

Safety Information

Regarding Use of the ARGUS Lithium-Ion Battery Pack Version: v4.0

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1 General information

This document contains notes on the safe use and transport of ARGUS lithium-ion battery packs.

Please read these safety notes carefully.

In addition to the notes on safety and transport, you will also find information on the marking, packaging and storage of the ARGUS lithium-ion battery packs mentioned above.

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1.1 Manufacturer

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The “intec Gesellschaft für Informationstechnik mbH” certifies that the “Axeon AG” is the manufacturer respectively the distributor of the positions 1 to 3 and that “JK Electronic” is the manufacturer respectively the distributor of the positions 4 to 14 for the described ARGUS battery packs (according to BattG.), listed in chapter 1.2. A registration for the register (BattG) of the Federal Environmental Agency, in accordance to § 4 sec. 1 have to be made by the manufacturer respectively the distributor.

The above mentioned suppliers are registered under the following registration numbers:

- Axeon AG, No. 21001479
- JK Electronic GmbH No. 21000852

1.2 Product Names

The information provided below refers to the following products. The products of the positions 1 to 3, 4 to 7, 8 to 11 and the products of the positions 12 to 14 are identical in construction. They differ only in colour, for that reason they get different article numbers:

Pos.	ARGUS	Description:	Order Number:	Color:	UN Test No.
1	ARGUS 141	Argus Lithium-Ion battery pack IV	002046	Anthracite	80700218 ¹
2	ARGUS 142	Argus Lithium-Ion battery pack III	002045	Slate gray	80700217 ²
3	ARGUS 145 plus	Argus Lithium-Ion battery pack II	002043	Steel blue	80700216 ³
4	ARGUS 142	Argus Lithium-Ion battery pack V	002047	Slate gray	002047 ⁴
5	ARGUS 145 plus	Argus Lithium-Ion battery pack VI	002048	Steel blue	002048 ⁵
6	152, 165	Argus Lithium-Ion battery pack VII	002070	Slate gray	002070 ⁶
7	155	Argus Lithium-Ion battery pack VIII	002071	Steel blue	002071 ⁷
8	151	Argus Lithium-Ion battery pack IX	002072	Anthracite	002072 ⁸
9	151	Argus Lithium-Ion battery pack X	002073	Anthracite	002073 ⁹
10	155	Argus Lithium-Ion battery pack XI	002074	Steel blue	002074 ¹⁰
11	152, 162, 165	Argus Lithium-Ion battery pack XIII	002080	Slate gray	002080 ¹¹
12	152, 162, 165	Argus Lithium-Ion battery pack XIV	002081	Slate gray	002081 ¹²
13	155	Argus Lithium-Ion battery pack XV	002082	Steel blue	002082 ¹³
14	151	Argus Lithium-Ion battery pack XVI	002083	Anthracite	002083 ¹⁴

1.3 Contact person

If you have questions about the **product**, please contact:

intec Gesellschaft für Informationstechnik mbH, Lüdenscheid – manufacturer and supplier

Telephone: +49 2351 907090

In case of an **emergency**, contact: GBK Gefahrgut Büro GmbH, Ingelheim

Consultants for the Transport and Handling of Hazardous Goods

(Beratungsbüro für Transport und Verarbeitung gefährlicher Güter)

Germany: Telephone 24 h: (0049) 6132 9829021

**International: 24-hour Emergency Telephone Number (GBK Contract ID: 101309):
(001) 352 323 3500**

¹ The battery packs (produced by Axion AG) passed the UN test requirements on 16th September 2009 and received the UN test numbers listed.

² The battery packs (produced by Axion AG) passed the UN test requirements on 16th September 2009 and received the UN test numbers listed.

³ The battery packs (produced by Axion AG) passed the UN test requirements on 16th September 2009 and received the UN test numbers listed.

⁴ The battery packs (produced by JK Electronic GmbH) passed the UN test requirements on 2nd December 2011 and received the UN test numbers listed.

⁵ The battery packs (produced by JK Electronic GmbH) passed the UN test requirements on 2nd December 2011 and received the UN test numbers listed.

⁶ The battery packs (produced by JK Electronic GmbH) passed the UN test requirements on 2nd December 2011 and received the UN test numbers listed.

⁷ The battery packs (produced by JK Electronic GmbH) passed the UN test requirements on 2nd December 2011 and received the UN test numbers listed.

⁸ The battery packs (produced by JK Electronic GmbH) passed the UN test requirements on 3rd April 2014 and received the UN test numbers listed.

⁹ The battery packs (produced by JK Electronic GmbH) passed the UN test requirements on 3rd April 2014 and received the UN test numbers listed.

¹⁰ The battery packs (produced by JK Electronic GmbH) passed the UN test requirements on 3rd April 2014 and received the UN test numbers listed.

¹¹ The battery packs (produced by JK Electronic GmbH) passed the UN test requirements on 3rd April 2014 and received the UN test numbers listed.

¹² The battery packs (produced by JK Electronic GmbH) passed the UN test requirements on 21st August 2015 and received the UN test numbers listed.

¹³ The battery packs (produced by JK Electronic GmbH) passed the UN test requirements on 21st August 2015 and received the UN test numbers listed.

¹⁴ The battery packs (produced by JK Electronic GmbH) passed the UN test requirements on 21st August 2015 and received the UN test numbers listed.

2 ARGUS Lithium-Ion Battery Pack

An ARGUS lithium-ion battery pack consists of four cylindrical lithium-ion cells of the following type:

Sanyo UR 18650F-SEHK-2 Li-Ion Accu

Product Code: 166002056

Manufacturer: Sanyo Electric Co., Ltd. Mobile Energy Company

Panasonic NCR18650A (pos. 4 - 11)

Panasonic NCR18650B (pos. 12 - 14)

Manufacturer: Panasonic Corporation Energy Company

It is essential that you observe the information in the safety data sheets when using ARGUS lithium-ion battery packs.

2.1 Electrical Properties

The four cells are connected in two parallel strings of two cells connected in series.

This results in the ARGUS lithium-ion battery packs having the following characteristics:

Manufacturer:	Sanyo UR 18650F-SEHK-2	Panasonic NCR18650A	Panasonic NCR18650B
Rated voltage:	7,2 Volt	7,2 Volt	7,2 Volt
Rated capacity:	4,6 Ah	6,2 Ah	6,8 Ah
Rated power:	33,12 Wh	44,64 Wh	48,96 Wh

Charging and discharging characteristics:

- Maximum charging voltage: 8.4 V
- Minimum permissible final discharge voltage: 6.0 V
- Maximum charging current: 3.0 A
- Maximum discharging current: 3.0 A

Also see "Certificate of UN test for lithium ion cell".

2.2 Environmental Properties

ARGUS lithium-ion battery packs may only be used, stored or transported at the following ambient temperatures:

- Operation (charging): only between ± 0 °C (32 °F) and $+40$ °C (+104 °F)
- Operation (discharging, using): only between ± 0 °C (32 °F) and $+50$ °C (+122 °F)
- Storage and Transport: only between -20 °C (-4 °F) and $+60$ °C (+140 °F)

3 Transport

The battery pack has been tested in accordance with the UN recommendations (ST/SG/AC.10/11/Rev. 4, Part III, subsection 38.3). Protective measures have been implemented to prevent harm if it is exposed to excessive pressure, short-circuits, dangerous reverse currents or other destructive influences. However, since the amount of lithium contained in the battery pack is in any case less than the current threshold amount, neither the battery pack itself nor the ARGUS in which it is installed are subject to the international hazardous goods regulations. When transporting many **loose** battery packs (≥ 30 kg gross/package by road, rail or sea, or more than 2 batteries/package or ≥ 10 kg gross/package by air), compliance with these regulations may be mandatory. For more information, please contact us.

3.1 By Road/Rail

ARGUS lithium-ion battery packs satisfy the requirements of **Special Provision 188** (exceptions and exemptions) of the European Agreement concerning the International Carriage of Dangerous Goods by road/rail (commonly referred to as the ADR/RID) and, when transported by road/rail, are "excepted" from application of the provisions on dangerous goods if the specified cell/battery capacity limitations are not exceeded. An ARGUS lithium-ion battery pack has a rated power of **less than 100 Wh**. The ARGUS lithium-ion battery pack has four cells in a protective ABS plastic casing and is shipped together **with the equipment** (not contained in equipment).

For transport by road/rail, the package containing the ARGUS lithium-ion battery pack must be marked with the following indications:

- The package contains "lithium-ion cells".
- The package must be handled with care.
- A flammability hazard exists if the package is damaged.
- Exceptional hazard if the package is damaged.
- A telephone number (Emergency Tel.) where additional information regarding the package can be obtained.

Affix the lithium-ion battery handling label (IATA DGR 7.4.i) to the package to identify it.

The label must be at least 120 x 110 mm.



The package must be shipped with a document showing the following indications:

- Those indications named above
- The UN number in the case of an ARGUS lithium-ion battery pack, the identifying indication "**UN 3481 - Lithium-ion batteries packed with equipment**".

The parcel must be packed in the following manner:

- The ARGUS Lithium-ion battery pack is packed separately from the ARGUS tester itself. It is wrapped in bubble wrap and packed in the protective case of the ARGUS tester. This case is placed in a cardboard box.

There are no additional quantity restrictions on cells/batteries **packed with equipment** in accordance with **UN 3481**.

3.2 By Air

The ARGUS lithium-ion battery packs satisfy the requirements for exception under the provisions **PI 966, section II** of the IATA GDR and, when shipped by air, are "excepted" from application of the provisions on dangerous goods if the specified cell/battery capacity limitations are not exceeded.

An ARGUS lithium-ion battery pack has a rated power of **less than 100 Wh**.

The ARGUS lithium-ion battery pack has four cells in a protective ABS plastic casing and is shipped together **with the equipment** (not contained in equipment).

For transport by air, the package containing the ARGUS lithium-ion battery pack must be marked with the following indications:

- The package contains "lithium-ion cells".
- The package must be handled with care.
- A flammability hazard exists if the package is damaged.
- Exceptional hazard if the package is damaged.
- A telephone number (Emergency Tel.) where additional information regarding the package can be obtained.

Affix the lithium-ion battery handling label (IATA DGR 7.4.i) to the package to identify it.

The label must be at least 120 x 110 mm.



The package must be shipped with a document showing the following indications:

- Those indications named above
- The UN number in the case of an ARGUS lithium-ion battery pack, the identifying indication **"UN 3481 - Lithium-ion batteries packed with equipment"**.

From the following notices, enter the appropriate one on the air waybill (AWB) **in English**:

- **"Lithium ion batteries not restricted as per PI 965 Part 1; (without equipment)**
 (2 batteries or up to 10 kg gross/package free)
Lithium ion batteries not restricted as per PI 967 Part 1; (contained in equipment)
 (PAX/CAO: up to 5 kg net battery weight/package free)
Lithium ion batteries not restricted as per PI 966 Part 1; (packed with equipment)
 (3 batteries or up to 5 kg net battery weight/package free)
Emergency No. +49 6132 9829021"
- **"Handle with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required."**

The parcel must be packed in the following manner:

- The ARGUS Lithium-ion battery pack is packed separately from the ARGUS tester itself. It is wrapped in bubble wrap and packed in the protective case of the ARGUS tester. This case is placed in a cardboard box.

Besides the quantity restrictions in **UN 3481**, there are no other restrictions on the battery packs shipped **with equipment**. The maximum quantity will not be exceeded if each package unit holds only the quantity of battery packs required to operate the enclosed number of testers plus two reserve battery packs.

3.3 By Sea

ARGUS lithium-ion battery packs satisfy the requirements of **Special Provision 188** (exceptions and exemptions) of the International Maritime Dangerous Goods Code (commonly referred to as the IMDG Code) and, when shipped by sea, are "excepted" from application of the provisions on dangerous goods if the specified cell/battery capacity limitations are not exceeded.

An ARGUS lithium-ion battery pack has a rated power of **less than 100 Wh**.

The ARGUS lithium-ion battery pack has four cells in a protective ABS plastic casing and is shipped together **with the equipment** (not contained in equipment).

For shipment by sea, the package containing the ARGUS lithium-ion battery pack must be marked with the following indications:

- The package contains "lithium-ion cells".
- The package must be handled with care.
- A flammability hazard exists if the package is damaged.
- Exceptional hazard if the package is damaged.
- A telephone number (Emergency Tel.) where additional information regarding the package can be obtained.

Affix the lithium-ion battery handling label (IATA DGR 7.4.i) to the package to identify it.

The label must be at least 120 x 110 mm.

The package must be shipped with a document showing the following indications:

- Those indications named above
- The UN number in the case of an ARGUS lithium-ion battery pack, the identifying indication **"UN 3481 - Lithium-ion batteries packed with equipment"**.

From the following notices, enter the appropriate one on the bill of lading (B/L) **in English**:

- **"Lithium ion batteries not restricted as per Special Provision 188; Emergency No. +49 6132 9829021"**
- **"Handle with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required."**

The parcel must be packed in the following manner:

- The ARGUS Lithium-ion battery pack is packed separately from the ARGUS tester itself. It is wrapped in bubble wrap and packed in the protective case of the ARGUS tester. This case is placed in a cardboard box.

There are no additional quantity restrictions on cells/batteries packed **with equipment** in accordance with **UN 3481**.



4 Storage

If the ARGUS lithium-ion battery pack is stored, it should first be charged to between 40 and 60 % of its capacity and then kept in a cool, well-ventilated area. The battery pack must be protected from high humidity and overheating, i.e. should not be left in direct sunlight. If the lithium-ion battery pack is stored for a longer period of time, it should be recharged to the level mentioned above every six months.

For details on the other relevant provisions and instructions as well as the necessary ambient conditions for storage, please see the appropriate chapters in the documentation.

5 Safety Instructions

The protective features of the battery pack may be harmed if the following instructions are not observed. In this case extremely high currents and voltages may result, which could lead to abnormal chemical reactions, leaking acid, overheating, smoke, or an explosion and/or fire. Furthermore, if the user does not observe and comply with these instructions both the performance and service life may suffer.

1. Do not disassemble or short-circuit the battery pack.
2. Do not throw the battery pack into a fire or heat it ($> +60^{\circ}\text{C}$).
3. Keep the battery pack dry - do not let it get wet or damp.
4. The battery pack may only be charged using the associated ARGUS or a charger approved by intec.
5. Do not damage the battery pack with a sharp object.
6. Do not throw the battery pack or expose it to shocks or impacts.
7. If a battery pack is damaged or deformed, do not use it.
8. Like any battery, the battery pack has two poles (plus and minus). To prevent damage, make certain that it is correctly connected (polarity) to the ARGUS or charger.
9. The battery pack may only be connected to the associated ARGUS or charger in the intended manner.
10. The battery pack may not be directly connected to the output of a plug-in power supply, an automobile cigarette lighter or similar power source.
11. The battery pack may only be used together with an ARGUS.
12. The battery pack may not be connected to, or stored or transported with metallic objects.
13. Do not expose the battery pack to high electrostatic forces.
14. The battery pack may not be used in combination with primary (non-rechargeable) batteries, nor may it be charged or discharged together with other rechargeable batteries.
15. If the battery pack is still not properly charged when the charging time has elapsed, do not charge it again.
16. Do not expose the battery pack to excessive pressure.
17. If the battery pack leaks acid or if it emits an odor, keep it away from open fires.
18. If the battery pack emits an odor or heats up, becomes discolored or misshapen, or if there are any other indications of that it has malfunctioned while it is in use or being charged or while it stored, remove the battery pack from the ARGUS or charger immediately and do not use it again.
19. If the battery pack leaks acid, make certain that you do not get this acid in your eyes or on your skin. In event that you get this acid in your eyes or on your skin, rinse the affected area immediately with clean water. Do not rub the affected area. In either case, seek immediate medical care. Failure to do so may result in permanent injury.
20. The battery pack must be kept out of reach of children.
21. Please read the manual and corresponding safety instructions before using the battery pack.
22. If you find that the battery pack emits an odor, or is rusty or appears to be in anything other perfect condition before you first use it, please contact intec to determine how to proceed.

6 Disposal

The ARGUS lithium-ion battery packs must be fully discharged and disposed of separately from all other waste material. Under no circumstances are they to be disposed of in the household waste. Make certain that the battery pack cannot short-circuit when the waste is collected. Damaged battery packs are to be disposed of separately in approved containers.

Every ARGUS lithium-ion battery pack is marked with the following symbol as a reminder to ensure proper disposal:



Figure 1: Do not dispose of the battery pack in household waste (DIN EN 50419).

Regarding the return of old battery packs, please contact our Service department.