DURST SwitchMode Battery Chargers

With 3 Stage IUOU Characteristics.

Boost, Equalization & Float

Instruction Manual V03.09.1

Automatic Set & Forget SwitchMode Battery Chargers
Programmable to suit Battery Chemistry:
GEL, Lead Acid, Maintenance Free, VRLA, AGM & Calcium.
Single, Dual, Triple Outputs

Models Available:

BCS-1280B 12 Volts 80 Amps
BCS-1260B 12 Volts 60 Amps
BCS-1260C 12 Volts 60 Amps
BCS-1245B 12 Volts 45 Amps
BCS-1245C 12 Volts 45 Amps
BCS-1225B 12 Volts 25 Amps
BCS-1225C 12 Volts 25 Amps
BCS-1215B 12 Volts 15 Amps
BCS-2440B 24 Volts 40 Amps
BCS-2430C 24 Volts 30 Amps
BCS-2430B 24 Volts 30 Amps
BCS-2425B 24 Volts 25 Amps
BCS-2425C 24 Volts 25 Amps
BCS-2415B 24 Volts 15 Amps
BCS-2415C 24 Volts 15 Amps

For more information on Durst Test Diagnostic & Charging Equipment please contact:

sales@durst.com.au www.durst.com.au

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Batteries & Charger
Sales, Spares, Calibration & Service

- Contact Durst for Battery Sales. We have a comprehensive range of Lead Acid, Wet, Calcium, AGM, VRLA, Spiral Wound & AGM Batteries in Deep Cycle, Cranking Deep Cycle, Cranking & Solar to suit all applications.
- Durst also have Cable & Connectors.
- Anderson Connector Plugs in 50,175 & 350 Amp in a range of Colours to suit ISO voltage standards with replacement contacts to suit a range of cable sizes.
- Contact Durst for our comprehensive range of Battery Testers & Multimeters.
- Comprehensive range of Standard & Custom Load banks.
- Contact Durst Industries for Custom Chargers with Correct Voltage Settings to match Battery Manufacturers Specifications.

*** Ask about our comprehensive range of Inverters for all applications.**

Durst Motor & Electric Industries Pty Ltd
Phone 02-9660 1755 Fax 02-9692 0251
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Please read these Instructions carefully before the Installation and Commissioning of your new charger and keep them in a safe place.
Pass them on to the buyer for future reference if the charger is sold with a battery installation.

Contents

Fig. 1

BCS-1245B
BCS-1260B
BCS-1280B
BCS-2425B
BCS-2430B
BCS-2440B

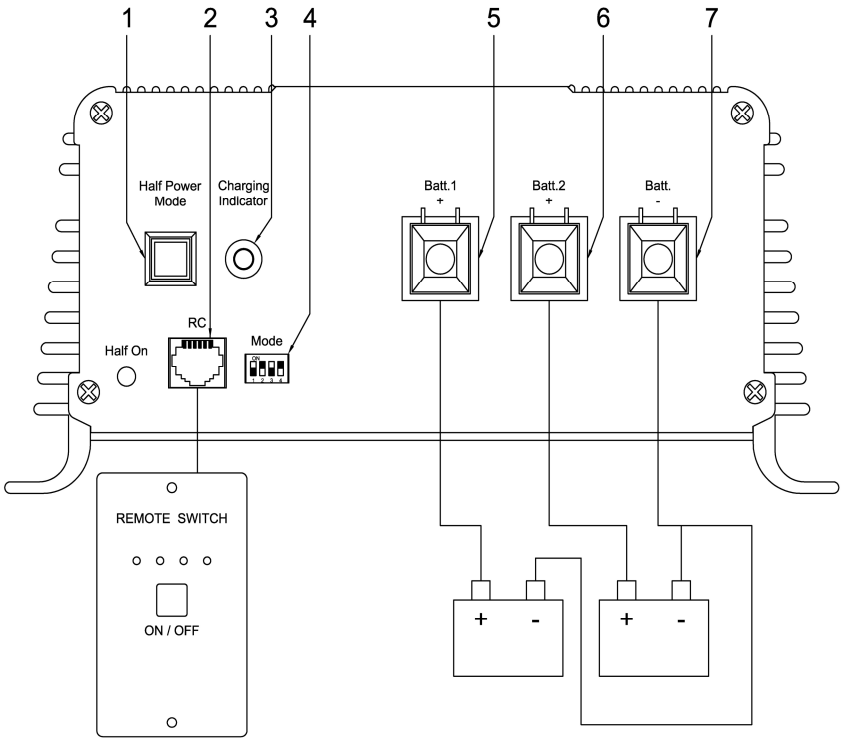


Fig. 2

BCS-1245C
BCS-2425C
BCS-1260C
BCS-2430C

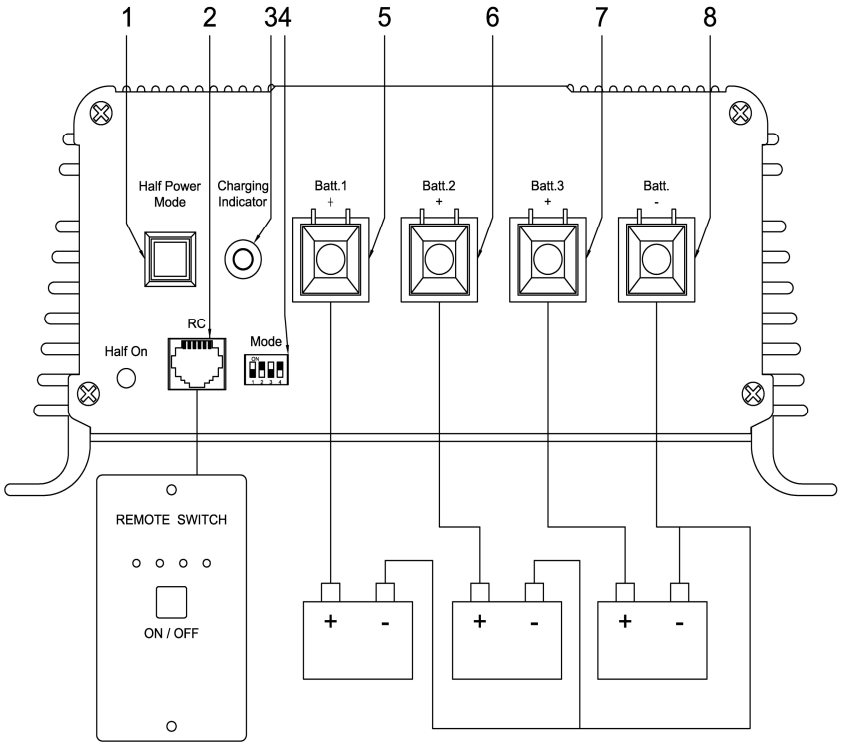


Fig. 3 BCS-1225B BCS-2415B

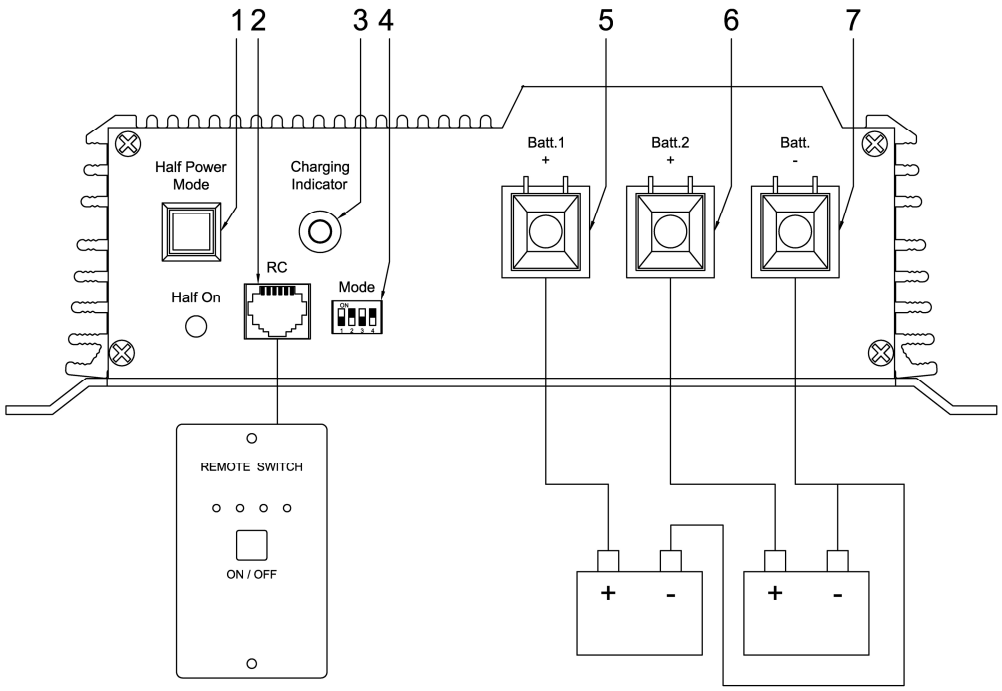


Fig 4 BCS-1225C BCS-2415C

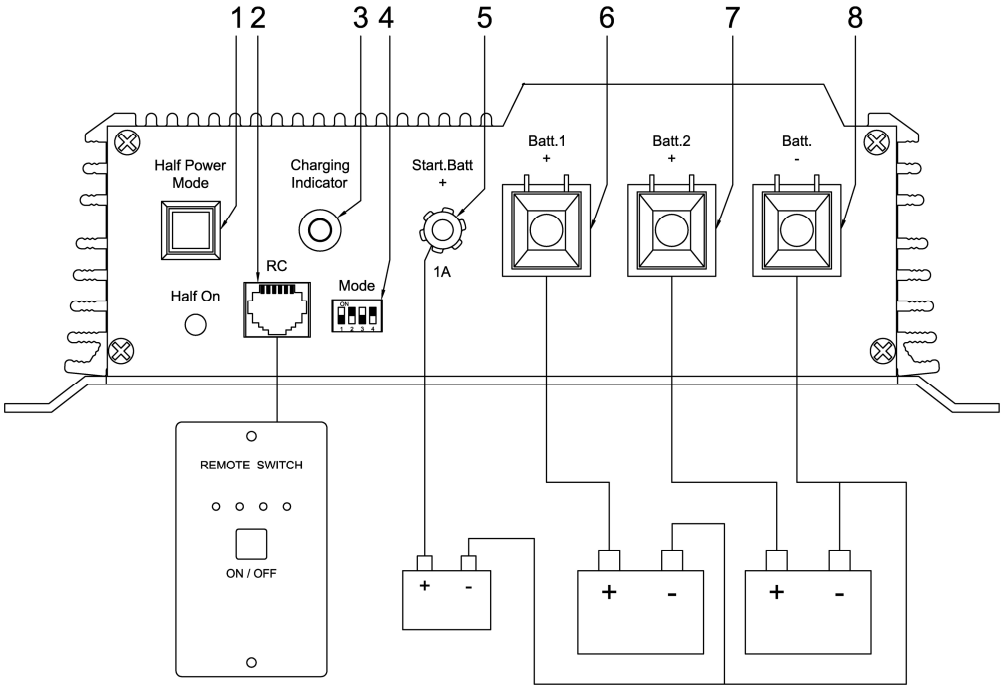


Fig. 5 BCS-1215B

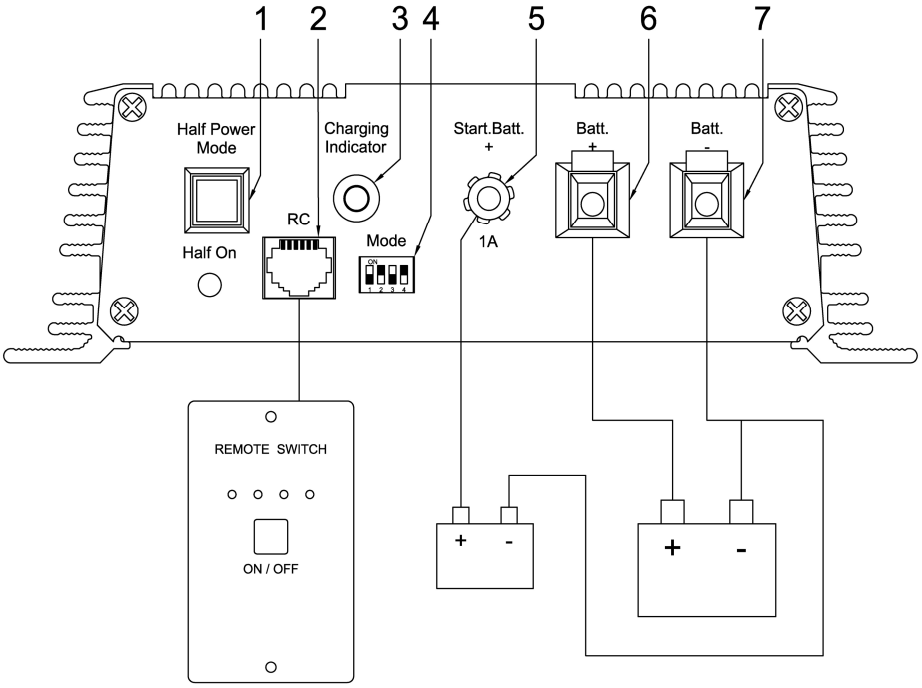


Fig. 6

BCS-1245B
BCS-1245C
BCS-1260B
BCS-1260C
BCS-1280B
BCS-2425B
BCS-2425C
BCS-2430B
BCS-2430C
BCS-2440B

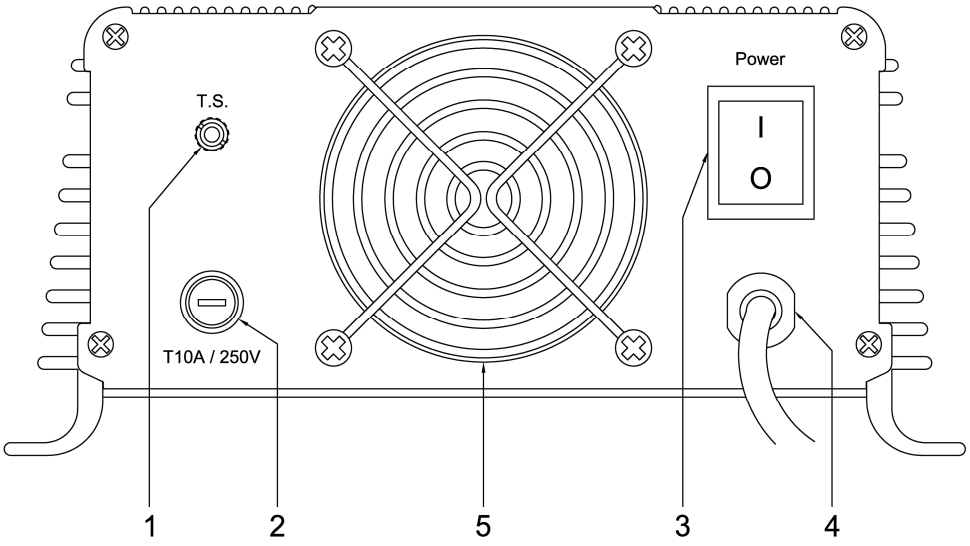


Fig. 7

BCS-1225B
BCS-1225C
BCS-2415B
BCS-2415C

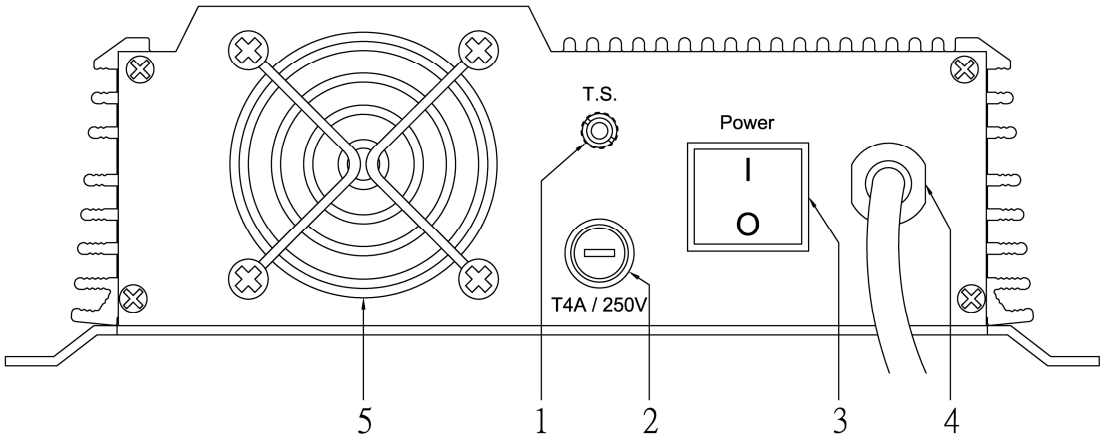


Fig. 8

BCS-1215B

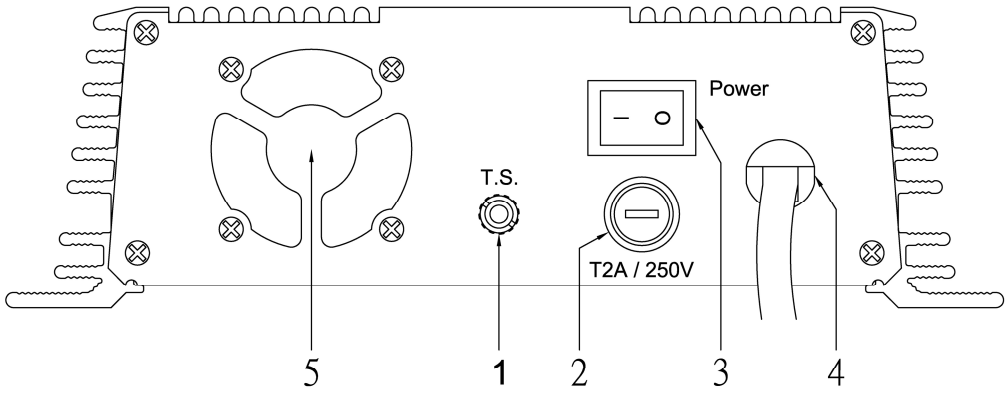


Figure 9

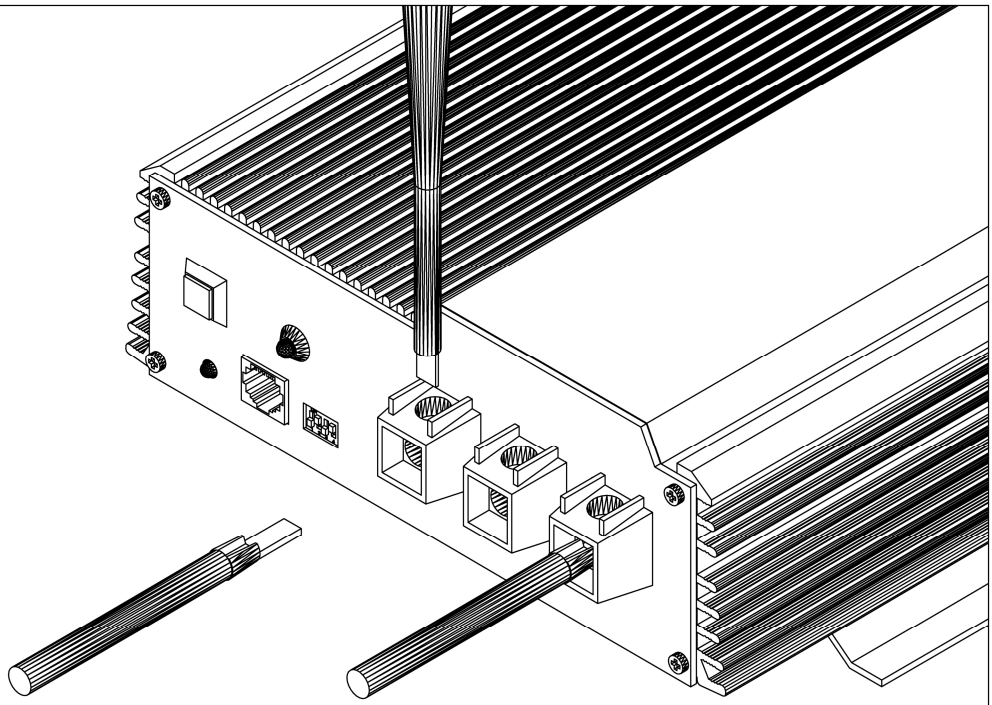


Figure 10

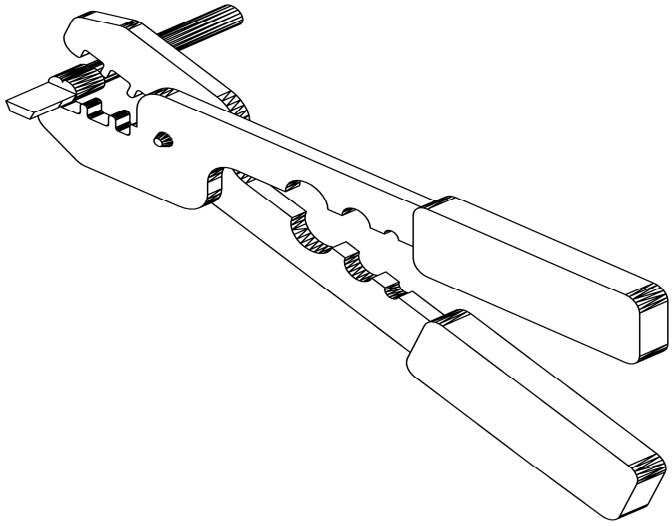


Figure 11

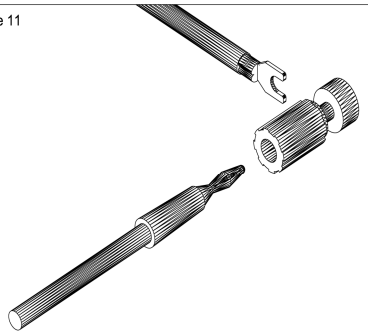


Figure 12

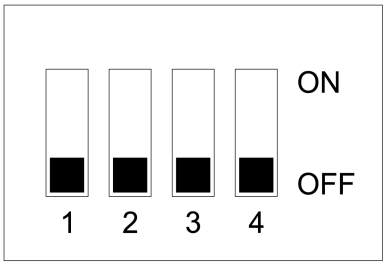
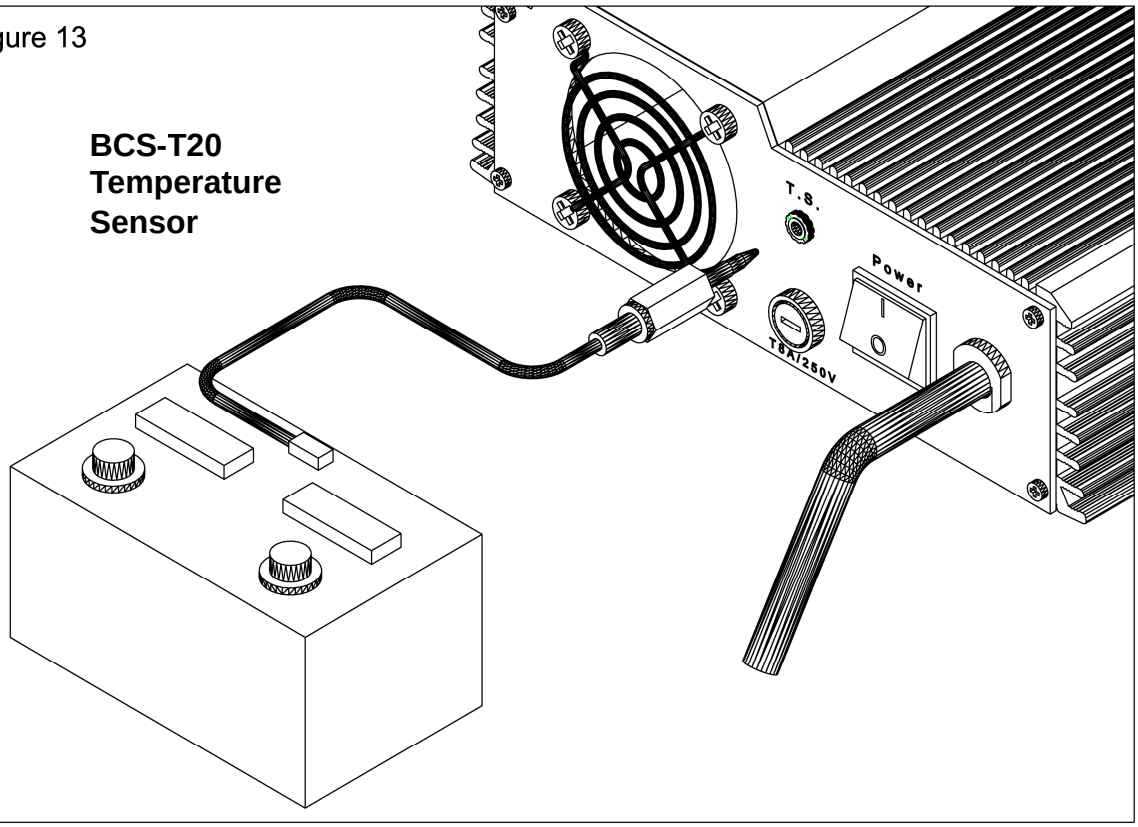
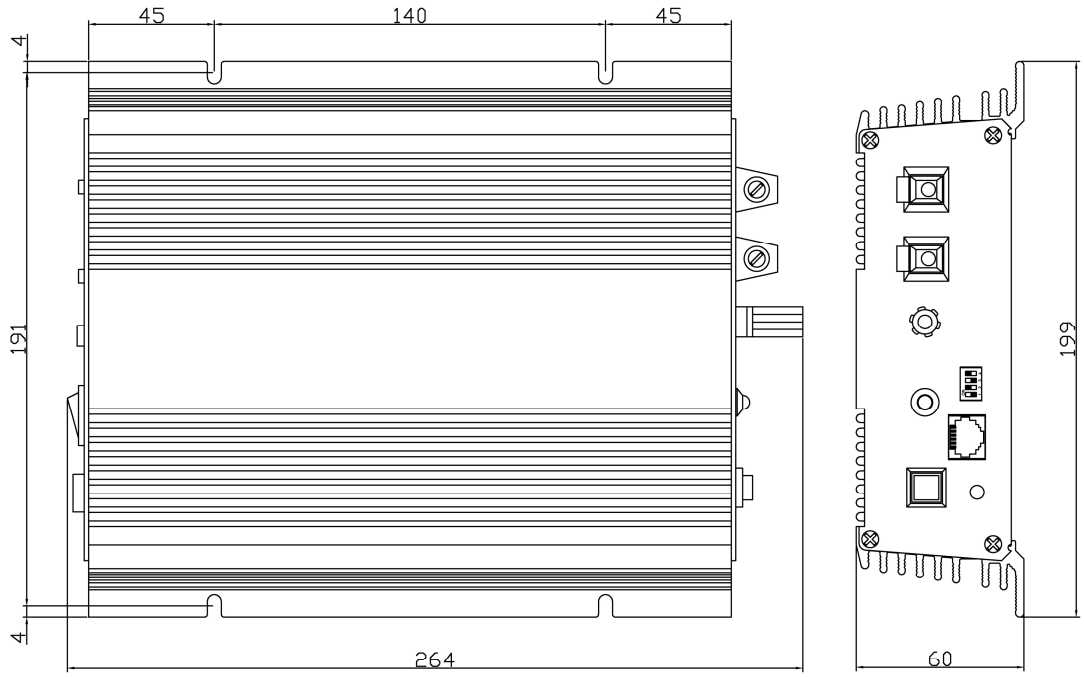


Figure 13

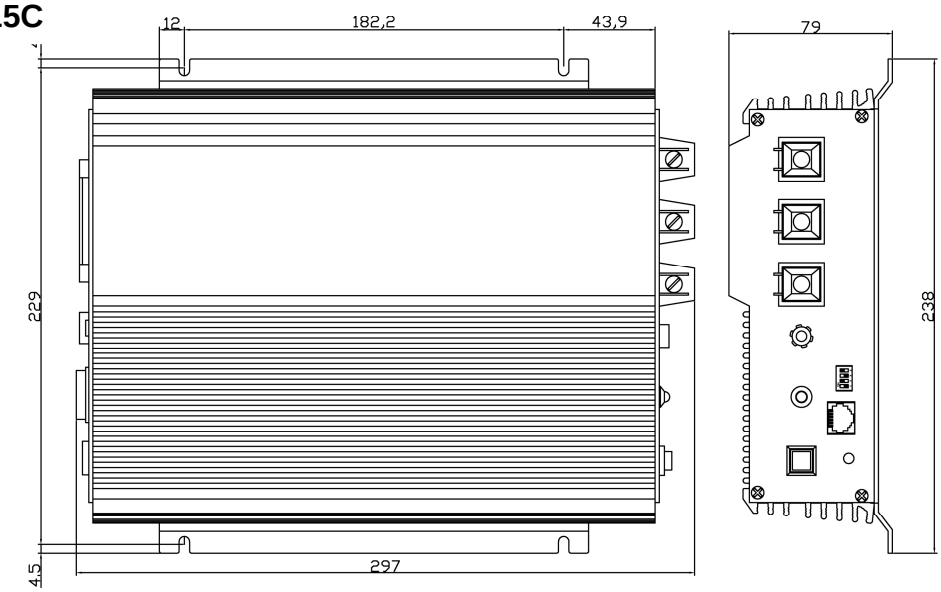
BCS-T20
Temperature
Sensor



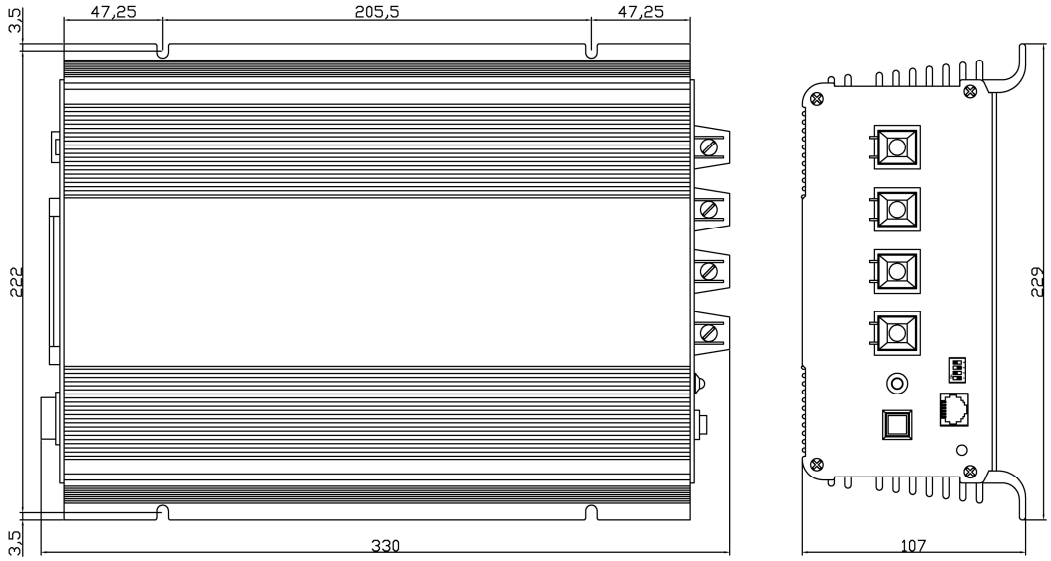
BCS-1215B

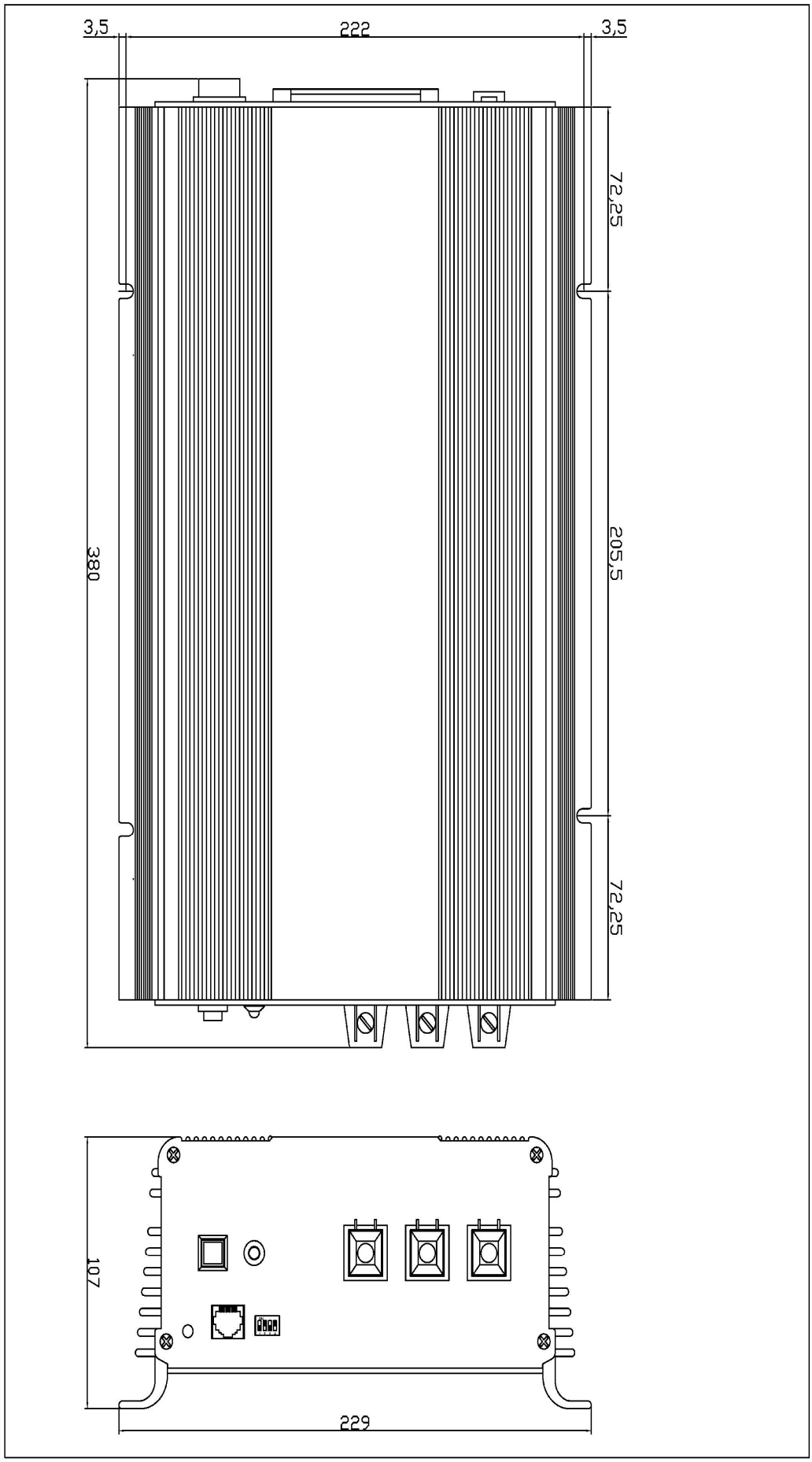


BCS-1225B
BCS-1225C
BCS-2415B
BCS-2415C



BCS-1245B **BCS-1245C** **BCS-2425B** **BCS-2425C**
BCS-2460B **BCS-1260C** **BCS-2430B** **BCS-2430C**




3,5
222
3,5
72,25
380
205,5
72,25
107
229

1 Installation instructions and Information for Charger use.

Warning!
Safety note: Failure in observing these warnings may result in Injuries to the operator & damage to equipment.

Caution!
Safety note: Failure to observe this warning may result in damage to materials and impair the functioning of the Charger.

Caution!
Safety note which points out the dangers involved with electrical Current or electrical Voltage: Failure to observe this warning may Result in damage to materials and impair the functioning of the Charger.

Note
Supplementary information on the operation of the Charger.

➤ **Action:** This symbol indicates to you that you must do something. The actions necessary are described step by step.

✓ This symbol describes the result of an action.

Please also observe the following safety notes.

2 General safety information

2.1 General safety

- Use the IU0U automatic charger only for its use as intended.
- Use the IU0U automatic charger only in well ventilated spaces.
- Always switch the power supply OFF & unplug when doing repair work on the Charger!

Warning!
Batteries contain aggressive acids.

- Avoid the contact with the battery fluid agent.

  If a contact with battery fluid agent should occur, then rinse the affected areas of the body or clothing etc. with plenty cold water.

  It is imperative to seek medical treatment from a doctor for injuries caused by acid.

- Never try to charge a frozen battery.
  There is the danger of explosion!
  In this case, place the battery at a frost-resistant location and wait until the battery has adapted to the ambient temperature. Only then should the charging process be started.

- Store the IU0U automatic charger in a dry and cool place.

- Maintenance and repair must only be carried out by a qualified specialist who is familiar with the dangers involved and aware of the relevant safety regulations.

2.2 Safety when handling electrical wires

- If cables have to be fed through sharp-edged walls, use a cable duct or cable bushes!

- Do not install any loose or sharp bent cables against electric-conducting materials (metal)!

- Do not pull at the cables!

- Fasten the wiring well and install cables in such a way that there is no risk of a trip occurring and damage to the cable can be excluded.

- Always use approved GPO sockets which are earthed and secured by an earth leakage circuit breaker or appropriate protection.

- The electrical connection may only be carried out by a specialist firm.

- Keep to the indicated minimum cable cross-section to suit your application.

- Do not install the 240 V AC Input cable and the 12 V DC Output cables in the **same** cable conduit or cable tie together!

2.3 Safety when operating the Charger

Caution
Incorrect installation of electrical units on boats can lead to corrosion of the boat. Therefore, please check with or let a marine electrician carry out the Installation of the IU0U Automatic Charger.

- Do not operate the IU0U automatic charger if the housing or cables are damaged!
- Never operate the IU0U automatic charger in a damp or wet environment.
- Take care that the charger is securely fitted with correct ventilation! The IU0U automatic charger as well as the battery to be charged must be secure, so that they cannot fall over or down.
- Ensure that the IU0U automatic charger is kept out of the reach of children as Dangers may arise that children are not able to recognize!
- Only operate the charger from an approved socket which is earthed and protected with an earth leakage circuit breaker or suitable protection.
- Comply with appropriate OH&S Regulations when installing and using your charger.

3 Only use charger as intended

Batteries which are used in vehicles or on board boats for power generation are charged by the IU0U automatic charger or will be supplied with a float voltage. The Set & Forget features allow the charger to be permanently connected to a battery without damage to either the charger or battery.
The IU0U automatic charger is used for the continuous charging of supply batteries or starter batteries. Batteries can be charged or be maintained at their peak capacity level & this Boost, Equalize & Float cycle will improve battery life.
For the connection combinations of the various chargers see Chapter 4 on page 15 “Specifications of the charger models”

The DURST 3 stage IU0U Automatic Chargers are used for charging the following types of batteries:

- **Lead-acid starter batteries**
- **Gel batteries (GEL)**
- **Absorbed Glass Matt batteries (AGM)**
- **Calcium**
- **VRLA and Maintenance-free batteries (MF)**

Refer to the capacities and voltages which are indicated in Chapter 10 on page 26 Technical Specifications"

Please ask your battery dealer for specifications and the max charge voltages of the specific batteries you are charging.

Attention:
The IU0U automatic charger may **not be used** for charging any other types of batteries! (eg. Not suitable for NiCd, NiMH etc.)

4 Description

Operation

Note:

A remote control panel is available & can be supplied for the IU0U automatic charger as an Optional Extra. (Part No. BCS-R10) Complete with 5 Mtr connector cable.
The remote control allows you to control ON / OFF function & monitor charger levels (LED) in another location than where the charger is mounted.
Coloured LED's indicate Boost, Equalize (Absorption) & Float function.

The charger can also be switched between Normal operation (Full Output Power) and Half Power (Half Output Power) via a push switch (Chapter 5.1 "Half Power Mode" on page 19).
This Half Power Mode is a useful feature & can be used as a Low setting for charging smaller batteries or for quieter operation which may be required in caravan, marine or Defence installations where charger is running at night.

The unit is equipped with Reverse Polarity Protection. A fuse protects the charger against damage in the case of reverse polarity. For information on the type and Amperage of the fuse in your charger see Chapter 10 "Technical Specification" on page 26.

Attention
The replacement of the charger fuse must only be carried out by a qualified Specialist who is familiar with the dangers involved with AC voltage & are aware of the relevant regulations.

Note
A temperature sensor can be connected to the battery being charged. (Part No. BCS-T20)
This protects the battery against damage in the case of high or low outside temperature, by controlling the charging voltage to the temperature to the battery.
(See Chapter 6.2 "Charging Characteristic" on pages 22).

A control LED on the charger or three controls LED's on the remote control enable a constant monitoring of the IU0U automatic charger function. Boost, Equalize (Absorption) & Float function. (See Chapter 6.3 "LED Function check" on page 24).
The IU0U automatic chargers are available in models to suit all 12 & 24 Volt applications.

Your IU0U automatic charger can charge batteries up to a determined battery capacity.
(See Chapter 10 "Technical Specifications" on page 26).

For Model identification and the specifications of your charger, compare the Model number on the charger with the data in the following tables.

Specifications of the Charger models

Your IU0U automatic charger has the following switches, displays and connections. (See figures 1-9 on pages 4-8)

Rear view of chargers (see figures 6, 7 & 8 on page 6 & 7)

No. Description

1 Connection socket for temperature sensor. (BCS-T20)

2 Charger Input fuse holder (240 V AC)

3 On / Off Power switch

4 Connection of 240 volts AC supply

5 Fan ventilation

Front view of BCS-1245B BCS-1260B, BCS-1280B, BCS-2425B, BCS-2430B, BCS-2440B

(See figure 1 on page 4)

Three channel chargers can charge up to three batteries.

No. Description

1 Half power mode (LED at bottom left of panel shows operation)

2 Connection socket for remote control (accessory BCS-R10)

3 Function control LED

4 Program switch for the selection of the charging voltage and cut-out time limitation. (Refer to figure 13 on page 9)

5-7 **"+"** Positive terminals to supply battery

8 **"-"** Negative terminal to supply battery

Front view of BCS-1245B & BCS-1260B, BCS-1280B, BCS-2425B, BCS-2430B , BCS-2440B

(See figure 2 on page 4)

Two channel chargers can charge up to two batteries.

No. Description

1 Half power mode (LED at bottom left of panel shows operation)

2 Connection socket for remote control (accessory BCS-R10)

3 Function control LED

4 Program switch for the selection of the charging voltage and cut-out time limitation. (Refer to figure 13 on page 8)

5-6 **"+"** Positive terminals to supply battery

7 **"-"** Negative terminal to supply battery

Front view of BCS-1225B & BCS- 2415B (See figure 3 on page 5)

Two channel chargers can charge up to two batteries.

No. Description

1 Half power mode (LED at bottom left of panel shows operation)

2 Connection socket for remote control (accessory BCS-R10)

3 Function control LED

4 Program switch for the selection of the charging voltage and cut-out time limitation. (Refer to figure 12 on page 8

No.	Description
5	**"+"** Positive terminal to supply battery One
6	**"+"** Positive terminal to supply battery Two
7	**"-"** Negative terminal to supply battery

Front view of BCS-1225C & BCS-2415C (See figure 4 on page 5)

Three channel chargers can charge up to two supply batteries + 1A charge.

No.	Description
1	Half power mode (LED at bottom left of panel shows operation)
2	Connection socket for remote control (accessory BCS-R10)
3	Function control LED
4	Program switch for the selection of the charging voltage and cut-out time limitation. (Refer to figure 13 on page 8)
5	**"+"** Positive terminal to starter battery (1 Amp Charge)
6	**"+"** Positive terminal to supply battery
7	**"+"** Positive terminal to supply battery
8	**"-"** Negative terminal to supply battery

Front view of BCS-1215B (See figure 5 on page 6)

Two channel charger can charge one supply battery + starter battery at 1A.

No.	Description
1	Half power mode (LED at bottom left of panel shows operation)
2	Connection for remote control (accessory BCS-R10)
3	Function control LED
4	Program switch for the selection of the charging voltage and cut-out time limitation. (Refer to figure 12 on page 8)
5	**"+"** Positive terminal to starter battery (1 Amp Charge)
6	**"+"** Positive terminal to supply battery
7	**"-"** Negative terminal to supply battery

Front view of BCS range of Chargers Half power Switch

(see figure 5 on page 6 Same on all the models)

The units can be used to charge one small supply battery.

No.	Description
1	Half power mode (LED at bottom left of panel shows operation)
2	Connection socket for remote control (accessory BCS-R10)
3	Function control LED
4	Program switch for the selection of the charging voltage and cut-out time limitation. (Refer to figure 12 on page 8)
5	**"+"** Positive terminal to supply battery
6	**"-"** Negative terminal to supply battery

5 Installation

Attention
Turn the power switch OFF at the charger and pull out the mains plug before connecting or disconnecting the direct current connection.

Note
If you do not have sufficient technical knowledge in respect of the installation and connection of electrical components in the vehicles, arrange for the IU0U automatic charger be installed by a specialist.

Please note the following when installing the unit:

- Select a well ventilated location which is protected against humidity.
- The installation surface must be level and of sufficient strength.
- Make sure that no ventilation surfaces on the charger are obstructed when installing.
- Use vibration mounts if installation of charger is subject to excessive vibration.
  (i.e. Camper vans, trailers & 4 wheel drives for heavy off road use)
- Contact Durst Industries for more information. sales@durst.com.au

For further safety notes when installing the charger see pages 12-14 Chapters 1 & 2. “Installation Instructions” “General Safety” “Safety when handling electrical wires” “Safety when operating the Charger”

5.1 Programmable Settings on the Charger

Charging voltage and time limitation

The required charging voltage to suit battery chemistry and the time period for the main UO charging phase (refer to “Charging characteristic” on page 22 Chapter 6.2) are selected via a dip switch on the front of the charger. (See figure 12 on page 8)

Note

Ask your battery dealer for the charging voltage and the required timer setting for your batteries. Lead Acid, Flooded, AGM, VRLA, Calcium & GEL etc.

Caution!

 # Make sure the charger is never operated when switches 1 and2 OR 3 and 4 are set at the same “ON position”
Only the switch positions described in the following tables ensure the correct functioning of the IU0U automatic charger.

CORRECT SETTINGS for the Boost (I phase) charging voltage for **BCS-12 Volt range of Chargers**

Charging (Refer to Battery Specifications for correct voltages)

Voltage	**Switch 1**	**Switch 2**	**Application range**
14.8 V *	OFF *	ON *	Calcium / MF
14.4 V	ON	OFF	Flooded / AGM / Gel
13.8 V	OFF	OFF	Loaded Battery

* Factory Preset

CORRECT SETTINGS for the Boost (I phase) charging voltage for **BCS-24 Volt range of Chargers**

Charging (Refer to Battery Specifications for correct voltages)

voltage	**Switch 1**	**Switch 2**	**Application range**
29.6 V *	OFF *	ON *	Calcium / MF
28.8 V	ON	OFF	Flooded / AGM / Gel
27.6 V	OFF	OFF	Loaded Battery

* Factory Preset

Loaded Battery means a charger connected to a battery which has a load connected to it.

Note: Check the manufacturers recommended charge voltages as they can vary between Battery Manufacturers.

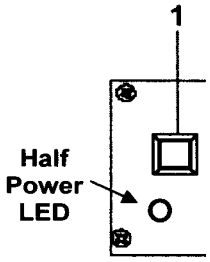
Settings for the Equalization U0 phase time limitation of the main charging phase:

Time limitation of the main charging Phase.	**Switch 3**	**Switch 4**	**Application range**
4 X hrs. *	OFF *	ON *	Flooded / MF
8 X hrs.	ON	OFF	AGM / Gel
No timer function	OFF	OFF	-

* Factory Preset

Half power mode

If you push the button "Half Power Mode", the output power will reduce to half the chargers amp rating and a Green "Half On" **LED** will light**.** The Half Power LED is located on the bottom left corner of the front panel.



➤ Red Push Button of "Half Power Mode" at the front panel of unit. Component 1 on Figures 1 – 6 on pages 4 - 6 Red Push Button

5.2 Connecting the DURST IU0U Automatic Charger to a Battery

Warning!

Absolutely avoid contact with the battery acid fluid!

Caution!

Batteries with cell connection may not be charged, since explosive gases could occur by overheating the battery.

Note

Only use cables with suitable cross sectional area to suit the voltage & current carrying capacity, for the connection of the automatic charger to the battery:

Charger Model	Main Battery -	Secondary Batteries
BCS-1280B	16 Sq mm - 25 Sq mm	
BCS-1260B, BCS-1260C	16 Sq mm - 25 Sq mm	
BCS-2440B	16 Sq mm - 25 Sq mm	
BCS-2430B, BCS-2430C	10 Sq mm - 25 Sq mm	
BCS-2425B, BCS-2425C	10 Sq mm - 25 Sq mm	
BCS-1225B, BCS-1225C	10 Sq mm - 25 Sq mm	
BCS-2415B, BCS-2415C	6 Sq mm -10 Sq mm	1 Sq mm -2.5 Sq mm (1 Amp)
BCS-1215B, BCS-1215A	6 Sq mm -10 Sq mm	1 Sq mm -2.5 Sq mm (1 Amp)

Note: The cable length needs to be considered & cross sectional area mm² increased for longer runs to avoid voltage drop.

Connect the cables from the batteries to the IU0U automatic charger.

➤ Crimp the multicore cable ends with suitable cable lugs.

Note

Use correct cable Lugs for the connection of starter batteries to the chargers. BCS-1225C, BCS-2415C and BCS-1215B have a dedicated terminal for 1 Amp charging of starting batteries (See figure 11 on page 8).

Crimp the cable & Lug with a good quality crimping tool or solder the connection for an optimum connection (See figure 10 on page 8).

Note

The negative pole of the battery is earth-connected in the connected status.

Attention

Ensure correct polarity is followed when connecting the charger.

An internal Fuse will blow if incorrect polarity is connected between the battery and the battery charger. Repair of an internal fuse must only be carried out by skilled person who is familiar with the dangers involved with High AC Voltage and is aware of the relevant regulations.

➤ Connect the **"-"** NEGATIVE battery terminal with a connecting cable to the **"-"** NEGATIVE terminal at the IU0U automatic charger. (See figure 9 of page 8)

➤ Connect the **"+"** POSITIVE battery terminal with a connecting cable to the **"+"** POSITIVE terminal at the IU0U automatic charger. (See figure 9 on page 8)

➤ **Temperature sensor (Optional accessory) BCS-T20**

When connected to the charger the temperature sensor measures the temperature of the battery in its working environment and transfers it to the IU0U automatic charger.
The charging voltages indicated in the Specifications “Technical Specifications” on page 26 refer to an ambient temperature of 15 °C to 25 °C. With deviating temperatures, the charging voltage is increased or decreased according to the diagram on page 23.

.

Connecting the cables from the batteries to the IU0U automatic charger.

- ➤ Connect the temperature sensor BCS-T20 to the socket at the rear of the charger (See figure13 on page 9)
- ➤ Fasten the sensor head directly to the battery. Use double-sided adhesive tape for this and attach the sensor to the upper side of the battery or in the vicinity of the battery.
- ➤ Switch the IU0U automatic charger “OFF“ and “ON” again to activate the temperature sensor.

Remote control (Optional accessory) BCS-R10

The remote control can be used for switching the charger ON and OFF remotely and for the LED charging phase check (See Chapter 6.3 “LED Functional check” on page 24) of the charger. Boost, Equalize (Absorption) & Float phase.

Note
Attach the remote control at a an easily accessible place to ensure an Optimal remote location for control and check of the automatic charger.

Caution!
Pay attention to location & obstructions when attaching the remote control. When cutting, drilling and mounting pay particular attention to non-visible Hazards like wiring harnesses, cables and other components which may be in the assembly range!

- ➤ Connect & place the cables from the batteries to the IU0U automatic charger.
- ➤ . Make a rectangular hole in the assembly surface with approx. 50 mm W X 55 mm H Allow 23 mm clearance depth for the remote control.
- ➤ . Plug in the connecting remote control cable to the rear of the BCS-R10 via a bush to the front of the charger.
  The connection cable is equipped with two mounting plugs.
- ➤ . Insert the remote control into the opening hole created, so that the faceplate of the remote control sits flat.
- ➤ . Use screws to mount the remote control securely.

Supply Voltage 240 volts 50 Hz AC

- ➤ . Connect the plug of the charger into the standard 240 Volts 50 Hz AC GPO socket. Making sure the socket is correctly wired including earth pin & the circuit is connected to an earth leakage circuit breaker or suitable protection.

6 Using the DURST 3 Stage IU0U Automatic Charger

For safety notes when operating the charger see Page 14 “Safety when operating the Charger”

Your DURST 3 stage IU0U automatic charger can be used to either recharge flat batteries or top up batteries with a float charge. It is safe to leave the charger on a battery permanently, without damage to either the charger or battery as it will only Boost, Equalize or Float charge as necessary.

➤ Switch the unit on with the power switch at the rear side of the unit.

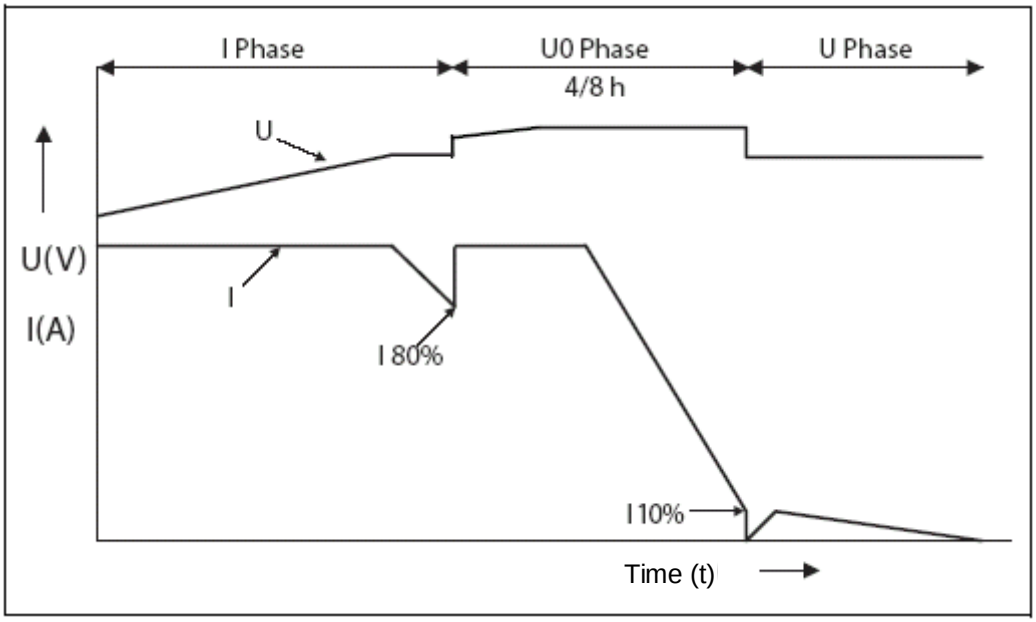
6.1 Switching ON and OFF with the remote control (Optional accessory BCS-R10)

Note
The power switch 3 in Fig. 6-8 on pages 6 & 7 must be permanently switched on, to enable full ON / OFF function at the remote control.

➤ Press the remote control “ON / OFF” key to switch the charger ON or OFF.

6.2 Charging characteristic

The general charging characteristic have been designated as a modified IU0U



Boost (I phase)

At the beginning of the charging process, the empty battery is charged with constant current until the battery voltage reaches 13.8 V or 27.6 V. When the battery reaches this voltage level, the charging current slowly drops. With the drop of the current to the 80 % mark, the charger switches over to the higher charging voltage 14.4 V/14.8 V or 28.8 V/29.6 V.

Note
The charging voltage and the period for the main charging phase (U0 phase) can be selected via a dip switch on the front panel.
(See page 18 Chapter 5.1 “Programmable settings on the Charger”)

Equalization or Absorption (U0 phase)

Here the time registration starts which limits the main UO charging phase to a maximum of 4 or 8 hours. With the switching over of the charging voltage, the current rises again to its maximum value. Now it remains constant as long as the battery voltage is below 14.4 V/14.8 V or 28.8 V or 29.6 V. After reaching the maximum voltage, the current drops again.
The voltage remains constant during this main (U0) timed charging phase (4 or 8 Hours) in which the battery is fully charged.

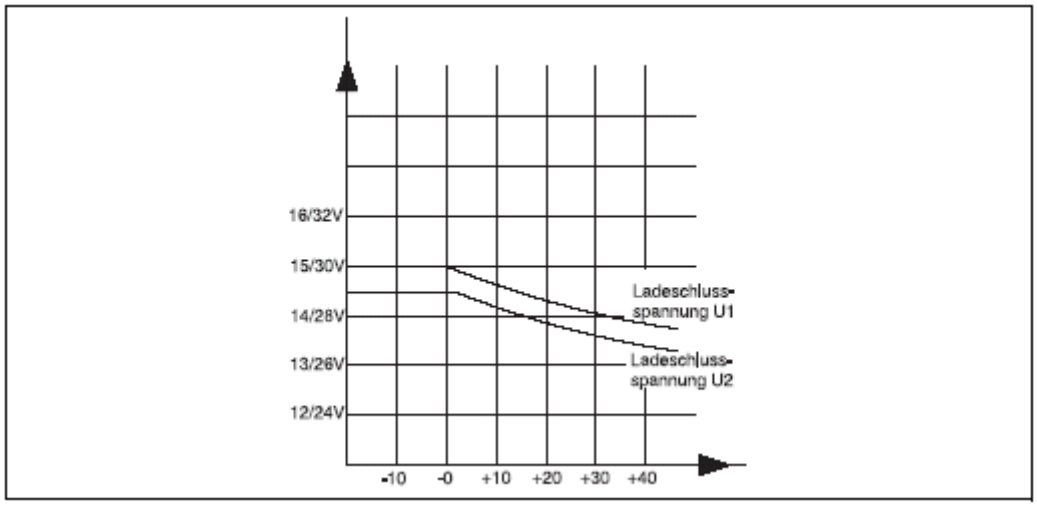
Float (U phase)

If the current decreases to 10% of the rated current or if the time limit of 4 / 8 hours is exceeded, then the charger switches over to economy float charging 13.8 V or 27.6 V (U phase).

Note:
Chargers with Two Output or Three Output charging connections allow batteries to be charged separately up to the charger output limit.
The outputs are separated internally via diodes. The weaker battery is always first set to the charging level of the stronger battery. The charging phase characteristic of multiple batteries is the same as described above.

Attention
The maximum battery capacity should not be exceeded for each model charger so as not to influence the individual charging phases.
(See page 26 & 27 in Chapter 10 “Technical Specifications”)

Operation of Chargers fitted the with optional BCS-T20 temperature sensor.
Using the BCS-T20 temperature sensor will monitor & adjust the charging voltage to suit the battery temperature & is connected to provide the optimum charging function.
The charging voltages can be seen in the diagram and are raised or dropped according to the battery temperature which helps prolong battery life.



Note
The battery chargers BCS-1215B, BCS-1225C and BCS-2415C have an independent 1 Amp charging output for the starter battery.
The output voltage is between 13.2 V (26.4 V) and 13.8 V (27.6 V)
This 1 Amp output can be used to maintain the starting battery at maximum capacity.

6.3 LED Function check

The charging process of the batteries can be checked via a LED on the front panel of the charger: Boost, Equalization (Absorption) or Float.

Note: The charger and appropriate charging phase can also be checked when fitted with the optional BCS-R10 remote control.
The LED's on the remote control indicate the colours and the appropriate phases.

LED	Charging phase	Charging status of the battery
Red	Boost (I phase)	between 10 % and 50 % Charged
Yellow	Equalization (U0 phase)	between 10 % and 50 % Charged
Green	Float (U phase)	over 90 % Charged

7 Servicing and cleaning battery chargers

Caution!
Never use sharp or hard detergents as they can damage the unit.

- Clean the outside of the DURST IU0U Automatic Charger from time to time with a damp cloth to remove dust & clear obstructions from fan cooling grills.

8 Troubleshooting

Please contact the battery manufacturer **with detailed** questions regarding the battery capacity data & special charging requirements.

If the charger fails to work: First check the AC Supply & the AC Fuse. If these are OK but there is still no DC Output have the internal fuses checked by an electrician or suitable person.
After the connection and commissioning of the IU0U automatic charger, the voltage in the battery does not increase.

- Measure the voltage at the battery terminals with the charger ON to see if the voltage increases or not. (Use a suitable Durst Multimeter)
- Check for correct polarity & confirm secure connections & lugs.
- Clean the battery terminals if necessary.

If the battery is not fully charged after a charging time of approx. 20 hours.

- Disconnect the IU0U automatic charger from the mains.
- Remove the charging terminals from the battery and wait for a few minutes.
- Now measure the voltage at the battery terminals with a suitable Durst Multimeter.

For a 12 V Battery

If the Multimeter displays a voltage of 10 Volts or less, it means that the battery is defective and will not accept a charge.

- Have the battery checked by a specialist if necessary, or dispose of the battery.

For a 24 V Battery

If the Multimeter displays a voltage of 20 Volts or less, it means that the battery is defective and will not accept a charge.

➤ Have the battery be checked by a specialist if necessary, or dispose of the battery.

If the battery discharges after short time, without load.

➤ Measure the voltage at the battery terminals with a suitable Durst Multimeter.
If the Multimeter indicates a voltage below 12 V on a 12 Volt battery or a voltage of below 24 V on a 24 Volt battery, then the battery is too weak to keep the charge.

➤ Have the battery checked by a specialist if necessary, or dispose of the battery.

9 Disposal

Disposal of the packing material

Do not throw the packing material away. The following recycling tips should be considered.

- Recycle packing material made of cardboard with waste paper & place out for collection.
- Put the plastic packing into the appropriate recycle bin.
- Enquire at your local council about the nearest location of your recycling centre.

9.2 Disposal of the used charger

If your automatic charger is beyond economical repair or is no longer required please dispose of it at an appropriate recycling facility or contact your local supplier for instruction as they may take it back for a small fee to cover costs.

9.3 Disposal of the batteries

Protect your environment!
Do not throw defective batteries into the domestic waste.

Please return the used or defective battery to the dealer or dispose of it at an Authorized waste collection point.

10 Technical Specifications

Durst Model Number:	BCS-1215B	BCS-1215
Batteries Connections:	One plus a 1 A	One
	output for Starter battery	
Input Voltage Range:		
115 VAC	98 - 132 VAC / 50 - 60 Hz.	
240 VAC	207 - 253 VAC / 50 - 60 Hz.	
Charging End Voltage:	14.4 V / 14.8 V	
Float Voltage:	13.8 V	
Max. Battery Capacity:	150 Ah	
U0 phase limitation:	4 Hours or 8 hours	
Max. Charging Current	15 A	
Half Power Mode	7.5 A	
DC Fuse Rating	1 X 20	
Fuse: 115 V AC	T 4a / 250 V	
Fuse: 240 V AC	T 2a / 250 V	
Operating Temperature	0 ºC - 50 ºC	
Dimensions (mm):	199 X 60 X 264	
Weight:	2.4 Kgs.	

Durst Model Number:	BCS-1225B	BCS-1225C	BCS-2415B	BCS-2415C
Battery Connections:	Two plus a 1 A output (C) for: Starter battery			
Input Voltage Range:				
115 V AC	98 - 132 V AC / 50 - 60 Hz			
240 V AC	207 - 253 V AC / 50 - 60 Hz			
Charging End Voltage:	14.4 V / 14.8 V	14.4 V / 14.8 V	28.8 V / 29.6 V	28.8 V / 29.6 V
Float Voltage:	13.8 V	13.8 V	27.6 V	27.6 V
Maximum.				
Max. Battery Capacity:	300 Ah	300 Ah	200 Ah	200 Ah
UO Phase limitation:	4 Hours or 8 Hours			
Max. Charging Current	45 A	45 A	25 A	25 A
Half Power Mode	22.5 A	22.5 A	12.5 A	12.5 A
DC Fuse Rating	2 X 30	2 X 30	1 X 30	1 X 30
Fuse: 115 V AC	T 12A / 250 V			
Fuse: 240 V AC	T 6.3 A / 250 V			
Operating Temperature	0 °C - 50 C°			
Dimensions (mm):	238 x 79 x 297			
Weight:	3.5 kg			

Technical Specifications

Durst Model Number:	BCS-1245B	BCS-1245C	BCS-2425B	BCS-2425C
Battery Connections:	Two (B)	Three (C)	Two (B)	Three (C)
Input Voltage Range:				
115 V AC	98 - 132 V AC / 50 - 60 Hz			
240 V AC	207 - 253 V AC / 50 - 60 Hz			
Charging End Voltage:	14.4 V / 14.8 V	14.4 V / 14.8 V	28.8 V / 29.6 V	28.8 V / 29.6 V
Float Voltage:	13.8 V	13.8 V	27.6 V	27.6 V
Max. Battery Capacity:	500 Ah	500 Ah	300 Ah	300 Ah
UO Phase limitation:	4 Hours or 8 Hours			
Max. Charging Current	45 A	45 A	25 A	25 A
Half Power Mode	22.5 A	22.5 A	12.5 A	12.5 A
DC Fuse Rating	2 X 30	2 X 30	1 X 30	1 X 30
Fuse: 115 V AC	T 12 A / 250 V			
Fuse: 240 V AC	T 6.3 A / 250 V			
Operating Temperature	0 °C - 50 C°			
Dimensions (mm):	229 x 107 x 330			
Weight:	5.05 kg			

Durst Model Number:	BCS-1260B	BCS-1260C	BCS-2430B	BCS-2430C
Battery Connections:	Two (B)	Three (C)	Two (B)	Three (C)
Input Voltage Range:				
115 V AC	98 - 132 V AC / 50 - 60 Hz			
240 V AC	207 - 253 V AC / 50 - 60 Hz			
Charging End Voltage:	14.4 V / 14.8 V	14.4 V / 14.8 V	28.8 V / 29.6 V	28.8 V / 29.6 V
Float Voltage:	13.8 V	13.8 V	27.6 V	27.6 V
Max. Battery Capacity:	600 Ah	600 Ah	300 Ah	300 Ah
UO Phase limitation:	4 Hours or 8 Hours			
Max. Charging Current	60 A		30 A	
Half Power Mode	30 A		15 A	
DC Fuse Rating	2 X 40	2 X 40	1 X 40	1 X 40
Fuse: 115 V AC	T 15 A / 250 V			
Fuse: 240 V AC	T 6.3 A / 250 V			
Operating Temperature	0 °C - 50 C°			
Dimensions (mm):	229 x 107 x 330			
Weight:	5 kg			

Technical Specifications

Durst Model Number:	BCS-1280B	BCS-2440B
Battery Connections:	Two (B)	Two (B)
Input Voltage Range:		
115 V AC	98 - 132 V AC / 50 - 60 Hz	
240 V AC	207 - 253 V AC / 50 - 60 Hz	
Charging End Voltage:	14.4 V / 14.8 V	28.8 V / 29.6 V
Float Voltage:	13.8 V	27.6 V
Max. Battery Capacity:	800 Ah	400 Ah
UO Phase limitation:	4 Hours or 8 Hours	
Max. Charging Current	80 A	40 A
Half Power Mode	40 A	20 A
DC Fuse Rating	2 X 40	1 X 40
Fuse: 115 V AC	T 20 A / 250 V	
Fuse: 240 V AC	T 10A / 250 V	
Operating Temperature	0 °C - 50 C°	
Dimensions (mm):	229 x 107 x 380	
Weight:	6.05 kg	

Specifications subject to changes due to technical progress and availability.

Optional Accessories:

The following accessories are available for your IU0U automatic charger:

- Remote Control (Part No: BCS-R10)
- Temperature Sensor (Part No: BCS-T20)
- Vibration Mounting Kit (Part No. BCS-V30)
- Cable & Connectors
- Anderson Type DC Plugs
- Batteries, Lead Acid, Calcium, VRLA, AGM, GEL & Solar

Standards & certificates applied to the DURST IU0U automatic charger:

N19332

Standards of product series:

- EN 55014-1:1993 / EN 55014-2:1995
- EN 61000-3-2:1995 / IEC 61000-3-2
- EN 61000-3-3:1995 / IEC 61000-3-3

Standards of product series:

- EN 61000-4-2:1995 / IEC 61000-4-2
- EN 61000-4-4:1995 / IEC 61000-4-4
- EN 61000-4-5:1995 / IEC 61000-4-5
- EN 61000-4-6:1996 / IEC 61000-4-6
- EN 61000-4-11:1995 / IEC 61000-4-11

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