

Hacousto Holland bv
Industrieweg 87
2651BC Berkel & Rodenrijs



4EVAC DCA2.500 user and installation manual

Author:

DD



SUMMARY

This document is the user manual of the DCA2.500 'D-Class Direct-Drive' power amplifier with integrated power supply and battery charger, dedicated to the 4EVAC Impact voice evacuation system.

REVISION AND APPROVAL

Rev.	Date	Nature of Changes	Approved By
052	15-04-2020	Charging cluster, USB, battery and charger update, minor corrections.	DD
053	08-06-2020	Corrections	TvdH
06	18-06-2020	Battery save mode, power consumption, corrections	DD



Hacousto Holland bv Industrieweg 87 2651BC Berkel & Rodenrijs		
4EVAC DCA2.500 user and installation manual	Author:	DD

Table of Contents

1. What's in the box?	3
2. General information	3
3. Front indicators.....	3
3.1. POWER	3
3.2. LINK	3
3.3. BATTERY.....	4
3.4. CHARGER.....	4
3.5. AMPLIFIER FAULT.....	4
3.6. CHA (CHB) SIG / CLIP.....	4
4. Back panel.....	5
4.1. Input module	5
4.1.1. Input module 4E-AMPX	5
4.2. 100V audio output (loudspeaker out).....	5
4.3. Local settings DIP switch.....	6
4.4. I/O contact interface	8
4.5. USB port.....	8
4.6. AUX DC OUT.....	8
4.7. BATTERY PROBE	9
4.8. BATTERY INPUT	9
5. Input module.....	10
5.1. AMP LINK.....	10
5.2. CHA INPUT / CHB INPUT.....	11
5.3. AUX INPUT	11
6. Local AUX function.....	12
7. Power supply and battery charging.....	13
7.1. Cluster charging.....	14
4EVAC DCA2.500 Technical specifications.....	17




Hacousto Holland bv Industrieweg 87 2651BC Berkel & Rodenrijs		
4EVAC DCA2.500 user and installation manual	Author:	DD
	Design revision:	1.0

Thank you for choosing 4EVAC as your Voice Evacuation System solution.

4EVAC Impact is a flexible Voice Evacuation System capable of both standalone and network operation. 4EVAC Impact is certified in accordance with EN54-16 and EN54-4, which are harmonized standards under the Construction Products Regulation, mandatory in the European Union.

1. What's in the box?

Inside the package you will find:

-  DCA2.500 amplifier
-  Set of connector plugs
-  Temperature sensor (enabling charger)

2. General information

4EVAC DCA2.500 is a 2x500W transformer-less (Direct-drive) 100V power amplifier with integrated power supply and 24V battery charger. Designed and certified in full compliance with EN54-4 and EN54-16, DCA2.500 is an ideal component of a voice evacuation system or public address installation, where high reliability and safety is required.

The primary application of the DCA2.500, using the 4EVAC proprietary AMP LINK protocol, is to work as a native component of the 4EVAC Impact voice evacuation system. However, thanks to the I/O interface and built-in autonomous functions, DCA2.500 can be easily integrated with any third-party PA/VA matrix controller, adding a complete, EN54-4 certified power supply, with a charging capacity of 100Ah. The DCA2.500 may also be used as a standalone power amplifier or battery charger, without any external control devices.

3. Front indicators



NOTE: Where bi-colour LED indication is defined, in case of multiple states driving that LED are simultaneously active, two colours cannot be displayed simultaneously. Fault indication (YELLOW) always has priority, priority among fault indications is defined in tables below.



3.1. POWER

Indicates if the unit is being powered and from which source (mains / battery). Indicates loss of mains supply.

OFF	Not powered
GREEN continuous	This device is powered from AC (mains) input
GREEN blinking	This device is powered from DC (battery) input
YELLOW continuous	Mains fault

3.2. LINK

Indicates the status of the data link with other devices over AMP LINK (link heartbeat)

OFF	Not connected (standalone unit)
GREEN continuous	Active link with IMPACT Controller *
GREEN flash single	No IMPACT Controller, active link with another DCA2.500 *
YELLOW	Impact controller connection lost

3.3. BATTERY

Indicates status of the battery

OFF	Battery disconnected, no battery configured (see chapter "battery and charger").
GREEN continuous	Battery connected, OK (Vbatt > 20V DC) *
YELLOW continuous	Battery loss
YELLOW blinking	Excessive internal resistance of the battery

3.4. CHARGER

Indicates status of the charger

OFF	No charging possible (no mains / no battery)
GREEN flashing double	Boost charging (high current stage, battery empty) *
GREEN continuous	Normal charging *
GREEN flashing single	Trickle charging (battery full) *
YELLOW continuous	Charger fault: insufficient charging voltage (mains fault) / temperature fault

3.5. AMPLIFIER FAULT

Indicates status of the amplifier fault

OFF	Both channels OK
YELLOW continuous	Channel 1 and 2 fault
YELLOW flashing single	Channel 1 fault
YELLOW flashing double	Channel 2 fault

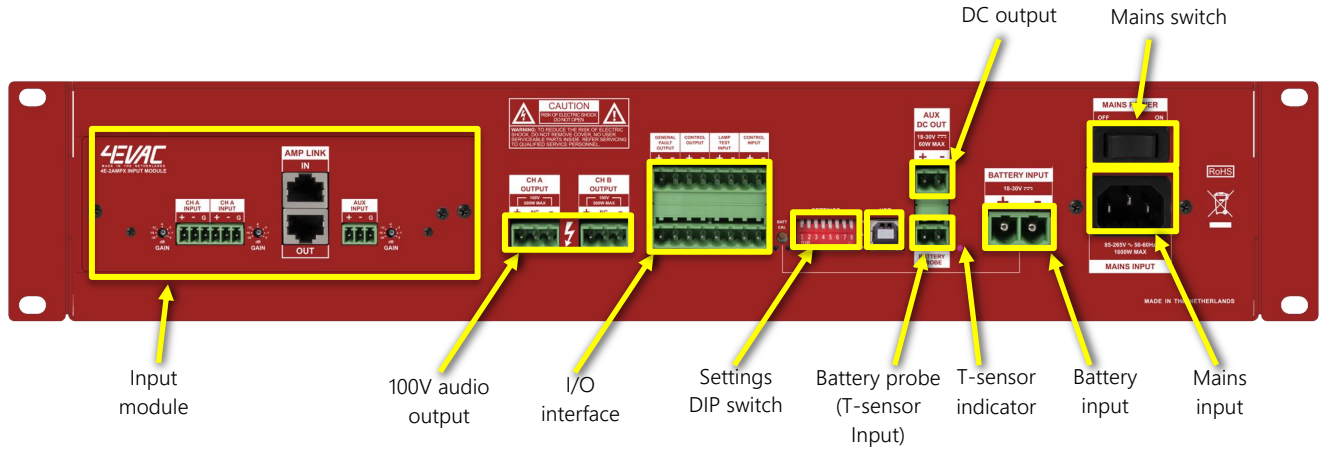
3.6. CHA (CHB) SIG / CLIP

Indicates when an audio signal is clipping at the end stage of the amplifier.

OFF	signal OK
YELLOW	Signal clipping

* NOTE: In order to ensure EN54-16 compliance with indication requirements, some of the indications are disabled while local settings dipswitch #3 is set.

4. Back panel



4.1. Input module

In the left section, the DCA2.500 amplifier provides space for a removable input module dedicated to receiving audio signals and transmission of control and diagnostics data.

4.1.1. Input module 4E-AMPX

- 2 x RJ45 port (INPUT / OUTPUT) for AMP-LINK: secured interface dedicated for IMPACT system bus, incorporating:
 - 2 x analog audio line INPUT A / INPUT B
 - 1 x RS485 bus for communication
- CHA INPUT/ CHB INPUT
 2 x balanced line-level (0dBV) analog audio inputs with input level adjustment potentiometer (-30 ... 0dB), default routing INPUT A -> CH1, INPUT B -> CH2
- AUX INPUT
 This is a single-channel balanced line-level (0dBV) analog audio input with input level adjustment potentiometer (-30 ... 0dB),



NOTE: On customers request, DCA2.500 amplifier can be equipped with optional DUAL AUX input module. More information about DUAL AUX input module available at 4EVAC on request.

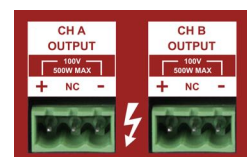
More information about AMP LINK and AUX input can be found in chapter "Local AUX function" further in this document.


4.2. 100V audio output (loudspeaker out)

These terminals are CH A / CH B output to 100V loudspeaker lines. Maximum output power is 500W_{RMS} per output (5A @ 20Ω).

These outputs are electrically floating against earth potential.

NOTE: 100V outputs CH A / CH B are not bridgeable, do not connect outputs with each other.



Hacousto Holland bv Industrieweg 87 2651BC Berkel & Rodenrijs		
4EVAC DCA2.500 user and installation manual	Author: DD	
	Design revision:	1.0

CAUTION! Danger of electric shock! High voltages between pins of the terminal! De-power the unit prior to any intervention.

4.3. Local settings DIP switch



1. No battery

When this setting is on, the charger is shut down. The device does not expect a battery to be connected and will work with any 24V DC power source connected to the battery input. Battery faults and charger faults are not detected or reported, the temperature sensor is ignored since it is not necessary for operation. On a mains loss, the device will report a mains fault and automatically switch over to receive power from a battery input, and will recover automatically when mains power is available.

2. No mains

When this setting is on, the device ignores mains fault and runs fault-less when powered solely through battery input.

NOTE: when DIP switches 1&2 are both ON, the amplifier is capable to run solely on an external 24V DC power supply connected to the battery input and will not report any power supply faults, i.e. mains fault, any battery-related faults or charger status/faults. This makes the DCA2500 capable of integrating with third-party power supply systems using their native 24V DC power equipment.

NOTE: regardless of DIP switches 1&2's settings, the DCA2.500 will always run when either of the power sources (mains input or battery input) is available, with mains priority (as long as mains supply is available, it is the only source which the DCA2.500 will use).

3. 54-16 indication mode

OFF: all indications are displayed

ON: only EN54-16 mandatory indicators are displayed.

According to EN54-16:

- Green indicators may be used only for power indications
- Yellow indicators may be used only for fault indications
- Red indicators may be used only for voice alarm indications

4. Battery save mode DISABLE

OFF –the amplifier has battery save mode enabled and follows Impact system battery save mode command.

- a) If connected to the Impact controller, the amplifier runs in a sleep/wake cycle during mains fault, in order to minimize idle power consumption while powered from battery.
- b) Regardless this setting, in case of audio transmission during battery operation, the amplifier will turn on automatically and return to sleep/wake cycle as soon as audio is stopped.

ON – keeps amp continuously on during battery operation, resulting in increased idle power consumption.

This setting is provided for service works, to manually 'force' the amplifier awake from sleep mode, without interfering with the controller.

5 & 6. AUX->CH1 / AUX->CH2

OFF: AUX input is unavailable for routing to CH1 / CH2

ON: AUX input may be routed to CH1 / CH2 by activation of CONTROL INPUT

i NOTE: see chapter "Local AUX function"

**7 & 8. battery capacity
 battery capacity**

The battery capacity setting defines the maximum charging current delivered by charger to the battery.

Current limiting helps to protect the battery from overcharging and excessive temperatures. It also limits power loss across the battery cable.

This setting also defines a maximum allowed resistance of the battery circuit (total: batteries+ battery cable + connection terminals), above which a battery fault will be detected.

i NOTE: The battery capacity setting must be properly defined on every DCA2.500 connected to a battery.

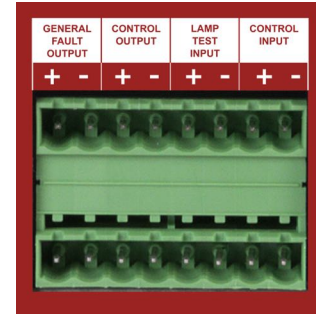
DIP switch setting		Maximum series resistance of battery circuit	Maximum charging current	Battery capacity range
7	8			
0	0	200 mΩ	0.5 A	10 – 19.5 Ah
0	1	160 mΩ	1.5 A	20 – 34,5 Ah
1	0	120 mΩ	2 A	35 – 49,5 Ah
1	1	80 mΩ	4 A	50 - 100 Ah

4.4. I/O contact interface

NOTE: Outputs (General Fault, Control output) potential-free, opto-isolated with max. rating 60V / 100mA.

1. General Fault output
Normally closed, activated while any fault status of DCA2.500 is being detected.
2. Control output
(not used)
3. Lamp test input
open: inactive – all LEDs work normally;
shorted: active – all LEDs are performing lamp test sequence.
4. Control input

NOTE: see chapter "Local AUX function"



Corresponding pins in the upper and lower connectors are internally connected, (i.e. the lower connector has the same function as the upper connector), so that connections between multiple amplifiers can be easily paralleled.

4.5. USB port

The USB port is used for Access Level 3 operations, including service and maintenance, e.g. firmware upgrades. For more information please contact the manufacturer.

4.6. AUX DC OUT

This output is the general power supply for all DC powered devices in the system (Impact Controller, 4E-SW6, as well as the power source for auxiliary equipment). It delivers guaranteed power from battery in case of mains failure, according to EN54-4.

Output voltage:

- d) Mains powered: 30 V DC
- e) Battery powered: 24 V DC nominal, 20~27 V DC (identical to battery voltage),

Maximum continuous output current:

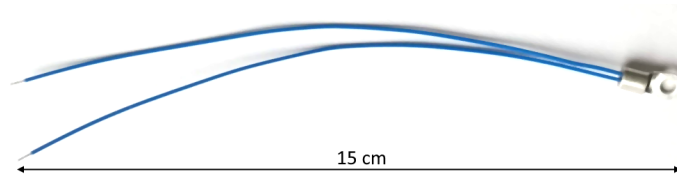
- f) 2 A, fused (resettable fuse)



NOTE: If the total current consumption of equipment connected to this output exceeds 2A, an additional DCA2.500 unit should be used.

4.7. BATTERY PROBE

Connect here the battery probe (included in the package) by means of an DIY extension cable. Polarity is irrelevant. Diameter or length of extension cable is not critical.



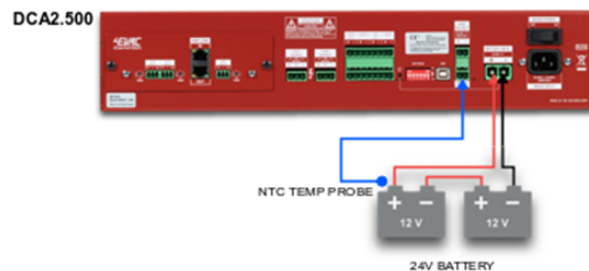
Battery thermal probe for DCA2.500

The battery probe has a built-in NTC thermal sensor element of variable resistance. Its resistance at normal ambient room temperature 25°C equals 10kΩ.

Battery probe is necessary for safe battery charging. Connecting the battery probe enables the charger of the DCA2.500 as a **master charger**, which is active at all times. When the battery probe is removed, the DCA2.500 turns into a **slave charger**, which has its charging function disabled, unless it belongs to a **charging cluster**. (More info about cluster charging, master and slave chargers in chapter “**Cluster charging**”).

The presence of the battery probe is indicated by a LED indicator next to the battery probe connector.

Put the probe directly on the top surface of the battery, preferably in direct contact with one of the battery terminals, inside the terminal insulating cap.



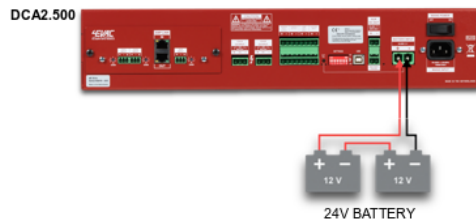
NOTE: The battery thermal probe is glued into a metal crimp with a ring, provided for an easy way of fastening without affecting thermal conductivity between the sensor and monitored surface. This metal crimp is galvanically isolated from the sensor and electrical contact with the battery terminal or any other potential will not affect measurement or cause any damage.

4.8. BATTERY INPUT

Connect 24V battery here.

The battery connector can accept a maximum cable gauge of 16mm².

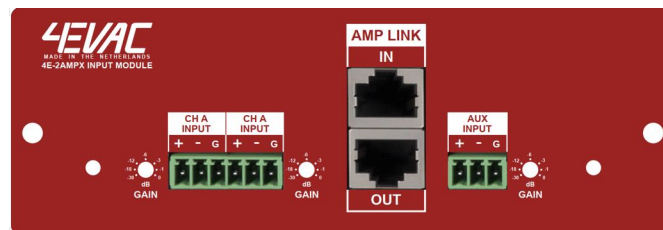
Battery leads must be shortest possible, with the greatest possible conductor gauge and properly crimped terminal lugs. A greater conductor gauge and shorter cable run prevent excessive voltage drops and power loss at high current flow.



The battery must comply with the following specifications:

- g) Sealed lead acid (SLA) / valve regulated lead acid (VRLA);
- h) Maintenance-free, for stationary use;
- i) 10 ~100 Ah rated capacity;
- j) 24V

5. Input module



5.1. AMP LINK

AMP LINK (RED vertical cat5 cable) is the secured bus connecting the DCA2.500 amplifiers with each other and with the Impact controller. Based on RS485, this internal system bus provides:

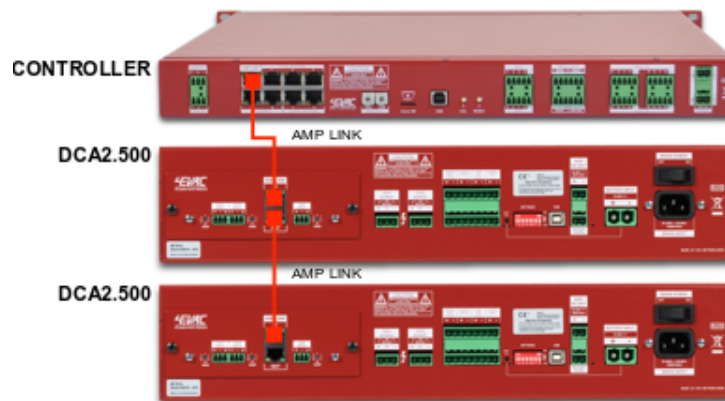
- k) 2 balanced audio channels across the entire AMP LINK chain, monitored
- l) Control and diagnostics data interface.

AMP LINK provides daisy-chain bus in two modes:

- a) To the IMPACT Controller, when the DCA2.500 is a part of the IMPACT system (all Impact amplifiers daisy-chained to the Controller).
- b) To other DCA2.500 amplifiers, without an Impact Controller, when the DCA2.500 belongs (with one or more other DCA2.500 units) to a **charging cluster** and shares the same battery pack (see chapter "Cluster charging") with the group: in this case the amplifier and the entire charging cluster is able to work without IMPACT Controller.



NOTE: The DCA2.500 can also work as a standalone unit without any AMP LINK connected.



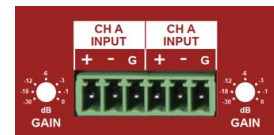
In an Impact system, connect the amplifiers to the AMP LINK into a daisy chain, starting from the Controller. Amplifiers will be addressed and managed by the Controller according to the connection order, i.e. the first amplifier connected directly to the Controller receives the address of Amp 1, next the address of Amp 2, etc.



NOTE: Mind the connection order of the DCA2.500 amplifiers on the AMP LINK! The connection order determines the local AMP LINK address of the amplifier, according to software configuration settings for Impact amplifiers. Settings and commands will be applied by the controller according to that addressing.

5.2. CHA INPUT / CHB INPUT

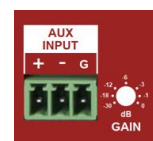
Two 3-pin, balanced analog audio inputs, 0dBV, with a single turn linear gain control potentiometer .



These inputs are connected directly to the audio pins of the AMP LINK bus.

5.3. AUX INPUT

3-pin balanced analog audio input, 0dBV, with single turn linear gain control potentiometer .



This input is dedicated to the AUX function, enabled by DIP switches 5&6 and controlled by CONTROL INPUT (See chapter: "Local AUX function").



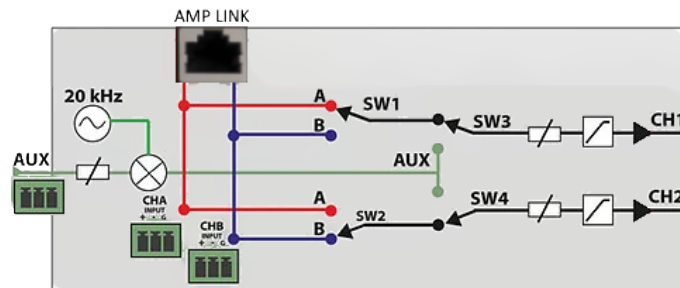
NOTE: On customers request, DCA2.500 amplifier can be equipped with optional DUAL AUX input module. More information about DUAL AUX input module available at 4EVAC on request.

6. Local AUX function

The DCA 2.500 with a 4E-2AMPX interface module is equipped with an AUX analog audio input, that can be used independently from inputs A/B and AMP LINK. AUX input adds to Impact system a local audio input, independent for each DCA2.500 amplifier.

The local AUX function can be enabled for Channel 1 and 2 of DCA 2.500 by means of DIP switch 5/6 setting (see chapter "Local settings DIP switch").

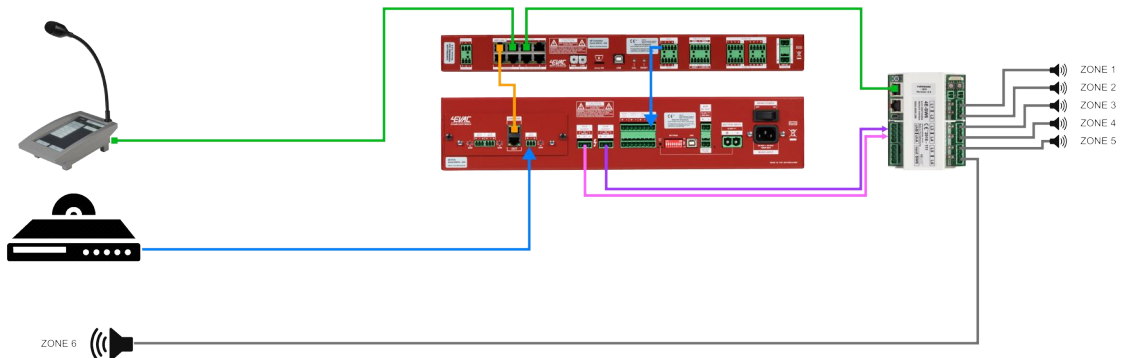
Local AUX function is activated by the "Control Input" available in the I/O contact interface of the DCA2.500.



Audio routing diagram of 4E-2AMPX interface module

When the DCA2.500 is used in an IMPACT system (connected to and managed by IMPACT Controller via AMP LINK), the local AUX function is used to **provide local low-priority BGM input**. The amplifier will pick up the signal from the AUX **only when there is a BGM signal** transmitted on the amp link. Otherwise (i.e. no audio on the bus, or higher priority signals: messages, live paging, emergency messages, fireman's microphone, etc.) the AUX input will be ignored and the amplifier will pick up signals from the AMP LINK channels A and B.

Control input of DCA2.500 must be wired to a GPO of Impact Controller. This GPO must also be linked to a BGM event in Impact system settings.



Local BGM function in IMPACT system, using local AUX input

The local AUX input works thus in IMPACT as a **low priority BGM input**.

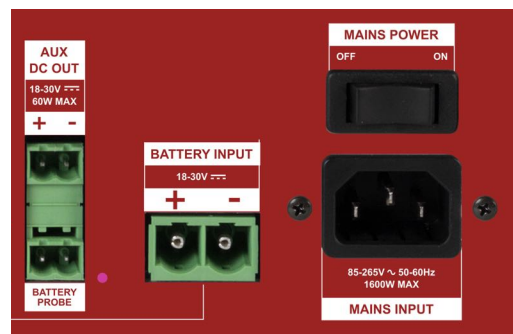
IMPACT mode AUX routing (connected and managed by IMPACT Controller)			
DIP switch 5 AUX->CHA	DIP switch 6 AUX->CHB	Control input	
		open	closed
0	0	INPUT A -> CHA INPUT B -> CHB	INPUT A -> CHA INPUT B -> CHB
0	1		INPUT A -> CHA AUX -> CHB
1	0		AUX -> CHA INPUT B -> CHB
1	1		AUX -> CHA AUX -> CHB

When the DCA2.500 is used as a **standalone amplifier** (detached from IMPACT Controller), the local AUX function is used to **override inputs A and/or B** and force amplifier channel(s) to pick up the signal from the AUX input. Therefore, the local AUX input works in standalone mode as a **high priority input**.

Standalone mode AUX routing (detached from IMPACT)			
DIP switch 5 AUX->CHA	DIP switch 6 AUX->CHB	Control input	
		open	closed
0	0	INPUT A -> CHA INPUT B -> CHB	INPUT A -> CHA INPUT B -> CHB
0	1		INPUT A -> CHA AUX -> CHB
1	0		AUX -> CHA INPUT B -> CHB
1	1		AUX -> CHA AUX -> CHB

7. Power supply and battery charging

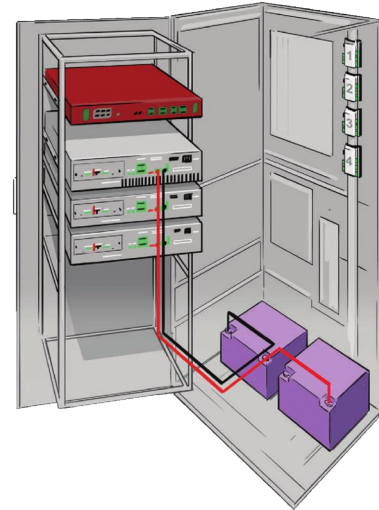
The DCA2.500 is equipped with a fully standalone, dual source (110-230V AC/ 24V DC) power supply and a 4A battery charger, capable of charging max. 100Ah battery according to requirements of EN54-4. (100AH = 80% of rated capacity within 24h)



7.1. Cluster charging

Multiple DCA2.500 chargers may be connected in parallel to the same 24V battery. A set of DCA2.500 units that are connected to the same battery form a **cluster**.

In a cluster, the master charger (with battery thermal probe) controls slave chargers (without thermal probe) and enables or disables the charging function on slave chargers. Slave chargers are idle by default. When the battery is discharged, the master charger commands slave chargers to enable the charging function, so that all chargers in the cluster charge the battery in parallel. When the battery voltage reaches a certain minimum level (approximately 80% of rated capacity), the master charger sends a command to disengage slave chargers. Furthermore, only a master charger is enabled during charging until the battery is fully charged, as well as in trickle mode, where battery is maintained in fully charged state.



The charging cluster must be created and configured following several guidelines:

- a) The cluster must be defined so that it is clear which chargers belong to the same cluster:
 - a. In an Impact system: in the configuration settings of the Controller you can assign each DCA2.500 amplifier to a charging cluster. Unassigned chargers will work as single master units. There may be a maximum of 16 clusters defined per Controller. All DCA2.500 units are daisy-chained via an AMP LINK.
 - b. Standalone (without Controller): All chargers connected to the same AMP LINK daisy-chain create one cluster. Different clusters are not connected with each other via AMP LINK.
- b) One cluster needs exactly one master charger. The master charger is determined simply by the thermal probe. It is irrelevant which charger in the cluster is the master, as long as there's only one. It is recommended however that the master charger is the one closest to the battery, as its battery leads are shortest, which improves the battery resistance measurement.



NOTE: Set master charger closest to battery. This will improve the accuracy of the battery resistance measurement, as the battery leads are shortest here.

The master charger is responsible for measurements of the battery, monitoring and control over the charging process and sending commands to slave chargers.

All chargers without a thermal probe, remain in slave charging mode. Slave chargers are, by default, idle and must receive the "enable" command from the master charger.



NOTE: One cluster needs exactly one master charger i.e. one thermal probe! More than one thermal probe connected to the same cluster will cause unstable charging behaviour and may lead to false battery fault indications and extend charging time. However, multiple masters in one cluster will not cause any damage to the battery.

- c) The charging capacity (i.e. max charging current) of a cluster is the sum of the charging capacities of all chargers in this cluster. A single DCA2.500 can handle a maximum capacity of 100Ah, a cluster of N chargers can handle a maximum of Nx100Ah.

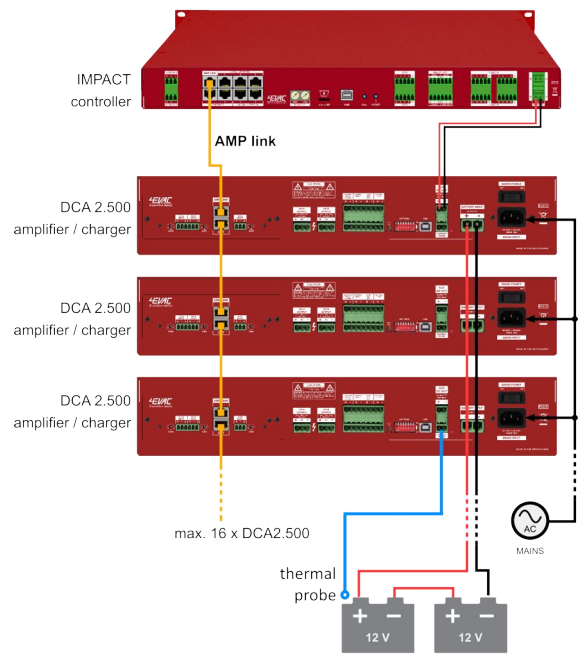
The charging capacity can be adjusted by means of the setting of DIP switches 7/8. Each charger in the cluster can have an individual setting, independent from other chargers, which will determine the maximum charging current delivered by the charger.

NOTE: The charging capacity may be set differently on each particular charger in the cluster. It is recommended, however, to set all chargers in the cluster to the same setting, if possible.

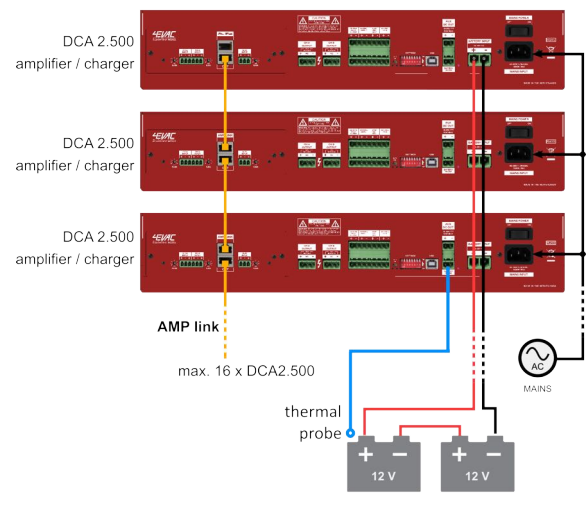
DIP switch setting		Maximum series resistance of battery circuit	Maximum charging current	Battery capacity range
7	8			
0	0	200 mΩ	0.5 A	10 – 19.5 Ah
0	1	160 mΩ	1.5 A	20 – 34,5 Ah
1	0	120 mΩ	2 A	35 – 49,5 Ah
1	1	80 mΩ	4 A	50 - 100 Ah

Example settings:


Cluster 1	Cluster 2	Cluster 3
DCA2.500 slave Setting [0][0] – 0.5A/20Ah	DCA2.500 slave Setting [0][1] – 1.5A/35Ah	DCA2.500 slave Setting [0][1] - 1.5A/35Ah
DCA2.500 slave Setting [1][1] - 4A/100Ah	DCA2.500 slave Setting [0][1] – 1.5A/35Ah	DCA2.500 master Setting [1][0] - 2A/50Ah
DCA2.500 master Setting [1][1] – 4A/100Ah	DCA2.500 slave Setting [0][1] – 1.5A/35Ah	
	DCA2.500 slave Setting [0][1] – 1.5A/35Ah	
	DCA2.500 master Setting [0][1] – 1.5A/35Ah	
Battery	Battery	Battery
200 Ah	150 Ah	80Ah



Charging cluster – IMPACT system



Charging cluster – standalone mode

Hacousto Holland bv Industrieweg 87 2651BC Berkel & Rodenrijs		
4EVAC DCA2.500 user and installation manual	Author:	DD
	Design revision:	1.0

4EVAC DCA2.500 Technical specifications

Amplifier	
Output power	2 x 500 W _{RMS} (continuous @1kHz, all channels driven @20 Ω)
Output voltage (Direct-drive output)	100 V _{rms} @ 0 dBu input
Output load	4 Ω minimum, 20 Ω @ rated power, max. 5 A continuous
Output impedance	< 50 mΩ
Input level	max. 775 mV _{rms} / 0 dBu (balanced) @100 V _{rms} output
Input gain control	from -30 dB to 0 dB
Input impedance @ 1 kHz	15 kΩ (balanced)
Frequency response (-3 dB)	3 Hz - 35 kHz
S/N @ 1 kHz rated power (3 Hz – 35 kHz)	> 90 dB
THD @ 1 kHz rated power-3 dB (20 Hz – 20 kHz)	< 0.1 %
Channel crosstalk (20 Hz – 20 kHz) @ rated load	< -100 dB
Power supply	
Mains AC input	110 - 230 V AC, 50/60 Hz, selection by input fuse rating
Mains power consumption	max. 1600 W max. 12 A @ 110 V AC / 6A @ 230 V AC
Inrush current	40A @110V AC, 20A @230V AC, 10ms
DC input voltage	18 – 30 V DC (nominal 24 V DC)
DC current consumption	max. 45 A @ 24 V
Idle AC power consumption	24 W / 1 W (all channels on / standby)
Idle DC current consumption	34 mA (0.9 W) (all channels standby)
Power efficiency @ rated load	89% @ 230V AC / 93% @ 24V DC
DC output	18 – 30 V DC (max. 60W / 2A @30 V DC nominal)
Battery charger	
Charging voltage	max. 27.9V DC, temperature compensated
Charging current max.	depending on battery capacity settings
Single charger	4 A
Cluster charger	N x 4 A (cluster of N chargers), max. 64 A
Battery requirements	rechargeable sealed lead-acid battery for stationary use
Capacity (54-4) single charger	max. 100 Ah (measured @ 80% of battery capacity after 24h of charging)
Capacity (54-4) cluster charger	N x 100Ah (cluster of N chargers), max. 1600Ah
Charging time (80% of max. capacity)	< 24 h
Rated voltage	24 V DC
Battery cut-off voltage	20 V DC
Battery circuit max. internal resistance	Depending on battery capacity settings: 80/120/160/200 mΩ (total, incl. leads, connectors, fuses, etc.)
Connectivity / recommended cabling	
Mains	IEC - 3
DC input (battery input)	Phoenix PC 6-16/2-G1-10, 16
DC output	2 pin Phoenix 5.08 mm / 2 x 1.5mm ²
Audio input	3 pin Phoenix 3.81 mm, 2x, shielded microphone cable
100 V audio output	3 pin Phoenix 5.08 mm
I/O (Fault out, lamp test in, control in/out)	8 pin Phoenix 5.08 mm (2 x parallel)
AMP-Link (interface to IMPACT Controller)	2 x RJ45 CAT5 straight UTP, max. 3 m

Hacousto Holland bv Industrieweg 87 2651BC Berkel & Rodenrijs		
4EVAC DCA2.500 user and installation manual	Author:	DD
	Design revision:	1.0

Mechanical	
-------------------	--

Dimensions (HxWxD)	88.5 x 442 x 350 mm
Front panel width (incl. brackets)	483 mm
Weight	8.2 kg
Dimensions / weight incl. package	150 x 600 x 460 mm / 9.5 kg
Housing material	Steel
IP rating	IP 30
Mounting	19" rack mounted, 2U

Operating conditions	
-----------------------------	--

Temperature (Ambient)	-5 ~ 40°C
Max. Temperature (Device)	65°C
Relative humidity	max. 90% (non condensing)
Storage temperature	-40 ~ 70°C

All information provided in this document is subject to change without notice. 4EVAC may also make improvements and/or changes in the products described in this information at any time without notice.

Hacousto Holland bv Industrieweg 87 2651BC Berkel & Rodenrijs		
4EVAC DCA2.500 user and installation manual	Author:	DD
	Design revision:	1.0



M A D E I N T H E N E T H E R L A N D S

4EVAC is a trade name of:

Hacousto Holland bv
Industrieweg 87
2651BC Berkel & Rodenrijs
The Netherlands
www.4EVAC.com