

Update notice

The notice concerns the ACS880-04XT hardware manuals listed below.

Contents of the notice: Checking the compatibility of the drive with IT (ungrounded) and corner-grounded delta systems, identifying different types of electrical power systems, disconnecting EMC filter and ground-to-phase varistor. **Notice code (EN):** 3AXD50000205417 Rev A. **Valid:** From 2017-11-30 until revision E of the manual.

Manual code	Revision	Language	
3AXD50000025169	D	English	EN
3AXD50000035653	D	Deutsch	DE

Checking the compatibility with IT (ungrounded) and corner-grounded delta systems

■ EMC filter +E200 (690 V drives and drive modules)

Drive internal EMC filter +E200 is not suitable for use on an IT (ungrounded) system. See section [Disconnection table](#) (page 2). Disconnect the filter before you connect the drive to the supply network.



WARNING! Do not install any drive with EMC filter +E200 on an IT system (an ungrounded power system or a high-resistance-grounded [over 30 ohms] power system). The system will be connected to ground potential through the EMC filter capacitors of the drive. This can cause danger, or damage the drive.

Note: When the internal EMC filter is disconnected, the drive EMC compatibility is considerably reduced.

■ EMC filter ARFI-10 (ordering code 68241561) – 400 V and 500 V drives and drive modules)

EMC filter ARFI-10 is not suitable for use on an IT (ungrounded) system. See section [Disconnection table](#) (page 2). Disconnect the filter before you connect the drive to the supply network.



WARNING! Do not install the drive with EMC filter ARFI-10 on an IT system (an ungrounded power system or a high-resistance-grounded [over 30 ohms] power system). The system will be connected to ground potential through the EMC filter capacitors. This can cause danger, or damage the drive.

Note: When the EMC filter is disconnected, the drive EMC compatibility is considerably reduced.

■ Ground-to-phase varistor

The ground-to-phase varistor of the drive is not suitable for use on an IT (ungrounded) system. Disconnect the ground-to-phase varistor before you connect the drive to the supply network. Check the table on page 2.



WARNING! Do not install the drive with the ground-to-phase varistor connected to an IT system (an ungrounded power system or a high-resistance-grounded [over 30 ohms] power system). The varistor circuit can be damaged.

Corner-grounded and midpoint-grounded 690 V delta systems



WARNING! Do not install the drive on a 690 V corner-grounded or midpoint-grounded delta system. Disconnecting the EMC filter and ground-to-phase varistor does not prevent damage to the drive.

Disconnection table

EMC filter +E200

Check from this table if you have to disconnect the EMC filter (EMC AC screw) with option +E200 or ground-to-phase varistor (VAR screw).

Frame size	Symmetrically grounded TN systems (TN-S systems) ¹	Corner-grounded and midpoint-grounded delta systems ² (≤ 600 V)	IT systems (ungrounded or high-resistance-grounded [>30 ohms]) ³
R10, R11	Do not remove EMC AC or VAR.	Do not remove EMC AC or VAR.	Remove EMC AC, VAR.

Note: These are the EMC filter and varistor screws of different drive frame sizes.

Frame size	EMC filter (+E200) screw	Ground-to-phase varistor screw
R10, R11	EMC AC	VAR

EMC filter ARFI-10 (ordering code 68241561)

Check from this table if you have to remove EMC filter ARFI-10 or ground-to-phase varistor (VAR screw).

Frame size	Symmetrically grounded TN systems (TN-S systems) ¹	Corner-grounded and midpoint-grounded delta systems ² (≤ 600 V)	IT systems (ungrounded or high-resistance-grounded [>30 ohms]) ³
R10, R11	Do not remove ARFI-10 or VAR.	Do not remove ARFI-10 or VAR.	Remove ARFI-10 and VAR.

Note: These are the EMC filter and varistor screws of different drive frame sizes.

Frame size	EMC filter screw	Ground-to-phase varistor screw
R10, R11	-	VAR

■ Identifying different types of electrical power systems

To identify the electrical power system type, find out the supply transformer connection. If that is not possible, measure these voltages at the distribution board before you connect power to the drive:

1. input voltage line to line (U_{L-L})
2. input voltage line 1 to ground (U_{L1-G})
3. input voltage line 2 to ground (U_{L2-G})
4. input voltage line 3 to ground (U_{L3-G}).

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The line-to-ground voltages in relation to the line-to-line voltage of the electrical power system types are shown below.

U_{L-L}	U_{L1-G}	U_{L2-G}	U_{L3-G}	Electrical power system type
X	$0.58 \cdot X$	$0.58 \cdot X$	$0.58 \cdot X$	Symmetrically grounded TN system (TN-S system)
X	$1.0 \cdot X$	$1.0 \cdot X$	0	Corner-grounded delta system (nonsymmetrical)
X	$0.5 \cdot X$	$0.5 \cdot X$	$0.57 \cdot X$	Midpoint-grounded delta system (nonsymmetrical)
X	Varying level versus time	Varying level versus time	Varying level versus time	IT systems (ungrounded or high-resistance-grounded [>30 ohms]) nonsymmetrical

Disconnection instructions

■ Precautions before electrical work

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

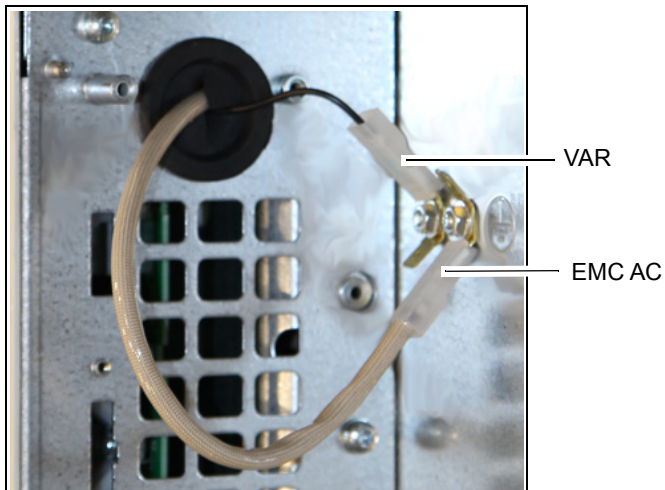


WARNING! Obey these instructions. If you ignore them, injury or death, or damage to the equipment can occur. If you are not a qualified electrician, do not do electrical installation or maintenance work. Go through these steps before you begin any installation or maintenance work.

1. Clearly identify the work location.
2. Disconnect all possible voltage sources.
 - Open the main disconnecter at the power supply of the drive.
 - Make sure that reconnection is not possible. Lock the disconnecter to open position and attach a warning notice to the disconnecter.
 - Disconnect any external power sources from the control circuits before you do work on the control cables.
 - 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.
 - Use a multimeter with an impedance of at least 1 Mohm.
 - Make sure that the voltage between the drive input power terminals (L1, L2, L3) and the grounding terminal (PE) is close to 0 V.
 - Make sure that the voltage between the drive DC terminals (UDC+ and UDC-) and the grounding terminal (PE) is close to 0 V.
6. Install temporary grounding as required by the local regulations.
7. Ask for a permit to work from the person in control of the electrical installation work.

■ Internal EMC option +E200

Disconnect the filter grounding wire (EMC AC) and ground-to-phase varistor grounding wire (VAR) before you connect the drive to the supply network. Insulate the end of the wire and attach it. The wires are located at the side of the drive module next to the circuit board compartment.



■ External EMC option ARFI-01

Grounding wire EMC AC (see the figure above) is not connected at the factory. Do not connect it. Remove the varistor grounding wire (VAR). Remove the ARFI-10 filter from the cabinet.
