

Warning

Observe and follow all safety precautions while installing, operating, and servicing this equipment. Failure to comply with the safety precautions and warnings in the product user manual as well as safe engineering practices may result in injury to personnel or damage to the equipment.

For latest documentation and software, visit: <https://www.bloomy.com/products/battery-management-system-testing/battery-simulator-1200>

Startup Process

1. Install Bloomy Battery Simulator SFP
2. Power on the BS120X
3. Connect Ethernet Cable
4. Configure PC static IP address
5. Connect to BS120X via SFP
6. Update BS120X configuration
7. Prepare for external control
8. Notes on control

1. Install Soft Front Panel

1. Download Bloomy Battery Simulator Soft Front Panel and related drivers from www.bloomy.com/
2. Run setup.exe
3. Follow on-screen instructions to install the SFP application to the desired directory
4. Restart PC if requested

2. Power on the BS120X

1. Connect the supplied AC power cord to the rear AC Input connector of the ABS. Plug into a 100-240VAC wall outlet
2. Wait for the Status LED to turn Green



3. For BS1201 – activate power switch on the front of the unit.

3. Connect Ethernet Cable

1. Connect a Cat5e or better Ethernet cable between the BS120X and PC (direct connection is preferred, through a switch may be acceptable)
2. (Optional) Connect CAN cable between the BS120X and PC.

4. Configure PC IP Address

1. Navigate to Control Panel/Network and Internet/Network Connections
2. Identify the Ethernet port connected to the BS120X unit(s)
3. Right click on that port and go to Properties/Internet Protocol Version 4 (TCP/IPv4).
4. Use IP address 192.1.168.50, Subnet Mask 255.255.255.0

5. Connect via SFP

1. Open the Bloomy Battery Simulator Soft Front Panel (SFP)
2. Click “Add”: Ethernet, IP Address: 192.168.1.100 [for BS1200] or 192.168.1.101 [for BS1201] Config-Only?: True
3. Wait for status to say “Configurable”

6. Update BS120X Config

1. Configure unit with desired settings. This may include:
 - CAN vs Ethernet Control
 - BoxID
 - IP Address
 - Reporting PortNote: for ENET control, Network Settings IP Address and Reporting Port must be unique. For CAN control, Box ID must be unique
2. Click “Apply and Restart”

7. Prepare for Ext. Control

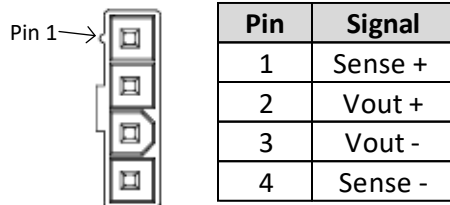
- The unit is now controllable via the SFP or other application.
- To control via the SFP**
1. Click “Add” and identify the unit using the configuration defined in (6); Config-Only?: False
 2. Wait for status to say “Connected”
 3. Enable desired cell(s) and define current limits.

8. Notes on Control

- To control a unit, use the following settings:
- Set all current limits to 500mA
 - Enable all cells
 - Set Voltage

Cell Connectors

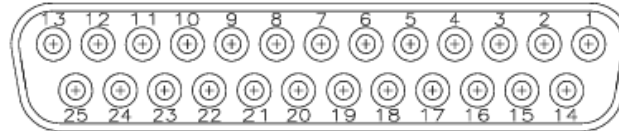
Unit Connector: Molex 39-01-4041
Mating Connector: Molex 39-01-4047



Pinout: face view of socket on unit

Aux I/O Connectors

Unit Connector: Tyco 1658613-2
Mating Connector: COTS Dsub25 F



Pinout: face view of socket on unit

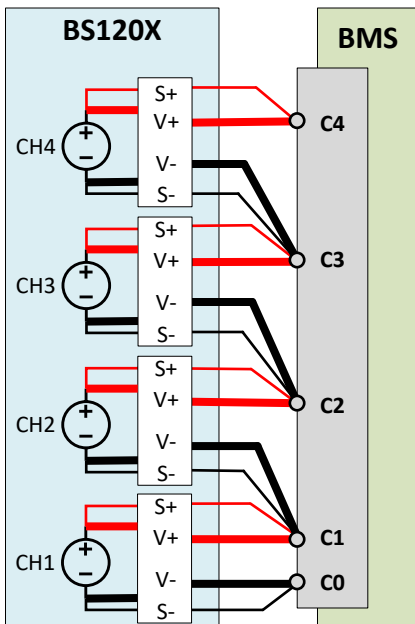
Pin	Connection	Pin	Connection
1	Analog In #1	14	Analog In #2
2	Analog In #3	15	Analog In #4
3	Analog In #5	16	Analog In #6
4	Analog In #7	17	Analog In #8
5	GND	18	GND
6	Analog Out #1	19	Analog Out #2
7	GND	20	Digital I/O #1
8	Digital I/O #2	21	Digital I/O #3
9	Digital I/O #4	22	Digital I/O #5
10	Digital I/O #6	23	Digital I/O #7
11	Digital I/O #8	24	GND
12	GND	25	CAN-
13	CAN+		

Status LED

Solid Green	Operating
Blinking Green	Error state
Off	System off

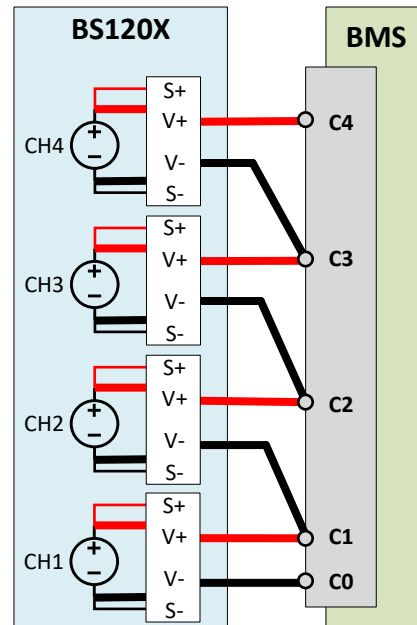
Remote Sense, Stack at BMS

Highest accuracy cell simulation. 4-wire remote sense connected at BMS. Cell stacking connections made at BMS. Highest Complexity wiring.



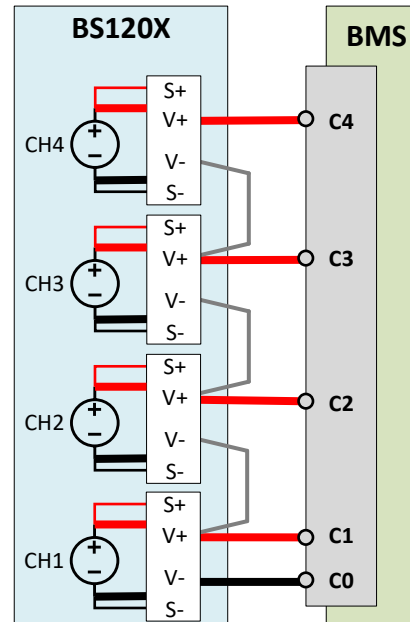
Local Sense, Stack at BMS

Local sense at BS120X (no line loss compensation). Stacking made at BMS.



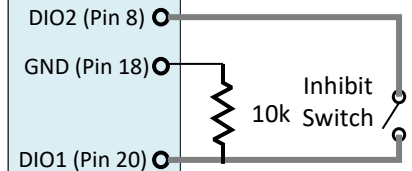
Local Sense, Local Stack

Local sense at BS120X (no line loss compensation). Stack made at BS120X cell connectors. Single tap wire to BMS. Simplest wiring.



External Inhibit Setup

BS120X #1 Aux DB25



Fault Insertion

To add faulting capabilities (open, short to GND, short to rail), use a Bloomy Fault Insertion Unit (FIU). Each FIU can fault 2x BS120X units.

