NiMH Accus 4.0 Ah

Nickel-metal hydride cells (NiMH)

Product description

- High-temperature NiMH cells for use with emergency lighting units
- 4-year design life
- 1-year guarantee

Properties

- Cadmium free
- Constant high-temperature operation – depending on the emergency lighting unit used (refer to respective emergency control gear datasheet)
- Low profile, cross-section 21 mm
- Good charging properties at high temperature
- High energy maintenance of the charged battery
- Certified quality manufacturer
- In various configurations
- Simple connection with plug-in system
- With polycarbonate fixing caps
- Suitable for emergency lighting equipment as per IEC 60598-2-22

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Fig. 1: stick

Fig. 2: stick + stick

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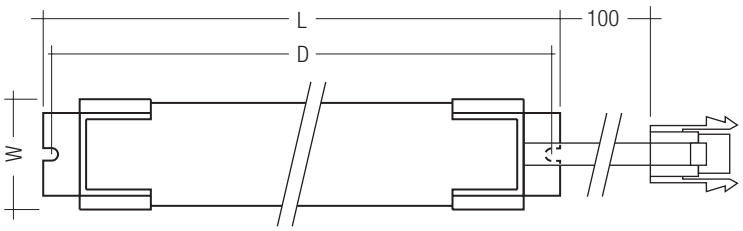

Fig. 1: Stick

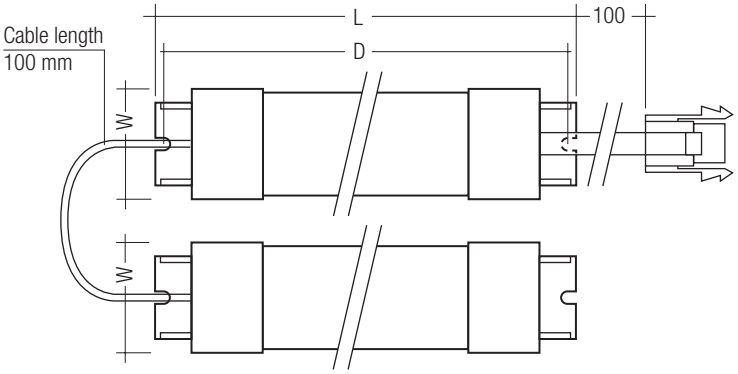

Fig. 2: Stick + Stick

Technical data

Battery voltage per cell	1.2 V
Min. battery casing temp. (design life of 4 years)	+5 °C
Max. battery casing temp. (design life of 4 years)	refer to emergency control gear datasheet

Ordering data

Type	Article-number	Number of cells	Capacity	Packaging, carton	Packaging, outer box	Weight per pc.
NiMH cells - stick						
Accu-NiMH 4Ah 3A CON	**89800441**	1 x 3	4 Ah	5 pc(s).	25 pc(s).	0.24 kg
Accu-NiMH 4Ah 4A CON	**89800442**	1 x 4	4 Ah	5 pc(s).	25 pc(s).	0.32 kg
NiMH cells - stick + stick						
Accu-NiMH 4Ah 4C CON	**89800438**	2 + 2	4 Ah	5 pc(s).	25 pc(s).	0.32 kg
Accu-NiMH 4Ah 5C CON	**89800439**	2 + 3	4 Ah	5 pc(s).	25 pc(s).	0.40 kg
Accu-NiMH 4Ah 6C CON	**89800440**	3 + 3	4 Ah	5 pc(s).	25 pc(s).	0.48 kg

Specific technical data

Type	Article number	Figure	Number of cells	Capacity	Length L	Hole spacing D	Width W	Height
NiMH cells - stick, 4 Ah								
Accu-NiMH 4Ah 3A CON	89800441	1	3	4 Ah	294 mm	284 mm	22 mm	21 mm
Accu-NiMH 4Ah 4A CON	89800442	1	4	4 Ah	382 mm	372 mm	22 mm	21 mm
NiMH cells - stick + stick, 4 Ah								
Accu-NiMH 4Ah 4C CON	89800438	2	4	4 Ah	204 / 204 mm	194 / 194 mm	22 mm	21 mm
Accu-NiMH 4Ah 5C CON	89800439	2	5	4 Ah	204 / 294 mm	194 / 284 mm	22 mm	21 mm
Accu-NiMH 4Ah 6C CON	89800440	2	6	4 Ah	294 / 294 mm	284 / 284 mm	22 mm	21 mm

Standards
The battery cells are designed to comply with the IEC international standard and tested according to the normative permanent charge endurance test described in the IEC 61951-2 standard. This performance is mandatory for use in Emergency Lighting Units to comply with the IEC 60598 2.22.

Technical data Accu

Rated minimum capacity cell	4 Ah
Rated minimum capacity pack	3.9 Ah
Typical weight per cell	80 g
Cell dimensions:	
• Diameter	18.3 mm
• Height	90 mm

Consult individual emergency control gear data sheet for maximum allowable temperatures and allowed number of discharge cycles.

Technical data end caps
Glow-wire test according to EN 61347-1 with increased temperature of 960 °C passed.

Installation & commissioning

• Activating NiMH batteries

When using rechargeable NiMH batteries for emergency lighting following point are essential in order to achieve the specified design life time of the batteries:

In order to activate new batteries, 2-3 full charging-discharging are needed to make sure batteries achieve their rated capacity. This
activating process is defined by running 2-3 full charging (24 hrs) and discharging (1/2/3 hrs) cycles of the batteries. If this activation process is not conducted the emergency luminaire may not pass the initial duration test. If the first duration test fails, please repeat the test once again after a 24 hour charging period.

• Avoidance of excessive cycling

During building installations, in many cases, mains supply is not available on a permanent 24-hour basis which then leads to unwanted, uncontrolled excessive battery cycles. This has a very strong effect on the design life time of the battery. Make sure that in such situations, the battery remains disconnected in the luminaire till the mains power supply is stable on a 24-hour basis.
It is strongly recommended to refer to the datasheets of Tridonic emergency control gears to avoid excessive cycling. At the same time, make sure that this information is handed over to the installation staff / electrician in order to ensure a proper way of installation and commissioning.

• Avoidance of deep-discharge conditions

If NiMH batteries or individual cells within a battery pack, are driven into deep discharge state they will not recover after charge / discharge cycles. Therefore it is very important that NiMH batteries are not left connected for long periods in a discharged state. Following options may lead to a deep discharge situation and must be avoided:

- Storage periods of rechargeable batteries of over 6 month without recharging the battery packs.
- Shipment, storage of assembled emergency luminaires with battery pack connected to the emergency driver.
- Long periods of mains-interruptions of more than two weeks, once, the emergency system is installed and the battery pack is connected to the emergency driver.

Storage
- Store batteries within the specified temperature range in low humidity conditions. Optimal storage conditions are:
  – temperature: +5 ... +25 °C
  – relative humidity: 65 % ±5%
- Avoid atmosphere with corrosive gas
- Disconnect batteries before store or delivery
- Avoid storage of discharged batteries
- A long term storage in open circuit leads to battery self discharge and deactivation of chemical components. It could be required to charge and discharge the batteries a few times to recover the initial performance.

Safety
- Do not short-circuit the battery pack – when installing the luminaire make sure sharp edges do not come into contact with cables.
- Do not open or damage the battery pack or throw it into a fire.
- Protect the battery against moisture and keep away from water.
- Do not expose the battery to direct sunlight or excessive heat (see storage conditions).
- Transport and store the battery only in its original packaging.
- Comply with the transport conditions of the transport company.
- Follow the instructions on the safety data sheets.

Damage/improper use
If the battery is damaged or user incorrectly vapours and liquids may escape from it. If you come into contact with battery fluid wash immediate with water and seek medical assistance if necessary.

Disposal
- Do not dispose of batteries with normal waste.
- Comply with local regulations when disposing of batteries.

Mechanical details

Battery leads
- Quantity: 1 red and 1 black lead with plug-in connection suitable for the plug-in connection of the battery
- Total length: 1,000 mm (100 mm on battery side / 900 mm on device side)
- Wire type: 0.5 mm^2 solid conductor
- Insulation temperature rating: 90 °C

Battery end termination
Total length: 1,000 mm
- 100 mm on battery side with connector
- 900 mm on device side with connector

Module end termination
8.0 mm stripped insulation

Two-piece batteries are supplied with a 100 mm firmly welded lead to connect the separate sticks together.
A lockable plug connection is used to connect the battery on the battery side. On the device side the cable has a strip length of 8 mm from factory.

Additional information

Additional technical information at
www.tridonic.com → Technical Data

Guarantee conditions at
www.tridonic.com → Services

No warranty if battery was opened.