

X5

CART POWER SOLUTIONS
FROM ULTRALIFE

ULTRALiFE®

X5

Ultralife Corporation serves its markets with products and services ranging from power solutions to communications and electronics systems. Through its engineering and collaborative approach to problem solving, Ultralife serves government, defense and commercial customers across the globe.

Headquartered in Newark, New York, the Company's business segments include: Battery & Energy Products and Communications Systems. Ultralife has operations in North America, Europe and Asia.

ULTRALIFE®



CART POWER THAT POWERS **YOUR** DEVICES **YOUR** WAY

FLEXIBLE OPTIONS TO MEET YOUR NEEDS:

Today's carts are not just used as a way of easily transporting electronic devices across different locations, they are often integrated with a battery or power system that charges and powers these devices.

The number of different types of cart and the number of electronic devices they power is ever-expanding, which is why Ultralife has introduced the X5 range of power solutions.

Choose between the X5 Power System (for large carts and a wealth of devices) or the X5-LITE (for small carts and portable devices).

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Power large carts and a wealth of devices using the X5 Power System, or pole carts and portable devices using the X5-LITE cradle

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THE COMPLETE POWER SYSTEM



REVOLUTIONARY NEW POWER SYSTEM

After attaching the X5 Power System to a medical cart, users have a safe and simple way to power a wide range of devices. This can be achieved by plugging the X5 Power System into AC mains or, when AC mains is not available or convenient, via two external hot-swappable batteries or an embeddable battery. When the power system is plugged into AC mains, the batteries will be re-charged (taking approximately one hour per battery).

POWER A WIDE RANGE OF DEVICES

With an output of 120VAC 60Hz, the X5 Power System can power devices such as computers, monitors, USB hubs, scanners and printers up to a maximum of 150W.

FOR HOT-SWAP OR HYBRID OPERATION

Most cart users prefer to remove batteries from the cart for charging, so ULTRALIFE has introduced the new hot-swappable URB-X5 Lithium Iron Phosphate smart battery, which boasts 276Wh of energy. For users who want to maximize runtime or have an embeddable battery in addition, the system can also operate with a 'fit-and-forget' smart U1 battery (492Wh).

HOLD-UP BATTERY

To keep power going to the X5 Power System whilst the removable batteries are being swapped out, ULTRALIFE has included an internal 'hold-up' battery (URB0025). This battery can power the system for 5 minutes, even when the system is under full load, so users can be assured they will not lose power during the swap-over. The hold-up battery is expected to last up to 5 years under normal conditions (technician replaceable).



CHARGER & CRADLE



CHARGE ON THE WALL OR DESK

To supplement on-cart charging, ULTRALIFE offer the 2-bay X5 Smart Battery Charger, which can be either desk or wall mounted. The X5 Smart Battery Charger will charge one or two batteries in under 6 hours.

CHARGE BATTERIES SAFELY

The integrated power supply accepts worldwide AC supply and safely charges one or two URB-X5 batteries. The charger features status LEDs for each bay and each battery illuminates its gas gauge display during charging so users can quickly determine state-of-charge.

CONNECT A BATTERY TO X5 POWER SYSTEM

The X5 Battery Cradle makes battery replacement a one handed operation. To make docking the battery into the cradle easier, the cradle can tilt by 15° to improve battery access and a locking clip acts on the top of the battery to stow it in the vertical position. The cradle is easy to clean and includes drain holes to remove cleaning solutions or contaminating fluids.

INNOVATIVE DESIGN

Maximum power transfer is assured by the use of gold plated spring terminals in the cradle that mate perfectly with recessed terminals on the battery. Innovative design means the battery can be placed in the cradle either way around, making hot swapping a simple task for the user.



URB-X5



ULTRALIFE's 12.8V, 21.6Ah (276.5Wh) URB-X5 battery is a hot swappable power source that can be easily installed, removed and carried using a single hand.

The high-quality aluminum handle includes a 10-segment blue LED state-of-charge indicator (gas-gauge) that is activated by a membrane switch or programmed to illuminate automatically during charging or discharging.

For enhanced safety, the electrical terminals of the URB-X5 are automatically isolated when the battery is removed from the X5 Battery Cradle to prevent against short-circuiting.

Certified to UN 38.3, IEC 62133-2 & UL 62133-2.

SMART U1 BATTERY



ULTRALIFE's 12.8V 45.6Ah (584Wh) U1 battery provides a hybrid solution to cart power, coupling the flexibility of hot swap with the longevity of an embedded solution.

In hybrid configuration, the U1 battery acts as an energy reservoir, sitting in the base of the cart, providing energy when the hot swap URB-X5 battery is exhausted.

If customers require the ultimate in transportable power then two embedded U1 batteries can be configured to more than double the energy and runtime of a typical medial cart platform.

Certified to UN 38.3 and IEC 62133-2:2017.

“THE TRACK” AND X5-LITE



QUICKLY CHECK STATE-OF-CHARGE

As the X5 Power System can be formed of two hot-swappable batteries, as well as an internal hold-up battery, a state-of-charge indicator was designed to show the status of each connected battery in one convenient place. Called “The Track”, due to two state-of-charge indicator bars that meet to form a race track type shape, the pendant displays remaining battery life in runtime (hours/minutes) and percentages.

ADAPTS TO DAY AND NIGHT SHIFTS

An RJ45 female connector allows “The Track” to be easily connected or disconnected from the power system. Any charging errors are shown on the pendant’s 2.4in display (with full glass front). The display contains an adjustable backlight and night light to help with 24/7 usage.



NEED ONLY USB-C OR USB-A POWER?

Pole/mobile carts sometimes support laptops, tablets/iPads or instruments that require only USB-C or USB-A power and not 120VAC power. Therefore, Ultralife has created the X5-LITE. In the place where the power system would be mounted to the cart (or in other locations if required), the specially-designed X5-LITE cradle is mounted instead. The electronic devices (e.g. laptops) are connected to the cradle using easy-to-access USB-C and USB-A ports. When the URB-X5 battery is inserted into the cradle, X5-LITE will use it to power connected devices.

EASY TO REMOVE AND RECHARGE

X5-LITE’s URB-X5 battery can be charged using the X5 Smart Battery Charger. Unlock the battery from the cradle using the release latch (can be done using a single hand) and replace it with a fully charged battery. X5-LITE can also charge the URB-X5 battery via. the mains using a plug connected to the USB-C port.

URB0025



The URB0025 is ULTRALIFE’s 72Wh hold-up battery for the X5 Power System and provides five minutes of device operation whilst batteries are swapped.

The use of highly reliable Lithium Iron Phosphate (LiFePO4) technology ensures the X5 Power System remains operational whenever hot-swap batteries need to be replaced. The URB0025 includes integrated cell balancing circuitry in addition to protection against over-voltage, under-voltage, over-current and short-circuit.

Certified under the CB scheme.

TECHNICAL SPECIFICATIONS*

X5 POWER SYSTEM (120VAC)	
Part Number	URS-X5-01
Input Voltage (AC)	100-240VAC 50/60Hz
Output Voltage (AC)	120VAC 60Hz
Power (AC)	150VA 150W 1.25A (120V 60Hz)
Charge Rate (AC)	20A
Charge Time (per battery)	Approx. 1 hour
Dimensions	330.00mm (L) x 242.50mm (H) x 117.00mm (W)
Colour / Material	Anodized silver aluminum
Weight	6.92Kg
Battery Compatibility	URB-X5 / URB12400-U1-SMB / URB12450-U1-SMB / URB0025
Cooling	Integrated fan
Holdup Time	5 minutes (under any load)
Operating Temperature	0°C to +40°C
Storage Temperature	-15°C to +50°C
Certifications	IEC 60601-1




X5 HOT-SWAPPABLE BATTERY	
Part Number	URB-X5
IEC Designation	4IFpR19/66-12
Average Voltage	12.8V
Nominal Capacity	21.6Ah
Voltage Range	14.4V to 10.0V
Max. Continuous Discharge	20A
Energy	276.5Wh
Energy Density	112Wh/l 81Wh/Kg
Cycle Life	>2,000 Cycles
Operating Temperature	0°C to +45°C (Charge) / -10°C to +50°C (Discharge)
Storage Temperature	-20°C to +50°C
Self-Discharge @ 23°C	<5%/month
Exterior/Housing	Silver anodised aluminum housing with traffic white aluminum handle and endcaps
Terminals/Connector	Sub-flush gold-plated contacts for power and communications
Communications	SMBus Spec v1.1, Smart Battery Data Spec Rev 1.1
Certifications	UN 38.3 / IEC 62133-2 / UL 62133-2




LITHIUMPOWER

SMART U1 EMBEDDABLE BATTERY

Part Number	URB12450-U1-SMB	
Average Voltage	12.8V	
Nominal Capacity	45.6Ah	
Voltage Range	10.0V to 14.6V	
Max. Continuous Discharge	20A	
Energy	583.7Wh	
Cycle Life	>2,000 Cycles	
Operating Temperature	0°C to +45°C (Charge) / -20°C to +60°C (Discharge)	
Storage Temperature	-40°C to +60°C	

X5 HOLD-UP BATTERY

Part Number	URB0025	
Average Voltage	12.8V	
Nominal Capacity	5.6Ah	
Voltage Range	10.0V to 14.6V	
Max. Continuous Discharge	20A	
Energy	71.7Wh	
Cycle Life	>2,000 Cycles	
Operating Temperature	0°C to +60°C (Charge) / -20°C to +60°C (Discharge)	
Storage Temperature	-20°C to +25°C	


X5 SMART BATTERY CHARGER

Part Number	UCH-X5	 WALL MOUNT  DESK MOUNT	
AC Input Supply	90-264VAC (47-63Hz)		
AC Input Connector	IEC C14		
Charging Voltage	16.8V (max) (14.4V for URB-X5)		
Charging Current	4A (max)		
Charge Time	<6 hours for URB-X5		
Size (with wall mount kit)	Width		262.9mm (10.4in)
	Depth		140.2mm (5.5in)
	Height		221.8mm (8.7in)
Size (with desk mount kit)	Width		262.9mm (10.4in)
	Depth		140.0mm (5.5in)
	Height		251.0mm (9.9in)
Temperature Range	0°C to +50°C (Operating) / -20°C to +60°C (Storage)		
Certifications	Pending - IEC 62368-1 / UL 62368-1 / CE		
Accessories	Wall mount kit / Desk mount kit		


X5 BATTERY CRADLE

Part Number	UCA-X5		
Weight	0.5Kg		
Size	Width		129.9mm (5.11in)
	Depth		95.4mm (3.76in)
	Height		324.4mm (12.77in)
Maximum Current	20A		
Connection (Battery)	Spring loaded, gold plated contacts		
Operating Temperature	-10°C to +50°C		
Storage Temperature	-20°C to +60°C		
Construction (Mounting Bracket)	Aluminum (Traffic White)		
Construction (Battery Receptacle)	PC/ABS (Traffic White)		

X5-LITE: USB-C AND USB-A BATTERY CRADLE

Part Number	UCA-X5-USB		
Weight	0.5Kg		
Size	Width		129.9mm (5.11in)
	Depth		95.4mm (3.76in)
	Height		324.4mm (12.77in)
Maximum Current	20A		
Connection (Battery)	Spring loaded, gold plated contacts		
Operating Temperature	-10°C to +50°C		
Storage Temperature	-20°C to +60°C		
Construction (Mounting Bracket)	Aluminum (Traffic White)		
Construction (Battery Receptacle)	PC/ABS (Traffic White)		
X5-LITE USB Support	USB-C and USB-A (see technical datasheet for discharge and charge information)		

“THE TRACK”: STATE-OF-CHARGE INDICATOR PENDANT

Part Number	URX-X5		
Display Size	2.4in		
Pendant Size	Width		100mm (3.94in)
	Depth		22mm (0.87in)
	Height		56mm (2.22in)
Connection (Power System)	RJ45 female		
Operating Temperature	0°C to +50°C		
Certifications	IEC 60601-1 (Pending)		
Compatibility	Ultralife URS-X5 Power System		



NOTES



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ULTRALiFE[®]

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