

# **UBI-2590 / SMBus HC Commercial Label Technical Datasheet**



SMART RCUIT®

#### **Features**

- · Flexible dual mode output voltage
- SmartCircuit Technology communication with host and charge equipment
- · Accurate state-of-charge display for each side of the battery
- Rugged, tough case construction can handle severe environments
- · Highest energy density solution in the Ultralife UBI-2590 family

### **Applications**

- · Rugged, portable electronics
- · Robotics / AUVs / UUVs

### **Optional Accessories**

- UCH0056: Smart Desktop Charger
- CH0002: COTS Desktop Charger
- · UCH0053: 6-bay Charger
- · UCH0054: 2-bay Charger
- MRC135A: Single Unit Solar Charger
- MRC-143A: 3-Unit Solar Charger
- UKT0011: Portable Battery System
- CA0003: Vehicle Adapter
- CA0006: 15/30V, 2 Conductor Cable
- CA0007: 15/30V 2 Conductor Cable
- CA0008: 15/30V. 4 Conductor Cable
- UCA0039: Shielded Smart Cable
- UCA0114: Low Profile Smart Cable

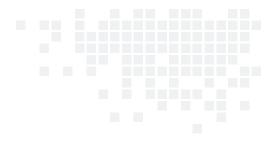
Technical Specifications		
Part No.	UBBL13-01-CB	
NSN	6140-01-713-6875	
IEC Designation	4INR19/66-3	
Voltage Range	30V Mode:	20.0 to 33.6V
	15V Mode:	10.0 to 16.8V
Average Voltage	30V Mode:	28.8V
6 6	15V Mode:	14.4V
Capacity	Nominal <sup>1</sup>	30V mode: 10.0Ah
		15V mode: 20.0Ah
	Minimal <sup>1</sup> :	30V mode: 9.6Ah
		15V mode: 19.2Ah
Max. Continuous Discharge	30V Mode:	10.0A
Max Dulas Dischange?	15V Mode:	20.0A
Max. Pulse Discharge <sup>2</sup>	30V Mode: 15V Mode:	18.0A 36.0A
Energy <sup>1</sup>	288Wh	50.0A
Energy Density	208Wh/kg, 334Wh/l	
Weight	1451g, 3.2lbs	
Cycle Life <sup>3</sup>		
Operating Temperature	> 300 cycles -32°C to +60°C discharging, -20°C to +50°C charging	
Storage Temperature	-32 C to +50 C discharging, -20 C to +50 C charging	
Self-Discharge @ 23°C	<10% per month Hard plastic (Noryl N190X-701)	
Exterior/Housing		
Color	Standard color is Desert Tan. Available in black by phone order.	
Terminals/Commonter	0	
Terminals/Connector	Connector SC-C-179495	
Terminals/Connector Communications	Connector SC-C-179495 Physical layer: Protocol:	SMBus v1.1
	Physical layer: Protocol:	
Communications	Physical layer:	SMBus v1.1
Communications State of Charge Indicator	Physical layer: Protocol: 5-segment LCD display	SMBus v1.1
Communications State of Charge Indicator Harmonized Tariff Schedule	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage:	SMBus v1.1 SBD v1.1 compliant
Communications State of Charge Indicator Harmonized Tariff Schedule	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage:	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms
Communications State of Charge Indicator Harmonized Tariff Schedule	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents:	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell)
Communications State of Charge Indicator Harmonized Tariff Schedule	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us
Communications State of Charge Indicator Harmonized Tariff Schedule	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection:	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V
Communications State of Charge Indicator Harmonized Tariff Schedule	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us
Communications State of Charge Indicator Harmonized Tariff Schedule	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection:	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70±5°C
Communications State of Charge Indicator Harmonized Tariff Schedule	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse:	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70 $\pm$ 5°C Resets 50 $\pm$ 5°C
Communications State of Charge Indicator Harmonized Tariff Schedule Protection	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse: Connect each side of the correct polarity and apply	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70 $\pm$ 5°C Resets 50 $\pm$ 5°C Activates 93 $\pm$ 5°C battery to a DC power source using a maximum voltage of 16.8V. Limit the
Communications State of Charge Indicator Harmonized Tariff Schedule Protection	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse: Connect each side of the correct polarity and apply current to the recommend	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70 $\pm$ 5°C Resets 50 $\pm$ 5°C Activates 93 $\pm$ 5°C battery to a DC power source using a maximum voltage of 16.8V. Limit the ded rate of 3.0A and hold to 16.8V until
Communications State of Charge Indicator Harmonized Tariff Schedule Protection	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse: Connect each side of the correct polarity and apply current to the recommend the current declines to 30	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70 $\pm$ 5°C Resets 50 $\pm$ 5°C Activates 93 $\pm$ 5°C battery to a DC power source using a maximum voltage of 16.8V. Limit the ded rate of 3.0A and hold to 16.8V until DOMA. Maximum charge rate is 4.8A.
Communications State of Charge Indicator Harmonized Tariff Schedule Protection	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse: Connect each side of the correct polarity and apply current to the recommend the current declines to 30 Material Safety Datashee	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70 $\pm$ 5°C Resets 50 $\pm$ 5°C Activates 93 $\pm$ 5°C battery to a DC power source using v a maximum voltage of 16.8V. Limit the ded rate of 3.0A and hold to 16.8V until 00mA. Maximum charge rate is 4.8A. et - MSDS041
Communications State of Charge Indicator Harmonized Tariff Schedule Protection Charging Safety	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse: Connect each side of the correct polarity and apply current to the recomment the current declines to 30 Material Safety Datashee Refer also to Safety Guid	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70 $\pm$ 5°C Resets 50 $\pm$ 5°C Activates 93 $\pm$ 5°C battery to a DC power source using v a maximum voltage of 16.8V. Limit the ded rate of 3.0A and hold to 16.8V until 00mA. Maximum charge rate is 4.8A. et - MSDS041
Communications State of Charge Indicator Harmonized Tariff Schedule Protection	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse: Connect each side of the correct polarity and apply current to the recomment the current declines to 30 Material Safety Datashee Refer also to Safety Guid IEC 62133-2:2017	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70 $\pm$ 5°C Resets 50 $\pm$ 5°C Activates 93 $\pm$ 5°C battery to a DC power source using v a maximum voltage of 16.8V. Limit the ded rate of 3.0A and hold to 16.8V until 00mA. Maximum charge rate is 4.8A. et - MSDS041
Communications State of Charge Indicator Harmonized Tariff Schedule Protection Charging Safety	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse: Connect each side of the correct polarity and apply current to the recomment the current declines to 30 Material Safety Datashee Refer also to Safety Guid	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70 $\pm$ 5°C Resets 50 $\pm$ 5°C Activates 93 $\pm$ 5°C battery to a DC power source using v a maximum voltage of 16.8V. Limit the ded rate of 3.0A and hold to 16.8V until 00mA. Maximum charge rate is 4.8A. et - MSDS041
Communications State of Charge Indicator Harmonized Tariff Schedule Protection Charging Safety Certifications	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse: Connect each side of the correct polarity and apply current to the recomment the current declines to 30 Material Safety Datashee Refer also to Safety Guid IEC 62133-2:2017 UL/CSA 62133 CB scheme - BE-41760	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70±5°C Resets 50±5°C Activates 93±5°C battery to a DC power source using a maximum voltage of 16.8V. Limit the ded rate of 3.0A and hold to 16.8V until 00mA. Maximum charge rate is 4.8A. et - MSDS041 de UBM-5112
Communications State of Charge Indicator Harmonized Tariff Schedule Protection Charging Safety	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse: Connect each side of the correct polarity and apply current to the recomment the current declines to 30 Material Safety Datashee Refer also to Safety Guid IEC 62133-2:2017 UL/CSA 62133 CB scheme - BE-41760	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70 $\pm$ 5°C Resets 50 $\pm$ 5°C Activates 93 $\pm$ 5°C battery to a DC power source using v a maximum voltage of 16.8V. Limit the ded rate of 3.0A and hold to 16.8V until 00mA. Maximum charge rate is 4.8A. et - MSDS041
Communications State of Charge Indicator Harmonized Tariff Schedule Protection Charging Safety Certifications	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse: Connect each side of the correct polarity and apply current to the recommend the current declines to 30 Material Safety Datashee Refer also to Safety Guid IEC 62133-2:2017 UL/CSA 62133 CB scheme - BE-41760 Class 9 International and	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70±5°C Resets 50±5°C Activates 93±5°C battery to a DC power source using a maximum voltage of 16.8V. Limit the ded rate of 3.0A and hold to 16.8V until 00mA. Maximum charge rate is 4.8A. et - MSDS041 de UBM-5112
Communications State of Charge Indicator Harmonized Tariff Schedule Protection Charging Safety Certifications	Physical layer: Protocol: 5-segment LCD display 8507.60.0020 Over Voltage: Under Voltage: Transient Currents: Short Circuit Overcharge Protection: Thermal Cutoff Device: Thermal Fuse: Connect each side of the correct polarity and apply current to the recommend the current declines to 30 Material Safety Datashee Refer also to Safety Guid IEC 62133-2:2017 UL/CSA 62133 CB scheme - BE-41760 Class 9 International and or rail within U.S.	SMBus v1.1 SBD v1.1 compliant 4.30V (per cell) 2.40V (per cell) 23.0A > 15ms 30.0A > 305us Up to 40V Activates 70±5°C Resets 50±5°C Activates 93±5°C battery to a DC power source using a maximum voltage of 16.8V. Limit the ded rate of 3.0A and hold to 16.8V until 00mA. Maximum charge rate is 4.8A. et - MSDS041 de UBM-5112

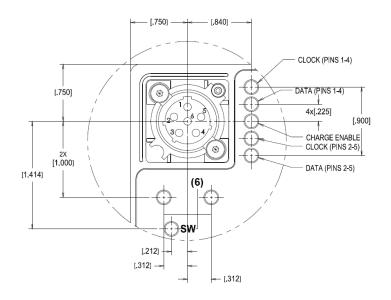
Notes

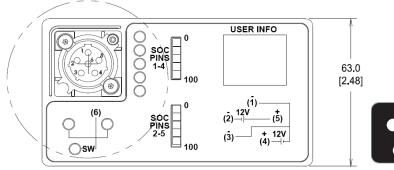
- Using a C/5 discharge rate at +25°C. 1. 2.
  - Load has a pulse width of 5 seconds with a total period of 30 seconds.
- 3. Number of consecutive 2A rate discharges while in 30V mode and recommended charges at 25°±5°C until the battery reaches 80% of initial capacity.

UBBL13-01-CB Newark, New York | +1 315-332-7100 | Fax: +1 315-331-7800 ©2024 Ultralife Corporation • www.ultralifecorp.com • All information is subject to change without notice. The information contained herein is for reference only and does not constitute a warranty of performance. • 23 DEC 24 UBM-0106 Rev: D

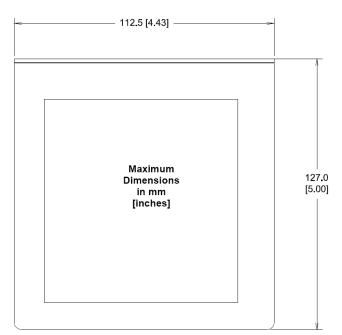
### **Dimensions**











## **Performance Graphs**

