

U-Charge® U1-12RT

12V Battery Module

U-Charge® RT offers a simple 'plug-and-play' replacement for typical lead-acid battery applications.

The Lithium Iron Magnesium Phosphate module offers 40Ah with a peak load capability of up to 80A incorporating built-in automatic protection.

Overview

Providing twice the run-time at approximately half the weight of a comparatively sized lead-acid battery, U-Charge® RT is a perfect choice when lower voltage and intrinsic safety are prerequisites.

Thousands of U-Charge® RT modules are currently in service within numerous industrial products. Excellent float and cycle life results in low operating costs, providing high investment returns for end user applications.



Specifications		U1-12RT
Voltage		12.8 V
Nominal Capacity (C/5, 23°C)		40 Ah
Weight (approximate) kg		6.5 kg
Weight (approximate) lbs		14.3 lbs
Dimension incl. Terminals LxWxH (mm)		197 x 131 x 183
Dimension incl. Terminals LxWxH (inches)		7.76 x 5.12 x 7.20
BCI Group Number		U1R
Terminals, Female-Threaded		M6x1.0
Specific Energy		79 Wh/kg
Energy Density		110 Wh/l
Standard Discharge @ 23°C	Max. Cont Current	30 A
	Max. 30 sec. Pulse	80 A
	Cut-off Voltage	10 V
	Run-time @ 10A	240 min
	Run-time @ 30A	80 min
Standard Charge	Charge Voltage	14.6 V
	Float	13.8 V
	Recommended	20 A
	Charge Time*	2.5 hrs
DC Internal Resistance (Max)		15 mΩ
Equivalent Lithium Content Per Module (g)		48.6
Part Number		1004461

*under recommended conditions

Features

- + Built-in automatic protection for over-charge, over-discharge and over-temperature conditions
- + No battery management system required
- + Series connection up to four (4) batteries (48 V)
- + Intra-module balancing
- + LED battery status indicator
- + Maintenance-free
- + Flame retardant plastics
- + Thousands of cycles, under normal conditions
- + Can be charged using most standard lead-acid chargers
- + Optional battery discharge indicator (U-BDI) for SOC display and fault indication

Common specifications

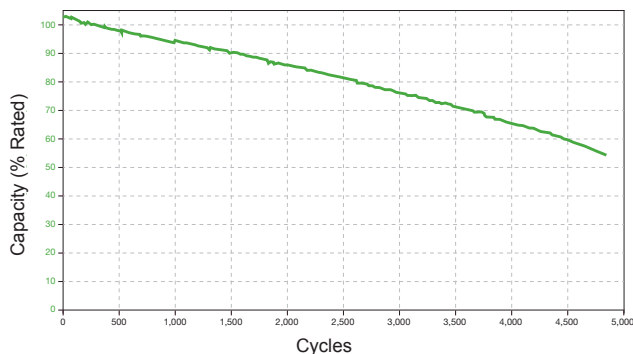
Operating temperature	-10°C to +50°C
Storage temperature	-40°C to +50°C
Operating humidity	5% to 95%, non-condensing
Water/dust resistance	IP56
Shock and vibration	IEC 62133, DIN VG96 924
Certifications	FCC Class B, CE, IEC 62133 UL 1642 & UL 2054 RoHS
Shipping classification	UN 3480, Class 9

Accessories

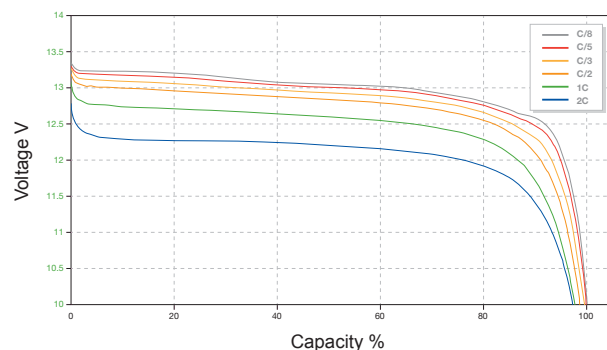
- + U-BDI – a wired, remote U-Charge® Battery Discharge Indicator displaying a 10 segment State-of-Charge (SOC).
- + LED indication bar and battery status indicators. The U-BDI also monitors and controls battery-to-battery balance within a battery string.



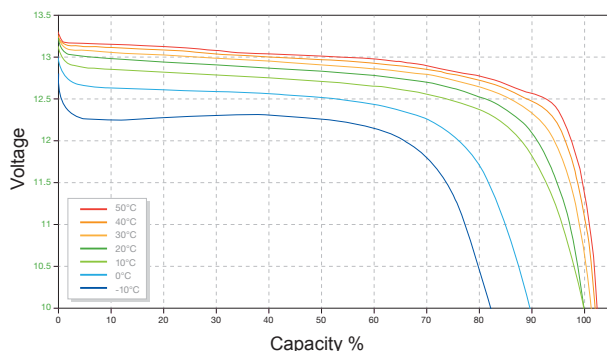
U-Charge® Discharge Capacity Performance at 23°C
Charged CC 20A to 14.6V, CV @14.6 to 1A
Discharged 20A to 10.5V; Cycled 42 Months



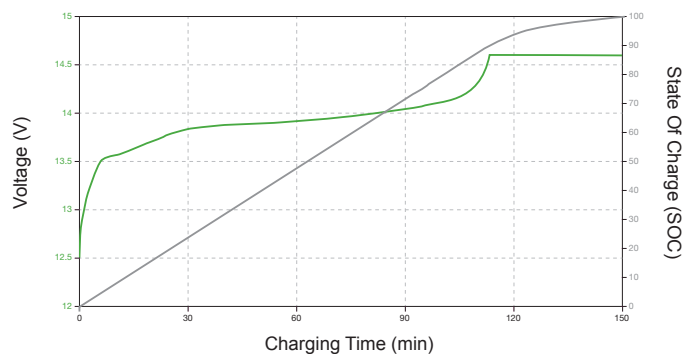
U-Charge® Voltage Profiles at Various Rates
23°C Ambient Temperature



U-Charge® Discharge Voltage Profiles at C/2 Discharge Rate
Various Ambient Temperatures



Typical U-Charge® C/2 Charging Voltage and SOC Profiles
23°C Ambient Temperature



Corporate Headquarters North America Sales

12303 Technology Blvd.
Suite 950
Austin, Texas 78727
USA

Tel (888) VALENCE or +1 (512) 527-2900
Fax +1 (512) 527-2910
Email sales@valence.com

EMEA Sales

Unit 63 Mallusk Enterprise Park
Mallusk Co. Antrim
Northern Ireland
BT36 4GN

Tel +44(0) 28 9084 5400
Fax +44(0) 28 9083 8912
Email sales@valence.com

Performance may vary depending on, but not limited to cell usage and application. If cell is used outside specifications, performance will diminish. All specifications are subject to change without notice. All information provided herein is believed, but not guaranteed, to be current and accurate. Copyright © 2005-2013 Valence Technology, Inc.