

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
Standard Charge	Run-time @ 30A	80 min
	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

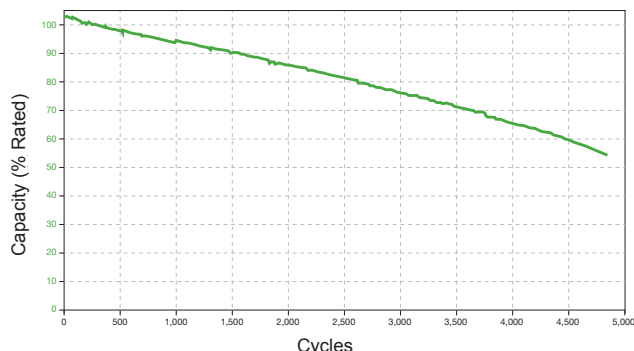
Operating temperature	-10°C to +50°C
Storage temperature	-40°C to +50°C
Operating humidity	5% to 95%, non-condensing
Water/dust resistance	IP56
Shock and vibration	IEC 62133, DIN VG96 924
Certifications	FCC Class B, CE, IEC 62133 UL 1642 & UL 2054 RoHS
Shipping classification	UN 3480, Class 9

Accessories

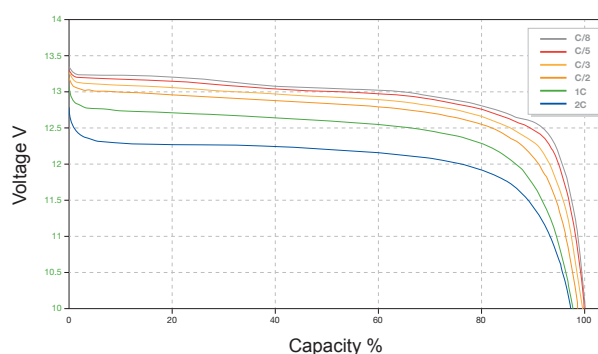
- + U-BDI – a wired, remote U-Charge® Battery Discharge Indicator displaying a 10 segment State-of-Charge (SOC).
- + LED indication bar and battery status indicators. The U-BDI also monitors and controls battery-to-battery balance within a battery string.



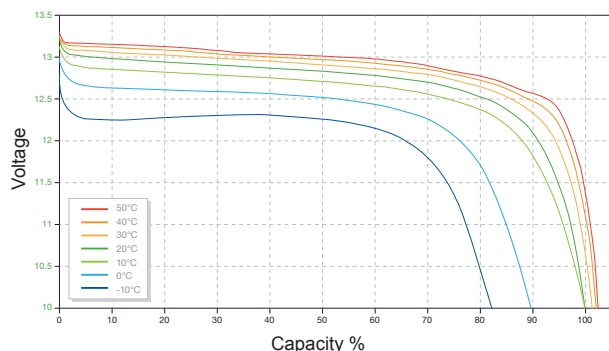
U-Charge® Discharge Capacity Performance at 23°C
Charged CC 20A to 14.6V, CV @14.6 to 1A
Discharged 20A to 10.5V; Cycled 42 Months



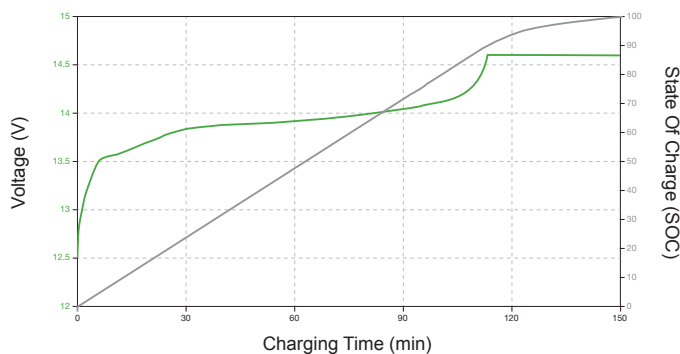
U-Charge® Voltage Profiles at Various Rates
23°C Ambient Temperature



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



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