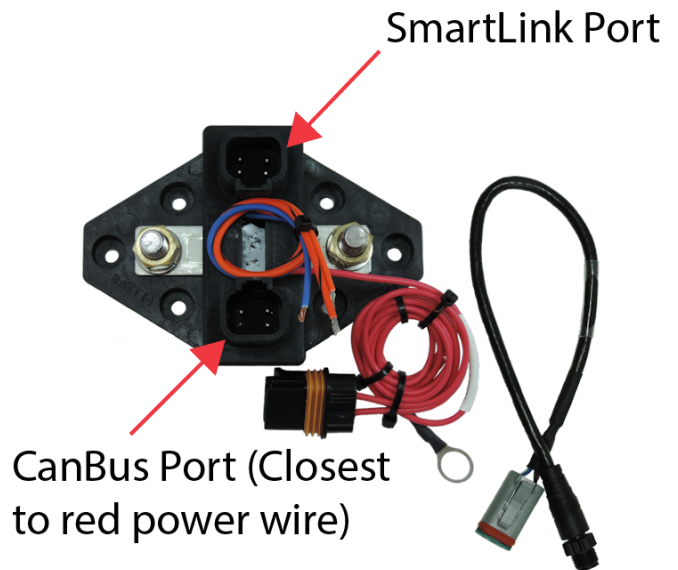

SG240/SG230/SG235/SG2-0130 SmartShunts

July 7, 2022

Balmar has introduced two new SmartShunts into the SG200 Battery monitor family. They both add CANbus capabilities, while retaining compatibility with all SmartLink products, such as the original SG2-0100 SmartShunt, the Color Display and the Bluetooth Gateway. It is physically identical to the original SmartShunt, except for the inclusion of an additional blue wire. The part typically comes with an adapter designed to plug into the port closest to the red power lead. This adapter connects to the CANbus backbone. Two variants are available, communicating on either a NMEA 2000 (SG2-0130) or RV-C (SG240) network (But NOT both)



Technical notes:

1. Data provided onto a network does not always mean it will be available on any display device. What and how data is displayed is controlled by the display manufacturer. For example, a chart plotter may not have the option to display Time Remaining. If you have questions about this problem, please contact your display manufacturer.
2. A SG200 Color Display (SG2-0200) can be used while data is simultaneously provided via RV-C or N2K to a different display device. This can be a good solution for “always on” data.
3. The CANbus (N2K, RV-C) connections are isolated, and power for the CANbus network is not provided by the SmartShunt. If the SmartShunt is connected to a network that has no power, it cannot send data to the network.
4. For purposes of network design, the product is rated at 2 LEN.
5. Only one CANbus (N2k or RV-C) smartShunt can be on the network. This may change in the future.
6. Configuration of the SmartShunt is done through the Bluetooth Gateway. It can also be done though the CANbus connection, details available to qualified OEM builders and display product manufacturers.
7. The blue wire is for a yet-to-be supported relay function.
8. A N2K SmartShunt cannot be converted to an RV-C compatible SmartShunt, nor visa-versa.
9. The bridging of MC-618 data to N2K is planned for a future release.

SG240/SG230/SG235/SG2-0130 SmartShunts

July 7, 2022

10. The N2K variants are NMEA 2000 certified.

SG2-0130 SmartShunt (Part of SG230, SG235 Kits or available separately)

NMEA 2000 Battery Parameter	PGN name and number
State of Charge	DC Detailed Status - 127506
State of Health	DC Detailed Status - 127506
Remaining Capacity	DC Detailed Status - 127506
Time Remaining	DC Detailed Status - 127506
Battery Voltage	Battery Status - 127508
Battery Aux-1 Voltage	Battery Status - 127508
Battery Aux-2 Voltage	Battery Status - 127508
Battery Current	Battery Status - 127508

SG240 SmartShunt

RV-C Battery Parameter	DGN name and number
State of Charge	DC_Source_Status_3
State of Health	DC_Source_Status_3
Remaining Capacity	DC_Source_Status_3
Time Remaining	DC_Source_Status_2
Battery Voltage	DC_Source_Status_1 (Instance 1-4)
Aux 1 Voltage	DC_Source_Status_1 (Instance 5)
Aux 2 Voltage	DC_Source_Status_1 (Instance 6)

SG240/SG230/SG235/SG2-0130 SmartShunts

July 7, 2022

Battery Current	DC_Source_Status_1 (Instance 1-4)
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MC-618 Regulator Communications

Communicating RV-C batteries may transmit data intended to control charging devices. If a compliant battery supplies this data, the regulator will stop charging until the battery changes the data to permit charging. When the SmartShunt receives this data, it shuts down charging within one second. If any battery on the network sends the “Do Not Charge” command, charging stops, regardless of which battery is actually being charged or any parallel setup.

Byte 2, set to 1 (Do not charge), set to 0 permits charging	DC_Source_Status_4
Byte 2, bits 0 and 1 set to (00)(charge bus disconnected) Disables charging	DC_Source_Status_11
Byte 2, bits 0 and 1 set to (01)(charge bus connected) Enables charging	

RV-C real-time Information when connected to MC-618. Availability is subject to MFD/Display support

RV-C Charge Parameter	DGN name and number	Field Bytes
MC-618 (bv) Battery Voltage	CHARGER_STATUS_2	3-4
MC618 Bulk V	CHARGER_CONFIG_STATUS_3	1-2
MC618 Absorption V	CHARGER_CONFIG_STATUS_3	3-4
MC618 Float V	CHARGER_CONFIG_STATUS_3	5-6
MC-618 Bat Type	CHARGER_CONFIG_COMMAND	6
MC618 Alt1 Temp	CHARGER_STATUS_2	7
MC-618 TARGET V	CHARGER_STATUS	1-2

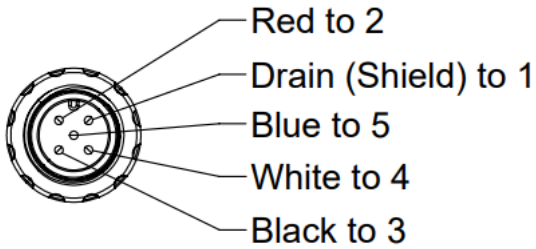
N2K MC-618 data is not currently supported, but will be available in a later release.

SG240/SG230/SG235/SG2-0130 SmartShunts

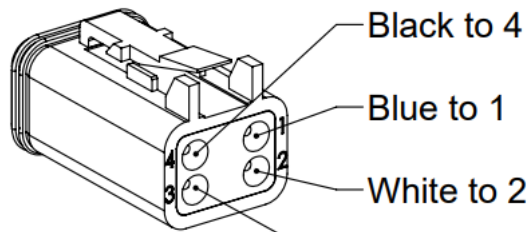
July 7, 2022

Adapter cable pin-outs:

The SG2-0409 is included with the SG2-0130 SmartShunt and SG230, SG235 Kits.

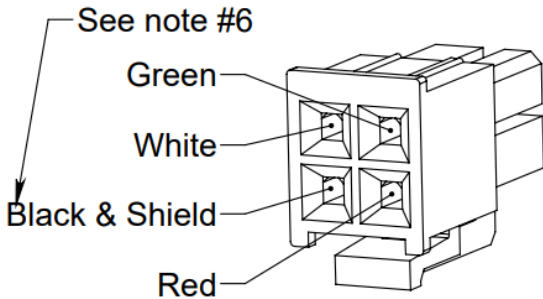


ISMBM05MCC-SLC70000
 Pin Out
 Front View

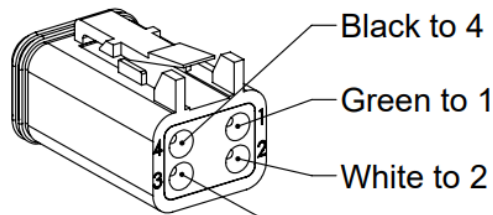


Plug, 4 Pin, Male
 (CDI P/N: CON-0217)
 Wire Side

The SG2-0406 wire adapter is included with the SG240 RV-C SmartShunt.



39-01-2040
 Wire Side



AT06-4S
 Wire Side