ABB INDUSTRIAL DRIVES

ACS880-01 drives

Hardware manual



ACS880-01 drives

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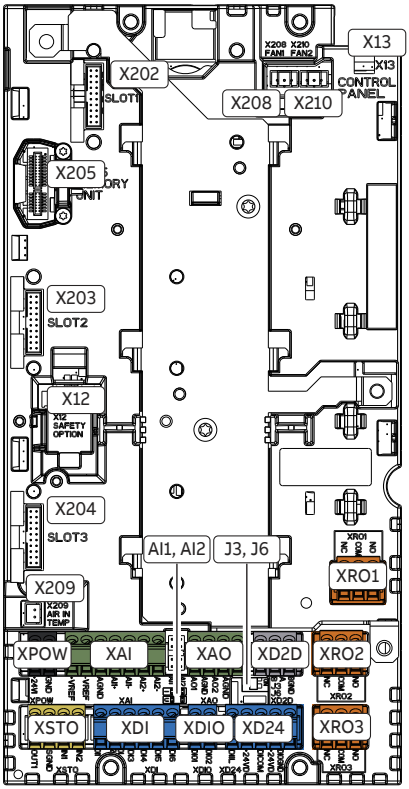
10. Start-up 

3AUA0000078093 Rev V
EN
Original instructions
EFFECTIVE: 2026-02-26

Term	Description
FSO-21	Safety functions module which supports the FSE-31 module and the use of safety encoders
FSO-12	Safety functions module which does not support the use of encoders
FSPS-21	PROFIsafe safety functions module
IGBT	Insulated gate bipolar transistor
Inverter	Converts direct current and voltage to alternating current and voltage.
Parameter	In the drive or converter control program, parameter is a user-adjustable setting, or a read-only monitoring signal. In some (for example fieldbus) contexts, a value that can be accessed as an object. For example, variable, constant, or signal.
PLC	Programmable logic controller
STO	Safe torque off (IEC/EN 61800-5-2)
UCU	Type of control unit
ZCON	Type of control board
ZCU	Type of control unit
ZGAB	Brake chopper adapter board
ZGAD	Gate driver adapter board
ZINT	Main circuit board
ZMU	Type of memory unit, attached to the control unit

ZCU-12 layout

This figure shows the layout of the ZCU-12 control unit.



	Description
XAI	Analog inputs
XAO	Analog outputs
XDI	Digital inputs
XDIO	Digital input/outputs
XD24	Digital input interlock (DIIL) and +24 V output
XD2D	Drive-to-drive link or Modbus/RTU
XPOW	External power input
XRO1	Relay output RO1
XRO2	Relay output RO2
XRO3	Relay output RO3
XSTO	Safe torque off connection
X12	Connection for FSO safety functions module
X13	Control panel connection
X202	Option slot 1
X203	Option slot 2
X204	Option slot 3
X205	Memory unit connection
X208	Cooling fan 1 connection
X209	Connection for ambient temperature sensor (at air inlet). Connected at the factory.
X210	Cooling fan 2 connection
AI1, AI2	Current/Voltage selection jumpers (J1, J2) for analog inputs
J3	Drive-to-drive link termination switch (J3)
J6	Common digital input ground selection switch (J6)

operating life of these capacitors. A lower ambient temperature can increase the operating life of capacitors.

Capacitor failure can cause damage to the unit, an input cable fuse failure, or a fault trip. If you think that any capacitors in the drive have failed, contact ABB.

Reforming the capacitors

Reform the capacitors if the drive was not powered for a year or more (is in storage or is unused). Read the manufacturing date from the type designation label. For the instructions, refer to Capacitor reforming instructions (3BFE64059629 [English]).

Control panel

Refer to ACS-AP-I, -S, -W and ACH-AP-H, -W Assistant control panels user's manual (3AUA0000085685 [English]).

Control unit

For maintenance information of the UCU-20 control unit (option +V998), refer to UCU-20 control unit hardware manual (3AXD50001079246 [English]).

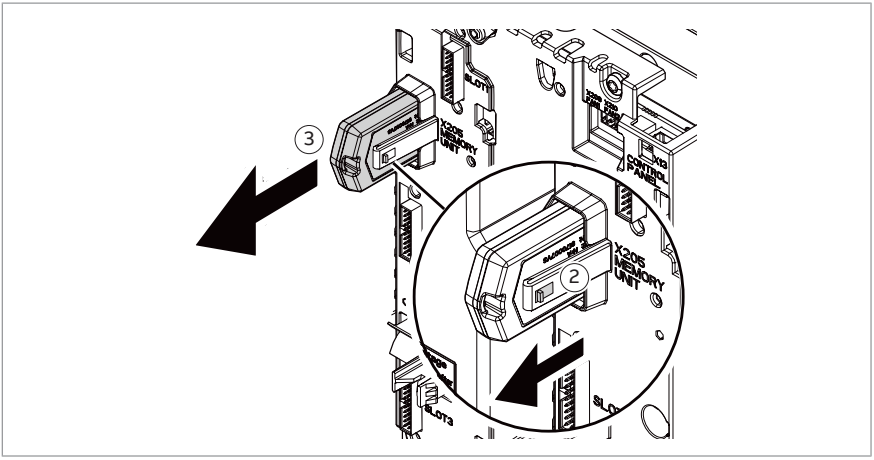
Replacing the memory unit of ZCU-12

After replacing a control unit, you can retain the existing parameter settings by transferring the memory unit from the defective control unit to the new control unit. After power-up, the drive will scan the memory unit. This can take several minutes.

⚠WARNING Obey the safety instructions of the drive. 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, commissioning or maintenance work.

⚠WARNING Do not remove or install the memory unit when the control unit is energized. There can be a risk of electric shock from relay outputs or adjacent equipment. Also, damage to the control unit or memory unit can occur.

1. Stop the drive and do the steps in Electrical safety precautions (page 20) before you start the work.
2. Pull the clip at the side of the memory up.



3. Take the unit off.
4. Install the unit in reverse order.

Replacing the ZCU-12 control unit battery

WARNING Obey the safety instructions of the drive. 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, commissioning or maintenance work.

You can change the control unit battery with a battery ejector (a in the drawing below) or, for example, with a flat screwdriver. You can order a battery replacement kit that contains a battery ejector and type CR2032 battery from ABB service.

1. Stop the drive and do the steps in Electrical safety precautions (page 20) before you start the work.
2. Move the battery ejector into the battery slot on the battery.
3. Carefully pull the battery out of the battery holder.
4. Carefully put a new CR2032 battery into the battery holder.