BATTERIES
BATTERY CHARGERS
INVERTER

EQUIPMENT
ACCESSORIES

REV. 01

Zenith
THE MAINTENANCE FREE BATTERY

Zenith LITHIUM

MORI GROUP ACADEMY
batteries & chargers

MORI RADDRIZZATORI
power to work

Battery Regenerator

MW
MEAN WELL

KOSUNPOWER

MORI GROUP
batteries & chargers

UBS
UNION BATTERY Service
moving energy

026

Energy

U.B.S.

Union Battery Service, a single partner for batteries, battery chargers and accessories dedicated to the world of Aerial Platforms, Industrial Cleaning Machines, Boating and Motorhomes, Electric Vehicles, Renewable Energies.
U.B.S. has a network of Service Centres called Service Points with qualified technicians, constantly updated to ensure efficient and effective advice and solutions. The Battery & Charger Academy project was recently launched, aimed to all those who want to distinguish themselves by undertaking a specific training course.

www.unionbatteryservice.it

MG

The knowledge, skills and experience of Mori Raddrizzatori and Union Battery Service merged to form the Mori Group, an organisation focused on the world of batteries and battery chargers, with a complete 360° vision. We support our customers from the choice of the correct battery, appropriately sized and properly charged.
We introduce innovative technical solutions, complementing everything with excellent after-sales service and state-of-the-art training processes: as Leonardo da Vinci said, 'Knowledge is the child of experience'.

www.moriraddrizzatori.it

Application range

- Van starter
- Bulldozer starter
- RV starter
- Boat starter
- Motorcycle starter
- Car starter
- Golf cart
- Vehicles for disabled
- Scissor lift
- Truck starter
- Tractor starter
- Antique car starter
- Electric Moped
- Hi-Fi car
- Electric boats
- Quad starter
- Electric scooter
- Telecommu-nication
- Emergency booster
- Floor washers
- Boat thruster
- Torch flashlights
- Toys
- Alarm system
- Forklift trucks
- Watercraft starter
- Electric lawn mower
- Lighting towers
- UPS
- Renewable Energy Storage
- RV service
- Boat service
- Electric car
- Transpallet
- Electric tug
- Road signals
- Sweepers

Energy, everywhere, always, soon.











3.500 sqm

The central warehouse is equipped with an integrated logistics system and 2500 pallet spaces, to offer shipments within 24 hours after receiving your order.

Stock

All products on the catalogue are managed in stock. Distributors have access to our availabilities in real time.

98% CUSTOMER SATISFACTION

98% of our customers are satisfied with our service and products.

Global Solution

Not only a quality battery, but also a correct battery charger along with the best accessories to ensure energy over time.

News 2026

ZGL LONG LIFE Series
Zenith Leisure Marine 12V 65Ah 825 Cca
4th Generation ZLI.A Batteries and Accessories
Mean Well Waterproof Battery Chargers
Inverters and Accessories

Certified Strength

Union Battery Service has a certified strength index among the highest in the sector: we are not interested in the hit and run, but in following our customers over time.

AGM maintenance free batteries



Zenith ZGL

This series of batteries **is not suitable for cyclic applications.** If used in boating / RV applications, the battery pack capacity must be sized so that the discharge current does not exceed 0.2C/20h (i.e. Max. 20A discharge of 100Ah / 20h of battery). This allows the battery to gain a reasonable autonomy and a more than acceptable battery life.

- **Never discharge the battery below 80%. Deeper discharges void any warranty**
- **For starter batteries we suggest our ZPC series (page 11)**

WARRANTY 24 MONTHS

For further details on the mode, see general warranty conditions on our website

Zenith
THE MAINTENANCE FREE BATTERY

APPLICATIONS

> UPS
> Toys
> Marine/RV
> Alarm System
> Telecommunication

Battery 6V



Code	V	Capacity		Dimensions (mm)				Term.	Q.ty pallet
		Ah/20h	Ah/5h	L ↔	W ↙↗	H ↑	H+T		
ZGL060016	6	5,00	4,25	70,0	47,0	100,0	107,0	F1	420
ZGL060020	6	7,00	5,95	151,0	34,0	94,0	100,0	F1	420
ZGL060026	6	12,00	10,20	151,0	50,0	93,0	98,0	F1	264

For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

To consult the terminals, go to page 37

Battery 12V to 22Ah



Code	V	Capacity		Dimensions (mm)				Term.	Cabinet color	Q.ty pallet	
		Ah/20h	Ah/5h	L ↔	W ↙↗	H ↑	H+T				
ZGL120005	12	1,20	1,02	97,0	43,0	52,0	58,0	F1	red	420	
ZGL120010*	12	2,00	1,70	178,0	36,0	61,0	66,0	F1	black	420	NEWS 2026
ZGL120014*	12	2,40	2,04	178,0	36,0	61,0	66,0	F1	black	420	NEWS 2026
ZGL120020	12	3,20	2,45	134,0	67,0	59,5	66,0	F1	red	420	
ZGL120024*	12	5,00	4,30	90,0	70,0	100,0	106,0	F1	black	420	NEWS 2026
ZGL120026*	12	7,20	6,12	151,0	65,0	94,0	100,0	F1	black	360	NEWS 2026
ZGL120027*	12	7,20	6,12	151,0	65,0	94,0	100,0	F2	black	360	NEWS 2026
ZGL120029*	12	9,00	7,75	151,0	65,0	94,0	100,0	F2	black	360	NEWS 2026
ZGL120032*	12	12,00	10,35	151,0	98,5	95,0	101,0	F2	black	200	NEWS 2026
ZGL120034*	12	18,00	15,30	181,0	77,0	167,0	167,0	M5	black	128	NEWS 2026
ZGL120035*	12	18,00	15,30	181,0	77,0	167,0	167,0	F3	black	128	NEWS 2026
ZGL120036	12	22,00	18,70	181,0	77,0	167,0	167,0	M5	red	128	

*Standards LONG LIFE

Battery 12V from 26Ah to 100Ah



Code	V	Capacity		Dimensions (mm)				Term.	Q.ty pallet
		Ah/20h	Ah/5h	L ↔	W ↙↗	H ↑	H+T		
ZGL120042	12	26,00	24,00	165,0	176,0	125,0	125,0	M6	80
ZGL120048	12	35,00	29,80	193,5	130,0	166,5	166,5	M6	75
ZGL120054	12	45,00	38,30	198,0	166,0	171,0	171,0	M6	60
ZGL120058	12	55,00	48,00	230,0	138,0	210,0	215,0	M6	60
ZGL120062	12	65,00	57,00	349,5	166,0	174,0	174,0	M6	48
ZGL120070	12	80,00	68,00	260,0	169,0	211,0	215,0	M6	36
ZGL120073	12	90,00	75,00	349,5	166,0	174,0	174,0	M6	48
ZGL120077	12	100,00	83,00	306,0	169,0	210,0	215,0	M6	36
ZGL120078	12	100,00	85,00	328,0	172,0	215,0	219,0	M8	36

Battery 12V from 120Ah to 260Ah



Code	V	Capacity		Dimensions (mm)				Term.	Q.ty pallet
		Ah/20h	Ah/5h	L ↔	W ↙↗	H ↑	H+T		
ZGL120085	12	120,00	102,00	327,0	172,0	217,0	222,0	M8	36
ZGL120086	12	135,00	118,00	341,0	173,0	283,0	287,0	M8	24
ZGL120088	12	160,00	136,00	483,0	170,0	240,0	240,0	M8	24
ZGL120092	12	200,00	170,00	530,0	209,0	215,0	219,0	M8	18
ZGL120098	12	260,00	221,00	520,0	269,0	220,0	223,0	M8	12

For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

To consult the terminals, go to page 37

AGM maintenance free batteries



EXTRA POWER

Zenith ZL

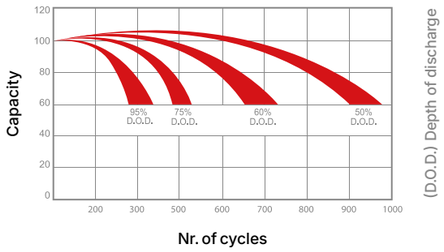
DEEP-CYCLE.

- See battery data sheets for proper charge cycle and charger set-up
- Never discharge the battery below 80%. Deeper discharges void any warranty
- Maintenance-free AGM technology

WARRANTY 24 MONTHS

For further details on the mode, see general warranty conditions on our website

Charge cycles (25°C, discharge 5h)



Zenith
THE MAINTENANCE FREE BATTERY

APPLICATIONS

> Scrubbers
> Sweepers
> Golf cars
> Electric Boats
> Electric Scooters
> Renewable Energy
> Vehicles for Disabled
> All electric vehicles
> Marine
> RV Service
> Lighting towers

Battery 6V-8V



Code	Mod.	V	Capacity		Dimensions (mm)				Term.	Weight (Kg)	Q.ty pallet
			Ah/20h	Ah/5h	L ↔	W ↙↗	H ↑	H+T			
ZL060100	-	6	200	170	306,0	169,0	220,0	226,0	M8	27,0	36
ZL060110	GC105	6	225	182	260,0	180,0	245,0	250,0	M8	30,5	36
ZL060115	DIN	6	245	200	245,0	187,0	275,0	275,0	M8	31,5	36
ZL060125	305	6	335	275	295,0	178,0	345,0	368,0	DT	45,0	22
ZL060130	L16	6	410	320	295,0	180,0	405,0	425,0	DT	55,0	22

Battery 12V to 45Ah



Code	Mod.	V	Capacity		Dimensions (mm)				Term.	Weight (Kg)	Q.ty pallet
			Ah/20h	Ah/5h	L ↔	W ↙↗	H ↑	H+T			
ZL120110	-	12	13	11	151,0	99,0	95,0	101,0	F2	4,2	200
ZL120120	-	12	24	18	181,0	77,0	167,0	167,0	M5	5,8	128
ZL120130	-	12	26	22	165,0	174,0	125,0	125,0	M6	8,4	80
ZL120135	-	12	36	28	196,0	131,0	145,0	165,0	M6	10,8	75
ZL120150	-	12	45	35	198,0	166,0	174,0	174,0	M6	14,5	60

Battery 12V from 55Ah to 130Ah



Code	Mod.	V	Capacity		Dimensions (mm)				Term.	Weight (Kg)	Q.ty pallet
			Ah/20h	Ah/5h	L ↔	W ↙↗	H ↑	H+T			
ZL120155	-	12	55	47	230,0	138,0	210,0	215,0	M6	18,3	60
ZL120165	-	12	75	65	349,5	166,0	174,0	174,0	M6	23,0	48
ZL120175	24	12	86	76	260,0	169,0	215,0	219,0	M6	26,0	48
ZL120185	27	12	110	90	306,0	170,0	210,0	215,0	M8	30,5	36
ZL120190	31	12	130	105	331,0	175,0	215,0	215,0	M8	33,0	36

Battery 12V from 140Ah to 260Ah



Code	Mod.	V	Capacity		Dimensions (mm)				Term.	Weight (Kg)	Q.ty pallet
			Ah/20h	Ah/5h	L ↔	W ↙↗	H ↑	H+T			
ZL1201105	DIN	12	140	115	340,0	172,0	280,0	285,0	M8	39,5	24
ZL1201115	-	12	160	125	484,0	171,0	241,0	241,0	M8	46,0	24
ZL1201120	4D	12	200	160	532,0	206,0	216,0	221,0	M8	59,6	18
ZL1201135	8D	12	220	180	522,0	240,0	219,0	224,0	M8	65,8	18
ZL1201145	8D	12	260	215	521,0	269,0	220,0	228,0	M8	77,8	12

For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

To consult the terminals, go to page 37

AGM maintenance free batteries



LEISURE MARINE

Zenith ZLM

SPECIFIC AGM BATTERIES FOR LEISURE MARINE

- Maintenance-free
- See battery data sheets for proper charge cycle and charger set-up
- Never discharge the battery below 80% D.O.D. Deeper discharges void any warranty

WARRANTY 24 MONTHS

For further details on the mode, see general warranty conditions on our website

Zenith THE MAINTENANCE FREE BATTERY

TRIPLE PURPOSE

> Lights and Services
> Cranking
> Thrusters

APPLICATIONS

> Boat cranking
> Boat thruster
> Boat service

Code	V	Capacity	Cranking "en"	Dimensions (mm)				Term.	Pol.	Q.ty pallet	
		Ah/20h	"EN" CCA (-18°C)	L ↔	P ↗	H ↑	A+T				
ZLM120051	12	65	825	260	171	185	207	DT	SX	42	NEWS 2026
ZLM120075	12	100	920	330	174	222	242	M10+AP	DX	36	
ZLM120100	12	200	1200	510	223	220	242	M10+AP	SX	18	

For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

To consult the terminals, go to page 37

AGM maintenance free batteries



PROFESSIONAL

Zenith ZPC

HIGH CRANKING CURRENT. PROFESSIONAL USE.

WHY CHOOSING A ZPC BATTERY?

- 30% more cranking power than normal starter batteries
- AGM technology for increased resistance to vibration
- Hybrid: in some cases, they can also be used for deep-cycle use
- Robust for professional uses

WARRANTY 24 MONTHS

For further details on the mode, see general warranty conditions on our website

Zenith THE MAINTENANCE FREE BATTERY

APPLICATIONS

> Booster/starter
> Starter: Start/Stop Car; Antique Car; Boats; RV; Farm machinery; Military vehicles; Trucks
> Boat thruster
> Hi-Fi car

Code	V	Capacity	Cranking "EN"		Dimensions (mm)				Term.	Pol.	Q.ty pallet
		Ah/20h	CCA (-18°C)	CA (0°C)	L ↔	W ↗	H ↑	H+T			
ZPC120020	12	20	230	310	181	77	158	167	M5	R	144
ZPC120025	12	28	410	530	165	176	125	125	M8	R	84
ZPC120051	12	65	825	1000	260	171	185	207	AP	L	42
ZPC120065	12	100	965	1170	307	169	214	237	DT	L	36
ZPC120075	12	110	1100	1360	330	173	215	236	M10	R	36

For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

To consult the terminals, go to page 37

AGM
maintenance free
batteries



Zenith ZLS

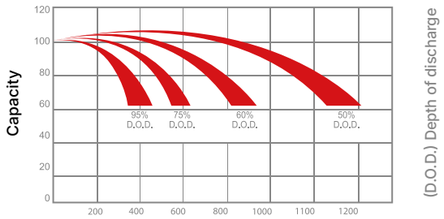
DEEP-CYCLE

Why choosing a ZLS battery?
- **20% more cycles than ZL series**
- **Innovative solution to reduce the negative effects of stratification**
- **Specific design increasing performance for the discharge in 2 hrs**
- **Maintenance free AGM technology**

WARRANTY 24 MONTHS

For further details on the mode, see general warranty conditions on our website

Charge cycles (25°C, discharge 5h)



Zenith THE MAINTENANCE FREE BATTERY



APPLICATIONS

> Scrubbers
> Sweepers
> Electric Boats
> Electric Scooters
> Electric bikes
> Vehicles for Disabled
> Renewable Energy
> Road signals

Code	V	Capacity			Dimensions (mm)				Term.	Weight (Kg)	Q.ty pallet
		Ah/20h	Ah/5h	Ah/2h	L ↔	W ↙	H ↑	H+T			
ZLS120110	12	16,5	13,5	12	151	99	97	101	F2	4,3	200
ZLS120120	12	28	23	20	181	77	170	172	M5	6,2	128

For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

To consult the terminals, go to page 37

LiFePO4 Lithium
Monoblock Batteries



4 ZENITH LITHIUM.A GENERAZIONE
HIGH-PERFORMANCE LIFEPO4

Smart batteries / Always connected

Zenith Lithium.A

INTEGRATED APP: complete control of the battery or battery pack via the new smartphone APP.
ZENITH CLOUD: fast diagnostics and quicker interventions thanks to real-time data transmission.
STORAGE MODE: over-discharge protection during periods of storage or inactivity.

- Always request a consultation from UNION BATTERY SERVICE if you intend to use the batteries connected in parallel.

WARRANTY 5 YEARS

For further details on the mode, see general warranty conditions on our website



Zenith LITHIUM



APPLICATIONS

> Marine/RV
> Electric Boats
> Vehicles for Disabled
> Golf Cars
> Renewable Energy
> Scrubbers
> Sweepers
> Scissor lifts

The dimensions are fully compatible with those of lead-acid batteries, making them easily interchangeable.
*Batteries in metal casing, complete with display *For warranty terms and conditions, please refer to the relevant section of our website.

Zenith Lithium.A

> LiFePO4 LITHIUM BATTERY PACKS, complete with BMS control electronics

Code	V	Ah	KWh	Charge		Discharge				Dimens. (mm)			CAN BUS	Certif. UN 38.3	Pallet q.ty
				Max V	Max A	Min V	Max V	Max A for 15"	Max A for 3"	L ↔	P ↙↗	H ↑			
ZLI012051.A	12,8	100	1,28	14,6	50	10,0	100	150	250	165	330	170	SI	SI	10
ZLI012100.A	12,8	200	2,56	14,6	100	10,0	200	250	400	170	340	280	SI	SI	5
ZLI012200.A	12,8	314	4,02	14,6	150	10,0	250	350	400	355	225	190	SI	SI	5
ZLI024036.A	25,6	50	1,28	29,2	25	20,8	50	100	250	165	330	170	SI	SI	10
ZLI024065.A	25,6	100	2,56	29,2	50	20,8	100	200	400	170	340	280	SI	SI	5
ZLI024101.A	25,6	200	5,12	29,2	100	20,8	200	250	400	305	344	280	SI	SI	3
ZLI036065.INOX.A	38,4	100	3,84	43,8	50	30,0	100	200	400	200	420	280	SI	SI	5
ZLI048060.A	51,2	100	5,12	58,4	50	40,0	100	270	400	305	344	280	SI	SI	3
ZLI048060.HOT.A	51,2	100	5,12	58,4	50	40,0	100	270	400	305	344	280	SI	SI	3

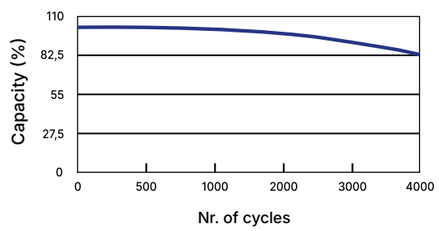
> COMPATIBLE Battery Chargers

Charging times based on a battery discharged to 100%

Codice	"Fast" charging		"Normal" charging		"Slow" charging	
	Model	Time	Model	Time	Model	Time
ZLI012051.A	/	/	ZHF1225.LH	4h	/	/
ZLI012100.A	/	/	/	/	ZHF1225.LH	8h
ZLI012200.A	/	/	/	/	ZHF1225.LH	8h
ZLI024036.A	ZHF2430.LH / ZHF2435.WP	2h	ZHF2420.LH	2h 50min.	/	/
ZLI024065.A	ZHF2460.LH	2h	ZHF2430.LH / ZHF2435.WP	3h 40min. / 3h 20min.	ZHF2420.LH	5h
ZLI024101.A	ZHF2490PFC.LH	2h 20min.	ZHF2460.LH	3h 30min.	ZHF2435.WP / ZHF2430.LH / ZHF2420.LH	5,7h / 6h 50min. / 10h
ZLI036065.INOX.A	ZHF3670.PFC.LH	2h	ZHF3640.LH	2h 50min.	ZHF3620.LH / ZHF36/48.18.WP	5h
ZLI048060.A	ZHF4855PFC.LH	2h	ZHF4830.LH	3h 30min.	ZHF4815.LH / ZHF36/48.18.WP	6h 50min. / 5h
ZLI048060.HOT.A	/	/	00100200*	4h	ZHF36/4818WP	5h

*Caricabatteria MEAN WELL AC/DC 1680W 90-264Vac 57.6Vdc 25A

Estimated number of cycles: 80% D.O.D. in C/2 Charge in C/2 25°C



LiFePO4 Lithium Battery 12.8V 314 Ah



COMPACT – UNDER-SEAT CAMPER BATTERY

WARRANTY 5 YEARS

For further details on the mode, see general warranty conditions on our website

Zenith Lithium.A

All the advantages of the Zenith Lithium.A range in a compact design with high capacity. Designed for easy installation under the camper/ motorhome seat thanks to dedicated mounting brackets.

- Always consult UNION BATTERY SERVICE if you intend to use the batteries connected in parallel.

> LIFEPO4 LITHIUM BATTERY PACKS, complete with BMS control electronics

Code	V	Ah	KWh	Charge		Discharge				Dimens. (mm)			CAN BUS	Certif. UN 38.3	Pallet q.ty
				Max V	Max A	Min V	Max V	Max A for 15"	Max A for 3"	L ↔	P ↙↗	H ↑			
ZLI012200.A	12,8	314	4,02	14,6	150	10,0	250	350	400	355	225	190	SI	SI	5

For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

To consult BUS BAR, go to page 37



The dimensions are fully compatible with those of lead-acid batteries, making them easily interchangeable.
*Batteries in metal casing, complete with display *For warranty terms and conditions, please refer to the relevant section of our website.

Display
for Zenith
LITHIUM.A batteries

Zenith LITHIUM Display



WARRANTY 36 MONTHS

For further details on the mode, see general warranty conditions on our website

To complete the Zenith Lithium.A range, displays have been developed for both indoor and outdoor use, allowing users to easily and immediately monitor the status of the battery or battery pack.

Code	Dimension (mm) L ↔	W ↙	H ↑	Weight (g)	Mounting	Screen	Description
ZLI-DISPLAY.A	140	22,1	98	190	Supplied with 4.3″ mounting bracket	TFT 4.3″	4.3″ touch display for monitoring Zenith Lithium batteries Compatible with both single batteries and battery packs connected in parallel. Designed for flush-mount installation in indoor environments. Supplied with a mounting bracket. Communication via RS485.
ZLI-DISPLAY.WP.A	81,96	13	49,96	150	With bracket and 2.80 m cable included	LCD 3,0″	3″ Waterproof display for monitoring Zenith Lithium batteries Designed for external installation. Supplied with a mounting bracket and 2.8 m connection cable. Communication via RS485.

> DISPLAY CABLES

Code	Description
ZLIDISPCAB1.5	Display cable length 1.5 m
ZLIDISPCAB1.5-CAN	ZLI.A CAN BUS lithium display cable 1.5 m
ZLIDISPCAB3	Display cable length 3 m
ZLIDISPCAB6	Display cable length 6 m
ZLIDISPCAB12	Display cable length 12 m





For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

Monobloc Lithium
LiFePO4 Battery
FISH



ZENITH LITHIUM.A 4 GENERAZIONE HIGH-PERFORMANCE LIFEPO4

WARRANTY 36 MONTHS

For further details on the mode, see general warranty conditions on our website

Zenith Lithium.A

All the advantages of the **Zenith Lithium.A** range, designed specifically for the fishing applications.

IP65 PROTECTION RATING
COMPATIBILITY: compatible with most electric motors
DISPLAY: integrated for battery monitoring

Zenith LITHIUM

APPLICATION
> Boating/Fishing

> LIFEPO4 LITHIUM BATTERY PACKS, complete with BMS control electronics

Code	V	Ah	KWh	Charge Max V	Charge Max A	Discharge Min V	Discharge Max A	Discharge Max A for 15″	Discharge Max A for 3″	Dimens. (mm) L ↔	W ↙	H ↑	CAN BUS	Certif. UN 38.3	Pallet q.ty
ZLI012051.FISH	12,8	100	1,28	14,6	50	10,0	70	150	250	320	285	210	NO	SI	10

> COMPATIBLE connector

Code	Description
00100131	connector + PIN ZLI012051.FISH



For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

To consult BUS BAR, go to page 37



3″ Display LCD


Remote assistance connector


ON/OFF switch


Output connector


Carrying handle


Safety valve


USB port

GOLF
Lithium
LiFePO4
battery packs



More robust | Batteries without any gas emission

WARRANTY
5 YEARS

For further details on the mode, see general warranty conditions on our website

Zenith Lithium

All the benefits of the **Zenith Lithium series** but designed for the **golf car retrofit world.**

MAINTENANCE FREE, SUPERIOR LIFETIME, LIGHT, FAST CHARGE

PLUG AND PLAY: replaces the old lead battery pack quickly and easily
100% COMPATIBILITY: compatible with all golf cart models

- Always ask UNION BATTERY SERVICE authorization if you want to use them in parallel

Zenith LITHIUM

APPLICATIONS

> Golf car
> Electric Vehicles

> LITHIUM BATTERY PACKS "LiFePO4", EQUIPPED WITH BMS CONTROL ELECTRONICS

Code	V	Ah	KWh	Charge			Discharge				Dimens. (mm)			Weig. (Kg)	CAN BUS	Certif. UN 38.3	Q.ty pallet
				Max V	V cons.	Max A	Min V	Max V	Max A for 15"	Max A for 3"	L ↔	P ↗	H ↑				
ZLI048060.GOLF	51,2	100	5,12	58,4	55.6	50	2.7V/cell	100	200	400	530	344	235	50,0	NO	YES	3

> SUITABLE BATTERY CHARGERS

Recharge times considered with 100% discharged batteries

Code	"Fast" charge		"Normal" charge		"Slow" charge	
	Model	Time	Model	Time	Model	Time
ZLI048060.GOLF	ZHF4855PFC.LH	2h	ZHF4830.LH	3h 40min.	ZHF4815.LH	6h 50min.

For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

To consult BUS BAR, go to page 37


External fuse


n° 2 fixing brackets


Button LED ON/OFF


Carrying handles


Display and CAN BUS connectors


Safety valve

Dimensions are completely suitable with those of lead batteries for easy interchanges
*Batteries in a metal case, equipped with display *For further details on the mode, see general warranty conditions on our website

KIT GOLF
Zenith LITHIUM

FREE YOUR GOLF CAR FROM THE WEIGHT OF THE PAST!



Code	Description
ZLI048060.GOLF	Lithium Battery LiFePO4
ZHF4815.LH*	Charger for Zenith Lithium
ZLIDISPLAY	Display for lithium batteries
ZLIDISPCAB3	Display cable lithium 3m

SWITCH TO LITHIUM WITHOUT COMPLICATIONS

*More powerful chargers available for faster charging

Lithium LiFePO4 battery packs



More robust | Connectable in parallel
Repairable | batteries without any gas emission

Zenith Lithium

MAINTENANCE FREE: maintenance is not required.
SUPERIOR LIFETIME: the number of charge-discharge cycles is considerably higher than lead-acid batteries, so “cost per cycle” is lower.
LIGHT: they are up to 70% lighter than lead-acid batteries. Only a minimum amount of the whole battery energy is employed to move the battery itself, so the vehicle autonomy is greater.
FAST CHARGE: they can be fully charged in 2hr (always use the proper battery charger). Vehicles, where they will be installed, will increase their productivity/autonomy.

- Always ask UNION BATTERY SERVICE authorization if you want to use them in parallel

WARRANTY 5 YEARS

For further details on the mode, see general warranty conditions on our website

Zenith LITHIUM

APPLICATIONS

> Marine/RV
> Electric Boats
> Vehicles for Disabled
> Golf Cars
> Renewable Energy
> Scrubbers
> Sweepers
> Scissor lifts



S.o.C. Display



4 female threaded inserts, M6, per side



ON/OFF



Carrying handles



Display and CAN BUS connectors



Safety valve

Dimensions are completely suitable with those of lead batteries for easy interchanges
*Batteries in a metal case, equipped with display *For further details on the mode, see general warranty conditions on our website

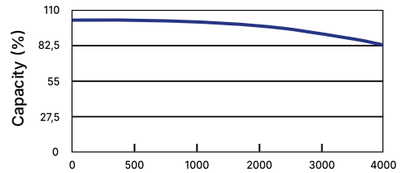
> LITHIUM BATTERY PACKS “LiFePO4”, EQUIPPED WITH BMS CONTROL ELECTRONICS

Code	V	Ah	KWh	Charge			Discharge				Dimens. (mm)			Weig. (Kg)	CAN BUS	Certif. UN 38.3	Q.ty pallet
				Max V	Rec. V	Max A	Min V	Max V	Max A for 15”	Max A for 3”	L ↔	W ↙	H ↑				
ZLI012035*	12,8	50	0,64	14,6	13.9	25	2.7V/cell	50	100	200	195	165	165	8,0	NO	NO	15
ZLI012051	12,8	100	1,28	14,6	13.9	50	2.7V/cell	100	150	250	165	330	170	14,0	NO	YES	10
ZLI012100	12,8	200	2,56	14,6	13.9	100	2.7V/cell	200	250	400	170	340	280	28,0	NO	YES	5
ZLI024036*	25,6	50	1,28	29,2	27.8	25	2.7V/cell	50	100	250	165	330	170	14,0	NO	YES	10
ZLI024065	25,6	100	2,56	29,2	27.8	50	2.7V/cell	100	200	400	170	340	280	27,5	YES	YES	5
ZLI024070	25,6	100	2,56	29,2	27.8	50	2.7V/cell	100	200	400	555	131	275	27,5	YES	YES	5
ZLI024100	25,6	200	5,12	29,2	27.8	100	2.7V/cell	200	250	400	200	554	280	50,5	YES	YES	3
ZLI036065	38,4	100	3,84	43,8	41.7	50	2.7V/cell	100	200	400	200	420	280	38,0	YES	YES	5
ZLI048060	51,2	100	5,12	58,4	55.6	50	2.7V/cell	100	200	400	305	344	280	48,0	YES	YES	3

*not in parallel

Discharge temperature	Max	-15°C / +60°C
	Working	-10°C/+45°C
Temperature for charging	Max	0°C / +60°C
	Working	+5°C / +40°C
Storage temperature	Yearly	0°C / 35°C
	Monthly	-20°C / 45°C

Estimated number of cycles:
80% D.O.D. in C/2 Charge in C/2
25°C



> The capacity is constant in lithium battery: it does not change at different discharge current rates (see the table)

Comparative Table AGM-LITHIUM

In order to facilitate the correct sizening

Nominal capacity = Real capacity		
Constant discharge current	**Estimated autonomy ZL1201120 (12v 200Ah/20h)**	**Estimated autonomy ZLI12100 (12v/200Ah)**
10Amp	20h	20h
20Amp	9h	10h
30Amp	5h	6h 30min
40Amp	3h 40min	5h
50Amp	3h	4h
60Amp	2h 30min	3h 30min
70Amp	2h	2h 50min
80Amp	N.C.	2h 30min
100Amp	N.C.	2h
150Amp	N.C.	1h 20min
200Amp	N.C.	1h

N.C: Discharge current not compatible with the battery

> SUITABLE BATTERY CHARGERS

Recharge times considered with 100% discharged batte-

Code	“Fast” charge		“Normal” charge		“Slow” charge	
	Model	Time	Model	Time	Model	Time
ZLI012035	/	/	ZHF1225.LH	2h 10min.	/	/
ZLI012051	/	/	ZHF1225.LH	4h 10min.	/	/
ZLI012100	/	/	/	/	ZHF1225.LH	8h 20min.
ZLI024036	ZHF2430.LH	1h 50min.	ZHF2420.LH	2h 50min.	/	/
ZLI024065	ZHF2460.LH	1h 50min.	ZHF2430.LH	3h 40min.	ZHF2420.LH	5h 10min.
ZLI024070	ZHF2460.LH	1h 50min.	ZHF2430.LH	3h 40min.	ZHF2420.LH	5h 10min.
ZLI024100	ZHF2490PFC.LH	2h 30min.	ZHF2460.LH	3h 40min.	ZHF2430.LH	6h 50min.
ZLI036065	ZHF3670.PFC.LH	1h 50min.	ZHF3640.LH	2h 50min.	ZHF3620.LH	5h 10min.
ZLI048060	ZHF4855PFC.LH	2h	ZHF4830.LH	3h 40min.	ZHF4815.LH	6h 50min.

For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

To consult BUS BAR, go to page 37

Display for Zenith Lithium batteries

Zenith LITHIUM Display

We have created for Zenith Lithium series an external display that shows to users some key parameters such as:

- Battery voltage
- Charging current indication
- Discharge current indication
- State of charge (S.o.C.) of the single battery
- Total state of charge (S.o.C.) of several batteries in parallel
- Battery temperature
- Remaining autonomy in relation to current absorption
- Error status
- Blocking relay for low battery
- IP55 protection (with USB rubber cap inserted correctly)



WARRANTY 36 MONTHS

For further details on the mode, see general warranty conditions on our website



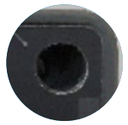
cod: ZLISWITCH connector for parallel connection



cod: ZLIDISPRE-MOTE connection cable from BMS to PC for remote assistance

> DISPLAY CABLES

Code	Description
ZLIDISPCAB1.5	Lithium display cable 1,5 m
ZLIDISPCAB3	Lithium display cable 3 m
ZLIDISPCAB6	Lithium display cable 6 m
ZLIDISPCAB12	Lithium display cable 12 m



Fixing holes



Input battery connection and Output Blocking relay



ON/OFF button button for switching on, off and programming



Output USB



Wireless connectivity Zenith Lithium Display APP (Android) for remote viewing on phone or tablet

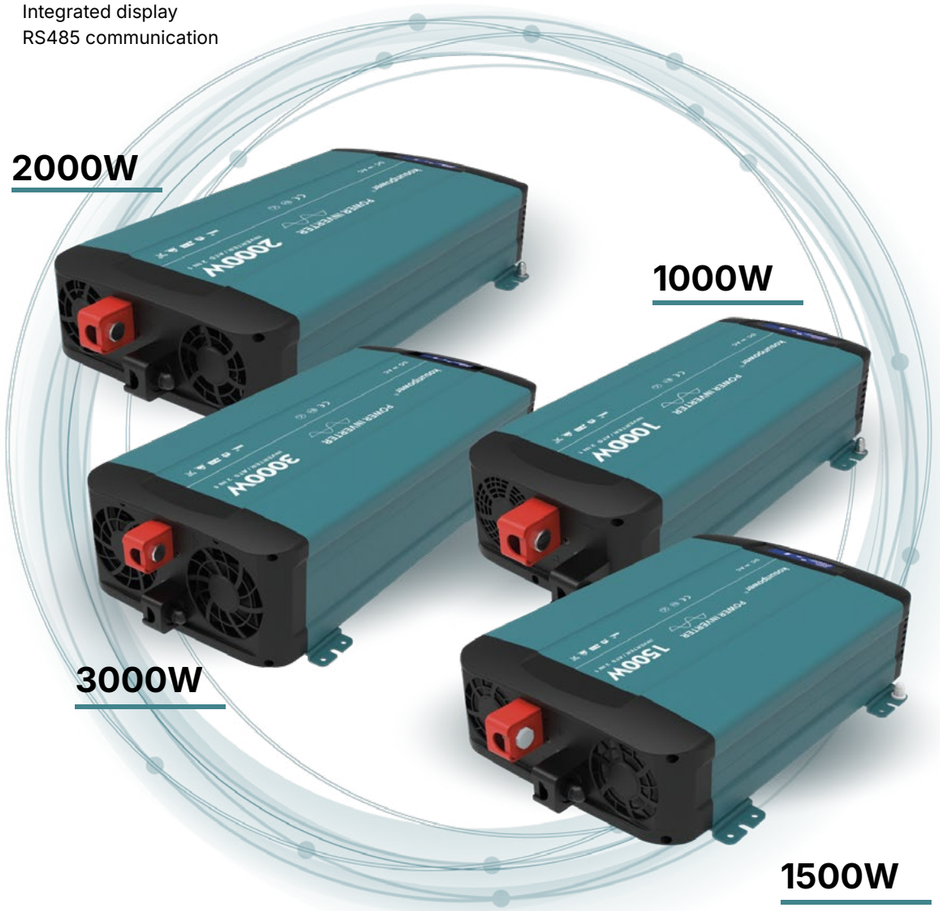
Code	Dimensions (mm)			Weight (g)	Fixing holes	Screen	OUTPUT Blocking RELAY	Output USB
	L ↔	W ↗	H ↑					
ZLI-DISPLAY	135	22	90	157	4 through holes Ø 3.6 mm	TFT 3.5"	3-pole connector (COM, NA, NC) for blocking relay (activates when battery SoC falls below 20%, disabled when battery SoC rises above 50%)	USB2 socket for charging external batteries (smartphone, tablet, etc)

For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

Kosunpower Inverter PURE SINE WAVE DC-AC

The ZINV range identifies our range of high-efficiency 12/24V pure sine wave inverters with the following features:

- 4 power levels from 1000–3000 W (12/24V)
- Integrated priority circuit (ATS)
- Integrated display
- RS485 communication



12V MODELS	24V MODELS
1000W / 1500W / 2000W / 3000W	1500W / 2000W / 3000W

Inverter
PURE SINE WAVE DC-AC



> Pure sine wave inverters with ATS

Code	Input voltage	Nominal power	Peak power	Output voltage	Mains socket	ATS	Cables	Dimensions (mm)			Pallet Q.ty
								L ↔	W ↙↗	H ↑	
ZINV12-230.1K.A	12V	1000 W	2000 W	230VAC	SCHUKO	SI	AC E DC INCLUSI	315	182	85	15
ZINV12-230.1K5.A	12V	1500 W	3000 W	230VAC	SCHUKO	SI	AC E DC INCLUSI	279	252	88	10
ZINV12-230.2K.A	12V	2000 W	4000 W	230VAC	SCHUKO	SI	AC E DC INCLUSI	369	252	88	8
ZINV12-230.3K.A	12V	3000 W	6000 W	230VAC	SCHUKO + MORSETTIERA	SI	AC E DC INCLUSI	409	252	118	5
ZINV24-230.1K5.A	24V	1500 W	3000 W	230VAC	SCHUKO	SI	AC E DC INCLUSI	279	252	88	10
ZINV24-230.2K.A	24V	2000 W	4000 W	230VAC	SCHUKO	SI	AC E DC INCLUSI	369	252	88	8
ZINV24-230.3K.A	24V	3000 W	6000 W	230VAC	SCHUKO + MORSETTIERA	SI	AC E DC INCLUSI	409	252	88	5

> Compatible battery cables

Code	Description
ZINV-CAVO16MMQ-1.5	Pair of 16 mm² battery cables, 1,5 m long, with terminals
ZINV-CAVO25MMQ-1.5	Pair of 25 mm² battery cables, 1,5 m long, with terminals
ZINV-CAVO35MMQ-1.5	Pair of 35 mm² battery cables, 1,5 m long, with terminals
ZINV-CAVO50MMQ-1.5	Pair of 50 mm² battery cables, 1,5 m long, with terminals
ZINV-CAVO70MMQ-1.5	Pair of 70 mm² battery cables, 1,5 m long, with terminals



> Compatible remote display

Code	Description
ZINV-DISPLAY	Inverter display and remote control



WARRANTY 24 MONTHS

For further details on the mode, see general warranty conditions on our website

Dimensions tolerance +/- 2 - 4 mm

Waterproof Charger for Zenith LITHIUM batteries

Mean Well



Charger specifically designed for the Zenith Lithium.A / Zenith Lithium battery range.

Main features:
- waterproof;
- supplied with power supply cable and output cables;
- suitable for onboard applications.

WARRANTY 24 MONTHS

For further details on the mode, see general warranty conditions on our website

Code	Output		Dimensions (mm)		
	V	A	L ↔	w ↙↗	H ↑
ZHF2435.WP	24	38	310	144	48,5
ZHF36/4818.WP	36/48	18	310	144	48,5

Dimensions tolerance +/- 2 - 4 mm

Battery chargers
For Zenith Lithium batteries

Zenith High Frequency

- The nominal output current is CONSTANT CURRENT.
- All devices are equipped with power cable (SCHUKO 16A mains plug included where possible).
- All devices are supplied with output cables of 2,5MT, but WITHOUT the connector to the battery, supplied on request.
- Mains supply: single-phase 185V/265V three-phase 340V/460V.
- Frequency: 47/62 Hz
- Efficiency: single-phase >85% - three-phase >90%
- Temperature at work: -10°C / +50°C
- Voltage and current values are programmable, please verify on the data sheet.





Equipped with button for "BMS" reactivation

Compatible only and exclusively with Zenith Lithium series batteries

WARRANTY 24 MONTHS

For further details on the mode, see general warranty conditions on our website

Code	Output		Kw	Mains voltage [A] - 230V	Dimensions (mm)			Weight (Kg)
	V	A			L ↔	W ↙↗	H ↑	
ZHF1225.LH	12	25	0,45	3,2	233	120	64	1,3
ZHF2420.LH	24	20	0,67	4,6	233	120	64	1,5
ZHF2430.LH	24	30	1,00	7,0	259	145	79	2,3
ZHF2460.LH	24	60	2,00	12,0	329	174	96	3,9
ZHF3620.LH	36	20	1,00	6,9	259	145	79	2,3
ZHF3640.LH	36	40	2,00	12,0	329	174	96	3,9
ZHF4815.LH	48	15	1,00	6,8	259	145	79	2,3
ZHF4830.LH	48	30	2,00	12,0	329	174	96	3,9
Single-phase with P.F.C.								
ZHF2490.PFC.LH	24	90	3,1	13A 240V	420	303	100	7,2
ZHF3670.PFC.LH	36	70	3,6	16A 230V	420	303	100	7,2
ZHF4855.PFC.LH	48	55	3,7	16A 230V	420	303	100	7,2
Three-phase								
ZHF36120T.LH	36	120	6,0	11,5	540	340	130	11,5
ZHF48120T.LH	48	120	8,1	15,6	540	340	130	11,5

Dimensions tolerance +/- 2 - 4 mm

High frequency battery chargers



ZENITH HIGH FREQUENCY

STABILIZED: the charge is always optimal even in case of wide mains voltage variations. The use of very long extension cables does not compromise the correct battery charge.

LIGHT AND COMPACT: the high frequency technology allows to minimize the weight and size.

VERSATILE: all devices allow an easy on board installation (electricity presence block and minimum battery voltage block).

EASY: the charge cycle automatically starts by inserting the mains plug. The microprocessor checks the battery charge level and the following charge cycle duration.

RELIABLE: the protecting resin enveloping the card protects the circuits from oxidation. It is equipped with a protective rooftop.

DATA MEMORY: the main information related to charge cycles are stored in the battery charger memory. Therefore, the user's behaviour during charge / discharge phases can be easily retraced and warranty costs can be substantially reduced.

FLEXIBLE: with the MP TOP II programmer you can set the battery charger for the charge of lead-acid or sealed batteries (GEL, AGM). Moreover, you can select the capacity of the battery to be charged (within the limits set for every model).

- The nominal output current is CONSTANT CURRENT.
- The manufacturer guarantees the recharge of the indicated capacities, within recommended times, with 80% of batteries discharge.
- Lower discharges involve lower charging times.
- The programming of these devices allows them to be adapted to the charge of any battery brand.
- All devices are equipped with power cable (SCHUKO 16A mains plug included where possible).
- All devices are supplied with output cables of 2,5MT, but WITHOUT the connector to the battery, supplied on request.
- Mains supply: single-phase 185V/265V - three-phase 340V/460V.
- Frequency: 47/62 Hz.
- Efficiency: single-phase > 85% - three-phase >90%
- Temperature at work: -10°C / +50°C.
- Batteries minimum voltage to allow the charge to start: 1,00 V/cell.



High frequency
battery chargers

Single-phase

Code	Output V	Output A	Rechargeable batteries: Lead-acid 8h Ah/C5 min Min	8h Max	11h Min	11h Max	13h Min	13h Max	Sealed 12h Min	12h Max	Kw	Mains voltage [A] 230V	Dimensions (mm) L ↔	W ↗	H ↑
ZHF1212	12	12	30	80	30	120	30	140	30	120	0,23	1,8	233	120	64
ZHF1212.C*	12	12	cycle "IUoU" - 2,43/2,25								0,23	1,8	233	120	64
ZHF1225	12	25	100	160	100	240	100	300	100	240	0,45	3,2	233	120	64
ZHF1225.C*	12	25	cycle "IUoU" - 2,43/2,25								0,45	3,2	233	120	64
ZHF2412	24	12	30	80	30	120	30	140	30	120	0,41	3,0	233	120	64
ZHF2412.C*	24	12	cycle "IUoU" - 2,43/2,25								0,41	3,0	233	120	64
ZHF2415.C*	24	15	cycle "IUoU" - 2,43/2,25								0,41	4,6	233	120	64
ZHF2420	24	20	60	120	60	200	60	240	60	200	0,67	4,6	233	120	64
ZHF2420.C*	24	20	cycle "IUoU" - 2,43/2,25								0,67	4,6	233	120	64
ZHF2430	24	30	120	180	120	300	120	360	120	300	1,00	7,0	259	145	79
ZHF2430.C*	24	30	cycle "IUoU" - 2,43/2,25								1,00	7,0	259	145	79
ZHF2450.C*	24	50	cycle "IUoU" - 2,43/2,25								2,00	12,0	329	174	96
ZHF2460	24	60	180	360	180	600	180	720	180	600	2,00	12,0	329	174	96
ZHF2460.C*	24	60	cycle "IUoU" - 2,43/2,25								2,00	12,0	329	174	96
ZHF3620	36	20	80	120	80	200	80	240	80	200	1,00	6,9	259	145	79
ZHF3640	36	40	160	240	160	420	160	480	160	420	2,00	12,0	329	174	96
ZHF4815	48	15	60	100	60	160	60	180	60	160	1,00	6,8	259	145	79
ZHF4815.C*	48	15	cycle "IUoU" - 2,43/2,25								1,00	6,8	259	145	79
ZHF4830	48	30	120	180	120	300	120	360	120	300	2,00	12,0	329	174	96
ZHF4830.C*	48	30	cycle "IUoU" - 2,43/2,25								2,00	12,0	329	174	96
ZHF6020	60	20	80	120	80	200	80	240	80	200	1,70	12,0	329	174	96
ZHF7220	72	20	80	120	80	200	80	240	80	200	2,00	12,0	329	174	96
ZHF8020	80	20	80	120	80	200	80	240	80	200	2,10	14,0	329	174	96
ZHF8420	84	20	80	120	80	200	80	240	80	200	2,10	14,5	329	174	96
Single-phase with P.F.C.															
ZHF2490.PFC	24	90	270	540	270	900	270	1080	270	900	3,1	13A 240V	420	303	100
ZHF3660.PFC	36	60	180	360	180	600	180	720	180	600	3,1	13A 240V	420	303	100
ZHF3670.PFC	36	70	180	420	180	720	180	840	180	720	3,6	16A 230V	420	303	100
ZHF4845.PFC	48	45	180	270	180	480	180	540	180	480	3,1	13A 240V	420	303	100
ZHF4855.PFC	48	55	180	330	180	540	180	660	180	540	3,7	16A 230V	420	303	100
ZHF4865.PFC	48	65	180	420	180	660	180	780	180	660	4,4	20A 230V	420	303	100
ZHF7230.PFC	72	30	120	180	120	300	120	360	120	300	3,1	13A 240V	420	303	100
ZHF7240.PFC	72	40	120	240	120	420	120	480	120	420	4,1	20A 240V	420	303	100
ZHF8030.PFC	80	30	120	180	120	300	120	360	120	300	3,4	20A 240V	420	303	100
ZHF8040.PFC	80	40	120	240	120	420	120	480	120	420	4,5	20A 240V	420	303	100

Three-phase

Code	Output V	Output A	Rechargeable batteries: Lead-acid 8h Ah/C5 min Min	8h Max	11h Min	11h Max	13h Min	13h Max	Sealed 12h Min	12h Max	Kw	Mains voltage [A] 400V	Dimensions (mm) L ↔	W ↗	H ↑
ZHF24120T	24	120	360	780	360	1200	360	1400	360	1200	4,0	7,8	540	340	130
ZHF24240T	24	240	720	1400	720	2400	720	2800	720	2400	8,0	15,6	591	435	265
ZHF3680T	36	80	300	480	300	840	300	960	300	840	4,0	7,8	540	340	130
ZHF36120T	36	120	360	780	360	1200	360	1400	360	1200	6,0	11,5	540	340	130
ZHF36160T	36	160	600	960	600	1600	600	2000	600	1600	8,0	15,6	540	340	130
ZHF36240T	36	240	720	1400	720	2400	720	2800	720	2400	12,0	23,0	591	435	265
ZHF4865T	48	65	180	420	180	660	180	780	180	660	4,3	8,5	540	340	130
ZHF4880T	48	80	300	480	300	840	300	960	300	840	5,3	10,5	540	340	130
ZHF48120T	48	120	360	780	360	1200	360	1400	360	1200	8,1	15,6	540	340	130
ZHF48160T	48	160	600	960	600	1600	600	2000	600	1600	10,6	21,0	540	340	130
ZHF48240T	48	240	720	1400	720	2400	720	2800	720	2400	16,2	31,2	591	435	265
ZHF7280T	72	80	300	480	300	840	300	960	300	840	8,0	15,6	540	340	130
ZHF72120T	72	120	360	780	360	1200	360	1400	360	1200	12,0	23,4	540	340	130
ZHF72160T	72	160	600	960	600	1600	600	2000	600	1600	16,0	31,2	591	435	265
ZHF8080T	80	80	300	480	300	840	300	960	300	840	8,5	16,0	540	340	130
ZHF80120T	80	120	360	780	360	1200	360	1400	360	1200	12,8	24,0	540	340	130
ZHF80160T	80	160	600	960	600	1600	600	2000	600	1600	17,6	32,0	591	435	265

For details refer to the data sheets on our website
Dimensions tolerance +/- 2 - 4 mm

Conventional
battery chargers
MGX-MORI



MGX Memory Charger

STABILIZED: optimal charge even in presence of wide fluctuations in the mains voltage (min. 185V - max. 265V).
TRADITIONAL: these devices are of a traditional type (not high frequency).
EASY: the charge cycle takes place automatically, by simply connecting the battery.
The microprocessor checks the battery discharge level and the charge times.
DATA MEMORY: the main information related to charge cycles is stored in the battery charger memory. Then, the user's behaviour during charge/discharge phases can be easily retraced and warranty costs are dramatically reduced.
FLEXIBLE: with the MP TOP II programmer it is possible to set the battery charger for the charge of both lead-acid and sealed batteries (GEL, AGM).
RELIABLE: 2 years warranty

- The nominal output current is CONSTANT CURRENT.
- The manufacturer guarantees the charge of recommended capacities, within 10-13 hours, with 80% of batteries discharge.
- Lower discharges involve lower charging time.
- The programming of these devices allows them to be adapted for the charge of any battery brand.
- All devices are equipped with SCHUKO 16A mains plug.
- All devices are supplied with output cables, but WITHOUT the connector to the battery, supplied on request.

WARRANTY 24 MONTHS

For further details on the mode, see general warranty conditions on our website

Code	Output V	Output A	Output Cycle	Rechargeable batteries: Lead-acid Ah/C5 min	Lead-acid Ah/C5 max	Sealed (GEL/AGM) Ah/C5 min	Sealed (GEL/AGM) Ah/C5 max	Kw	Mains voltage [A] 230V	Dimensions (mm) L ↔	W ↗	H ↑	Weig. (Kg)
MGX1210	12	10	IWoU/IUoU	100	120	80	100	0,18	1,3	305	160	127	5,6
MGX1215	12	15	IWoU/IUoU	130	180	110	150	0,29	1,9	305	160	127	6,2
MGX2410	24	10	IWoU/IUoU	100	120	80	100	0,36	2,5	305	160	127	7,4
MGX2415	24	15	IWoU/IUoU	130	180	110	150	0,54	3,7	305	160	127	9,1
MGX2420	24	20	IWoU/IUoU	190	240	160	200	0,72	5,0	305	160	127	12,0
MGX2425	24	25	IWoU/IUoU	250	300	210	250	0,90	6,0	385	200	147	13,8
MGX2430	36	30	IWoU/IUoU	310	360	260	300	1,10	7,4	385	200	147	18,5
MGX3620	36	20	IWoU/IUoU	190	240	160	200	1,10	7,4	385	200	147	15,8
MGX3625	36	25	IWoU/IUoU	250	300	210	250	1,40	9,3	385	200	147	18,4

For details refer to the data sheets on our website
Phase 1 | **V** 185/265 | **Hz** 50/60

Dimensions: 305 × 160 x h 127 mm | 385 × 200 x h 147 mm

Battery regenerator

Battery Regenerator



Your battery will no longer be a mystery!
How many batteries did you replace under commercial warranty?
How many batteries did you have to throw because they were old?
How many batteries did you replace without knowing if they could still be used?

Cod. **REGEN.01** - Weight **7kg**
Dim. **300 × 200 × 460h**

The BATTERY REGENERATOR allows you to work independently and to eliminate these costs. It pays itself in 6 months of actual work!

The innovative device for the **treatment of lead-acid batteries, modular,** is now available to **everyone**! **The integrated solution of the discharge + multi-voltage charger** allows to carry out a variety of activities in a simple and **automatic way.** The device is **portable** and it is possible to perform tests directly by the customer or during the installation. The data collected will be easily transferred to a PC in order to elaborate and print.

What kind of batteries can you test with Battery Regenerator?

- 12 Volt lead acid starter batteries (MF and SMF).
- 12 Volt AGM starter batteries.
- 6 Volt or 12 Volt AGM stand-by batteries.
- 6/8/12 Volt lead acid batteries (both tubolar and flat), for cycle use.
- 6/8/12 Volt AGM batteries for cycle use.

How does Battery Regenerator work?

Three simple actions are needed and **the rest happens automatically:**

- Choose the activity from the 5 options.
- Set the data of the battery to be tested.
- START

What can you do with Battery Regenerator?

- Equalize/balance new batteries before the installation.
- Refresh the batteries in stock, recovering the original features.
- Regenerate batteries used incorrectly.
- Check battery capacity and status: discharge in 20h, 5h and 2h.
- Cycle new batteries to check their performance over time: 20h, 5h and 2h.

Who needs Battery Regenerator?

All the companies that work with modular batteries:

- Dealers/renters of cleaning machines.
- Resellers/renters of scissor lifts.
- Resellers/renters of golf cars and/or electric vehicles for touristic and holiday resorts.
- Resellers/renters of camper.
- Resellers of lead batteries in general.
- Maintainers/ installers of batteries for continuity. groups, UPS and telephone switchboards.
- Installers/maintainers of boats.
- Resellers/maintainers of vehicles for elderly and disabled.

WARRANTY 24 MONTHS

For further details on the mode, see general warranty conditions on our website

Battery regenerator



Minimum requirements:
Windows 10 32/64 Bit versions
or Android min. 8.0

Download the app for Android

1. Check the battery capacity and status

- It can be done on a new battery, to check the correctness of the declared data, and also on an used battery to check its status/conditions.
- It consists of a fully automatic charge/discharge/charge cycle.
- The discharge current is constant.
- The discharge cycle involves 100% battery discharge.
- Depending on the type of battery and the application, the discharge capacity can be checked in 20 hours, 5 hours and 2 hours.
- The report with the result can be saved in PDF and printed.
- Duration varies by test, between 12 hours and 48 hours approx.

2h discharge capacity value declared by the manufacturer

Detected value

Customer: **U.B.S. Union Battery Service**
Battery type: **AGM** | Voltage: **12 V** | Serial number: **0000005632**
Brand: **Zenith** | **ZL120175**
Capacity Test Result Nr. 2

	C2	C5	C20	% C2	% C5	% C20
	70 Ah					
	70,8 Ah			101 %		

2. Charging and discharging cycle sequence ("cycling" battery)*

*Do not carry out this operation on starter lead acid batteries

- It is generally made on a new battery and for cyclic use (DEEP-CYCLE) in order to check its behaviour over time.
- It is possible to set up to 10 charge/discharge cycles. The sequence will be totally automatic.
- The discharge current is constant.
- The discharge cycle involves discharging the battery 100%.
- Depending on the type of battery and the application, the discharge and capacity can be checked 20h, 5h and 2h.
- The report with the result can be saved in PDF and printed.
- Duration varies according to the number of cycles set, keeping in mind that each cycle can be about 15-35 hours.

Capacity value declared by the manufacturer

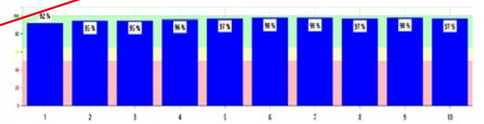
Detected value after the first cycle

Detected value after the last cycle

Battery performance graph

Customer: **U.B.S. Union Battery Service**
Battery type: **Piombo/Acido** | Voltage: **12 V** | Serial number: **0000000005**
Brand: **Trojan** | **TJ120145**
Capacity Test Result Nr. 3

	C2	C5	C20	% C2	% C5	% C20
Nominal		120 Ah				
First cycle		110,9 Ah			92 %	
Last cycle		116,6 Ah			97 %	



Battery regenerator

3. Equalize/balance new batteries

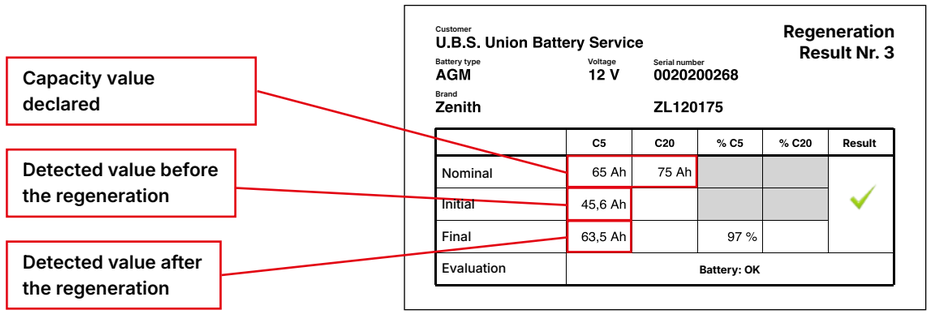
- The activity is absolutely necessary to guarantee a longer life of the batteries, especially when installing multiple units connected together in series or in parallel.
- The aim is to make the batteries “homogeneous” with each other, especially if they are produced at different times and stored in different ways.
- It remains essential that the batteries must still be of the same brand and model.
- The cycle lasts about 7 - 20 hours.
- No report is provided.

4. Refresh the batteries in stock

- This is a charger/micro discharge/charge sequence specially developed to try to restore the original characteristics, on batteries that have been in stock for a certain time.
- The cycle lasts about 5 - 10 hours.
- No report is provided.

5. Regenerate batteries

- Warning: regeneration treatment is absolutely recommendable even on batteries in use, still working, in order to prevent deterioration: “Regenerate in time and save your time”. The earlier it is done, the greater the success rate will be.
- It can be applied on any type of used lead battery.
- NOT all batteries subjected to treatment will give a positive result.
- It is preferable for AGM batteries to carry out a capacity test after a few days from the end of the regeneration process, which has a positive result.
- It uses a specific algorithm that manages the sequence of charges/discharges.
- The algorithm adapts to the behaviour of the battery during the process.
- Duration varies from 24 hours to 120 hours.
- The result report can be saved in PDF and printed.



For details refer to the data sheets on our website

Multifunction battery chargers

Power Switch Multisystem



It is supplied with battery connection clamps and instruction manual with hints on how to use it.

HIGH FREQUENCY SINGLE-PHASE MULTI-VOLTAGE BATTERY CHARGER, IDEAL FOR “REFRESH” CHARGES

MULTISYSTEM is a battery charger suitable for any type of batteries (both traction and starter, sealed or lead acid).
It is easy to program through the keyboard and the display.

The operator sets three charging cycle parameters (“IU” cycle):
- maximum battery voltage during the charging phase
- constant current
- time (max. 50 hours)

It offers great flexibility advantages:
- it is possible to “refresh” full pallets of batteries connecting them in series or in parallel, according to customer preferences
- it is possible to recharge 6V, 8V, 12V, 24V, 36V, 40V, 48V batteries and any intermediate voltage value
- it is possible to use it as a replacement for other battery chargers (KEYBOARD BLOCK function)
- it can be easily carried to the customer in order to try to recover “sulphated” batteries

Single-phase supply:
- correct charging even when supply voltage fluctuates from 185V to 265V frequency 50/60Hz

Two models are available:
- code: PSW.MS.1
- programmable voltage: from 6V to 32V
- programmable constant current: from 3A to 40A
- code: PSW.MS.2
- programmable voltage: from 12V to 64V
- programmable constant current: from 3A to 30A

WARRANTY 24 MONTHS

For further details on the mode, see general warranty conditions on our website

Code	V		Idc programmable output step 1A			Min. voltage for charging	Weight (Kg)	Dimensions (mm)		
	Min.	Max.	Min.	Max.	IDC out programm.			L ↔	W ↙	H ↑
PSW.MS.1	6V	32V	3A	from 40A to 29V	35A up to 29V	3,5V	4,5	295	220	110
PSW.MS.2	12V	64V	3A	from 30A to 58V	25A up to 58V	7,0V	4,5	295	220	110

For details refer to the data sheets on our website

Academy
project

MORI GROUP ACADEMY
batteries & chargers

CONTACT YOUR DISTRIBUTOR

Technical training

Sign up for our courses of technical training

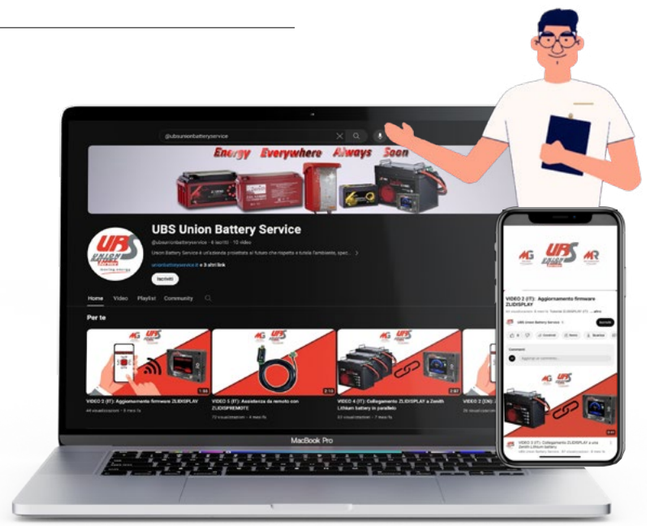
Three course levels:

- **1st LEVEL:** Choosing the battery, charger and inverter
- **2nd LEVEL:** Correct installation with practical examples
- **3rd LEVEL:** Problem solving

PRODUCT SECTORS

> Nautical
> Camping
> Cleaning
> Aerial platforms

Hi, I'm Tony!
Your UBS
virtual assistant



Follow us on:

YouTube

Watch our tutorials on our Youtube channel!

SUBSCRIBE TO THE CHANNEL
@ubsunionbatteryservice

And stay tuned for more tutorials.

Programmer
for battery charger

MP TOP II

Highly professional device, suitable for distributors or assistance centres, essential for programming and reading the data memory of the ZHF, MGX and EDM series battery chargers.

The KIT includes, in addition to the programmer, also the cable for connection to the battery charger, the cable for connection to the computer and the SW to install on the PC.

The lithium battery, inside the programmer, allows programming and data reading without other external power supplies. It will then be sufficient to connect it to the PC's USB port for charging.

The SW installed on the device can be updated by downloading directly from the website www.moriraddrizzatori.it.





Accessories

> DC CONNECTORS (battery connection)

Code	Model	Code	Model	Code	Model
 00200001	SB50 50A Battery Grey plug	 00200040	SB175 175A Battery Grey plug	 00200084	DIN 320A male Battery plug
 00200002	SB50 50A Battery Red plug	 00200042	SB175 175A Battery Red plug	 00200200	Schaltbau male LV80 Battery plug
 00200030	SBE160 160A Battery Red plug	 00200043	SB175 175A Battery Blue plug	 00200201	Schaltbau male LV160 Battery plug
 00200033	SBE160 160A Battery Grey plug	 00200082	DIN 80A male Battery plug	 00200202	Schaltbau male LV320 Battery plug
 00200039	SB120 120A Battery Red plug	 00200083	DIN 160A male Battery plug	 00200150	FT80 EURO 80A male Battery plug

> POLE PROTECTION



CPM6 CPM8 CPMORS

Code	Kit quantity
CPM6	10 pairs
CPM8	10 pairs
CPMORS	10 pairs

> AUTOMATIC REFILLING CAPS



00300000 00300005 00300120

Code	Refilling CAPS
00300000	Cap automatic refilling “SCREW”
00300005	Cap automatic refilling “BAYONET”

Code	CAPS accessories
00300120	Floating D.22 H.39

> ADAPTERS



KIT.AP.M6 - KIT.AP.M8 KIT.AP.STUD

Code	Suitable for:	Kit quantity
KIT.AP.M6	terminal M6	10 pairs
KIT.AP.M8	terminal M8	10 pairs
KIT.AP.STUD	screw terminal M8	1 pair

Accessories

> BUS BAR



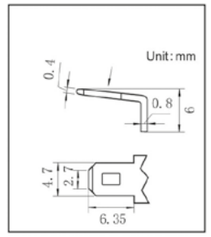
Code	Description
BUSBAR4PM8N	Bus Bar 4P M8 250 A BLACK
BUSBAR4PM8R	Bus Bar 4P M8 250 A RED
BUSBAR6PM10N	Bus Bar 6P M10 300 A BLACK
BUSBAR6PM10R	Bus Bar 6P M10 300 A RED

> VIS-LED-PSW Cable + LED visor for ZHF/PSW

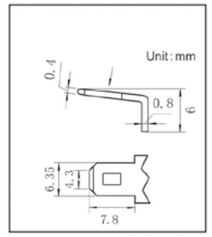


> TERMINALS FOR ZENITH BATTERIES

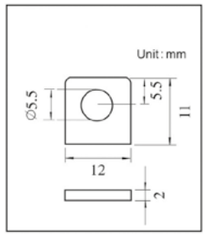
F1



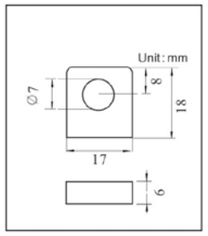
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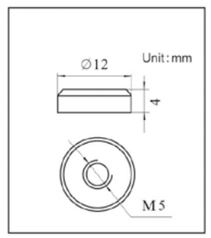
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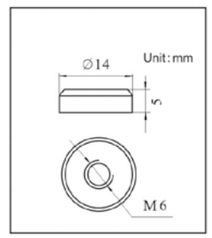
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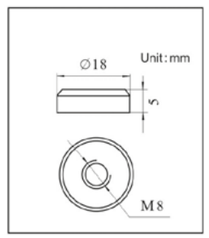
M5



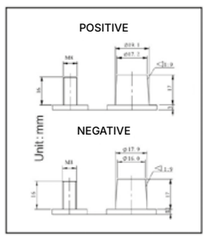
M6



M8



DT



Practical advice
on lead-acid batteries

1. **ALWAYS** choose the battery suitable for the application (choose from the available ranges) and set the model depending on use.
   • Certainty of the battery duration over time.
   • Any problems are covered by the guarantee.
   On the contrary, wrong choices are NOT covered by the warranty and affect the battery life.

2. **ALWAYS** use the batteries in adequately ventilated places with temperatures compatible with the characteristics of the batteries (see data sheet).

3. **CONNECTION OF TWO BATTERIES IN SERIES**
   You get a battery with the same capacity, but with double voltage.
   ⚠ With the connection in series:
   • DON'T use batteries of different brands or ages.
   • Check periodically (3-4 times a year) the OCV (Open Circuit Voltage) of the individual batteries. Any problems on a single battery can have an impact on the other batteries.
   • Perform the equalization.
   • Use cables with adequate section.
   • Alternate the position of the batteries at least 2-3 times a year.

4. **CONNECTION OF TWO BATTERIES IN PARALLEL**
   You get a battery with the same voltage, but with double the capacity.
   ⚠ Using batteries in parallel can be dangerous, then, if necessary, interface with U.B.S. Union Battery Service

5. Correctly size batteries according to their discharge current (see battery data sheets): discharge current beyond the limits indicated will immediately invalidate any warranty.

6. Carefully tight the poles screws, according to what follows:

   > M5 terminal: 5,9/6,1 Nm
   > M6 terminal: 11,9/12,1 Nm
   > M8 terminal: 22,5/23,2 Nm
   > M10 terminal: 24,5/27,0 Nm

   Overheating of the poles due to incorrect tightening is not covered by the warranty.

7. AVOID any short circuit between the battery poles.

8. Use chargers with suitable charging curves (see battery data sheets). In AGM deep-cycle applications the IUIa charge cycle is recommended if more than two batteries are connected in series. In STAND-BY applications the use of pulse hold charging cycles is recommended. NEVER interrupt the charging cycle. Incomplete recharges will void the warranty.

9. Periodically discharge the batteries (better once a month) completely (up to 80%).

10. ALWAYS recharge the batteries immediately after discharge.

Practical advice
on lead-acid batteries

11. For long periods of disuse, recharge the batteries periodically (at least once a month).

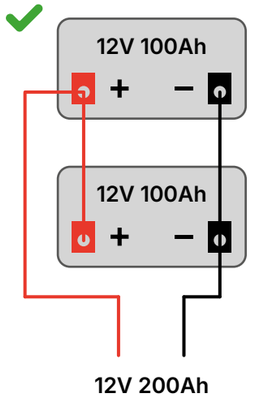
12. Deep-cycle batteries may only be used once per day, 220 cycles per year.
    Any other use, unless agreed in writing, will invalidate the warranty.

13. In ALL lead acid batteries, the electrolyte level must be checked at least monthly.
    The plates must be always completely submerged. If necessary, add only distilled water after recharging. If the battery is equipped with an automatic topping up system, it is important to disassemble it and remove any deposits at least once a year. At the same time, check that the floats are working properly.

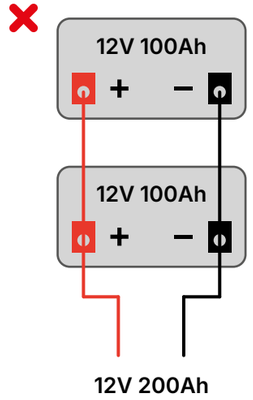
14. Prevent and remove any oxidation on the poles. It is recommended the use of rubber pole covers.

15. In our website **www.unionbatteryservice.it** all the general warranty conditions are available.

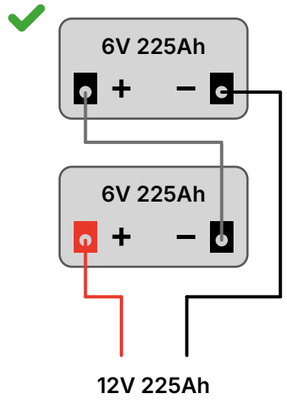
PARALLEL CONNECTION
Balanced plant



PARALLEL CONNECTION
Not balanced plant
High risk of damaging the batteries in the short term



SERIES CONNECTION
Always recommendable when it is possible



Refresh charges FOR BATTERIES IN STOCK

Storage temperature	(ZL, ZGL, ZPC, ZLS, ZLM, ZGEL)	(YUASA)
Between 10°C and 20°C	Every 9 months	Every 3 months
Between 20°C and 30°C	Every 6 months	Every 2 months
Between 30°C and 40°C	Every 3 months	Every month

For further details, refer to our **"Zenith" Lead Acid Battery User Manual**

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