# Current Sensor – Bus Bar Type (CS012A)

## INTRODUCTION

The Bus Bar type of EMUS G1 Dual Range Current Sensor is designed specifically for use in battery packs that consists of prismatic form factor cells. It doubles as an interconnecting bus bar, and due to the galvanic isolation between the sensor and the conducting part, it can be installed anywhere in the battery pack between two adjacent, series-connected cells.

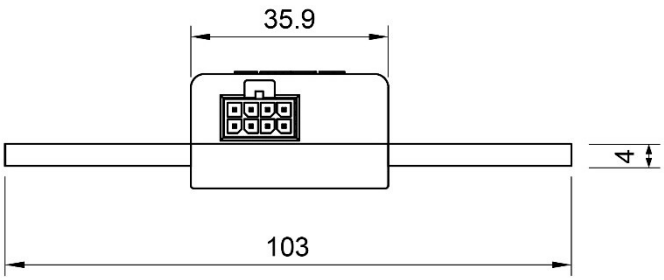
## APPLICATIONS

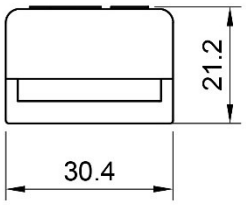
- High power batteries requiring high current draw
- Specifically designed to be used in EMUS battery management system.
- Due to sensitivity to surrounding magnetic environment recommended to calibrate in system
- For use with EMUS current sensor cables

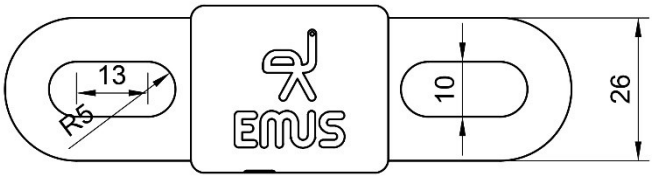
## FEATURES

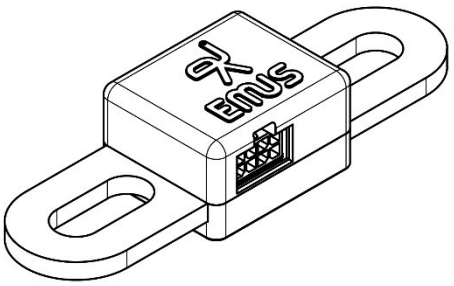
- Two separate measurement channels with different sensitivity, which allows to accurately measure small currents without sacrificing the range of measurable values
- Designed Current measurement range is ±1000 A, accuracy reaches 0.5 %
- Hall-effect current measurement method which provides the characteristic galvanic isolation between the sensor and the conductive part
- Shielded sensor that reduces the influence of the surrounding magnetic field

## MECHANICAL INFORMATION



## ELECTRICAL CHARACTERISTICS

| Item | Conditions | | Value |
|---|---|---|---|
| Nominal Current range | Tested up to | | ±350A |
| | Hardware ready (to be tested) | | ±500A |
| Peak current range | Tested up to | | ±350A |
| | Hardware ready (to be tested) | | ±1000A |
| Accuracy (when calibrated in system) | <350A | | ±0.5% |
| Measurement Noise | <80A | | ±55mA |
| | >80A | | ±500mA |
| Resolution | With G1 CU021, FW v2.7 and later | <80A | 0.1A |
| | | >80A | 0.3A |
| Supply voltage | | | 5.0 VDC |
| Current consumption | At typical supply voltage | | 25 mA |
| Conductor resistance | | | 20 µOhm |

## OTHER SPECIFICATIONS

| Item | Value |
|---|---|
| Operating temperature | -40 to +85 °C |
| IP rating | IP40 |
| Weight | 98 g |