

# ampHerr

Battery Pack Company



## one stop battery shop



OUR VISION is to be the number one battery pack manufacturer in Europe and among the top 3 in the world in a short period of time.

OUR MISSION is to reduce the side effects of transportation on climate change and help to accelerate the world transition to a sustainable future.

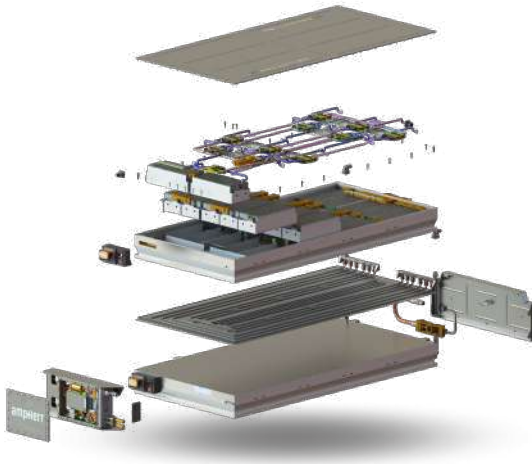
---

 [AMPHERR.COM](https://www.ampherr.com)

## + BATTERY TECHNOLOGY FOR SUSTAINABLE FUTURE

We are delivering state-of-the-art, smart energy storage systems for all kinds of electrical vehicles and stationary applications, which are based on various chemical variants of Lithium-Ion cells like NMC, LTO, and LFP.

As a German battery pack manufacturer, we combine quality, advanced engineering, and agile service together and deliver application-specific products for almost every use case with customer satisfaction in focus.



## + MODULAR DESIGN PHILOSOPHY

Our standard battery packs are designed to cover a wide variety of applications, so we have a short delivery time with a fair price policy.


















## + YES! TAILOR-MADE CUSTOM DESIGN-MODIFICATIONS ARE POSSIBLE!

Depending on customer requirements we can modify or even redesign our standard battery packs in a very short time – 5 months.

+ **CHEMISTRY**  
NMC, LFP, LTO

+ **VOLTAGE**  
400V, 700V, 800V

+ **ENERGY**  
Up to 1000kWh in parallel

<p><b>2V16</b></p>  <p>960X690X285</p>	<p><b>2V24</b></p>  <p>1330X690X285</p>	<p><b>2V32</b></p>  <p>1710X690X285</p>	<p><b>2V44</b></p>  <p>1890X850X285</p>	<p><b>3V16</b></p>  <p>960x690x428</p>
<p><b>1F24</b></p>  <p>1660X1000X145</p>	<p><b>1F30</b></p>  <p>2050X1000X145</p>	<p><b>1F32</b></p>  <p>2215X1000X145</p>	<p><b>2F24</b></p>  <p>1660X1000X285</p>	<p><b>4V16</b></p>  <p>960X690X570</p>
<p><b>4V24</b></p>  <p>1330X690X570</p>	<p><b>2H16</b></p>  <p>2075X600X285</p>	<p><b>3H16</b></p>  <p>2075X600X428</p>	<p><b>3V32</b></p>  <p>1710X690X428</p>	<p><b>5L48</b></p>  <p>1090X790X713</p>

Supported Vehicles



# 400V SERIES

## System Features

- Bus, truck, light commercial vehicle, construction machines, marine and railways applications
- ECE R100.3, ECE R10.6 and UN38.3 certifications
- Lloyd's Register certification for marine applications
- IATF 16949:2016-Certified Manufacturing
- Compatible design according to ISO 26262 up to ASIL C
- Common PJB (Pack Junction Box) for all products
- Efficient liquid cooling system
- CANBus 2.0A-B communication protocol
- Integrated BMS (Battery Management System)
- Integrated precharge circuit and isolation measurement

## Electrical Specifications

	UNIT	NMC-400-042	NMC-400-063	LFP-400-052
CELL CHEMISTRY		NMC	NMC	LFP
INSTALLED ENERGY @1/3C	kWh	42,1	63,4	52,2
ENERGY DENSITY @1/3C	Wh/kg	up to 148	up to 174	up to 117
CAPACITY @1/3C	Ah	117	177	135
NOMINAL VOLTAGE	V	353	351	384
OCV RANGE @ 5-95% SOC	V	334 - 409	334 - 406	357 - 425
MIN-MAX VOLTAGE RANGE	V	269 - 422	269 - 418	300 - 438
CONT. CHARGE CURRENT @ 25°C, SOC DEPENDENT, STEP CHARGE	A	200	209	135
PEAK CHARGE CURRENT @ 10S, 25°C, SOC DEPENDENT	A	399	348	270
CONT. DISCHARGE CURRENT @ 25°C, SOC DEPENDENT	A	228	174	135
PEAK DISCHARGE CURRENT @ 10S, 25°C, SOC DEPENDENT	A	500	500	473
CYCLE LIFE @ 90%DOD, 0.5C/ 0.5C	cycle	up to 3000	up to 4000	up to 4000
COMMUNICATION PROTOCOL		CANBus 2.0A-B	CANBus 2.0A-B	CANBus 2.0A-B
SUPPLY VOLTAGE FOR CONTROL EQUIPMENT	V	12/24	12/24	12/24

## Mechanical Specification

		Liquid Cooling	Liquid Cooling	Liquid Cooling
COOLING TYPE		Liquid Cooling	Liquid Cooling	Liquid Cooling
FLOW RATE	l/min	10-15	10-15	10-15
PRESSURE DROP @10l/MIN AND 25°C	mbar	< 300	< 300	< 300
COOLANT OPERATING PRESSURE	bar	< 2	< 2	< 2
OPERATING TEMPERATURE @DISCHARGE	°C	-30 ~ 55	-30 ~ 55	-30 ~ 55
OPERATING TEMPERATURE @CHARGE	°C	-20 ~ 55	-20 ~ 55	0 ~ 55
RECOMMENDED OPERATING TEMPERATURE	°C	15 ~ 35	15 ~ 35	15 ~ 35
STORAGE TEMPERATURE	°C	-30 ~ 55	-30 ~ 55	-20 ~ 55
IP RATING (WHEN THE PLUG CONNECTORS ARE MATED)		IP67	IP67	IP67
WEIGHT (BASED ON THE TYPE OF MODULE)	kg	285	365 - 393	445 - 535
		2V16	2V24	2V32
			1F24	4V16
			3V16	1F30
				2H16
HOUSING TYPES				

## Supported Vehicles



## System Features

- Bus, truck, light commercial vehicle, construction machines, marine and railways applications
- ECE R100.3, ECE R10.6 and UN38.3 certifications
- Lloyd's Register certification for marine applications
- IATF 16949:2016-Certified Manufacturing
- Compatible design according to ISO 26262 up to ASIL C
- Common PJB (Pack Junction Box) for all products
- Efficient liquid cooling system
- CANBus 2.0A-B communication protocol
- Integrated BMS (Battery Management System)
- Integrated precharge circuit and isolation measurement

# 700V SERIES

## Electrical Specifications

	UNIT	NMC-700-040	NMC-700-079	NMC-700-112	NMC-700-119	LFP-700-083
CELL CHEMISTRY		NMC	NMC	NMC	NMC	LFP
INSTALLED ENERGY @1/3C	kWh	39,6	79,0	112,1	118,8	83,5
ENERGY DENSITY @1/3C	Wh/kg	up to 144	up to 178	up to 171	up to 175	up to 116
CAPACITY @1/3C	Ah	59	117	174	177	135
NOMINAL VOLTAGE	V	661	662	644	659	614
OCV RANGE @ 5-95% SOC	V	623 - 763	626 - 767	611 - 744	625 - 761	572 - 680
MIN-MAX VOLTAGE RANGE	V	495 - 783	504 - 792	493 - 766	504 - 783	480 - 701
CONT. CHARGE CURRENT @ 25°C, SOC DEPENDENT, STEP CHARGE	A	70	200	209	209	135
PEAK CHARGE CURRENT @ 10S, 25°C, SOC DEPENDENT	A	174	377	348	348	270
CONT. DISCHARGE CURRENT @ 25°C, SOC DEPENDENT	A	58	228	174	174	135
PEAK DISCHARGE CURRENT @ 10S, 25°C, SOC DEPENDENT	A	378	377	388	379	407
CYCLE LIFE @ 90%DOD, 0.5C/ 0.5C	cycle	up to 3000	up to 3000	up to 4000	up to 4000	up to 4000
COMMUNICATION PROTOCOL		CANBus 2.0A-B	CANBus 2.0A-B	CANBus 2.0A-B	CANBus 2.0A-B	CANBus 2.0A-B
SUPPLY VOLTAGE FOR CONTROL EQUIPMENT	V	12/24	12/24	12/24	12/24	12/24

## Mechanical Specification

COOLING TYPE		Liquid Cooling	Liquid Cooling	Liquid Cooling	Liquid Cooling	Liquid Cooling
FLOW RATE	l/min	10-15	10-15	10-15	10-15	10-15
PRESSURE DROP @10l/MIN AND 25°C	mbar	< 300	< 300	< 300	< 300	< 300
COOLANT OPERATING PRESSURE	bar	< 2	< 2	< 2	< 2	< 2
OPERATING TEMPERATURE @DISCHARGE	°C	-30 ~ 55	-30 ~ 55	-30 ~ 55	-30 ~ 55	-30 ~ 55
OPERATING TEMPERATURE @CHARGE	°C	-20 ~ 55	-20 ~ 55	-20 ~ 55	-20 ~ 55	0 ~ 55
RECOMMENDED OPERATING TEMPERATURE	°C	15 ~ 35	15 ~ 35	15 ~ 35	15 ~ 35	15 ~ 35
STORAGE TEMPERATURE	°C	-30 ~ 55	-20 ~ 45	-30 ~ 55	-30 ~ 55	-20 ~ 55
IP RATING (WHEN THE PLUG CONNECTORS ARE MATED)		IP67	IP67	IP67	IP67	IP67
WEIGHT (BASED ON THE TYPE OF HOUSING)	kg	275	445 - 535	668	680 - 735	720 - 780
HOUSING TYPES		2V16	2V32	2V44	2F24	2F24
			4V16		4V24	4V24
			1F30		3H16	3H16
			2H16		5L48	5L48
					3V32	3V32

### Supported Vehicles



# 800V SERIES

### System Features

- Bus, truck, light commercial vehicle, construction machines, marine and railways applications
- ECE R100.3, ECE R10.6 and UN38.3 certifications
- Lloyd's Register certification for marine applications
- IATF 16949:2016-Certified Manufacturing
- Compatible design according to ISO 26262 up to ASIL C
- Common PJB (Pack Junction Box) for all products
- Efficient liquid cooling system
- CANBus 2.0A-B communication protocol
- Integrated BMS (Battery Management System)
- Integrated precharge circuit and isolation measurement

### Electrical Specifications

	UNIT	NMC-800-042	NMC-800-084	NMC-800-127
CELL CHEMISTRY		NMC	NMC	NMC
INSTALLED ENERGY @1/3C	kWh	42,3	84,2	126,8
ENERGY DENSITY @1/3C	Wh/kg	up to 148	up to 176	up to 179
CAPACITY @1/3C	Ah	59	117	177
NOMINAL VOLTAGE	V	705	707	703
OCV RANGE @ 5-95% SOC	V	665 - 814	668 - 818	667 - 812
MIN-MAX VOLTAGE RANGE	V	528 - 835	538 - 845	538 - 835
CONT. CHARGE CURRENT @ 25°C, SOC DEPENDENT, STEP CHARGE	A	70	200	209
PEAK CHARGE CURRENT @ 10S, 25°C, SOC DEPENDENT	A	174	354	348
CONT. DISCHARGE CURRENT @ 25°C, SOC DEPENDENT	A	58	228	174
PEAK DISCHARGE CURRENT @ 10S, 25°C, SOC DEPENDENT	A	355	354	356
CYCLE LIFE @ 90%DOD, 0.5C/ 0.5C	cycle	up to 3000	up to 3000	up to 4000
COMMUNICATION PROTOCOL		CANBus 2.0A-B	CANBus 2.0A-B	CANBus 2.0A-B
SUPPLY VOLTAGE FOR CONTROL EQUIPMENT	V	12/24	12/24	12/24

### Mechanical Specification

		Liquid Cooling	Liquid Cooling	Liquid Cooling
COOLING TYPE		Liquid Cooling	Liquid Cooling	Liquid Cooling
FLOW RATE	l/min	10-15	10-15	10-15
PRESSURE DROP @10l/MIN AND 25°C	mbar	< 300	< 300	< 300
COOLANT OPERATING PRESSURE	bar	< 2	< 2	< 2
OPERATING TEMPERATURE @DISCHARGE	°C	-30 ~ 55	-30 ~ 55	-30 ~ 55
OPERATING TEMPERATURE @CHARGE	°C	-20 ~ 55	-20 ~ 55	-20 ~ 55
RECOMMENDED OPERATING TEMPERATURE	°C	15 ~ 35	15 ~ 35	15 ~ 35
STORAGE TEMPERATURE	°C	-30 ~ 55	-20 ~ 45	-30 ~ 55
IP RATING (WHEN THE PLUG CONNECTORS ARE MATED)		IP67	IP67	IP67
WEIGHT (BASED ON THE TYPE OF HOUSING)	kg	285	480 - 560	715 - 775
HOUSING TYPES		2V16	2V32	2F24
			4V16	3V32
			1F32	4V24
			2H16	3H16
				5L48

## Supported Vehicles



## System Features

- Bus, truck, light commercial vehicle, construction machines, marine and railways applications
- ECE R100.3, ECE R10.6 and UN38.3 certifications
- Lloyd's Register certification for marine applications
- IATF 16949:2016-Certified Manufacturing
- Compatible design according to ISO 26262 up to ASIL C
- Common PJB (Pack Junction Box) for all products
- Efficient liquid cooling system
- CANBus 2.0A-B communication protocol
- Integrated BMS (Battery Management System)
- Integrated precharge circuit and isolation measurement

# LTO SERIES

## Electrical Specifications

	UNIT	LTO-700-013	LTO-700-015	LTO-700-027	LTO-700-031	LTO-800-031	LTO-800-036
CELL CHEMISTRY		LTO	LTO	LTO	LTO	LTO	LTO
INSTALLED ENERGY @1/3C	kWh	13,2	15,2	26,5	30,5	30,9	35,6
ENERGY DENSITY @1/3C	Wh/kg	up to 50	up to 56	up to 55	up to 62	up to 56	up to 64
CAPACITY @1/3C	Ah	20	23	40	46	40	46
NOMINAL VOLTAGE	V	662	662	662	662	773	773
OCV RANGE @ 10-90% SOC	V	608 - 711	588 - 713	608 - 711	588 - 713	712 - 837	712 - 837
MIN-MAX VOLTAGE RANGE	V	432 - 778	432 - 778	432 - 778	432 - 778	504 - 908	504 - 908
CONT. CHARGE CURRENT @ 25°C, SOC DEPENDENT, STEP CHARGE	A	140	100	280	200	280	200
PEAK CHARGE CURRENT @ 10S, 25°C, SOC DEPENDENT	A	377	377	377	377	324	324
CONT. DISCHARGE CURRENT @ 25°C, SOC DEPENDENT	A	140	100	280	200	280	200
PEAK DISCHARGE CURRENT @ 10S, 25°C, SOC DEPENDENT	A	377	377	377	377	324	324
CYCLE LIFE (BASED ON USER POWER PROFILE DoD and TEMP.)	cycle	> 20000	> 20000	> 20000	> 20000	> 20000	> 20000
COMMUNICATION PROTOCOL		CANBus 2.0A-B	CANBus 2.0A-B	CANBus 2.0A-B	CANBus 2.0A-B	CANBus 2.0A-B	CANBus 2.0A-B
SUPPLY VOLTAGE FOR CONTROL EQUIPMENT	V	12/24	12/24	12/24	12/24	12/24	12/24

## Mechanical Specification

		Liquid Cooling	Liquid Cooling	Liquid Cooling	Liquid Cooling	Liquid Cooling	Liquid Cooling
COOLING TYPE		Liquid Cooling	Liquid Cooling	Liquid Cooling	Liquid Cooling	Liquid Cooling	Liquid Cooling
FLOW RATE	l/min	10-15	10-15	10-15	10-15	10-15	10-15
PRESSURE DROP @10l/MIN AND 25°C	mbar	< 300	< 300	< 300	< 300	< 300	< 300
COOLANT OPERATING PRESSURE	bar	< 2	< 2	< 2	< 2	< 2	< 2
OPERATING TEMPERATURE @DISCHARGE	°C	-30 ~ 55	-30 ~ 55	-30 ~ 55	-30 ~ 55	-30 ~ 55	-30 ~ 55
OPERATING TEMPERATURE @CHARGE	°C	-30 ~ 55	-30 ~ 55	-30 ~ 55	-30 ~ 55	-30 ~ 55	-30 ~ 55
RECOMMENDED OPERATING TEMPERATURE	°C	15 ~ 35	15 ~ 35	15 ~ 35	15 ~ 35	15 ~ 35	15 ~ 35
STORAGE TEMPERATURE	°C	-40 ~ 60	-40 ~ 55	-40 ~ 60	-40 ~ 55	-40 ~ 60	-40 ~ 60
IP RATING (WHEN THE PLUG CONNECTORS ARE MATED)		IP67	IP67	IP67	IP67	IP67	IP67
WEIGHT (BASED ON THE TYPE OF MODULE)	kg	264	270	480	492	550	555
HOUSING TYPES		2V16	2V16	2V32	2V32	2V34	2V34
				4V16	4V16		

## Supported Vehicles



**15**  
YEARS OF  
EXPERIENCE

## + ACCESSORIES

### PDU - Power Distribution Unit



### PDU System Features

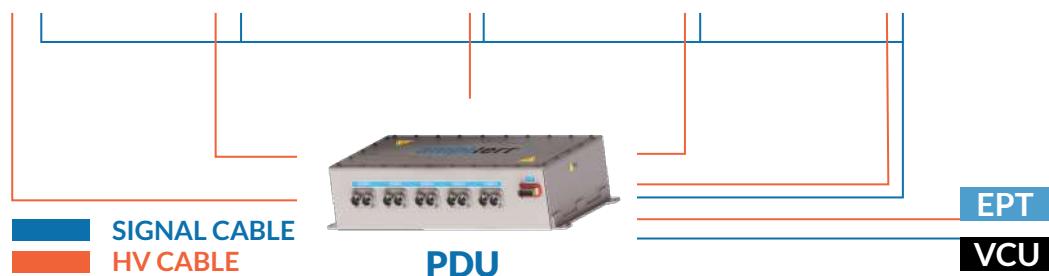
- System connection of up to 5 battery packs
- Scalable and robust structure
- Integrated MPCU (Multi-Pack Control Unit) for parallel structure
- Hands-off control of all battery packs, including precharge and fault isolation
- Limp-home mode in entire voltage range
- CANBus 2.0A-B and SAE J1939 communication protocol
- Integrated current, voltage and isolation equipment (optional)
- High-Voltage Interlock (HVIL)

### MPCU - Multi-Pack Controller Unit



### MPCU System Features

- System connection up to 5 battery packs with dedicated CAN-Bus lines.
- Hands-off control of all battery packs, including precharge and fault isolation
- Limp-home mode in entire voltage range
- CANBus 2.0A-B and SAE J1939 communication protocol
- High-Voltage Interlock (HVIL)



# + QUALITY CONTROL & VALIDATION ADVANCED BATTERY LAB

Our Battery Lab consist of many electrical and mechanical test equipments which allows us to bring the products faster to the market. Our advanced battery lab allows us to make the ECE R100.3, ECE R10 & UN38.3-possible ISO 16750-3 and IEC61373 tests in house and helps us reducing “time to market” of new products dramatically – in 3 months possible!



**High Power Battery Tester**

2 x 1000 V. 600A  
250 kW



**High Power Battery Tester**

2 x 1200 V. 1000A  
275 kW



**High Volume Climatic Chamber**

2500 x 1500 x 1000  
(-60 C° ~ 150 C°)



**Low Volume Climatic Chamber**

(-60 C° ~ 150 C°)



**Vibration Shaker**

(3-3000 Hz, 20kN)



**Battery Tester Chiller**

(7- 40 l/min)



**High Altitude Simulation Chamber**

UL1642, UN 38 3,  
IEC62133



**Battery Cell & Module Tester**

# + CERTIFICATES



ECE R100.3



ECE R10.6



UN38.3



Lloyd Register – Marine



IATF 16949



ISO 9001

**ampHerr** MICHIGAN/US



Sales & Service,  
Production (2026)

**ampHerr** GERMANY



Engineering,  
Sales & Service

**ampHerr** TURKEY



Engineering, Production  
Sales & Service

**ampHerr**

+49 2131 525569-0 | sales@ampherr.com | ampherr.com

