

Top/Bottom Isolator (CCA010D / CCA020D)

INTRODUCTION

Emus BMS Top/Bot Isolators are cell communication adapters that provide optical isolation in application where the main controller communicates directly to EMUS BMS Cell Modules. The Bot isolator connects between the main controller and the first cell of series-connected battery pack, while the Top Isolator provides isolating barrier between the last cell of series-connected battery pack and the main controller.



APPLICATIONS

- Any lithium chemistry, series connected battery pack of up to 100 cells if using serial cell communication. (Distributed regular).
- Recommended for use in consumer applications and small, series connection battery packs.

MECHANICAL INFORMATION

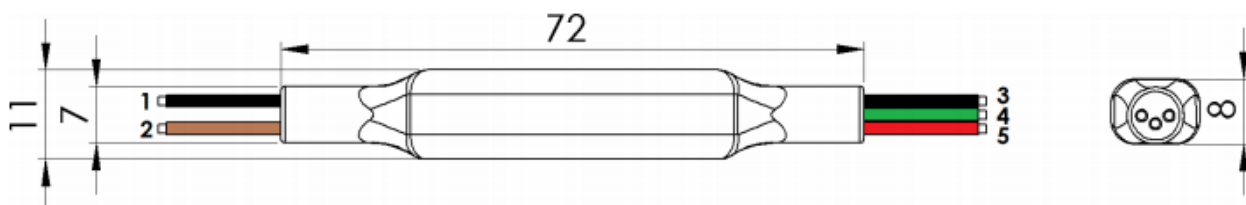


Figure 1 Top Isolator mechanical drawing

Table 1 Top Isolator wire assignment

Pin No.	Wire Color	Assignment
1	Black	CELL TX-
2	Brown	CELL TX+
3	Black	TOP CELL -
4	Green	UP
5	Red	TOP CELL +

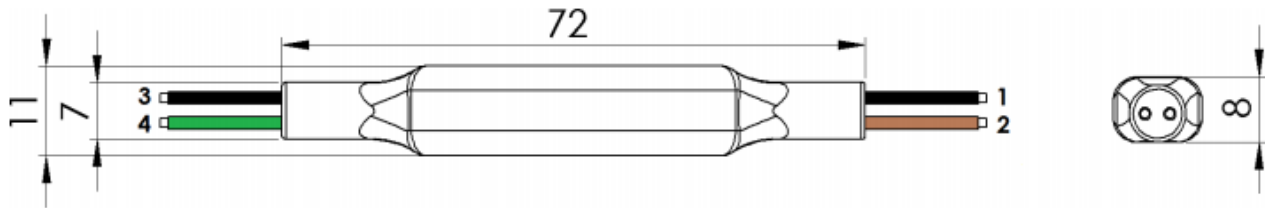


Figure 2 Bottom Isolator mechanical drawing

Table 2 Bottom Isolator wire assignment

Pin No.	Wire Color	Assignment
1	Black	CELL RX-
2	Brown	CELL RX+
3	Black	BOT CELL -
4	Green	DN

ELECTRICAL CHARACTERISTICS

Table 3 Top Isolator electrical characteristics

Item	Value
Isolation voltage	2.0 kV
Transient/overvoltage protection between GND and OUT	6.2 VDC
Reverse polarity protection between GND and OUT	-0.7 VDC
Transient/overvoltage protection between TOP CELL - and UP	5.6 VDC
Reverse polarity protection between TOP CELL - and UP	-0.7 VDC
Transient/overvoltage protection between TOP CELL - and TOP CELL +	5.6 VDC
Reverse polarity protection between TOP CELL - and TOP CELL +	-0.7 VDC

Table 4 Bottom Isolator electrical characteristics

Item	Value
Isolation voltage	2.0 kV
Transient/overvoltage protection between GND and IN threshold	6.2 VDC
Reverse polarity protection between GND and IN limit	-0.7 VDC
Transient/overvoltage protection between BOT CELL - and DN threshold	6.2 VDC
Reverse polarity protection between BOT CELL - and DN limit	-0.7 VDC



OTHER SPECIFICATIONS

Table 5 Top/Bottom Isolators other specifications

Item	Value	
	CCA010D	CCA020D
Operating temperature	-40 to +85 °C	
IP rating	IP64	
Weight	13.6 g	10.5 g
Wire length	0.2 m	
Wire ring terminal type	Molex 19323-0011 (recommended crimp tool Molex 64003-0100 or PRESSMASTER KWB0325S)	