Battery packs

Read the detailed explanation of the battery packs offered by Intelight.

About the Intelight battery packs

In our offer, you will find battery packs based on cells made with NiCd, NiMH, and LiFePO4 technologies.

All of these are commonly used by emergency lighting manufacturers.

NiCd Nickel-cadmium

NiMH Nickel-metal-hydride

LiFePO4 Lithium-iron-phosphate

Designed to operate at elevated temperatures

Long service life of batteries in emergency luminaires

Many options for creating battery packs with various voltages and capacities

Can be used in Intelight luminaires and those of other manufacturers

Battery Usage

The batteries we use are so-called high-temperature batteries, which means they can operate at elevated temperatures. This is related both to the design of the luminaires and the requirement to maintain continuous readiness for emergency operation.

We use two types of high-temperature batteries: up to 50/55°C and up to 70°C. When selecting a replacement battery pack, it is important to ensure that the new pack has at least the same operating temperature range as the previous one.

A very important issue is the so-called formation of new batteries. New batteries are not fully charged for proper storage, and due to often lengthy processes of purchase, installation, and waiting for the building and emergency lighting system to be put into operation, their charge level gradually decreases. When commissioning, it is necessary to perform battery formation according to the instructions provided with the product.

Typically, this involves an initial charge followed by two discharge and charge cycles, after which the battery should reach its nominal capacity and be ready for proper use.

Another very important issue is the periodic recharging of unused batteries (which may be related, for example, to power shutdowns in buildings under renovation or buildings used intermittently, but also applies to situations where the product has been purchased and installed, yet the commissioning of the entire installation in a new building is delayed).

To prevent battery damage, it is necessary to recharge it periodically. The frequency of these procedures and the recharge values may depend on the type of battery and the length of its downtime. However, typically, we recommend recharging every 3 months at a current of 0.5C for about 1 hour.

Voltages and capacities

Battery packs are usually made up of one or more cells connected in series and/or parallel to achieve the desired voltage and capacity.

The voltage of a single cell depends on the battery technology and is 1.2V for NiCd/NiMH and 3.2V for LiFePO4.

The most common NiCd and NiMH packs consist of three cells connected in series to achieve a pack voltage of 3.6V.

For example, using two or four cells results in voltages of 2.4V and 4.8V, respectively.

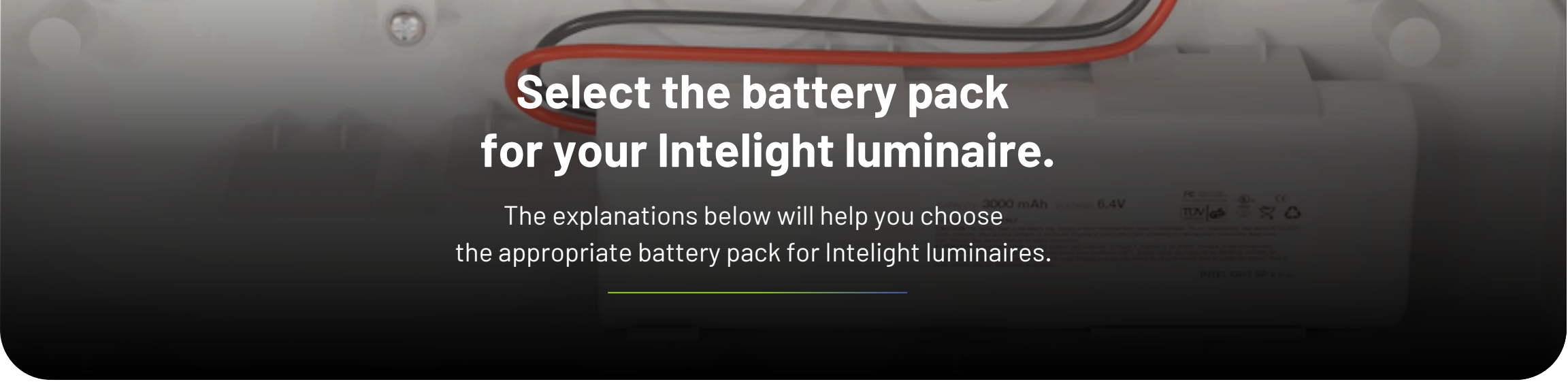
In the case of LiFePO4 batteries, the most commonly used voltage is 6.4V, achieved by connecting two cells in series. Configurations with one, three, or four cells are also used, providing voltages of 3.2V, 9.6V, and 12.8V, respectively. With this type of battery, cells are often also connected in parallel to increase capacity.

	NiCd	NiMH	LiFePO4
Cell voltages	1,2V	1,2V	3,2V
Popular capacities	800mAh, 1500mAh, 2500mAh, 4000mAh	1500mAh, 3000mAh, 4000mAh	600mAh, 1500mAh, 3000mAh

Battery pack configurations

There are many battery pack configurations in terms of shape, wire length, polarity, and connector types.
We use various combinations of these features; however, due to the wide range of possible configurations, finding the right pack is sometimes not easy.

If the type you are looking for is not available in our standard offer, we encourage you to contact our sales department to discuss the details. In many cases, it is possible to use an alternative battery pack that is fully electrically compatible with the desired one. Often, a simple modification of an existing pack from our range can also meet your specific needs.



Select the battery pack for your Intelight luminaire.

The explanations below will help you choose the appropriate battery pack for Intelight luminaires.

Introduction

All of our currently manufactured self-contained emergency luminaires allow for ordering a replacement battery based on the battery pack code.

This is a five-digit code, usually preceded by the letters “KTM”, e.g. "KTM: 96058", which refers to a LiFePO4 6.4V 1500mAh battery with a VH-2P connector and straight polarity. KTM means “catalog number”.

We strongly recommend checking this code on the battery you have. This is the fastest and most reliable way for us to provide you with the correct replacement part.

If the code cannot be found, we suggest the following alternative ways to identify the battery and provide us with the necessary information:

1. Description on the battery
2. Description on the luminaire
3. Photo of the battery
4. Luminaire data

In all cases, clear photos of the battery (including the connector), the battery label, the luminaire label, or the luminaire itself will be very helpful.

NiCd battery packs

NiCd 2,4V battery packs,
Configuration: Side By Side

KTM - catalog number

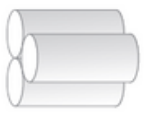
99558	KASJOPEJA LED (BEFORE 2016)
93342	ORION T5 8W
90300	DIRECTO S 1H
90303	DIRECTO S 3H
90306	DIRECTO S 3H

NiCd 2,4V battery packs,
Configuration: In-line (Stick)

KTM - catalog number

93343	PUNTO LED (BEFORE 2016)

NiCd 3,6V battery packs,
Configuration: Pyramid



KTM - catalog number

96009	STARLET EXTERNAL 3W 1H (93358, 93359)

NiCd 3,6V battery packs,
Configuration: Side By Side

KTM - catalog number

96856	ORION 100 MT 3H (41628), ORION LED 150 AT 3H (97245), ORION D AT 3H (94941)
94305	ORION 100 AT 3H (99905)
94306	STARLET QUAD SO 150 1H / STARLET ROUND 150 1H / VELLA 125 1H / ORION II 100 I 150 1H
94312	STARLET QUAD SO 150 3H | SO 250 1H I 3H | SOH 250 1H | SC 150/250 1H | SCH 250 1H

NiCd 3,6V battery packs,
Configuration: In-line (Stick)

KTM - catalog number

96001	KASJOPEJA 3H
96002	ORION 150 MT 3H (98305), ORION D MT 3H (94942)
93372	OXIMIA LED (40095)
94913	STARLET WHITE 3W 3H (99616, 96740, 99355, 93353)
94914	STARLET WHITE 5W 3H (99615, 99614, 93355, 93354)
40157	AURA MT 1H / WARS 2X120 1H MT/ PRIMUS LED D10 1H
96004	ORION II 3H 150 MT /MT LT /AT / AT LT/ CT / CT LT

KTM - catalog number

40158	WARS 2W 2H, COSMIC LED 2H, PRIMUS LED 2H /A, PRIMUS TEC 6-36 2H
40159	WARS 2W 3H, PRIMUS LED 3H /A, PRIMUS TEC 6-36 3H
96008	VELLA 125 3H
96007	VELLA 250 1H
96005	VELLA 250 3H
94485	PUNTO LED (PO 2016R.)
93498	KASJOPEJA LED (PO 2016R.)

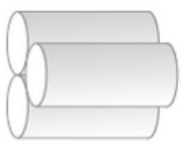
NiCd 4,8V battery packs,
Configuration: In-line (Stick)

KTM pakietu

98243	PRIMUS TEC 6-58W /1H (97933)
40161	PRIMUS TEC 6-58W 2H, PRIMUS LED 2H/B
40162	PRIMUS TEC 6-58 3H, PRIMUS LED 3H/B

NiMH battery packs

NiMH 3,6V battery packs,
Configuration: Pyramid



KTM - catalog number

96294	CARINA LED 3H

NiMH 3,6V battery packs,
Configuration: Side By Side

KTM - catalog number

94358	STARLET QUAD SO 250 3 H | SO 350 2H I 3H | SOH 250 3H | SOH 350 2H/3H | SC 250 3H | SC 350 2H I 3H | SC 250 3H | SCH 350 2H I 3H

NiMH 3,6V battery packs,
Configuration: In-line (Stick) 2+1

KTM - catalog number

94972	STARLET EXTERNAL 3W 3H
94911	STARLET EXTERNAL 5W 3H

NiMH 3,6V battery packs,
Configuration: In-line (Stick)

KTM - catalog number

96097	AURA LED MT 3H / WARS LED PANEL 3H 1X60/ 2X120

LiFePO4 battery packs

LiFePO4 3,2V battery packs,
Configuration: In-line (Stick)

KTM - catalog number

94916	STARLET WHITE II
94917	STARLET WHITE II
94918	STARLET WHITE II

LiFePO4 6,4V battery packs,
Configuration: In-line (Stick)

KTM - catalog number

LiFePO4 6,4V battery packs,
Configuration: Side By Side

KTM - catalog number

96058	VELLA SO 150 3H | 350 / 650 / 150 LT 1H SC 150 LT / 350 /450 / 600 1H SQ 150 LT / 350 / 450 1H SOH 250 / 400 / 600 1H SCH 350 1H SP 150 LT / 450 1H / 150 3H SUPREMA D
96052	STARLET ROUND 150 2H/3H / 350 1H
96077	STARLET ROUND 250 3H / 350 2H
96048	DIRECTO S CT 3H / Suprema D 1H i 150 1H / Vella150 1H / Starlet Round 250 1H

LiFePO4 12,8V battery packs,
Configuration: In-line (Stick)

KTM - catalog number

96061	WARS 6W 3H, WARS 9W 2h /3H WARS 12W 2H, PRIMUS LED HP 6W 3H PRUMUS LED HP 9W 2h/ 3H, PRIMUS LED HP 12W 2H

LiFePO4 6,4V battery packs,
Configuration: Dual Stick 2x2

KTM - catalog number

96071	VELLA SO / SC / SOH / SQ / SP 250 H3 SO / SC / SCH 350 3H SC / SCH / SQ 350 2H SOH / SP 400 2H SC / SQ 450 2H SC / SOH 600 2H SUPREMA 250 3H SUPREMA 350 3H SUPREMA 400 2H SUPREMA 650 2H MILO

LiFePO4 12,8V battery packs,
Configuration: Dual Stick 2x2

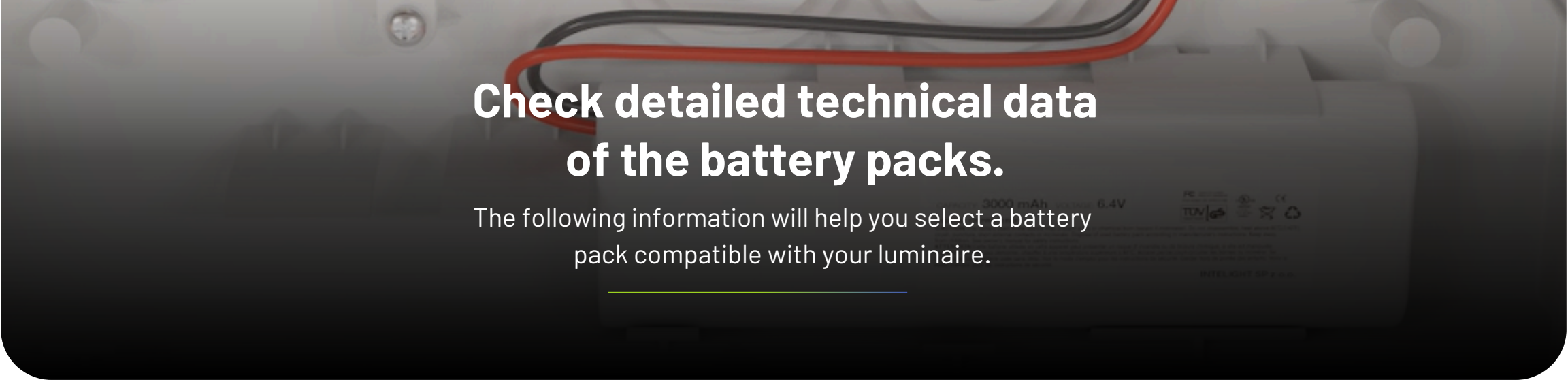
KTM - catalog number

96087	WARS 3W 1H, PRIMUS LED HP 3W 1H
96088	WARS 3W 2H, PRIMUS LED HP 3W 2H
96089	WARS 3W 3H, WARS 6W 2H PRIMUS LED HP 3W 3H, PRIMUS LED HP 6W 2H

LiFePO4 12,8V battery packs,
Configuration: Dual Stick 4x2

KTM - catalog number

96070	WARS 12W 3H, PRIMUS LED HP 12W 3H



Check detailed technical data of the battery packs.

The following information will help you select a battery pack compatible with your luminaire.

U – battery voltage [V]; **C** – battery capacity [mAh];
L – pack length [mm]; **W** – pack width [mm];
H – pack height [mm]; **ø** - pack diameter [mm]

Connector type **N**

Side by side | In-line (Stick) | Pyramid

NiCd battery packs

NiCd side by side

Battery pack catalog number (KTM)	U [V]	C [mAh]	L [mm]	W [mm]	H [mm]
93342	2,4	4500	62	70	35
94305	3,6	1500	43	69	23
94306	3,6	800	51	45	15
94312	3,6	1800	43	69	23
96856	3,6	1800	43	69	23
99558	2,4	800	51	30	15
90300	2,4	500	52	30	15
90303	2,4	900	52	30	15
90306	2,4	1300	53	36	18

Ni-Cd pyramid

Battery pack catalog number (KTM)	U [V]	C [mAh]	L [mm]	W [mm]	H [mm]
96009	3,6	800	51	45	15

NiCd in-line (stick)

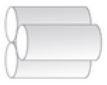
Battery pack catalog number (KTM)	U [V]	C [mAh]	L [mm]	ø [mm]
93343	2,4	600	102	15
94485	3,6	600	102	17
96001	3,6	800	153	15
96007	3,6	1000	153	15
93498	3,6	800	153	15
96002	3,6	1500	129	23
40157	3,6	1500	129	23
96004	3,6	2000	129	23
40158	3,6	2500	150	27
96005	3,6	2500	150	27
94913	3,6	3000	186	35
40159	3,6	4000	186	35
94914	3,6	4500	186	35
93372	3,6	800	153	15
40161	4,8	2500	200	27
40162	4,8	4000	235	33
98243	4,8	1500	178	23

U – battery voltage [V]; **C** – battery capacity [mAh];
L – pack length [mm]; **W** – pack width [mm];
H – pack height [mm]; **ø** – pack diameter [mm]

Connector type **N**

Side by side

In-line (Stick)



Pyramid

In-line (Stick) 2+1

Dual Stick 4x2

Dual Stick 2x2

NiMH battery packs

NiMH side by side

Battery pack catalog number (KTM)	U [V]	C [mAh]	L [mm]	W [mm]	H [mm]
94358	3,6	4700	50	81	27

NiMH in-line (stick)

Battery pack catalog number (KTM)	U [V]	C [mAh]	L [mm]	ø [mm]
96097	3,6	4000	150	27

NiMH pyramid

Battery pack catalog number (KTM)	U [V]	C [mAh]	L [mm]	W [mm]	H [mm]
96294	3,6	1500	51	30	28

NiMH in-line (stick) 2+1

Battery pack catalog number (KTM)	U [V]	C [mAh]	L x ø [mm]	L x ø [mm]
94972	3,6	3000	L43 x Ø23 + L86 x Ø23	
94911	3,6	4000	L50 x Ø27 + L100 x Ø23	

LiFePO4 battery packs - only select for Intelight luminaires.

LiFePO4 in-line (stick)

Battery pack catalog number (KTM)	U [V]	C [mAh]	L [mm]	ø [mm]
94916	3,2	1500	70	18
94917	3,2	3000	70	26
94918	3,2	5500	75	32
96061	12,8	3000	260	26

LiFePO4 side by side

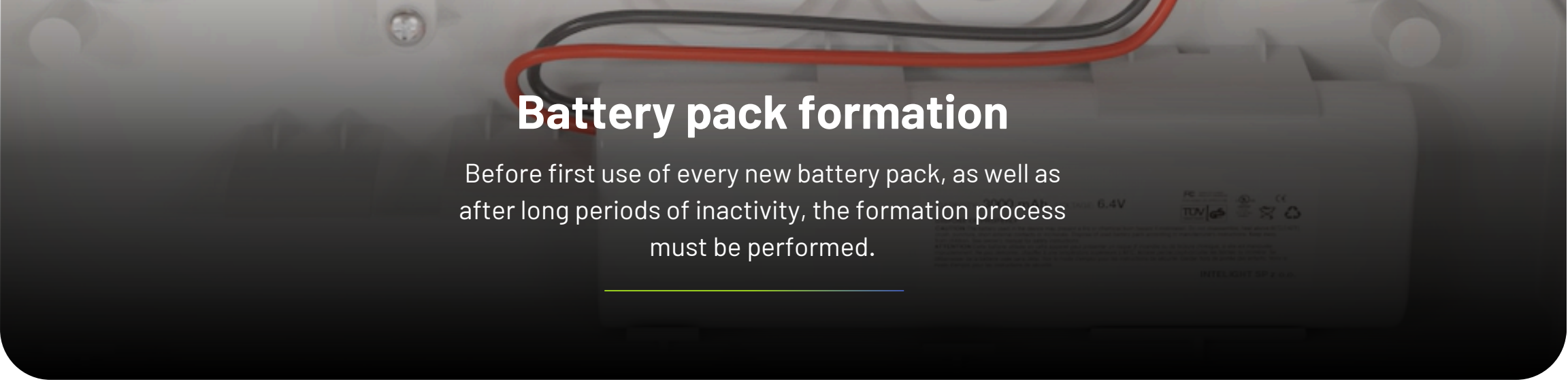
Battery pack catalog number (KTM)	U [V]	C [mAh]	L [mm]	W [mm]	H [mm]
96058	6,4	1600	65	36	18
96052	6,4	1000	50	36	18
96077	6,4	2000	65	36	18
96048	6,4	600	52,5	29,5	15

LiFePO4 dual stick 4x2

Battery pack catalog number (KTM)	U [V]	C [mAh]	L [mm]	W [mm]	H [mm]
96070	12,8	4000	260	36	18

LiFePO4 dual stick 4x2

Battery pack catalog number (KTM)	U [V]	C [mAh]	L [mm]	W [mm]	H [mm]
96071	6,4	3000	130	36	18
96087	12,8	600	100	28	14
96088	12,8	1000	100	36	18
96089	12,8	1600	130	36	18



Battery pack formation

Before first use of every new battery pack, as well as after long periods of inactivity, the formation process must be performed.

Battery Pack Formation Before Use

Before first use of every new battery pack, as well as after long periods of inactivity, the formation process must be carried out. New batteries are not fully charged to ensure proper storage. Due to often lengthy processes of purchase, installation, and waiting for the building and emergency lighting system to be put into operation, their charge level gradually decreases.

Upon startup, it is necessary to perform battery formation according to the instructions provided with the product. Typically, this involves an initial charging followed by two cycles of discharging and charging, after which the battery should reach its nominal capacity and be ready for proper use.

Another very important issue is the periodic recharging of unused batteries (which may occur, for example, due to shutdowns of installations in buildings under renovation or used intermittently, but also applies to situations when the product has been purchased and installed but the commissioning of the entire system in a new building is delayed).

To prevent battery damage, it is necessary to recharge it cyclically. The frequency of such procedures and the recharge values may depend on the battery type and the length of time it has been out of operation; however, typically we recommend recharging every 3 months with a current of 0.5C for about 1 hour.

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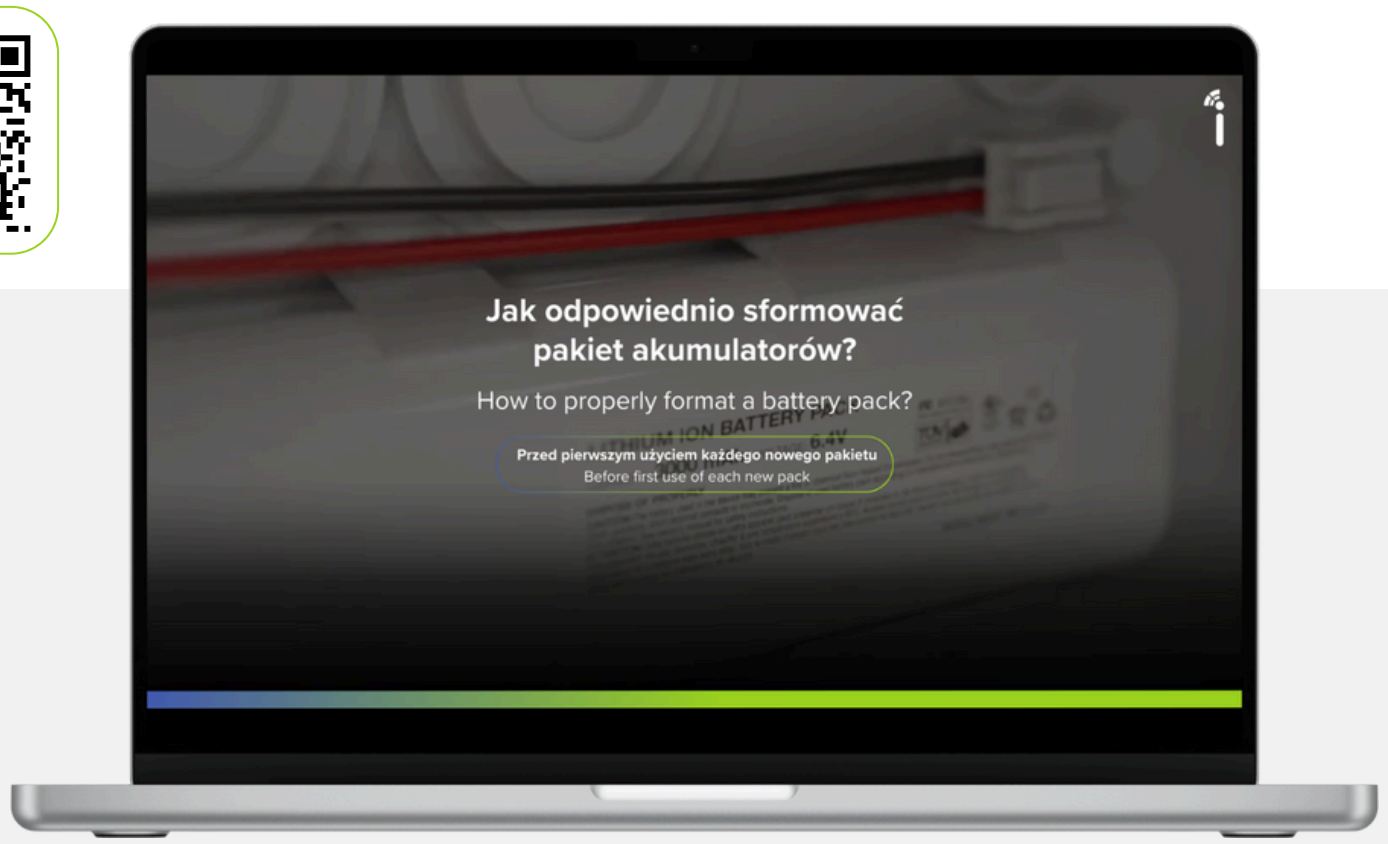

Watch the instruction on YouTube

During forming, neither tests should be performed nor power disconnected in any way other than specified. The initial charging of the battery pack should last continuously for at least 48 hours. After 48 hours, disconnect the power and allow the luminaire to operate in emergency mode for its full rated time, after which the power should be reconnected for at least 36 hours.

After charging, discharge the luminaire again for at least its declared rated autonomy time. Then reconnect the power for a minimum of 24 hours.

This sequence completes the forming cycle, and the luminaire is ready for use.

intelight

Polish manufacturer of emergency and evacuation lighting.

We produce life-saving lighting.

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