



Operating manual

HDA eco Box 12/24V DC Automatic Dispenser

Item No.: 110 500 900

Translation of the
original operating manual

Important!

The operating manual is always to be read before commissioning the equipment. No warranty claim will be granted for faults and damage to the equipment arising from insufficient knowledge of the operating manual.

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1 Safety instructions

The device is a state of the art piece of equipment and has been constructed according to recognised safety specifications. It is nevertheless possible that use of the device will present hazards to the operator or to third parties, or may damage the device or other property. It is therefore essential to act in accordance with these safety instructions, and in particular with those sections identified as warnings.

Warning notices and symbols

In the operating manual, the following signs are used for highlighting important information.



Special information for economical usage of the equipment.



Special information or 'do and do not's for damage prevention.



Information or 'do and do not's for the prevention of damage to persons or equipment.

Intended use



The device shall only be used if it is in specified condition. The device shall only be used for its intended usage, in compliance with all relevant safety regulations, with awareness of the potential risks, and according to the operating manual. Any faults that may impair the safety must be rectified immediately.



The device and its components are only to be used for handling the liquids listed and the purpose described. Using the machine for any other purpose would constitute inappropriate use. The manufacturer is not responsible for any loss arising as a result of this. The risk for this is borne only by the operating company.

Organisational measures



This operating manual should always be available at the site of operation! Each person who is involved with the assembling, commissioning, maintenance and operation of the equipment must have read and understood the entire operating manual. The type plate and the warning notices attached to the device have to be observed and maintained in a fully readable condition.

Qualified personnel

- ! The person operating, maintaining and assembling must be appropriately qualified for their work. The areas of responsibility, competences and supervision of the personnel must be precisely regulated by the operating company. If the operators do not have the required knowledge, they must be trained and instructed. The operating company must also ensure that the contents of the operating manual are properly understood by the operator.

Waters protection



The device is designed to handle water hazardous substances. The relevant local and national regulations to protect the environment have to be fulfilled at the operating place.

Hydraulics



Only persons with special knowledge and experience with hydraulic systems are permitted to work on hydraulic parts and equipment. All lines, hoses and screw joints should regularly be checked for leaks and visible external damage. Any damage must be rectified immediately. Pressurised fluid can cause injuries and fire. During handling oils, greases or other chemical substances the relevant local and national safety regulations for the product must be observed!

Maintenance and Service



For maintenance works at devices for flammable and/or water endangering substances consider the regulations of the water resources law. Use only authorized service companies. Before starting any kind of maintenance ensure that all fuel lines are pressureless, completely empty and aerated. Any changes, modifications or additions to the device are prohibited without consent of the manufacturer. Spare parts have to fulfil the specifications of the manufacturer. This is only guaranteed by original spare parts from the manufacturer.

Electric power



Only qualified electrician or trained persons under the guidance and supervision of a qualified electrician according to electro-technical guidelines are permitted to work on the electrical equipment. Before starting any kind of maintenance or repair work ensure that the device is de-energised.

2 Technical description

2.1 Intended use

The HAD eco Box DC is designed as a Fluid Inventory Control System for use in industry, workshops, filling stations and similar facilities, where the power supply is only 12V or 24V d.c. voltage .

It is intended for the control of dispensing during the refuelling of vehicles with liquid and pumpable operating media.

! The installation and operation of the HDA eco Box DC in explosion hazardous areas is not permitted. This would constitute a risk of explosion!

Any deviation from this usage is deemed to be improper and is not permitted.

2.2 Description

The HDA eco Box DC consists of the HDA eco DC automatic dispenser, which is mounted in a sheet metal housing.

For the pump control a switching relay is installed so that DC pumps can switch up to a current of 30A.

The pump control circuit between HDA eco DC and relay is wired via a terminal strip. By selecting the proper terminal the desired operating voltage of the system (12V DC or 24V DC) can be set.

The exact procedure is described in detail in the separate manual of the HDA eco DC.

The built-in HDA eco automatic dispenser is optimised for the administration of small and medium-sized vehicle fleets and enables the administration of up to 2000 users/vehicles. Please also refer to the HDA eco operating manual, which is provided separately.

Optional, additional components to create an entire tank system are the feed pump, the flow meter, the dispensing hose with an automatic nozzle and, if applicable, an analogous level probe or fill level switch for monitoring the level in the tank.

2.3 Permitted media

All liquid and pumpable operating media for refuelling vehicles.



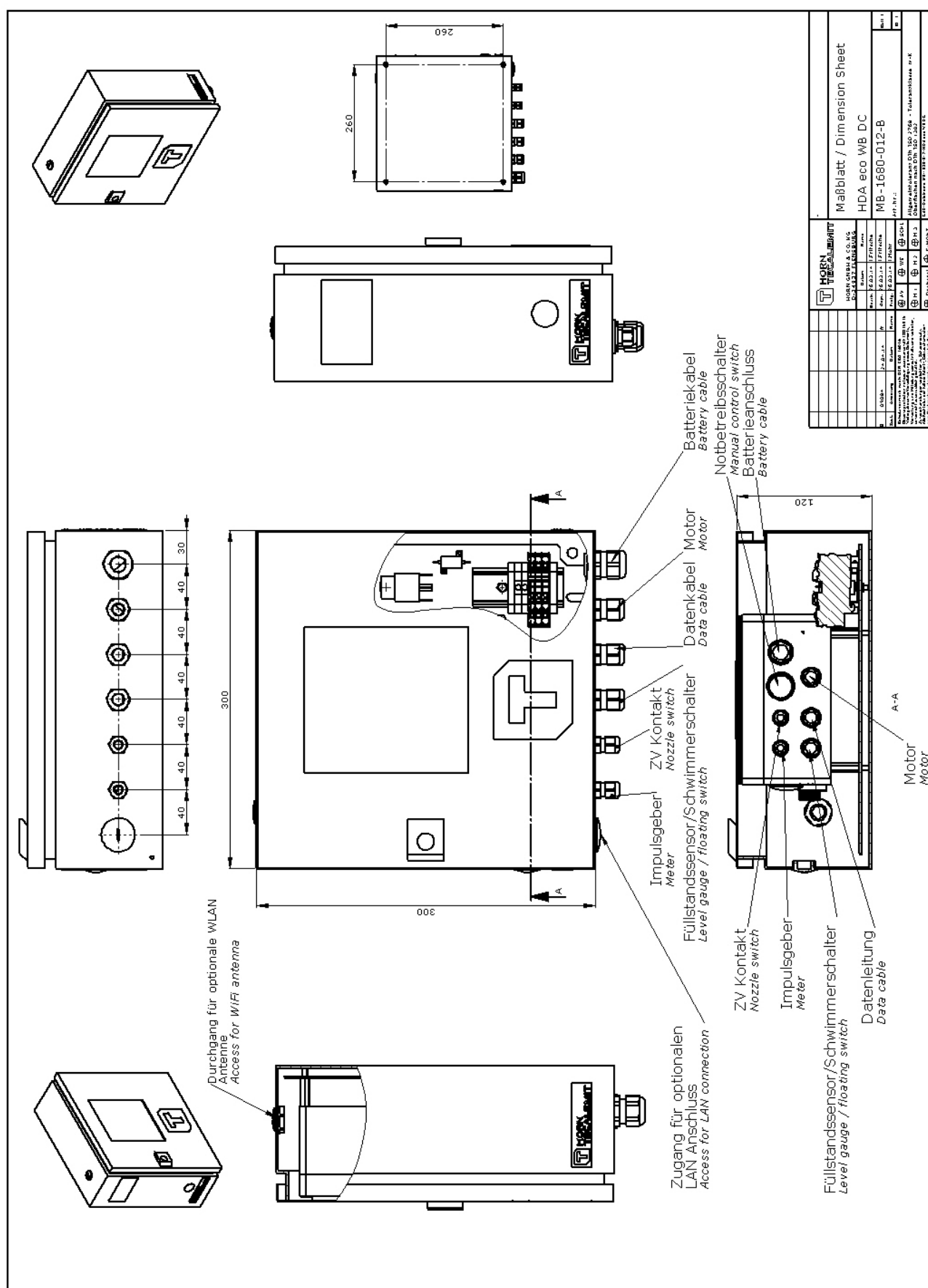
Please check the safety data sheet for your medium.

In the case that the medium generates explosion hazards, the user has to make sure that the used additional equipment (e.g. pump and meter) and the electrical and mechanical installation follows the national regulations of explosion protection.

2.4 Technical data

Dimensions (WxHxD)	300x300x120 mm
Voltage	12/24V DC
Ambient temperature	-20°C bis 55°C
Protection class	IP54
Maximum switching current	30A
Weight	ca. 5,4 kg
Maximum pulse frequency for the external used flow meter	240 Hz
Maximum failure elevation of the used measuring equipment	
- for a flow meter	0,1%
- for a level sensor	1%
Max length battery cable	6m(2x4,0mm ²)

2.5 Dimensional drawing



2.6 Accessories

The following accessories are available for the HDA eco Box DC:

Description		Article-No.
Adjustment kit	Wall mounting	233400156

Please also refer to the accessories listed in the manual of the HDA eco DC.

The right choice of the additional components like pumps or flow meters depends of the medium and the place of usage. For this please contact the HORN TECALEMIT Service.

Service Hotline +49 1805 900 301

or

service@tecalem.it.de

3 Assembly instructions

Before assembling and commissioning the device, check that the equipment is complete and undamaged.

Be aware and follow the regulations of health and safety.



Commissioning of incomplete or damaged equipment is not allowed!

3.1 Mounting of the HDA eco Box DC

The HDA eco Box DC must be fastened vibration-free to a load-bearing wall or bracket with 4 fixing screws suitable for the substructure. Alternative fixing options are stated in the list of accessories.

3.2 Place of installation

The HDA eco Box DC is designed for installation inside buildings and outdoors. The installation location must be selected such that trouble-free operation and maintenance are possible. Take care of an ergonomic position. The display should be easily visible and the keypad easy to use. The housing door must be able to be opened without being impaired. Also respect the IP class of the HDA eco Box DC by the selection of the place of installation.



Installation and operation of the HDA eco Box DC in explosive areas is not permitted. This would constitute a risk of explosion!



The local and national regulations for waters protection and for plants for water hazardous substances must be observed. Also the local and national regulations for explosion protection must be observed when the medium make them relevant.

3.3 Temperature and humidity

The automatic dispenser may be operated at ambient temperatures from -20°C to +55°C.

Direct, longer periods of exposure to sunlight and condensing air humidity must be avoided.

3.4 Electric connection

The automatic dispenser is operated on 12V or 24V d.c. current. The power consumption is about 5 W. The maximum switching current is approx. 30 A.



Work on the electrical equipment of the device may only be carried out by a qualified electrician or by trained persons under the guidance and supervision of a qualified electrician according to electro-technical guidelines.

For trouble-free operation, an electrical connection from the distribution box with residual current circuit breaker must be selected!

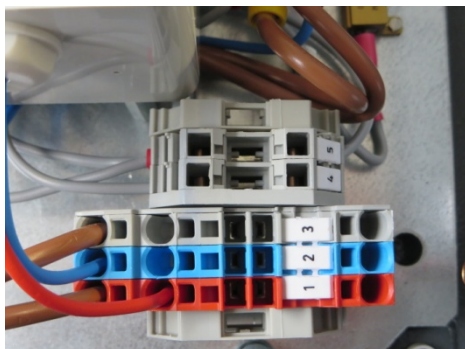
Always observe the correct polarity when connecting the battery clamps. First, the positive terminal and then reconnect the negative terminal. If an incorrect or reversed con-clamped battery pliers may damage the system.

The electrical connection is made according to the wiring diagram contained in the operating instructions of the HDA eco DC.

Data interfaces and floating switches / fill level probes may also be connected to the HDA eco DC. For more information, please refer to the HDA eco DC operating manual.

3.4.1 terminal of the battery and of the pump motor

➡ The connection of the battery and the pump motor to terminal X11.
The terminal strip X11 is on the right bottom of the metal casing



X11	Klemme	Signal
	1 red	Battery +
	2 blue	Battery -
	2 blue	Pump motor -
	3 gray	Pump motor +
	4 gray	Relais at 12V
	5 gray	Relais at 24V

Notice !



The connector for the pump relay must be connected according to the battery voltage. At 12V the signal line to X11.4 must be clamped at 24V to X11.5. Otherwise, the relay will be destroyed.

4 First steps - HDA eco DC

The HDA eco is equipped with an autonomously working refuelling data acquisition system, which permits the recording and subsequent processing of all refuelling processes.

For this, following entries are possible for every refuelling:

- Driver
- Vehicle
- Mileage
- Order

In the factory setting of the HDA eco, only the vehicle will be queried. *Vehicle no. 1* was already created with the code "123" so that a trial refuelling is possible.

Display (e.g.):

```
Vehicle:***  
10:29 03-24-11
```

Refuelling can proceed after entering the numbers '1', '2', '3', confirming with 'ENTER' and drawing the nozzle.

Display (e.g.):

```
Please refuel !  
Vol.: 0.00 L
```

For more information, please refer to the separate HDA eco DC operating manual.

5 Commissioning

5.1.1 First and subsequent priming

For commissioning, all that is required after integration of the HAD eco Box DC into a pump system is to carry out a 'normal refuelling' as described in the first steps or in the separate manual of the HAD eco DC, in which medium is sucked out of the tank. In order to avoid damage to the pump and seals, attention must be paid that the pump does not run dry for an unnecessarily long period of time.

Note:

A normal priming procedure should not take longer than 2 minutes. If the medium has not been primed within this time, the suction line must be inspected for leaks and the function of the return line must be checked.

Unnecessarily long dry running (> 1 min) has to be avoided since otherwise important components may be destroyed.

6 Operation

The following must be observed for normal operation:

- ! **Avoid dry running of the pump system (> 1 min).**
- ! **A defective hose can cause contamination.**
- ! **Following the filling procedure, the nozzle must be hung up in the nozzle holder and the hose protected against being driven over by hanging it on the hose holder.**
- ! **Only vehicle tanks and suitable containers may be filled. The dispensing procedure must be permanently supervised.**

To draw off the medium in normal operation, proceed as follows:

1. Log in at the pump system to activate and switch it on.

Details for the activation of the pump system are described in the manual of the HDA eco DC.

3. Put the nozzle into the container or the vehicle tank.
4. Open the nozzle until the desired quantity has been dispensed.
5. Replace the nozzle to the nozzle holder. The pump system is switched off by pressing the EXIT button.

7 Emergency operation

HDA eco DC units are factory-equipped with an emergency operating mode. This enables emergency operation of the pump even when the HDA eco is defective.

For this, please proceed as follows:

- Open the housing door
- Switch on emergency operating mode on the underside of the HDA eco. The feed pump starts immediately.
- Carry out the refuelling procedure.
- The feed pump must be switched off again immediately after completion of the refuelling procedure by switching off the emergency operation switch.

The access door in the housing should be closed again after refuelling to protect against unauthorised use.

8 Maintenance

Although the HDA eco Box DC is almost maintenance-free, the following work should be performed regularly in order to ensure trouble-free operation:

8.1 Cleaning of the device

Clean dirty outsides carefully with a damp cloth and gentle household cleaner after having disconnected the device from the power supply. Do not use harsh cleaning agents or solvents.

8.2 Type Plate and Warning Signs

- ! **The warning signs attached to the device and the type plate must be well readable. Dirty signs must be cleaned, and replaced if necessary.**

9 Spare parts

The following spare parts are available:

	Article-No.
HDA eco DC	816 800 012
Typeplate	420 004 390
Housing	516 800 001

Please also refer to the list of spare parts in the HDA eco DC operating manual.

10 Disposal

The device is to be emptied completely and the liquids properly disposed of in case it is taken out of service.

The equipment is to be disposed of properly when taken permanently out of service:



- Return old metal for recycling.
- Return plastic parts for recycling.
- Return electronic waste for recycling.



The water legal regulations are to be followed.

10.1 Return of batteries

Batteries must not be disposed of with the domestic waste. Batteries can be returned free of charge via a suitable collecting point or to the dispatch stores. Consumers are legally obliged to return used batteries.

Batteries that contain harmful substances are marked with a crossed out dustbin (see above) and the chemical symbol (Cd, Hg or Pb) of the heavy metal that is decisive for the classification as containing harmful substances:

1. "Cd" stands for cadmium.
2. "Pb" stands for lead.
3. "Hg" stands for mercury.

11 Declaration of Conormity



Konformitätserklärung Declaration of Conformity

Hiermit erklären wir, dass die Bauart
We herewith declare that the construction type

Typ:	HDA eco Box 12/24V DC
Type:	HDA eco Box 12/24V DC
Bezeichnung:	Tankautomat
Designation:	Dispensing automat
Artikel-Nr.:	110500900
Item No.:	

in der von uns gelieferten Ausführung folgenden einschlägigen Bestimmungen entspricht:
in the form as delivered by us complies with the following applicable regulations:

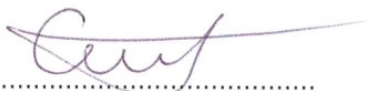
- | | |
|---|--|
| - EMV-Richtlinie 2004/108/EG
<i>Electromagnetic compatibility</i>
2004/108/EC | - Niederspannungsrichtlinie
2006/95/EG
<i>Low voltage equipment</i> 2006/95/EC |
|---|--|

Angewendete harmonisierte Normen:
Applied harmonised standards:

EN ISO 12100-1, -2 EN 60204-1

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01.04.2014
Datum
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