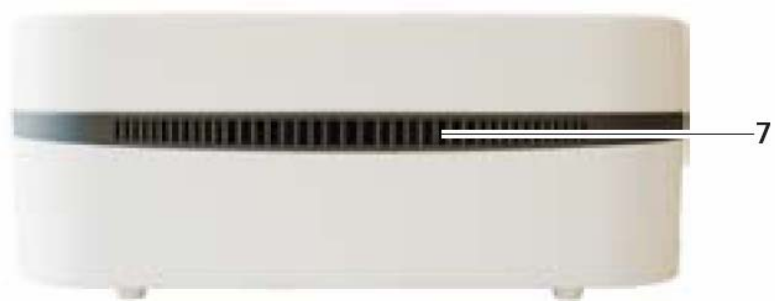
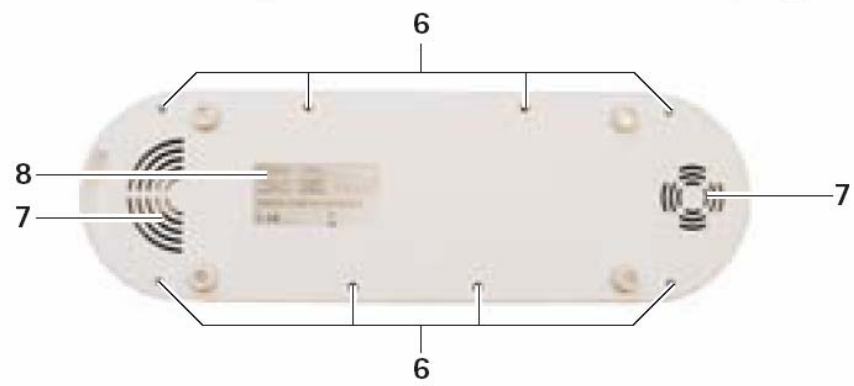
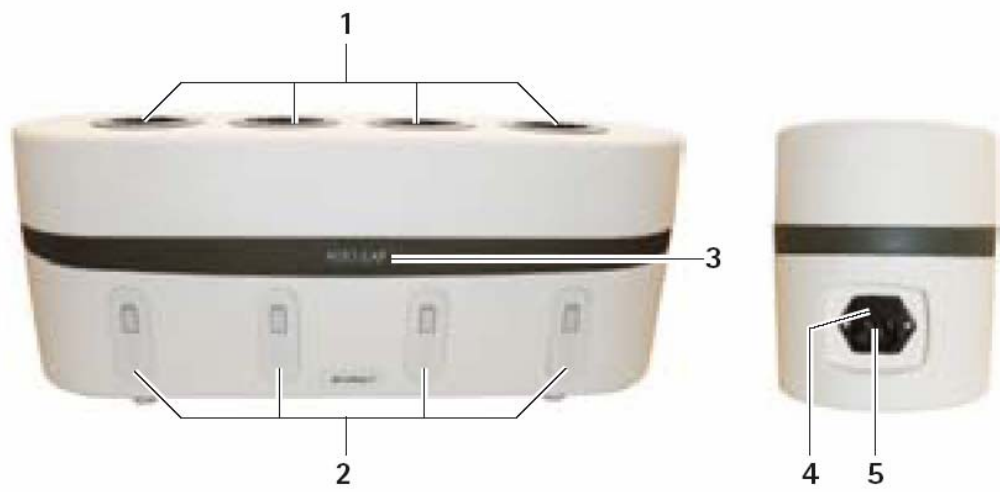


Aesculap Power Systems

Acculan® 3Ti



- GB** Instructions for use
- USA** Acculan® 3Ti charger GA677


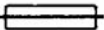





Acculan® 3Ti charger GA677

Legend

- 1 Charging bays
- 2 Indicator fields for charging bays
- 3 "Power On" indicator (illuminated in blue)
- 4 Fuse holder
- 5 Device socket
- 6 Screws for charging bay cover
- 7 Ventilation slots
- 8 Type plate

Symbols on product

	Attention, see instructions for use
	Fuse
	Alternating current
 	Labeling of electric and electronic devices according to directive 2002/96/EC (WEEE), see chapter Disposal

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1. Safe handling

CAUTION

Federal law restricts this device to sale by or on order of a physician!



Risk of death by electric shock!

- Do not open the product (except for changing a charging bay).
- Only ever connect the product to power mains with equipment grounding conductor.

DANGER

- Prior to use, check for proper condition and functioning of the product.
- Observe "Notes on Electromagnetic Compatibility (EMC)", see TA022130.
- To prevent damage caused by improper setup or use and in order not to compromise the warranty and liability:
 - Use the product only as described in these instructions for use.
 - Observe all safety information and maintenance notes.
 - Only combine Aesculap products with each other.
 - Ensure the manufacturer's approval before using accessories that are not mentioned in the instructions for use.
- Ensure that the product and its accessories are operated and used only by persons with the requisite training, knowledge or experience.
- Keep the instructions accessible for the O.R. personnel.
- Always adhere to applicable standards.
- Ensure that the electrical facilities in the room in which the device is being used conform to IEC norms.
- Unplug the device by pulling on the plug, and never on the power cord.

- Do not operate the product in explosion-hazard areas.
- Use the product in unsterile areas only.
- Do not use the product if it is damaged or defective. Set aside the product if it is damaged.
- Always observe the instructions for use of the Acculan® rechargeable batteries.

2. Product description

2.1 System components

Designation	Art. no.
Acculan® 3Ti charger	GA677
Instructions for use	TA022160
Notes on Electromagnetic Compatibility (EMC)	TA022130

2.2 Components necessary for use

- Acculan® 3Ti charger
- Mains power cord

Acculan® 3Ti charger GA677




2.3 Intended use

The Acculan® 3Ti charger GA677 with an appropriate charging bay is used for charging Aesculap Acculan® 3Ti rechargeable batteries GA666 and GA676 and Acculan® rechargeable batteries GA646, GA626 and GA616.

Note

Other batteries must not be charged with this product!

2.4 Explanation of charging bay indicators/symbols

	<p>Charging progress indicator (illuminated in green) The symbol is divided in 4 sections and indicates the progress of charging. Minimal illumination: Start of automatic charging Complete illumination: Charging completed</p>
	<p>Symbol "Action request" (illuminated in orange) Charging could not be completed normally, see chapter Troubleshooting list.</p>
	<p>Symbol "Battery change recommended" (illuminated in orange) Automatic battery check failed. This function is only available with Acculan® 3Ti rechargeable battery GA676, see chapter Charging of Acculan® 3Ti rechargeable batteries GA666 and GA676</p>

2.5 Operating principle

The Acculan® 3Ti charger GA677 has been designed for the mains voltage range 100 V to 240 V / 50 Hz to 60 Hz.

To make the Acculan® 3Ti charger GA677 ready for operation, connect it to the mains supply using the mains power cord. There is no other action required to activate or deactivate the charger.

The Acculan® 3Ti charger GA677 performs a self-test, which takes approx. 3 seconds. During this test, all indicator elements at the front panel of the charger are illuminated.

The Acculan® 3Ti charger is equipped with four independent slots for charging bays for Acculan® 3Ti rechargeable batteries GA666 and GA676 or for charging bays for Acculan® rechargeable batteries GA646, GA626 and GA616.

Each charging bay has an indicator field on the charger front panel assigned to it.

Charging starts automatically as soon as a battery is inserted in a charging bay.

The charging time in all 4 charging bays depends on the charge state and capacity of the batteries.

Charging principle

The batteries are charged very gently with constant current pulses.

The charge state of the battery is continuously monitored throughout charging. Monitoring of the charging curve ensures that the battery is fully charged without overcharging.

The battery temperature and charging time are monitored, too.

The Acculan® 3Ti rechargeable batteries GA666 and GA676 undergo an automatic battery check during charging. This check assesses the battery condition. If this assessment yields a negative result, the "Battery change recommended" symbol (in the respective indicator field 2) is illuminated to alert the user.

Battery temperature

Each charging bay is equipped with a fan, which works independently of the battery temperature.

The charging of the battery is aborted as soon as a battery temperature of $> 47\text{ °C}$ is detected.

Excessive battery temperature is indicated by the "Action request" symbol illuminated in indicator field 2. When the battery temperature drops below 45 °C , the "Action request" symbol in indicator field 2 still remains illuminated. The battery must be removed from the respective charging bay and plugged in again to restart charging.

Charging time

Charging is stopped as soon as the maximum charging time is reached.

The permanent monitoring of the battery also allows detecting faults in the battery block.

When a battery fault or a charging fault is detected, this is indicated by the "Action request" symbol illuminated in indicator field 2 and charging is aborted.

The charging bays can be ordered separately, see chapter Accessories/Spare parts.



Fire and explosion hazard!

- Do not operate the product in explosion-hazard areas.



Malfunction of, or damage to the product caused by improper setup!

- Do not expose the product to direct sunlight or moisture.
- Do not cover ventilation slots 7 of the product.
- Only connect the product to a mains power system with an equipment grounding conductor and with a voltage rating 100 V to 240 V and a mains power frequency range of 50 Hz to 60 Hz.
- Ensure that the mains power socket used for supplying the product is freely accessible.

3. Preparation and setup

Non-compliance with these rules will result in complete exclusion of liability on the part of Aesculap.

- Observe the following regulations when setting up and operating the product:
 - national regulations for installation and operation,
 - national regulations on fire and explosion protection.
 - operating advisories according to IEC-/VDE regulations.



Acculan® 3Ti charger GA677

4. Working with the Acculan® 3Ti charger

4.1 System set-up

Connecting the power supply

Prior to connecting the product to mains power:

- Check the mains power cord for any damage.
- Check the product for any damage (e. g. bent, short-circuited contacts of the charging bays).
- Plug in the mains power cord at device socket 5.
- Plug in the mains plug at the mains power socket.

4.2 Function checks

- Carry out a visual inspection.

Prior to connecting the product to mains power:

- Check the mains power cord for any damage.
- Check the product for any damage (e. g. bent, short-circuited contacts of the charging bays).
- Plug in the mains power cord at device socket 5.
- Plug in the mains plug at the mains power socket.

As soon as the product is connected to mains power, it will perform a self-test for approx. 3 seconds. During this period all indicator elements at the front panel of the charger must be illuminated. With the self-test completed, only "Power On" indicator 3 is illuminated. The product is ready for operation.

The charging process is started by correctly inserting a fault-free rechargeable battery in a charging bay. The respective charging progress indicator is illuminated.

Note

For any deviations from the sequence described above, see chapter Troubleshooting list!

4.3 Operation



WARNING

Risk of injury and material damage due to damaged batteries!

- Check batteries for any damage before charging.
- Do not use or recharge damaged batteries.



CAUTION

Loss of capacity/performance due to prolonged storage of discharged batteries!

- Store batteries only in fully charged condition and recharge stored batteries once a month.

Note

As excessive battery temperatures will prolong the charging time, allow batteries to cool down prior to charging.

Note

Batteries will heat up during charging. If necessary, use a cloth to remove the battery.

Note

Disconnect the charger from mains power by unplugging the mains power cord at the mains power socket.

Acculan® 3Ti charger GA677

Charging of Acculan® 3Ti rechargeable batteries GA666 and GA676



Destruction of the product, charging bay or battery due to inserting the wrong type of battery in the charging bay!

CAUTION

- Insert batteries only in their appropriate charging bays.
- Insert batteries in their correct position.



Fig. 1

Legend

A Mark on rechargeable battery

B Mark on battery compartment

- Insert the battery with the contacts downwards in the battery compartment, making sure that the mark on rechargeable battery A is aligned with the mark on battery compartment B, see Fig. 1.

	<p>"Charging progress" indicator Battery charging starts automatically.</p>
	<p>"Charging progress" indicator Charging has been completed; remove the battery from the charging bay. The charging time depends on the charge state and capacity of the batteries.</p>
	<p>"Battery change recommended" indicator Symbol is illuminated in addition to "Charging completed" indicator. The battery failed the automatic battery check. It is recommended to replace the battery, see chapter Troubleshooting list.</p>
	<p>"Action request" indicator Charging cannot be performed normally; the "Charging progress" indicator goes dark. Possible cause: bad contacts; excessive battery temperature during charging, see chapter Troubleshooting list.</p>

Charging of Acculan® rechargeable batteries GA646, GA626 and GA616



Destruction of the product, charging bay or battery due to inserting the wrong type of battery in the charging bay!

CAUTION

- Insert batteries only in their appropriate charging bays.
- Insert batteries in their correct position.



Fig. 2

- Insert batteries with their contacts pointing down in the charging bay, see Fig. 2.

	<p>"Charging progress" indicator Battery charging starts automatically.</p>
	<p>"Charging progress" indicator Charging has been completed; remove the battery from the charging bay. The charging time depends on the charge state and capacity of the batteries.</p>
	<p>"Action request" indicator Charging cannot be performed normally; the "Charging progress" indicator goes dark. Possible cause: bad contacts; excessive battery temperature during charging, see chapter Troubleshooting list.</p>

5. Processing



CAUTION

Damage to, or destruction of the product caused by mechanical cleaning/disinfecting or sterilization!

- Only clean and disinfect the product manually.
- Do not sterilize the product under any circumstances.



Acculan® 3Ti charger GA677

5.1 Cleaning/Disinfecting

Note

Always follow disposal and hygiene instructions and regulations!

Manual cleaning, disinfecting



DANGER

Risk of electric shock and fire hazard!

- Unplug the unit before cleaning.
- Make certain that no fluids will penetrate the product.
- Leave the product exposed to air for at least 1 minute after cleaning/disinfecting.



CAUTION

Damage to the product due to incorrect cleaning or inappropriate cleaning/disinfecting agents!

- Only use a cleaning/disinfecting agent approved for surface cleaning according to manufacturer's instructions.
 - Never immerse the product in water or detergent.
 - Do not introduce any fluid into the charging bays.
 - Clean the contacts in the charging bays, applying extreme care.
-
- Carry out a wipe disinfection by wiping the product housing with a lint-free cloth moistened with a disinfecting agent (e. g. B. Braun Meliseptol).
 - If necessary, after the appropriate exposure time, wipe off any residues of the cleaning/disinfecting agent with a lint-free cloth moistened with clean water.
 - Dry the product with a clean, lint-free cloth.
 - Clean the contacts in the charging bay with isopropanol or ethyl alcohol and a cotton swab. Do not use corrosive chemicals.

- If necessary, repeat the cleaning/disinfection process.

Control, care and inspection

- Inspect the product after each cleaning and disinfecting cycle to be sure it is clean, functional and undamaged.

6. Servicing/Inspection

- Send in the Acculan® 3Ti charger with its accessories for annual inspection by the manufacturer.

Aesculap Technischer Service
Am Aesculap-Platz
78532 Tuttlingen / Germany
Phone: +49 7461 95-2700
Fax: +49 7461 16-2887
E-Mail: ats@aesculap.de

Or in the US
Aesculap Inc.
Attn. Aesculap Technical Services
615 Lambert Pointe Drive
Hazelwood, MO 63042
Aesculap Repair Hotline
Phone: +1 800 214-3392
Fax: +1 314 895-4420

Other service addresses can be obtained from the address indicated above.

7. Troubleshooting list

Malfunction	Finding	Cause	Remedy
Product not functioning at all	"Power On" indicator 3 not illuminated	Power cord not plugged in	Plug in mains power cord in device socket 5 at the product and in a mains power socket
		Mains power cord defective	Replace mains power cord
		Fuses blown	Replace fuses, see chapter Changing fuses
		Product defective	Have the product repaired by the manufacturer
Battery is not charged	Battery inserted, Charging progress indicator not illuminated	Product contacts dirty	Clean the contacts, see chapter Processing
		Battery defective	Have battery repaired by the manufacturer
		Product defective	Have the product repaired by the manufacturer
	Battery inserted, "Action request" indicator illuminated	Excessive battery temperature detected during charging	Remove the battery from the charging bay, let it cool down and restart charging. If the malfunction recurs, have battery repaired by the manufacturer
		Charging fault or battery defective	Remove the battery from the charging bay and repeat charging, if necessary in another charging bay. If the malfunction recurs, have battery repaired by the manufacturer



Acculan® 3Ti charger GA677

7.1 Changing fuses



Fatal injury from electric shock!
Open components can hold live-threatening mains voltage.

DANGER

➤ Pull the mains plug before replacing the fuse sets.

Mandatory fuse set:

2 x IEC 127 - T 1.25 A breaking capacity H (1 500 A)

- Pull the mains plug before replacing the fuse sets.
- Use a small screwdriver to release the clip on the fuse holder.
- Pull out the fuse holder.
- Replace both fuses.
- Reinsert the fuse holder in such a way that it audibly snaps into place.

Note

If the fuses blow frequently, the product is defective and must be repaired, see chapter Technical Service.

8. Technical Service

For service, maintenance or repairs, contact your national B. Braun/Aesculap agency.

Modifications carried out on medical technical equipment may result in loss of guarantee/warranty rights and forfeiture of applicable licenses.

Service addresses

Aesculap Technischer Service
Am Aesculap-Platz
78532 Tuttlingen / Germany
Phone: +49 7461 95-2700
Fax: +49 7461 16-2887
E-Mail: ats@aesculap.de

Or in the US:
Aesculap Inc.
Attn. Aesculap Technical Services
615 Lambert Pointe Drive
Hazelwood, MO 63042
Aesculap Repair Hotline
Phone: +1 800 214-3392
Fax: +1 314 895-4420

Other service addresses can be obtained from the address indicated above.

9. Accessories/Spare parts

9.1 Mains power cord

Approved for	Color	Length (in m)	Art. no.
Europe	black	1.5	TE780
Europe	black	5.0	TE730
UK	black	5.0	TE734
USA, Canada, Japan	gray	3.5	TE735

9.2 Spare parts

Designation	Art. no.
Fuse set (melting) T 1.25 A	TA020112
Charging bay complete, for Acculan® rechargeable batteries GA646, GA626, GA616	GA677830
Charging bay complete for Acculan® 3Ti rechargeable batteries GA666, GA676	GA677831

10. Technical specifications

Model	GA677
Mains power ranges (current intake)	100–120 V~ (1.1–0.9 A) 220–240 V~ (0.5–0.45 A)
AC frequency	50–60 Hz
Protection class (acc. to IEC 60601-1)	I
Charging/Output voltage	max. 12.5 V
Charging/Output voltage	max. 1.2 A
Device fuse Breaking capacity	T 1.25 A H (1 500 A at 250 V/50 Hz)
Weight	7.72 lb
Dimensions (L x W x H)	17.32 in x 5.51 in x 7.09 in
Classification acc. to directive 93/42/EEC	I
EMC	IEC 60601-1-2
Norms	IEC 60601-1

Type	Technology	Voltage	Nominal capacity
GA676	NiMH	9.6 V	1 950 mAh
GA666	NiMH	9.6 V	1 100 mAh
GA646	NiCd	9.6 V	500 mAh
GA626	NiCd	9.6 V	800 mAh
GA616	NiMH	9.6 V	1 700 mAh

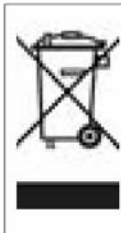
Acculan® 3Ti charger GA677

11. Disposal

Note

The user institution is obliged to process the product before its disposal, see chapter Processing.

Always adhere to national regulations when disposing of or recycling the product or its components!



Products carrying this symbol are subject to separate collection of electric and electronic devices. Within the European Union, disposal is taken care of by the manufacturer as a free-of-charge service.

In case of any questions regarding the disposal of the product, please contact your national B. Braun/Aesculap agency, see chapter Technical Service.

12. Changing a charging bay



CAUTION

Damage to the product during charging bay change!

- Charging bay changes may only be carried out by persons who, due to their training and practical experience, are equipped with the requisite expertise in the maintenance of medical products.
- Disconnect the product from mains power.

Note

A Pozidrive® cross slot screwdriver size 1, blade length 140 mm is required for installing and uninstalling the charging bay cover!

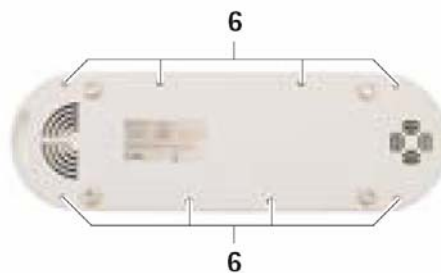


Fig. 3

- Loosen the eight screws of charging bay cover 6.



Fig. 4

- Remove the charging bay cover.



Fig. 5

- Pull out the old charging bay.
- Insert the new charging bay.
- Position and screw on the charging bay cover.
- Carry out function checks, see chapter Function checks.

13. Distributor in the US/Contact in Canada for product information and complaints

Aesculap Inc.
3773 Corporate Parkway
Center Valley, PA 18034
USA



CE-Kennzeichnung gemäß Richtlinie 93/42/EWG
CE marking according to directive 93/42/EEC
Marquage CE conforme à la directive 93/42/CEE
Identificación CE en conformidad con la directriz 93/42/CEE
Marchio CE conforme alla direttiva 93/42/CEE
Símbolo CE, em conformidade com a Directiva 93/42/CEE
CE-certificering conform richtlijn 93/42/EEG
CE-märkning i enlighet med direktiv 93/42/EEG
Маркировка CE согласно директиве 93/42/ЕЭС

Technische Änderungen vorbehalten
Technical alterations reserved
Sous réserve de modifications techniques
Sujeto a modificaciones técnicas
Con riserva di modifiche tecniche
Salvo alterações técnicas
Technische wijzigingen voorbehouden
Med reservation för eventuella tekniska ändringar
Мы оставляем за собой право вносить технические изменения.

TA-Nr. 022160 09/07

Änd.-Nr. 31434

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