

SOLARX-Lithium™ Series. Rechargeable Solar Lithium Iron Batteries



SOLARX-Lithium™ family



SOLARX-Lithium™ 240-24

Display Integrated
(for SOLARX-Lithium-240-24 model)



SOLARX-Lithium™ Series - XUNZEL

Hi-performance Rechargeable Lithium Iron Batteries specially designed for solar photovoltaic off-grid and back-up applications with integrated Battery Management System-BMS.

High performance in off-grid solar systems and high delivery power.

Specially designed for optimal and fast photovoltaic off-grid solar charging and to directly replace traditional SLA (Sealed Lead-Acid) Batteries.

Reduce replacement and total costs.



Product Overview

 **Safe Lithium-ion Chemistry with integrated Battery Management System -BMS**

Superior Performance

- More Energy
- Faster and Powerful
- Superior and Longer Cycle Life
- Wider Temperature Range Operation
- Very Low Self-Discharge
- Very Light
- Modular Design enables to connect in parallel and series

 **Superior Safety**

- Maintenance Free
- Sealed. IP56
- Multi-position
- BMS- Battery Management System Integrated
- Full Protections Integrated
- Environment Friendly
- UN38.3 Certified
 - **BULLET-PROOF Design.**
 - **Over charge, Over discharge, Over current, Dual Short-circuit and Temperature protections.**
 - Over-charge: No fire, No explosion
 - Over-discharge: No fire, No explosion, No leakage
 - Short-circuit: No fire, No explosion, Maximum temperature <130°C
 - Crush: No fire, No explosion, Maximum temperature <130°C
 - Hot oven (130°C) Test: No fire, No explosion
 - Thermal cycling properties: No leakage \ No fire \ No explosion
 - Seawater immersion: No fire, No explosion
 - Drop: No leakage \ No fire \ No explosion
 - Depression: No leakage \ No fire \ No explosion

Available Models

SOLARX-Lithium-5-6	(≥ 29Wh - 6.4V)
SOLARX-Lithium-5-12	(≥ 58Wh - 12.8V)
SOLARX-Lithium-8-12	(≥ 96Wh - 12.8V)
SOLARX-Lithium-14-12	(≥ 154Wh - 12.8V)
SOLARX-Lithium-30-12	(≥ 333Wh - 12.8V)
SOLARX-Lithium-48-12	(≥ 512Wh - 12.8V)
SOLARX-Lithium-120-12	(≥ 1280Wh - 12.8V)
SOLARX-Lithium-120-24-C	(≥ 1280Wh - 25.6V)
<i>(model with Serial Comm. Port UART-485)</i>	
SOLARX-Lithium-240-24	(≥ 2400Wh - 25.6V)



The design and all photos and drawings on these sheets are protected by law and may not be distributed or reproduced, in whole or in part, or published or used for any purpose without the express written consent of XUNZEL. XUNZEL - Xunzel is not responsible for any typographical errors. Specifications subject to change without notice.

© Copyright XUNZEL™ reserves the right to make changes and improvements without prior notice. Specifications are subject to change without further notification

XU92260110MA

Industry Leading Technology for Off-Grid, Off-Shore and Backup Power Applications



SOLARX-Lithium™ Series. Rechargeable Solar Lithium Iron Batteries

Model	SOLARX-Lithium-5-6	SOLARX-Lithium-5-12	SOLARX-Lithium-8-12	SOLARX-Lithium-14-12	SOLARX-Lithium-30-12	SOLARX-Lithium-48-12	SOLARX-Lithium-120-12	SOLARX-Lithium-120-24-COM (UART 485)	SOLARX-Lithium-240-24
Code Order Part Number	SOLARXL56	SOLARXL512	SOLARXL812	SOLARXL1412	SOLARXL3012	SOLARXL4812	SOLARXL12012	SOLARXL12024C	SOLARXL24024
Chemistry	Lithium Iron Phosphate – LFP - LiFePO ₄								
Battery Type	Rechargeable - Secondary – With No Memory Effect								
Average Service Life	~15 years (at 25°C)								
Nominal Voltage	6.4V	12.8V	12.8V	12.8V	12.8V	12.8V	12.8V	25.6V	25.6V
Rated Capacity	29Wh	58Wh	96Wh	154Wh	333Wh	512Wh	1280Wh	1280Wh	2400Wh
Internal Resistance	≤ 30-40mΩ								
Efficiency	99%								
Cycle Life	100%DoD 0.2C >2000 cycles / 80%DoD 0.2C >4000 cycles / 30%DoD 0.2C >8000 cycles								
Self Discharge	< 2% in 30 days (Recommended minimum recharge period: every 3 months do at least one complete charge/discharge cycle)								
Maximum batteries in Series/Parallel	4S/20P	4S/20P	4S/20P	4S/20P	4S/20P	4S/20P	4S/20P	2S/20P	2S/20P
Dimensions (mm)	70 x 47 x 101	90 x 70 x 101	151 x 65 x 94	151 x 98 x 95	166 x 175 x 125	197 x 165 x 170	330 x 173 x 212	330 x 173 x 212	522 x 240 x 224
Net Weight (kg)	0.34	0.75	0.95	1.4	3.4	5.75	10.00	10.00	20.30
Case Terminal	IP56. ABS, UL-94-V0 T2		IP56. ABS, UL-94-V0 T2	IP56. ABS, UL-94-V0 T2	IP56. ABS, UL-94-V0 M5	IP56. ABS, UL-94-V0 M6	IP56. ABS, UL-94-V0 M8		
Charge Method	Method: CC-CV								
Charge Voltage	7.2~ 7.4V	14.4~ 14.8V	14.4~ 14.8V	14.4~ 14.8V	14.4~ 14.8V	14.4~ 14.8V	14.4~ 14.8V	28.8~ 29.6V	28.8~ 29.6V
Recommended Float Voltage	6.9V	13.8V	13.8V	13.8V	13.8V	13.8V	13.8V	27.6V	27.6V
Recommended/Maximum Charge Current	2A / 4.5A	2A / 2.5A	4A / 7.5A	6A / 12A	18A / 26A	20A / 40A	50A / 100A	25A / 50A	50A / 100A
Continuous Discharge Current	4.5A	5A	10A	15A	30A	50A	100A	50A	100A
Pulse Discharge Current	8A (<3 seconds)	12A (<10 seconds)	20A (<3 seconds)	30A (<3 seconds)	40A (<3 seconds)	80A (<3 seconds)	200A (<5 seconds)	75A (<1 seconds)	200A (<3 seconds)
Recommended Voltage Disconnect	4.6V	10V± 0.2V	10V± 0.2V	10V± 0.2V	10V± 0.2V	10V	10V	20V	20V
Short Circuit Protection	200~600 μs								
Charge/Discharge Temperature	Standard charge range: 0° to +45°C / Standard discharge range -20° to 60°C Recommended charge range for best life: +5 °C to +40 °C Recommended discharge range for best life: -10 °C to +55 °C								
Storage Temperature	Storage (short term): -20 °C to +45 °C Storage (long term recommended): 0 °C to +25 °C								
Compliance Shipping Class	CE UKCA UL RoHS3 and REACH Compliant WEEE Compliant UN3480, Class 9, UN38.3								

The design and all photos and drawings on these sheets are protected by law and may not be distributed or reproduced, in whole or in part, or published or used for any purpose without the express written consent of XUNZEL. XUNZEL - Xunzel is not responsible for any typographical errors. Specifications subject to change without notice.



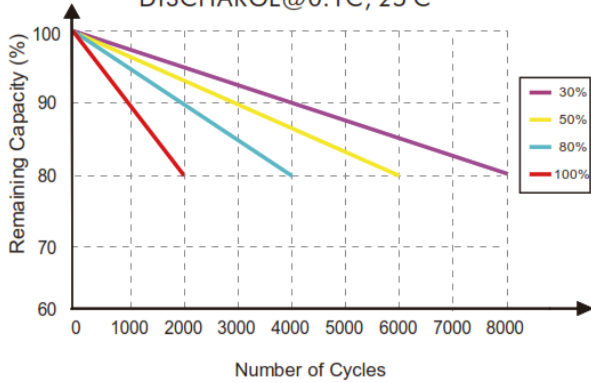
Industry Leading Technology for Off-Grid, Off-Shore and Backup Power Applications



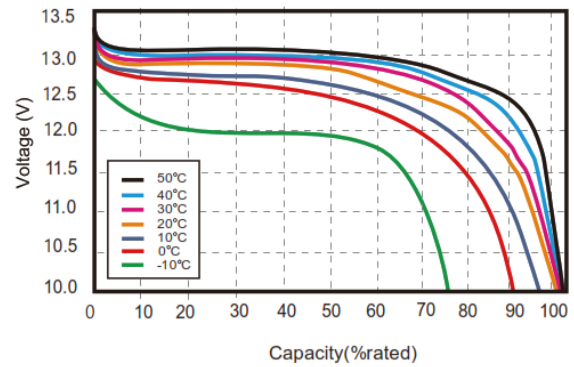
SOLARX-Lithium™ Series. Rechargeable Solar Lithium Iron Batteries

Specifications – 12.8V models

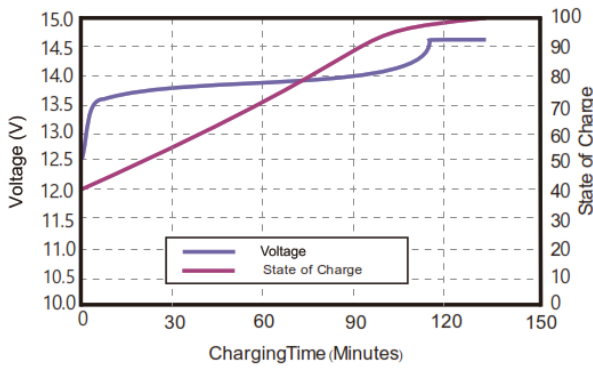
CYCLE LIFE vs. DEPTH OF DISCHARGE(DOD)
DISCHARGE@0.1C, 25 °C



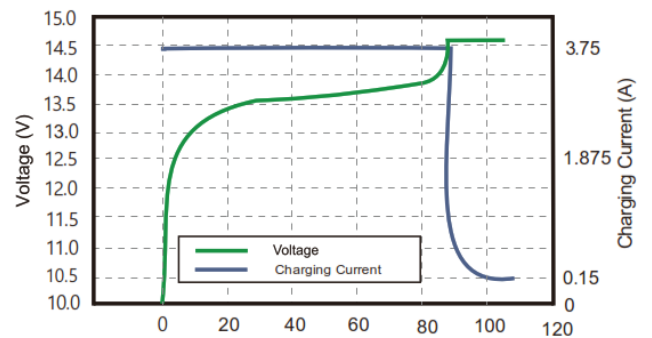
DISCHARGE CAPACITY at VARIOUS TEMPERATURES
DISCHARGE @1C



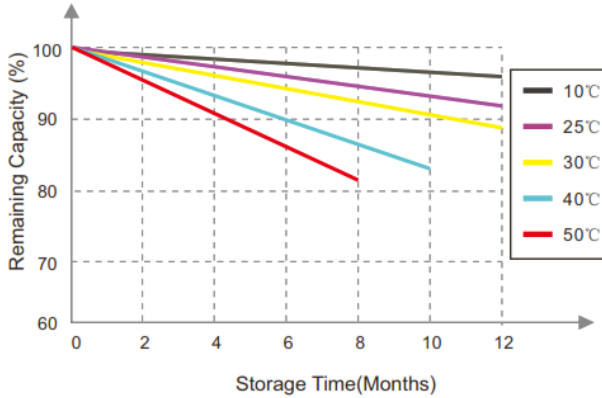
STATE OF CHARGE CURVE @0.5C, 25 °C



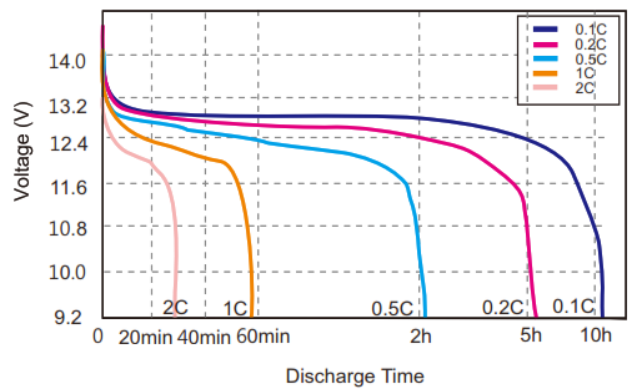
CHARGING CHARACTERISTICS @0.5C, 25 °C



Different Temperature Self Discharge Curve



Different Rate Discharge Curve @25 °C



The design and all photos and drawings on these sheets are protected by law and may not be distributed or reproduced, in whole or in part, or published or used for any purpose without the express written consent of XUNZEL. XUNZEL - Xunzel is not responsible for any typographical errors. Specifications subject to change without notice.

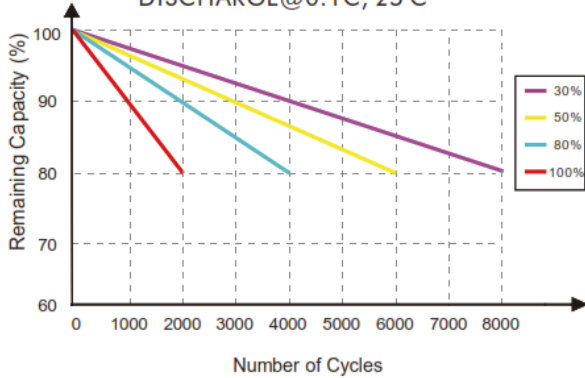
Industry Leading Technology for Off-Grid, Off-Shore and Backup Power Applications



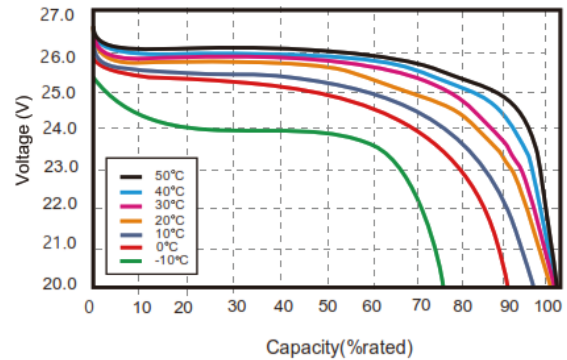
SOLARX-Lithium™ Series. Rechargeable Solar Lithium Iron Batteries

Specifications – 25.6V models

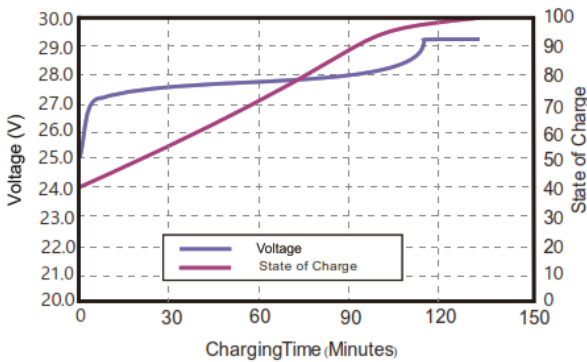
CYCLE LIFE vs. DEPTH OF DISCHARGE(DOD)
DISCHARGE@0.1C, 25 C



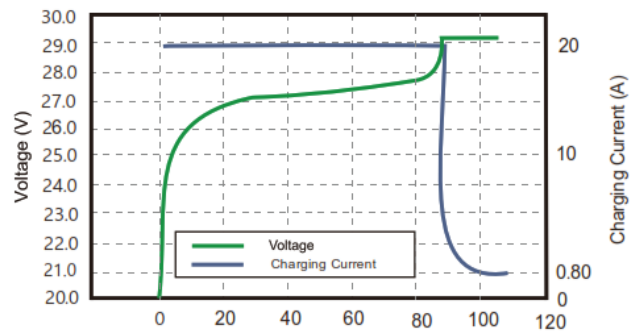
DISCHARGE CAPACITY at VARIOUS TEMPERATURES
DISCHARGE @1C



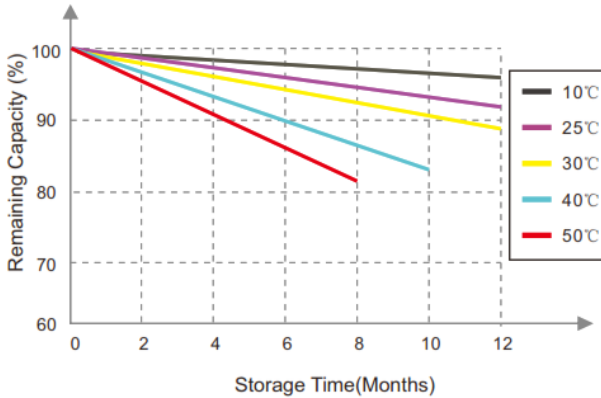
STATE OF CHARGE CURVE @0.5C, 25 C



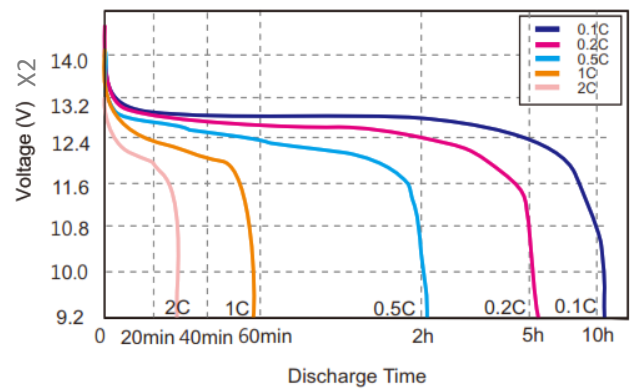
CHARGING CHARACTERISTICS @0.5C, 25°C



Different Temperature Self Discharge Curve



Different Rate Discharge Curve @25°C



The design and all photos and drawings on these sheets are protected by law and may not be distributed or reproduced, in whole or in part, or published or used for any purpose without the express written consent of XUNZEL. XUNZEL - Xunzel is not responsible for any typographical errors. Specifications subject to change without notice.

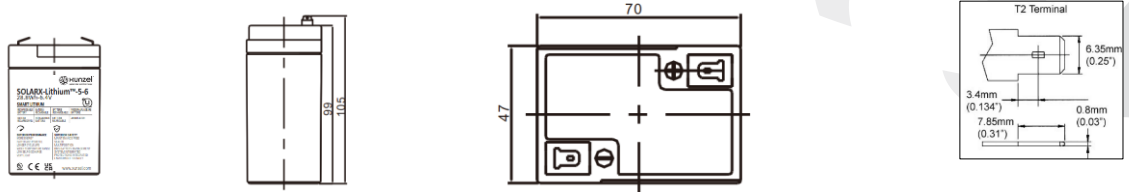
Industry Leading Technology for Off-Grid, Off-Shore and Backup Power Applications



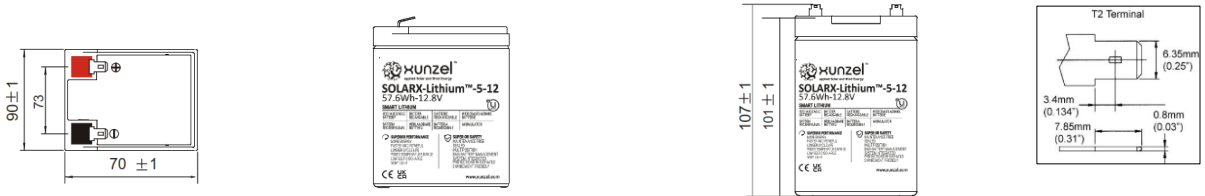
SOLARX-Lithium™ Series. Rechargeable Solar Lithium Iron Batteries

Dimensions (mm)

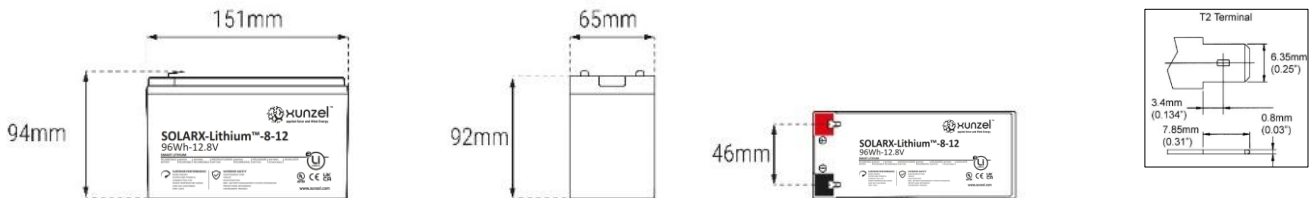
SOLARX-Lithium-5-6



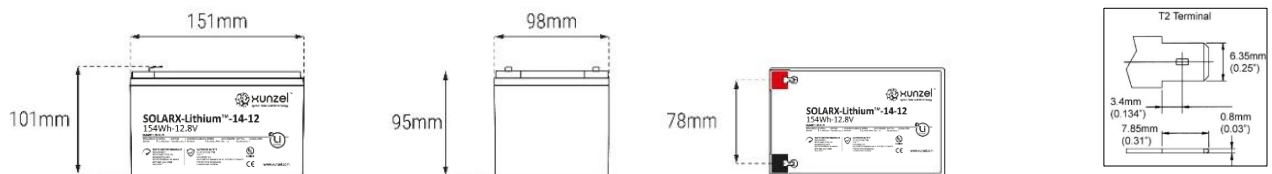
SOLARX-Lithium-5-12



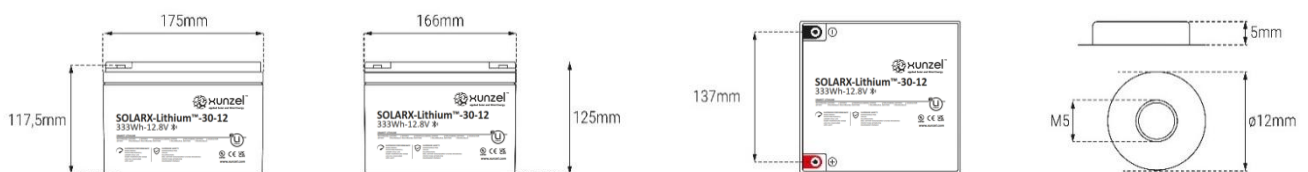
SOLARX-Lithium-8-12



SOLARX-Lithium-14-12



SOLARX-Lithium-30-12



The design and all photos and drawings on these sheets are protected by law and may not be distributed or reproduced, in whole or in part, or published or used for any purpose without the express written consent of XUNZEL. XUNZEL - Xunzel is not responsible for any typographical errors. Specifications subject to change without notice.

© Copyright XUNZEL™ reserves the right to make changes and improvements without prior notice. Specifications are subject to change without further notification

XU92260110MA

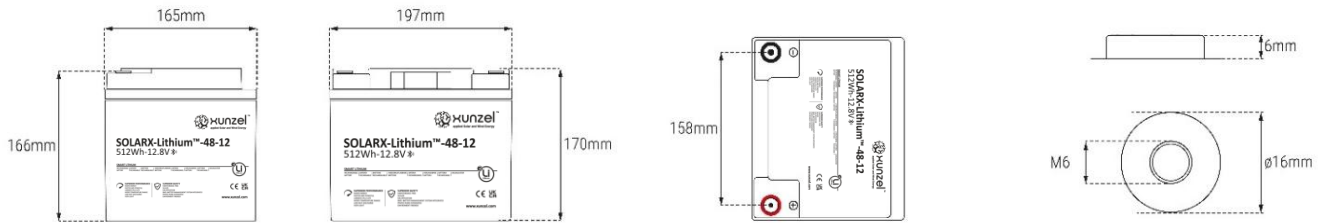
Industry Leading Technology for Off-Grid, Off-Shore and Backup Power Applications



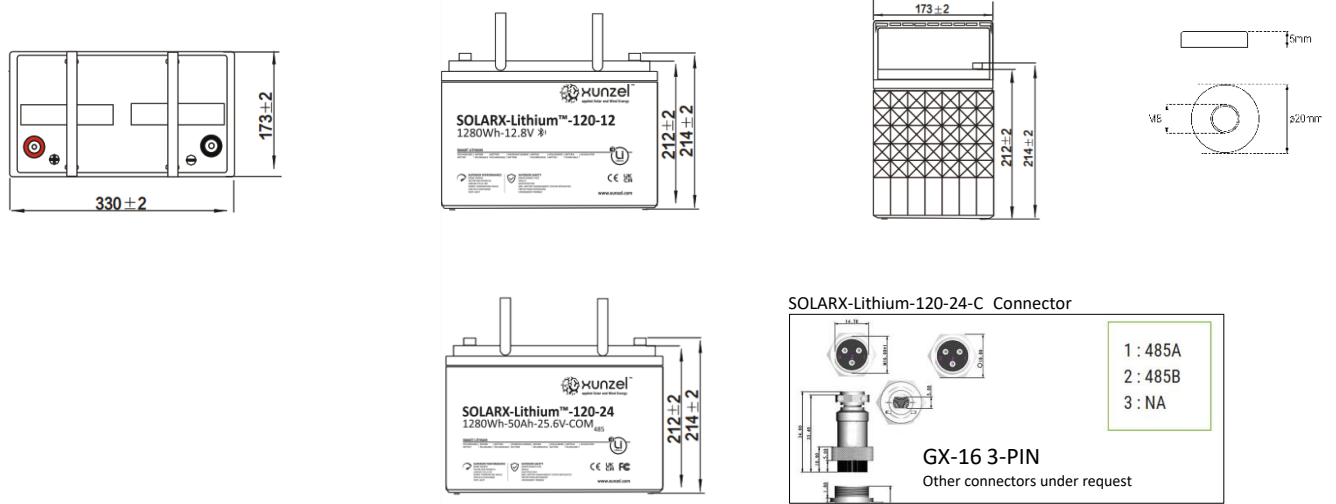
SOLARX-Lithium™ Series. Rechargeable Solar Lithium Iron Batteries

Dimensions (mm)

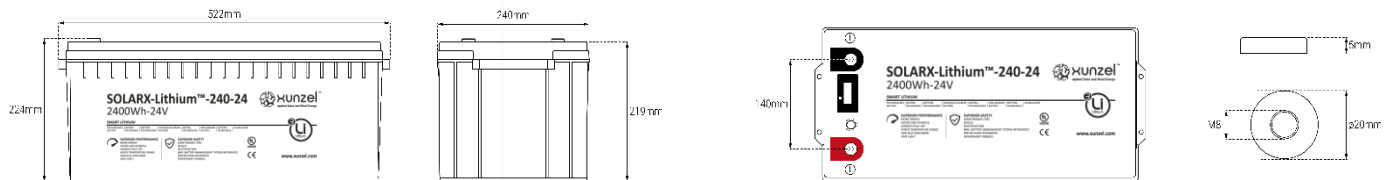
SOLARX-Lithium-48-12



SOLARX-Lithium-120-12
SOLARX-Lithium-120-24-C



SOLARX-Lithium-240-24



The design and all photos and drawings on these sheets are protected by law and may not be distributed or reproduced, in whole or in part, or published or used for any purpose without the express written consent of XUNZEL. XUNZEL - Xunzel is not responsible for any typographical errors. Specifications subject to change without notice.



SOLARX-LithiumTM Series. Rechargeable Solar Lithium Iron Batteries

SOLARX-Lithium-5-6
Code | Order Part Number: SOLARXL56



SOLARX-Lithium-5-12
Code | Order Part Number: SOLARXL512



SOLARX-Lithium-8-12
Code | Order Part Number: SOLARXL812



SOLARX-Lithium-14-12
Code | Order Part Number: SOLARXL1412



SOLARX-Lithium-30-12
Code | Order Part Number: SOLARXL3012



SOLARX-Lithium-48-12
Code | Order Part Number: SOLARXL4812



The design and all photos and drawings on these sheets are protected by law and may not be distributed or reproduced, in whole or in part, or published or used for any purpose without the express written consent of XUNZEL. XUNZEL - Xunzel is not responsible for any typographical errors. Specifications subject to change without notice.

© Copyright XUNZELTM reserves the right to make changes and improvements without prior notice. Specifications are subject to change without further notification

XU92260110MA

Industry Leading Technology for Off-Grid, Off-Shore and Backup Power Applications



SOLARX-LithiumTM Series. Rechargeable Solar Lithium Iron Batteries

SOLARX-Lithium-120-12

Code | Order Part Number: SOLARXL12012



SOLARX-Lithium-120-24-COM

Code | Order Part Number: SOLARXL12024C

SOLARX-Lithium-120 / 24V COMM
UART/485 Communications Protocol



SOLARX-Lithium-240-24

Code | Order Part Number: SOLARXL24024



The design and all photos and drawings on these sheets are protected by law and may not be distributed or reproduced, in whole or in part, or published or used for any purpose without the express written consent of XUNZEL. XUNZEL - Xunzel is not responsible for any typographical errors. Specifications subject to change without notice.

© Copyright XUNZELTM reserves the right to make changes and improvements without prior notice. Specifications are subject to change without further notification

XU92260110MA

Industry Leading Technology for Off-Grid, Off-Shore and Backup Power Applications

