment can occur.

If you are not a qualified electrical professional, do not do electrical installation or maintenance work.

Go through these steps before you begin any installation or maintenance work.

1. Clearly identify the work location and equipment.
2. Disconnect all possible voltage sources. Make sure that reconnection is not possible. Lock out and tag out.
   - Open the main disconnector at the power supply of the drive.
   - Disconnect any external power sources from the control circuits.
   - After you disconnect the drive, always wait for 5 minutes to let the intermediate circuit capacitors discharge before you continue.
3. Protect any other energized parts in the work location against contact.
4. Take special precautions when close to bare conductors.
5. Measure that the installation is de-energized.
   - Before and after measuring the installation, verify the operation of the voltage tester on a known voltage source.
   - Make sure that the voltage between the drive input power terminals (L1, L2, L3) and the grounding terminal (PE) is zero.
   - Make sure that the voltage between the drive output terminals (T1/U, T2/V, T3/W) and the grounding terminal (PE) is zero.
   - Make sure that the drive DC voltage is zero.

     Frames R7…R11: Make sure that the voltage between the drive DC terminals (UDC+ and UDC-) is zero and between the drive DC terminals (UDC+ and UDC-) and the grounding (PE) terminal is zero.
6. Install temporary grounding as required by the local regulations.
7. Ask from the person in control of the electrical installation work for a permit to work.

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**Additional instructions and notes**

**WARNING!** Obey these instructions. If you ignore them, injury or death, or damage to the equipment can occur.

• Drives installed with Raycap Transient Voltage Surge Suppressors (TVSS) connected can be installed to a symmetrically grounded TNC system. If you install the drive to another system, you must disconnect the TVSS. Contact factory for other power systems.

• A drive with the internal EMC filter connected can be installed to a symmetrically grounded TN-S system. If you install the drive to another system, check if you must disconnect the EMC filter. See *ACS880 frames R1…R11 EMC filter and ground-to-phase varistor disconnecting instructions (3AUA0000125152).*

**WARNING!** Do not install a drive with the EMC filter connected to a system that the filter is not suitable for. This can cause danger or damage the drive.

**Note:** When the internal EMC filter is disconnected, the EMC compatibility of the drive is considerably reduced. See section EMC compatibility and motor cable length in the *ACS880-01 Hardware Manual for frame R6 to R9 (3AUA0000078093)*, the *ACS880-04F Hardware Manual for frame R11 (3AXD50000034664)* or the *ACS880-04FXT drive module packages hardware manual for frame (2)R11 (3AXD50000274444).*

• A drive with the ground-to-phase varistor connected can be installed to a symmetrically grounded TN-S system. If you install the drive to another system, check if you must disconnect the varistor. See sections

• When to connect EMC filter or disconnect ground-to-phase varistor: TN-S, IT, corner-grounded delta and midpoint-grounded delta systems in the *ACS880 frames R1…R11 EMC filter and ground-to-phase varistor disconnecting instructions (3AUA0000125152).*

**WARNING!** Do not install a drive with the ground-to-phase varistor connected to a system that the varistor is not suitable for. If you do, the varistor circuit can be damaged.

• Use all ELV (extra low voltage) circuits connected to the drive only within a zone of equipotential bonding, that is, within a zone where all simultaneously accessible conductive parts are electrically connected to prevent hazardous voltages appearing between them. You can accomplish this by a proper factory grounding, that is, make sure that all simultaneously accessible conductive parts are grounded to the protective earth (PE) bus of the building.

• Do not do insulation or voltage withstand tests on the drive or drive modules

If you have a cardiac pacemaker or other electronic medical device, keep away from the area near motor, drive, and the drive power cabling when the drive is in operation. There are electromagnetic fields present which can interfere with the function of such devices. This can cause a health hazard.

**Note:**
- The motor cable terminals of the drive are at a dangerous voltage when the input power is on, regardless of whether the motor is running or not.
- The DC and brake resistor terminals (UDC+, UDC-, R+ and R-) are at a dangerous voltage.
- External wiring can supply dangerous voltages to the terminals of relay outputs (RO1, RO2 and RO3).
- The Safe torque off function does not remove the voltage from the main and auxiliary circuits. The function is not effective against deliberate sabotage or misuse.

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**Printed circuit boards**

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 **WARNING!** Use a grounding wrist band when you handle the printed circuit boards. Do not touch the boards unnecessarily. The boards contain components sensitive to electrostatic discharge.

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**Grounding**

These instructions are for all personnel who are responsible for the electrical installation, including the grounding of the drive.

 **WARNING!** Obey these instructions. If you ignore them, injury or death, or equipment malfunction can occur, and electromagnetic interference can increase.
- If you are not a qualified electrical professional, do not do grounding work.
- Always ground the drive, the motor and adjoining equipment to the protective earth (PE) bus of the power supply. This is necessary for the personnel safety. Proper grounding also reduces electromagnetic emission and interference.
- In a multiple-drive installation, connect each drive separately to the protective earth (PE) bus of the power supply.
- Make sure that the conductivity of the protective earth (PE) conductors is sufficient. See section Selecting the power cables of the *ACS880-01 Hardware Manual for frame R6 to R9 (3AUA0000078093)*, the *ACS880-04F Hardware Manual for frame R11 (3AXD50000034664)* or the *ACS880-04FXT drive module packages hardware manual for frame (2)R11 (3AXD50000274444).* Obey the local regulations.
- Connect the power cable shields to the protective earth (PE) terminals of the drive.
- Make a 360° grounding of the power and control cable shields at the cable entries to suppress electromagnetic disturbances.

**Note:**
- You can use power cable shields as grounding conductors only when their conductivity is sufficient.
- Standards IEC/EN 61800-5-1 (section 4.3.5.5.2.) and UL 68100-5-1 require that as the normal touch current of the drive is higher than 3.5 mA AC or 10 mA DC, you must use a fixed protective earth (PE) connection. In addition,
  - install a second protective earth conductor of the same cross-sectional area as the original protective earthing conductor,
  or
  - install a protective earth conductor with a cross-section of at least 10 mm2 Cu
  or

• install a device which automatically disconnects the supply if the protective earth conductor breaks.

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**Additional instructions for permanent magnet motor drives**

**Safety in installation, start-up and maintenance**

These are additional warnings concerning permanent magnet motor drives. The other safety instructions in this chapter are also valid.

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**WARNING!** Obey these instructions. If you ignore them, injury or death and damage to the equipment can occur.

- Do not work on a drive when a rotating permanent magnet motor is connected to it. A rotating permanent magnet motor energizes the drive including its input power terminals. Before installation, start-up and maintenance work on the drive:
- Stop the motor.
- Disconnect the motor from the drive with a safety switch or by other means.
- If you cannot disconnect the motor, make sure that the motor cannot rotate during work. Make sure that no other system, like hydraulic crawling drives, can rotate the motor directly or through any mechanical connection like felt, nip, rope, etc.
- Measure that the installation is de-energized.
  - Before and after measuring the installation, verify the operation of the voltage tester on a known voltage source.
  - Make sure that the voltage between the drive output terminals (T1/U, T2/V, T3/W) and the grounding (PE) busbar is zero. • Make sure that the voltage between the drive input power terminals (L1, L2, L3) and the grounding (PE) busbar is zero.
  - Make sure that the voltage between the drive DC terminals (UDC+, UDC-) is zero and between the drive DC terminals (UDC+ and UDC-) and the grounding (PE) terminal is zero if applicable.
- Install temporary grounding to the drive output terminals (T1/U, T2/V, T3/W). Connect the output terminals together as well as to the PE.

Start-up and operation:

- Make sure that the motor cannot be run into overspeed, e.g. driven by the load. Motor overspeed causes overvoltage that can damage or destroy the capacitors in the intermediate circuit of the drive

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## Cybersecurity disclaimer

This product is designed to be connected to and to communicate information and data via a network interface. It is Customer's sole responsibility to provide and continuously ensure a secure connection between the product and Customer network or any other network (as the case may be). Customer shall establish and maintain any appropriate measures (such as but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of anti-virus programs, etc.) to protect the product, the network, its system and the interface against any kind of security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information. ABB and its affiliates are not liable for damages and/or losses related to such security breaches, any unauthorized access, interference, intrusion, leakage and/or theft of data or information.

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# Introduction to the supplement

**Contents of the chapter**
The chapter describes applicability, target audience and purpose of this manual. It describes the contents of this manual and refers to a list of related manuals for more information.

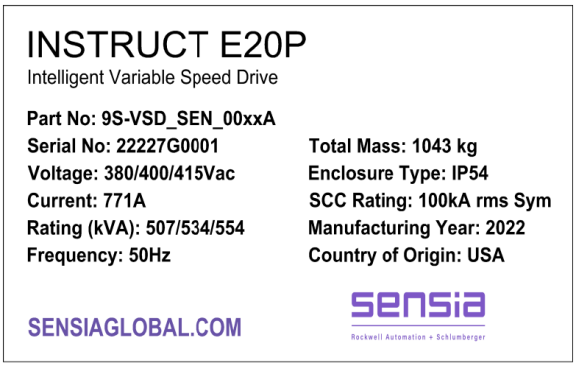
**Applicability**
This supplement is applicable to ACS880-0P drives supplied to Sensia with a +P967 in the type code.

**Target Audience**
This supplement is intended for people who plan the installation and install the drive. Read the supplement before you work on the drive. You are expected to know the fundamentals of electricity, wiring, electrical components and electrical schematic symbols.

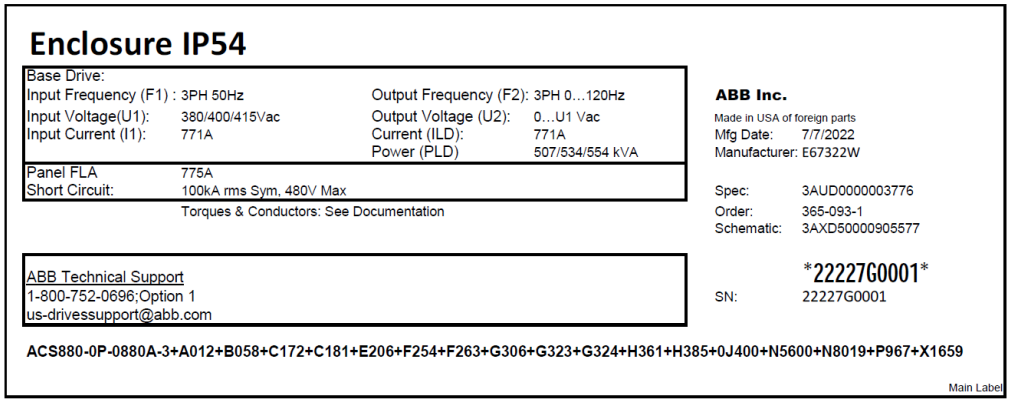
**Purpose of the document**
This supplement provides technical data and other information for the ACS880-0P, 380/400/415V 50/60Hz. drives. Complete base drive technical details are available in the *ACS880 Hardware manual frames R1 to R9*, publication number *3AUA0000078093, ACS880 ACS880-04F drive modules hardware manual frame R11*, publication number *3AXD50000034664, or ACS880-04FXT drive module packages hardware manual frame (2) R11*, publication number *3AXD50000274444.* Complete programming information is available in the *ACS880 Primary control program firmware manual,* publication number *3AUA0000085967.*

To determine the type of your drive, refer to its Panel P/N.

Rating nameplate, type code (Panel P/N), job number and serial number labels are attached to the outside and inside of the enclosure door.








## Related documents

| Drive hardware manuals and guides | Code (English) |
|---|---|
| ACS880-01 drives (0.55 to 250 kW, 0.75 to 350 hp) hardware manual frames R1 to R9 | 3AUA0000078093 |
| ACS880-04F drive modules hardware manual | 3AXD50000034664 |
| ACS880-04FXT drive module packages hardware manual | 3AXD50000274444 |
| ACS880 Primary control program firmware manual | 3AUA0000085967 |
| ACS880-01 quick installation guide for frames R6 to R9 | 3AUA0000099689 |

Manuals and other product documents in PDF format are available on the Internet. For manuals not available in the Document library, contact your local ABB representative.

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# Mechanical Installation

**Contents of the chapter**

This chapter describes the actions needed to assist while installing the drive.

**Safety**

 **WARNING!** Lift the drive with a lifting device. Use the lifting eyes of the enclosure. Do not tilt the enclosure.

**Checking the installation site**

Check the installation site:

- The installation site is sufficiently ventilated or cooled to remove heat away from the drive.
- The ambient conditions of the drive meet the specifications.
- There is enough free space above and around the drive to enable cooling, service, and maintenance.
- For floor-mount, the floor that the drive cabinet is installed on is of non-flammable material, as smooth as possible, and strong enough to support the weight of the unit. Check the floor flatness with a spirit level. The maximum allowed deviation from the surface level is 5 mm in every 3 meters. Level the installation site, if necessary, as the cabinet is not equipped with adjustable feet.

**Checking the delivery**

The drive delivery contains:

- Drive cabinet
- Option modules (if ordered) installed onto the control unit or into the cabinet at the factory
- Appropriate drive, accessories, and option module manuals
- Delivery documents

Verify there are no signs of damage. Before attempting installation and operation, check the information on the type designation labels of the drive to verify that the delivery is of the correct type.

**Required tools**

The tools required for moving the unit to its final position and completing the mechanical installation are listed

below:

- Crane, fork-lift or pallet truck
- Industry standard tools, such as but not limited to: screwdrivers (flat, Philips, Torx), wrenches, sockets, torque wrenches, tape measure, level and other tools used in standard electrical installations
- Metal shims (optional)

**Moving and unpacking the drive**

Move the drive to the installation site, preferably in the original package to avoid damaging the cabinet surfaces and door devices. If using a pallet truck, check its load capacity before you move the drive.

**Lifting the cabinet**

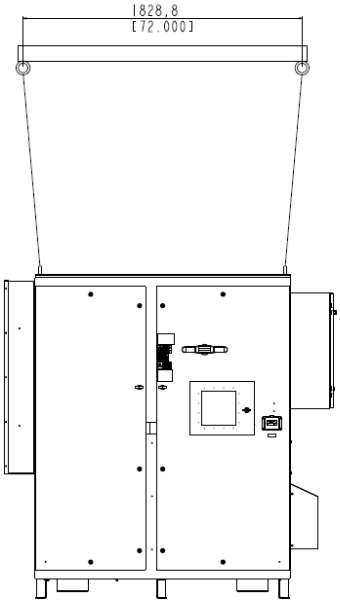
Lift the drive cabinet to its position using its lifting eyes.

R9, 156A to 361A

A 6 ft “spreader beam” using (4) 6 ft straps is recommended for lifting the R9 enclosure. A 1-Point lift using (4) 6 ft straps has been analyzed to be safe but is not the recommended method of lifting.

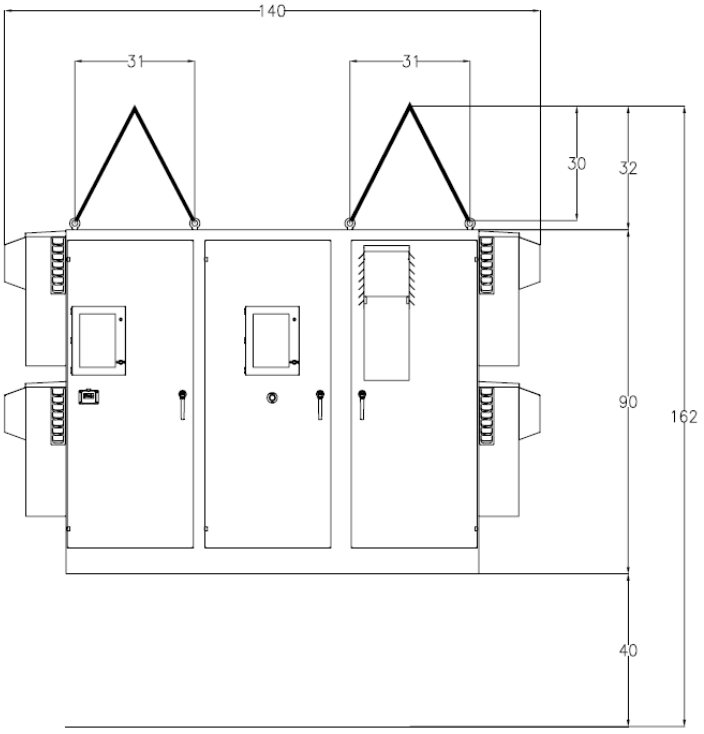
R11, 502A to 880A

A 6 ft “spreader beam” using (4) 6 ft straps is recommended for lifting the R11 enclosure. A 1-Point lift using (4) 6 ft straps has been analyzed to be safe but is not the recommended method of lifting.



(2)R11, 1008A to 1610A

A 6 ft “spreader beam” using (4) 4 ft straps is recommended for lifting the (2)R11 enclosure.




**Moving the cabinet after unpacking**

Move the drive cabinet carefully in the upright position. Avoid tilting. The cabinet’s center of gravity can be high.

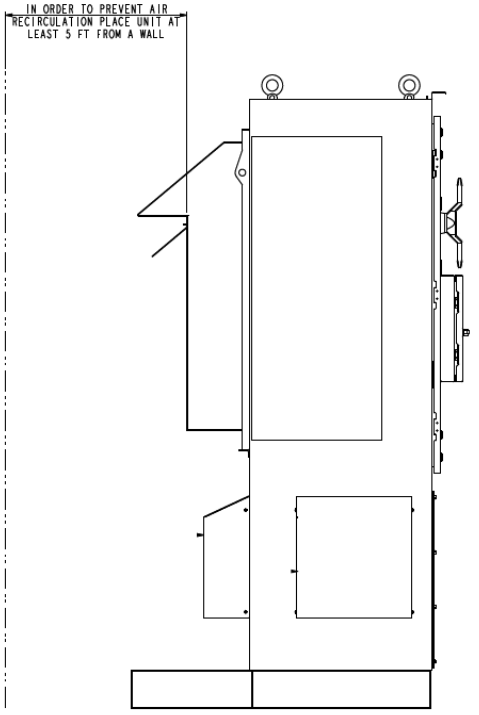
**Installing the drive**

**General rules**

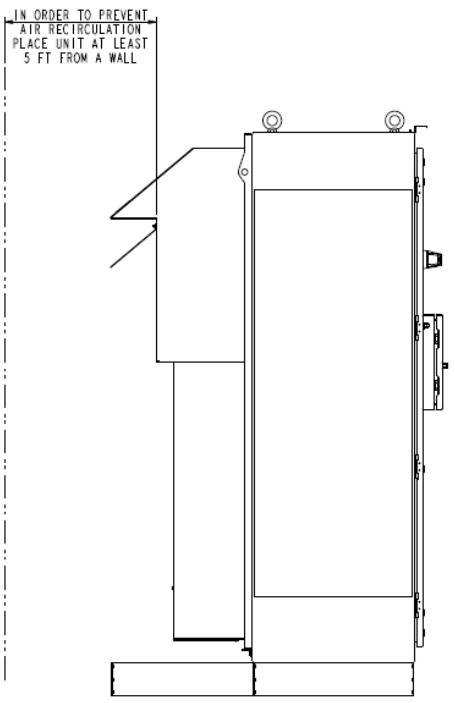
The ACS880 should only be mounted where all the requirements defined in “Checking the installation Site” are met.

**Floor-Mount the Drive**

1. The cabinets are free standing and do require bolting in place.
2. Leave some space at the side to allow doors to open sufficiently. The doors can open 120°. ABB recommends minimum of 3 feet side to side spacing and 5 feet clearance on the back (see images below).




*R9 enclosure*




*R11 enclosure*

**Note:** For leveling make height adjustments with metal shims between the cabinet bottom and the floor.

**Note:** It is recommended that you do NOT remove the lifting eyes of the cabinet. If you removed the lifting eyes and the panel is intended for use as an IP54 installation, it is recommended that you install an IP54 listed solution in their place.

# 4

# Electrical Installation

**Contents of the chapter**

This chapter provides additional information when preparing for the electrical installation.

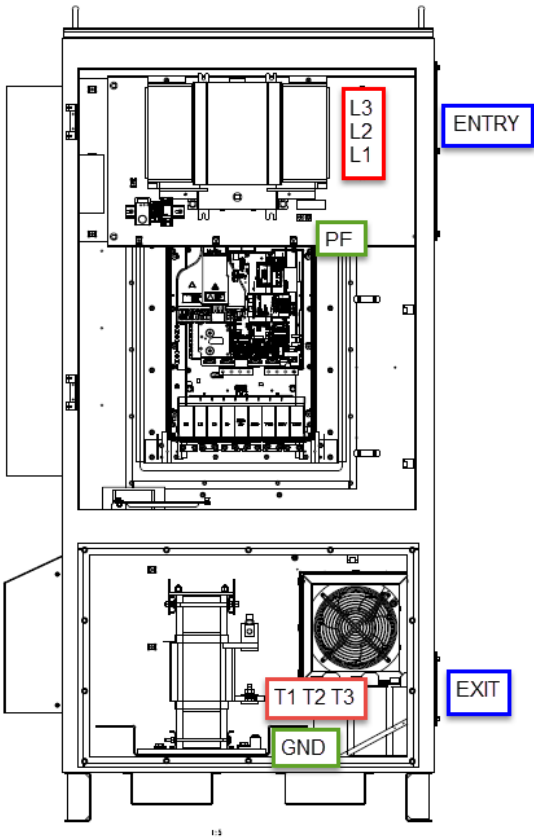
**Install Wiring**

**WARNING!**

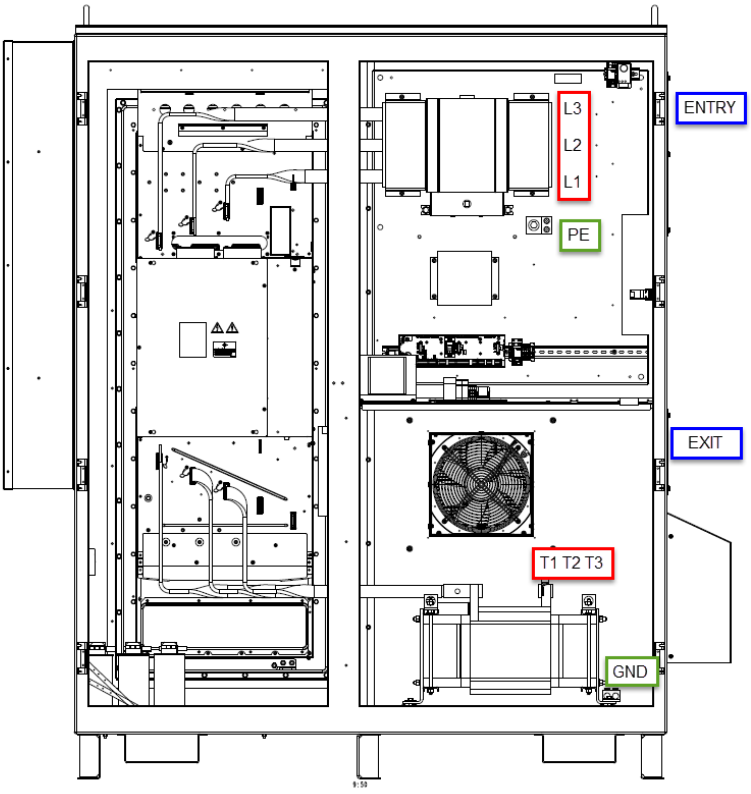
- Metal shavings or debris in the enclosure can damage electrical equipment and create a hazardous condition. Where parts, such as conduit plates require cutting or drilling, first remove the part. If that is not practical, cover nearby electrical components to protect them from all shavings or debris.
- Do not connect or disconnect input or output power wiring, or control wires, when power is applied.
- Never connect line voltage to drive output Terminals T1, T2, and T3.
- Do not make any voltage tolerance tests (Hi Pot or Megger) on any part of the unit. Disconnect motor wires before taking any measurements in the motor or motor wires.
- Make sure that power factor correction capacitors are not connected between the drive and the motor.

**Connection diagrams**

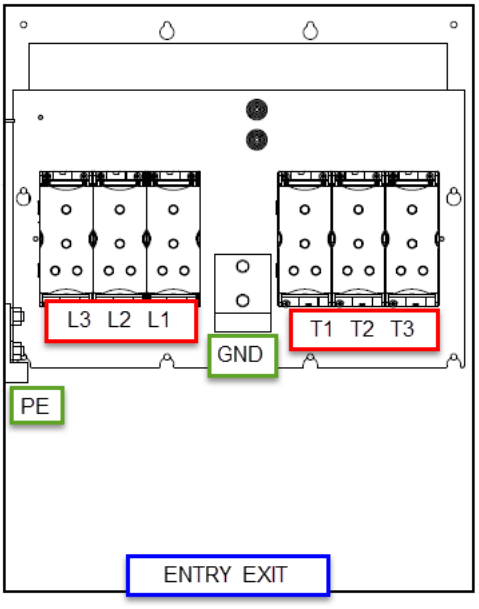
The connections points vary depending on the size of units and the option selected, Power Junction Box (+H361) or Harmonic Junction Box (+H384). The following figures show the layout and connection points. Maintain appropriate separation of control and power wires.



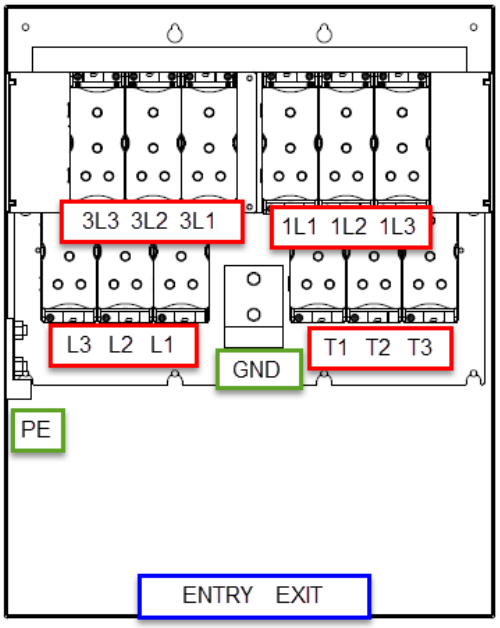

*R9 Enclosure, No Junction Box*



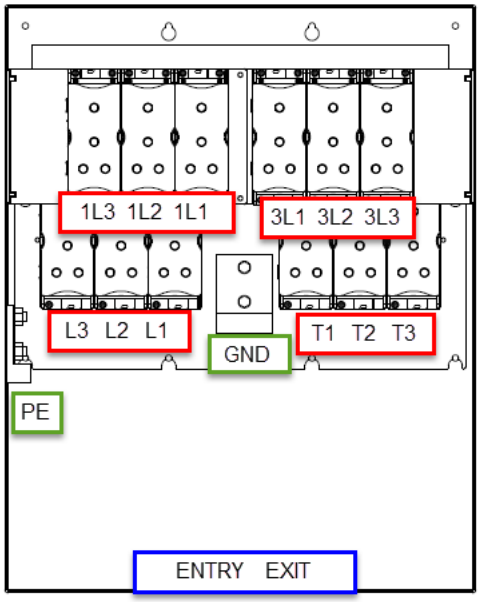

*R11 Enclosure, No Junction Box*



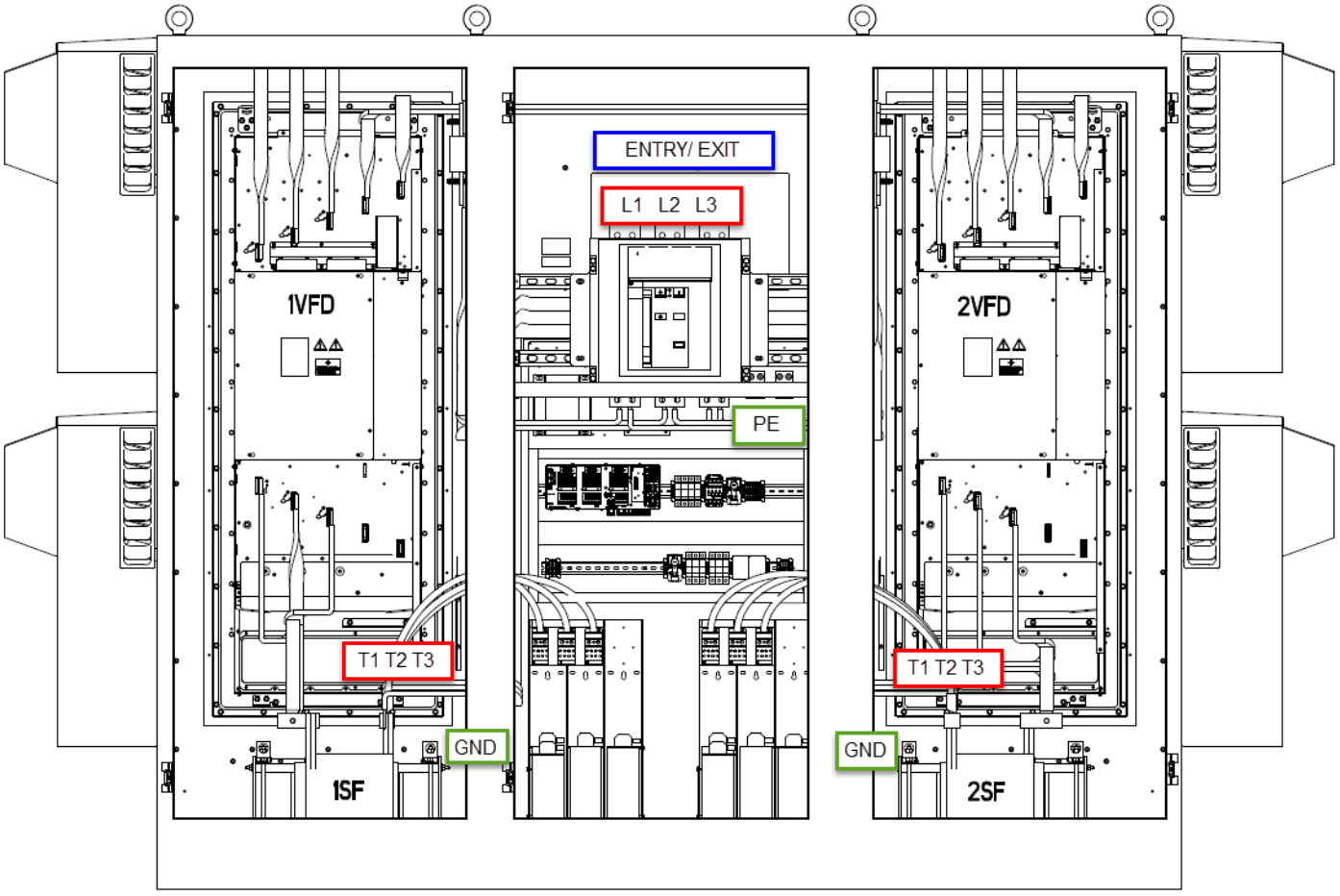

*R9 or R11 Enclosure, Power Junction Box (+H361)*




*R11 Enclosure, Harmonic Junction Box (+H384)*

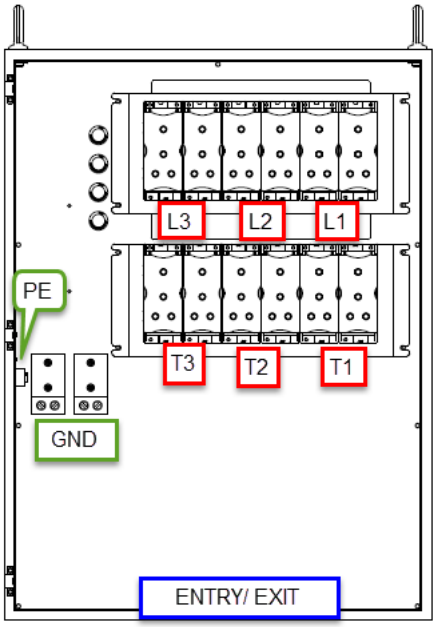



*R9 Enclosure, Harmonic Junction Box (+H384)*




*(2)R11 Enclosure, No Junction Box*

NOTE: Customer wiring from T1, T2 and T3 of each sine filter to customer load must be divided symmetrically. There must be the same quantity of equal wire size, connected to each sine filter.




*(2)R11 Enclosure, Power Junction Box (+H361)*

NOTE: Customer wiring from the supply to L1, L2 and L3 power blocks must be divided symmetrically. There must be the same quantity, of equal wire size, connected to each of the 2 power blocks per phase. Power blocks are rated for 800Amps each.

NOTE: Customer wiring from T1, T2 and T3 power blocks to customer load must be divided symmetrically. There must be the same quantity, of equal wire size, connected to each of the 2 power blocks per phase. Power blocks are rated for 800Amps each.

NOTE: With the customer supplied and installed harmonic filter, to maintain the 100kA SCCR rating the harmonic filter must have a 100kA SCCR and be installed per the manufacturer's recommendations.

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# Operation

**Sequence of operation**

Sequence of operation per the customer. The Instruct controller is programmed to control the drive.

**Note:** The Service Outlet (SO) Ethernet port is a maintenance/ diagnostic port. Only connect ABB keypad to Ethernet port for drive diagnostics. Power outlet 100VA max intended for computer supplies only.

The unit is designed for the ambient air temperature not to exceed +50°C. The installation site altitude standard is ≤ 1000m. Above 1000m derate of current required. Relative humidity 5…95%. No condensation allowed.

The air to air heat exchanger(s) are thermostatically controlled and will turn on when interior temperature reaches 32°C [90°F]. The sine filter fan will run when the drive is running.

# 6

# Maintenance Schedule

**Contents of the chapter**
This chapter provides a recommended maintenance schedule.

**Maintenance Intervals**
The lifespan of the cooling fans of the drive depends on the running time, ambient temperature and dust concentration. See the firmware manual for the actual signal which indicates the running time of the Main drive cooling fans. Reset the running time signal after fan replacement. View the ACS880-01, ACS880-04F or ACS880-04FXT Hardware Manuals for fan replacement instructions. See the enclosure filter fan manual for replacement instructions.

| Component | Years From Start-Up | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 3 | 5 | 6 | 9 | 10 | 12 | 15 | 18 | 20 | 21 |
| Main Drive Cooling Fan (R7 – R11) | | | | R | | | | R | | |
| Auxiliary Cooling Fan | | | | R | | | | R | | |
| Control Panel Battery | | | | R | | | | R | | |
| Enclosure Filter Fans | | R | | | R | | R | | R | |

R = Replace

# Appendix A: Ratings

| | ACS880-0P-0156A-3 | ACS880-0P-0180A-3 | ACS880-0P-0260A-3 | ACS880-0P-0302A-3 | ACS880-0P-0361A-3 | ACS880-0P-0502A-3 | ACS880-0P-0582A-3 | ACS880-0P-0634A-3 |
|---|---|---|---|---|---|---|---|---|
| Inverter Frame Size | R7 | R7 | R8 | R9 | R9 | R11 | R11 | R11 |
| **Voltage Ratings** | | | | | | | | |
| Rated Voltage (Un)(VAC) | 380/400/415 | | | | | | | |
| Rated Operational Voltage (Ue)(VAC) | 380/400/415 | | | | | | | |
| Rated Insulation Voltage (Ui)(VAC) | 380/400/415 | | | | | | | |
| Rated Impulse Withstand Voltage (Uimp) | 415VAC = 4.0kVAC | | | | | | | |
| **Current Ratings** | | | | | | | | |
| Rated Current FLA (InA)(A) | 145 | 165 | 225 | 277 | 318 | 474 | 551 | 628 |
| Rated Peak Withstand Current (Ipk)(kA) | 220 | | | | | | | |
| Rated Conditional Short-Circuit Current (Icc)(kA) | 100 | | | | | | | |
| Rated Diversity Factor (RDF) | 1 | | | | | | | |
| Rated Frequency (fn)(Hz) | 50/60 | | | | | | | |
| **Other Characteristics** | | | | | | | | |
| Pollution Degree | 3 | | | | | | | |
| Type of System Earthing | TNC Network | | | | | | | |
| Installation Type | Outdoor | | | | | | | |
| Stationary or Movable | Stationary | | | | | | | |
| Degree of Protection | IP54 | | | | | | | |
| Intended For Use By Skilled or ordinary Persons | Skilled | | | | | | | |
| Electromagnetic Compatibility (EMC) Classification | Class A | | | | | | | |
| Special Service Conditions (˚C) | 50 | | | | | | | |
| External Design | Cubicle-Type Assemblies | | | | | | | |
| Mechanical Impact Protection | No IK Rating Declared | | | | | | | |
| Type of Construction | Fixed Parts | | | | | | | |
| Nature of Short-Circuit Protective Device(s) | 100kA at 480VAC | | | | | | | |
| Measures for Protection Against Electric Shock | Protective Earthing Plus Basic Insulation | | | | | | | |

| | | | | |
|---|---|---|---|---|
| Overall Dimensions (H x W x D) mm [in] | 2032[80] x 1157[45.5] x 1127[44] | | | 2108[83] x 2078[82] x 1257[49.5] |
| Weight kg (lb) | 593 (1308) | 608 (1341) | 636 (1400) | 1045(2300) |

| | |
|---|---|
| **Service Conditions** | |
| Ambient Air Temperature (°C) | 50 |
| Atmospheric Conditions (Humidity) | 5 … 95%<br>No condensation allowed. Maximum allowed relative humidity is 60% in the presence of corrosive gases. |
| Storage Temperature (°C) | -40 … +70 |
| Operating Temperature (°C) | -15…+50 |
| Altitude | Derate above 1000m |

| | ACS880-0P-0715A-3 | ACS880-0P-0820A-3 | ACS880-0P-0880A-3 | ACS880-0P-1008A-3 | ACS880-0P-1158A-3 | ACS580-0P-1310A-3 | ACS580-0P-1610A-3 |
|---|---|---|---|---|---|---|---|
| Invertor Frame Size | R11 | R11 | R11 | (2)R11 | (2)R11 | (2)R11 | (2)R11 |
| **Voltage Ratings** | | | | | | | |
| Rated Voltage (Un)(VAC) | 380/400/415 | | | | | | |
| Rated Operational Voltage (Ue)(VAC) | 380/400/415 | | | | | | |
| Rated Insulation Voltage (Ui)(VAC) | 380/400/415 | | | | | | |
| Rated Impulse Withstand Voltage (Uimp) | 415VAC = 4.0kVAC | | | | | | |
| **Current Ratings** | | | | | | | |
| Rated Current FLA (InA)(A) | 640 | 727 | 776 | 902 | 1036 | 1172 | 1418 |
| Rated Peak Withstand Current (Ipk)(kA) | 220 | | | | | | |
| Rated Conditional Short-Circuit Current (Icc)(kA) | 100 | | | | | | |
| Rated Diversity Factor (RDF) | 1 | | | | | | |
| Rated Frequency (fn)(Hz) | 50/60 | | | | | | |
| **Other Characteristics** | | | | | | | |
| Pollution Degree | 3 | | | | | | |
| Type of System Earthing | TNC Network | | | | | | |
| Installation Type | Outdoor | | | | | | |
| Stationary or Movable | Stationary | | | | | | |
| Degree of Protection | IP54 | | | | | | |
| Intended For Use By Skilled or ordinary Persons | Skilled | | | | | | |
| Electromagnetic Compatibility (EMC) Classification | Class A | | | | | | |

| | | |
|---|---|---|
| Special Service Conditions (˚C) | 50 | |
| External Design | Cubicle-Type Assemblies | |
| Mechanical Impact Protection | No IK Rating Declared | |
| Type of Construction | Fixed Parts | |
| Nature of Short-Circuit Protective Device(s) | 100kA at 480VAC | |
| Measures for Protection Against Electric Shock | Protective Earthing Plus Basic Insulation | |
| Overall Dimensions (H x W x D) mm [in] | 2189[86] x 2178[86] x 1257[50] | 2032[80] x 914[36] x 533[21] |
| Weight kg (lb) | 1045(2300) | |
| | | |
| **Service Conditions** | | |
| Ambient Air Temperature (°C) | 50 | |
| Atmospheric Conditions (Humidity) | 5 … 95%<br>No condensation allowed. Maximum allowed relative humidity is 60% in the presence of corrosive gases. | |
| Storage Temperature (°C) | -40 … +70 | |
| Operating Temperature (°C) | -15…+50 | |
| Altitude | Derate above 1000m | |

# Declaration of Conformity

We

Manufacturer: ABB Drive Products
Address:16250 W. Glendale Dr. New Berlin, WI. 53151 USA
Phone: +1 262 785 3200
declare under our sole responsibility that the following products:

**Object of the Declaration:**

Product: Motor Control Panels

Model(s): ACS880-0P-xxxxA-(3 or 5)+(A012 or A013)+B058+C172+C181+E206+F254 +F263+G306+...+G324+...+0J400+N5600 +N8019+P967+X1659
where xxxx could be: 0502, 0582, 0634, 0715, 0820 or 0880 and additional option codes could be: +G323, +H361, +H384 or +H385.

**The object of the declaration described above is in conformity with the relevant Union harmonization legislation:**

Electromagnetic Compatibility Directive (EMCD) 2014/30/EU

Low Voltage Directive (LVD) 2014/35/EU

**The following harmonized standards and/or other normative documents were applied:**

| | **Standard(s) Applied in Full** |
|---|---|
| **EMC Directive (2014/30/EU)** | • **EN 61439-1:2021** - Low-voltage switchgear and controlgear assemblies - Part 1: General rules |
| | • **EN 61439-2:2021** - Low-voltage switchgear and controlgear assemblies - Part 2: Power switchgear and controlgear assemblies |
| **LVD Directive (2014/35/EU)** | • **EN 61439-1:2021** - Low-voltage switchgear and controlgear assemblies - Part 1: General rules |
| | • **EN 61439-2:2021** - Low-voltage switchgear and controlgear assemblies - Part 2: Power switchgear and controlgear assemblies |

The Technical Construction File required by this Directive is maintained at the Office of ABB Oy.
Hiomotie 13, 00380 Helsinki, Finland.

New Berlin, 19 September 2022

Signed for and on behalf of:

**Petri Sulistrom**
Local Division Manager, ABB US DP

**Patrick O'Connor**
Director of Engineering, ABB US DP

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3AXD50000905423 REVC
Effective: 9-29-2022
Supersedes:
3AXD50000905423 REVB

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