

FSCS-21 CIP Safety™ functions module

Quick installation guide

Related manual

[FSCS-21 CIP Safety™ functions module user's manual \(3AXD50001065478 \[English\]\)](#)



Safety instructions



WARNING Obey the safety instructions of the drive. If you ignore them, injury or death, or damage to the equipment can occur.

Description of the FSCS-21 module

The FSCS-21 module adds support for the EtherNet/IP™ communication protocol and the CIP Safety™ extensions. With the module, you can connect the drive to a programmable logic controller (PLC). The module supports the Safe torque off (STO) and Safe stop 1 with time monitoring (SS1-t) safety functions with CIP Safety over EtherNet/IP.

■ Intentional misuse

Use the module according to the instructions given in the applicable manuals. ABB is not responsible for any damage caused by the misuse of the module. The module is not designed to protect a machine against intentional misuse or sabotage.

■ Limitations for use

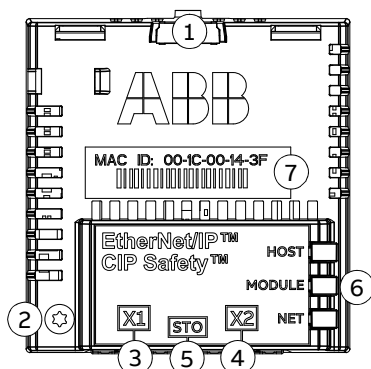
Use the module only in an environment that meets the requirements given in the drive hardware manual. Do not use the module in an environment that has conductive dust in the air. If you use the module in an environment that does not meet the requirements, equipment malfunction or loss of a safety function can occur.

■ Drive compatibility

The FSCS-21 module supports only the drives and firmware versions specified below. It has not been tested with other drives or firmware versions.

- ACS880 drives with primary control program version 2.90 or later
- ACS580 drives with standard control program version 2.07 or later
- ACS380 drives with machinery control program version 2.07 or later

■ Layout of the module



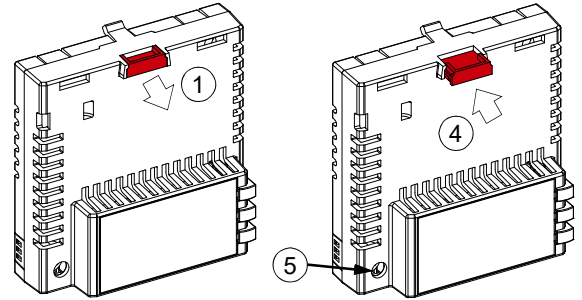
No.	Description
1	Lock
2	Grounding screw
3	RJ-45 connector [X1] to Ethernet
4	RJ-45 connector [X2] for chaining another module
5	STO connector (under connectors [X1] and [X2])
6	Diagnostic LEDs
7	MAC address

Mechanical installation

If you have an ACS380 drive and order FSCS-21 separately as a kit, you must replace the ACS380 standard cover with the optional deeper cover (ordering code: 3AXD50000190188). For more information on the deeper cover, visit <https://new.abb.com/products/3AXD50000190188/3axd50000190188>

Install the module mechanically as follows:

1. De-energize the drive and isolate it from dangerous voltages. Make sure that it is safe to start the work.
2. Pull out the lock tab on the module.
3. Carefully install the module to an option module slot on the drive control unit. For instructions, refer to the drive hardware manual.
4. Push in the lock tab on the module.
5. Torque the grounding screw to 0.8 N·m (7.1 lbf·in).

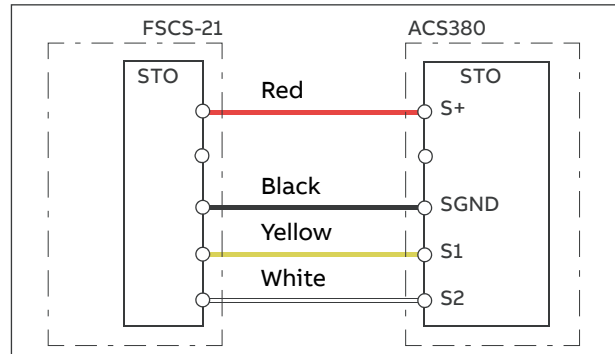
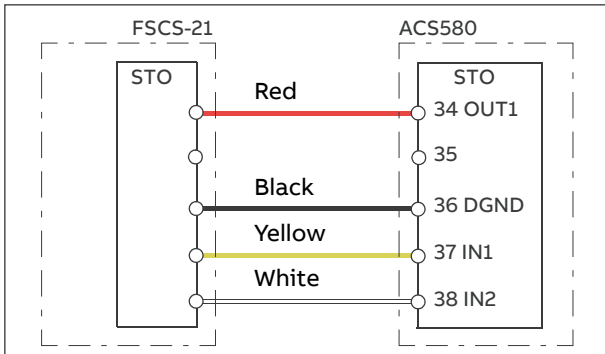


NOTICE Do not tighten the grounding screw too much. If you tighten the screw too much, damage to the screw or module can occur. If the screw is loose, EMC performance decreases and equipment malfunction can occur.

Electrical installation

Install the module electrically as follows:

1. Connect the network cable to connector [X1] on the module.
2. If you want to create a daisy chain network with the FSCS-21 modules, connect connector [X2] of the first module to connector [X1] on the next module, and so on.
3. Connect the STO cable to the FSCS-21 module (black connector).
4. **ACS880:** Connect the cable with the yellow connector to the drive STO terminals.
- ACS380 or ACS580:** Remove the yellow connector from the cable and connect the conductors to the drive STO terminals. Refer to the connection diagrams below.



Start-up

FSCS-21 will keep the drive STO activated (safe state) until it is configured and a safety program is in place in the safety PLC.

