

MC1600 Extreme Edge Server Quick Start Guide

P/N: 6806870A03C January 2020

1 Box contents

Make sure you receive all items of your shipment:

The MC1600 Extreme Edge Server contains:

1. One Extreme Edge Server with PCIe filler plate
2. One Extreme Edge Server DC Connector kit
3. One printed copy of *Quick Start Guide* (this document)
4. One printed copy of *Safety Notes Summary*
5. Any optional items ordered



When installing or servicing the system or accessories, strictly observe the safety precautions in the *Safety Notes Summary*. Ignoring these instructions can void the system warranty and cause personal injury or property damage.

2 ESD

Use ESD protection



Electrostatic discharge and incorrect installation or removal of the card can damage circuit or shorten its life.

Use a properly grounded ESD wrist strap or work in an ESD-safe environment.

Connect to the ESD connector at the front or the rear of the system.

3 Site preparation

Make sure that all environmental and power requirements defined in the *MC1600 Extreme Edge Server Installation and Use* manual are met.

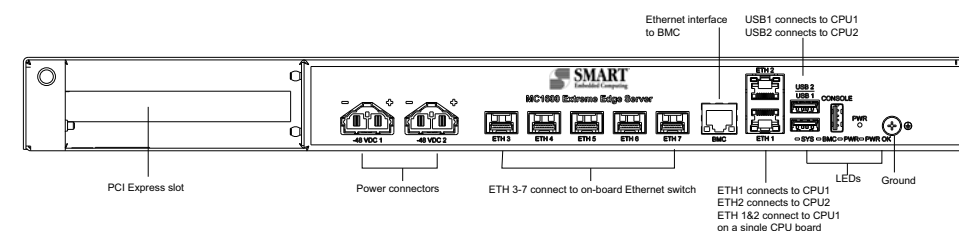
1. Remove all items from the box.
2. Provide the following cables:
 - Earth grounding cable with an M4 ring lug in case of rack installation
 - Twisted pair Ethernet cable for connecting the BMC ETH
 - Twisted pair Ethernet cable for the two RJ-45 ports
 - SFP+ or SFP modules or direct attach copper cables for the five SFP+ ports

4 Power requirements

Make sure that a suitable -40 to -57VDC power source is within reach of the system. Two independent power feeds connect to the system.

Feature	Value
Voltage and input current	Voltage: -40 to -57VDC (SELV) Current: 1x11A maximum
Chassis idle power	170W
Chassis maximum power	440W

Front Panel View



5 Install the PCIe card

The Extreme Edge Server motherboard has a x16 PCIe right-angle connector that can accommodate a standard (with 1x PCIe x8) or custom (with 2 x PCIe x8) PCIe add-in card. There are two stand-offs available for optional, custom rear support for the PCIe card. The maximum physical size is full-height, 3/4 length.

1. Make sure that the system is powered down and disconnected from DC power before installing the card.
2. Make sure you are wearing an ESD-preventative wrist strap.
3. Remove the chassis top cover. Note there are screws on three sides.
4. Unscrew the PCIe slot cover. Keep the screw and store the cover for later use.
5. Align the desired PCIe card with the PCIe connector and front panel opening.
6. Press the PCIe card into the connector until it is fully seated.
7. Secure the PCIe front panel with the screw that you previously removed.

Notes:

- SMART EC highly recommends securing the PCIe card to the two stand-offs located on the chassis at the rear of the card. Custom brackets may be required.
- The PCIe slot receives 12V (5.5A max) and 3.3V (3.0A max) power from the motherboard. The PCIe slot can accommodate cards with up to 75W power dissipation.

6 Install SFP/SFP+ modules

The five SFP+ ports on the front panel can accept SFP+ (10G) or SFP (1G) modules. The following is a list of modules that have been verified to work in limited lab testing, but most other commercially available modules should work as well.

1. Molex 74752-1051 (SFP+, direct attach copper, 0.5m)
2. Molex 74752-2301 (SFP+, direct attach copper, 3m)
3. Tyco 2032237-6 (SFP+, direct attach copper, 5m)
4. Broadcom/Avago ABCU-5700RZ (SFP, 1000Base-T)
5. Finisar FTLX1471D3BCL (SFP+, 10GBase-LR)
6. Finisar FTLX1471D3BCV (SFP+, dual-rate 1G/10GBase-SR)
7. Finisar FTLX8571D3BCL (SFP+, 10GBase-SR)



7 Mount the system

Mounting Options:

Designed to operate the system on/in a:

- Desk
- IP55/IP65 19" outdoor cabinet
- Standard 19" rack

For rack or cabinet mounting, you must allow for 50mm (2 inches) on each side of the server for proper airflow.

1. Insert the Extreme Edge Server in an IP55/IP65 19" outdoor cabinet or a standard 19" rack.
2. Fasten the system to the rack via the integrated mounting flanges using two bolts or screws (minimum 6mm/0.24 inch in diameter) on the left side and two on the right side of the system.
3. Torque the 6mm bolts to 4.3 Nm (38 in-lbs.)

8 Ground the MC1600

1. Connect the rack grounding cable to the M4 system ground threaded insert on the front right side of the system.
2. Torque the system ground screw to a maximum of 1.2 Nm (10.6 in-lbs). Use a grounding cable of size 1.25 mm² for the DC system.
3. Connect the system permanently to the earth ground of the building.

9 Connect to power feed

1. Attach an ESD-preventive wrist strap before operating the product. Both terminals of the wrist strap must contact well. One terminal touches bare skin and the terminal with the alligator clip attaches to the grounding lug at I/O panel of the system.
2. Make sure the external power feeds that you plan to attach are powered off and cannot be switched on while you are working.

3. Connect the power connector to the DC power supply and insert the connector into the Extreme Edge Server. Turn on the external feed power. The input power LED on the front panel turns green.

10 Serial console

The USB port on the front of the labeled CONSOLE uses a USB-to-dual serial interface from Silicon Labs (CP2105). Connect a USB Type-A to USB Type-A cable with one end to the CONSOLE on the MC1600 and the other end to the display console.

For Windows 7 or later: Teraterm

Drivers are automatically installed when connecting the cable. If the drivers do not install automatically, they can be downloaded and installed from <https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers>

For Linux (any recent distribution): minicom
Serial USB driver CP210x should be available.

11 Console access

The following table provides serial port configuration information.

Parameter	Default Settings
Baud Rate	38400
Data Bits	8
Parity	No
Stop Bit	1
Flow Control	Off
Terminal Type	Teraterm

The output from the system CPU can be viewed over serial console. The default kernel command line uses the following console options:
`console=ttyS0,38400n8`

12 Power up

Before applying power, make sure the system was not stored where moisture could form inside the unit. If it was, locate the system in an environment where it can dry and reach room temperature before applying power.

The BMC automatically powers up the CPUs after it boots, this is the default. If the system is changed from autonomous boot to power-button boot, then payload power must be enabled manually. Refer to the *MC1600 Extreme Edge Server Installation and Use* for more information.

Fans spin up and then spin down after a while. The main CPUs of the Extreme Edge Server boot up. Allow booting to complete.

Technical Assistance

For technical assistance or to report product damage or shortages, contact your local SMART Embedded Computing sales representative or visit <https://www.smartembedded.com/ec/support/>.

Get More Information



For more information on this product, see the *MC1600 Extreme Edge Server Installation and Use* manual and other related technical documentation, which can be found by using the Documentation Search at <https://www.smartembedded.com/ec/support/>.



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