TECALEMIT

Vehicle:
10:18   04.03.14

HORN
TECALEMIT

Made in Germany

HDA eco

Notbetrieb
emergency mode
mode de secours

Standardbetrieb
standard mode
mode standard

Operating manual

HDA eco
Fluid Inventory Control System

Item No.: 816700001, 816700003, 816700004

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.

Copyright

Service Hotline   +49 1805 900 301
(0,14 €/Min: on the German landline network, Mobile telephone max. 0,42 €/Min.)

service@tecalemit.de

Document No.:   44 1670 001-GB-I
Translation of document-no.:   44 1670 001-DE-I
As of: 15.06.2021

Content

1   Safety instructions

This device was manufactured taking into account the relevant laws and directives for ensuring security as well as the protection of the environment and health. Despite this, its use may result in hazards for persons and material assets. Hence, it is essential that the instructions in this manual are complied with.

Warning notices and symbols

In this operating manual, the following symbols are used to point out especially important information:

☞ **Specific details on the economic use of the device.**

❗ **Specific details and/or instructions for damage prevention.**

⚠ **Details and/or instructions for preventing injury to persons or extensive material damages**

Intended use

⚠ Use the device only when it is in perfect working condition and only for its intended purpose while observing all safety precautions and risks. In particular, all malfunctions that could pose a safety hazard are to be corrected immediately.
The device and its components are intended for use exclusively with the liquids listed and only for the purpose described. Any other use or additional manner of usage is not intended.

Organizational measures

⚠ This operating manual is to be kept within easy reach at the place of operation. The nameplate and the warning labels on the device must be observed and kept completely legible at all times.

Qualified personnel

⚠ The personnel for installation, commissioning, operation, and maintenance of the device must possess the relevant and adequate qualifications for these tasks. The operator must ensure that the contents of this manual are fully understood and implemented by the personnel.

Maintenance and repairs

⚠ Do not make any changes, extensions and/or modifications to the device without the manufacturer's permission. Replacement parts must conform to the technical specifications defined by the manufacturer. For original parts, this conformity is always guaranteed.

Hazardous substances

⚠ In exceptional cases, the components of this device may contain hazardous substances. In accordance with the requirements of the European REACH regulation, we provide current information on this on our homepage, in the download section.
Observe all safety regulations for the respective product when handling oils, greases, fuels and other chemical substances!

Water protection

⚠ The device has been constructed for use with water contaminants. It is to be operated such that bodies of water cannot be polluted by it. All applicable regulations at the place of operation are to be complied with!

Hydraulics

⚠ Only personnel with special knowledge of and experience in hydraulics are allowed to perform work of any type on hydraulic equipment. Depressurize the device before performing any work on it. All pressure-bearing components are to be inspected regularly for leaks and damage.

Electrical energy

⚠ Work on electrical equipment is only to be performed by qualified electricians. De-energize the machine and system components before performing any work on the device.
The insulation on all live parts is to be inspected regularly for damage.

2 Technical description

2.1 Intended use

The HDA eco is designed as a Fluid Inventory Control System for use in industry, workshops, filling stations and similar facilities.
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 Wonder Box in explosion hazardous areas is not permitted. This would constitute a risk of explosion!**

2.2 Description

The HDA eco fluid inventory control system is designed for controlling and recording the filling of small and medium sized fleets of vehicles at petrol stations or in the yards of vehicle pools. It is however also used in connection with other meters in the field of workshops and industrial enterprises. Up to 2,000 drivers and up to 2,000 vehicles can be administered.

A delivery transaction is initiated once the operator's authorization to fill has been checked. The identification of the operator can take place by entering a code or via a transponder. In addition, other optional requests can be set up: Driver, vehicle, mileage, order number and pre-selection quantity.

The HDA eco receives pulses from a sensor which are proportion to the volume, calculates the dispensed volume via the stored pulse value and displays these two measurements on a two line text display. The measured data are stored in a non-volatile data storage unit with the time stamp of the battery-buffered real time clock. Via various interfaces (e.g. RS232, RS422, USB, LAN, WLAN), it is possible to transfer the measured data for further processing on a PC.

With the help of a fill level switch or a fill level probe, the HDA eco can monitor a tank in such a way so that if a specified fill level is not reached, the extraction point is blocked (protection against idle running). When using a fill level probe, the current fill level can be displayed.

2.3 Versions

Item No.: 816700001   HDA eco
Item No.: 816700003   HDA eco / Version USA
Item No.: 816700004   HDA eco / Cyrillic Display

2.4   Technical Data

Dimensions (WxHxD)	Ca. 190 x 230 x 85 mm
Nominal voltage	100 … 240 V / 50 … 60 Hz
Ambient temperature	-20°C bis +55°C
Protection class	IP54
Maximum switching current	10 A
Weight	Ca. 1 kg
No. of dispensing points	1
Maximum pulse frequency flow meter	240 Hz
Maximum failure elevation of the used measuring equipment	
Flow meter	Ca. 0,1%
Level sensor	Ca. 1%

2.5   Interfaces of the HDA eco

2.5.1   Interface flow meter

Take care that the used combination of flow meter and pump fits to the HDA eco.

The HDA eco can only work with a maximum pulse frequency of 240 Hz.

To find out that the used equipment fits to the HDA eco please recheck the equipment with the following formulas:

Calculation of the pump for a given flow meter:

$$\text{Maximum flow rate of the pump} = \frac{14400}{\text{Pulse value of the flow meter}} \left[\frac{l}{min}\right]$$

The used value for the pulse rate needs the unit [pulse/l] for the calculation.

Calculation of the flow meter for a given pump:

$$\text{Maximum pulse value of the flow meter} = \frac{14400}{\text{Maximum flow rate of the pump}} \left[\frac{pulse}{l}\right]$$

The value for the flow rate needs the unit [pulse/l] for the calculation.

Calculation example to check the pump for a given flow meter:

Pulse rate of the flow meter: 53,95 pulse/l (FMOG100)

$$\text{Maximum flow rate} = \frac{14400}{\text{Pulse rate}} = \frac{14400}{53.95} = 266.9 \left[\frac{l}{min}\right]$$

Calculation example to check the flow meter for a given pump:

Maximum flow rate of the pump: 64 l/min

$$\text{Maximum pulse value} = \frac{14400}{\text{Flow rate}} = \frac{14400}{64} = 225 \left[\frac{\text{pulse}}{l}\right]$$

Connection of a flow meter (Typical application):
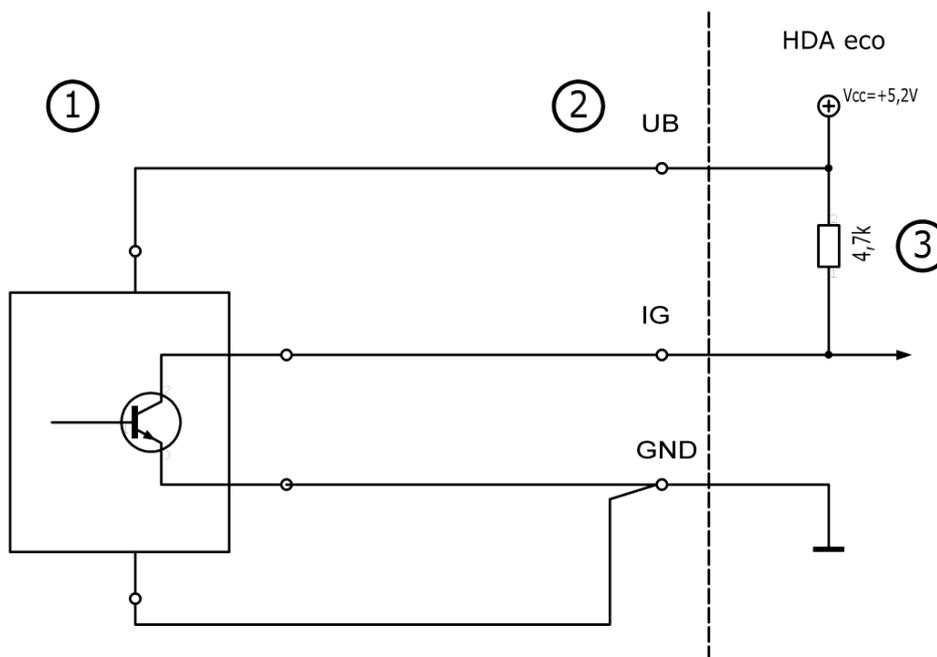
Explanation	
No.	**Description**
1	External flow meter
2	Connection clamp inside HDA eco
3	HDA eco internal

Specification		
Parameter	**min.**	**max.**
Operating voltage	4,9V	5,5V
Supply outputcurrent		50mA
Input voltage	-0,20V	5,5V
Treshold level „low"	1,1V	
Treshold level „high"		3,6 V
Pulse duration, "high" or "low"	1,5 ms	
Input pulse frequency		120Hz

!   **If an external power supply is used for the flow meter, the input voltage of the HDA eco must not exceed the values shown above. Otherwise, the device will permanently be damaged.**

2.5.2 Interface level control

Connection of a level control:

Use either a level switch (1) or a level gage (2). Never use both parallel.
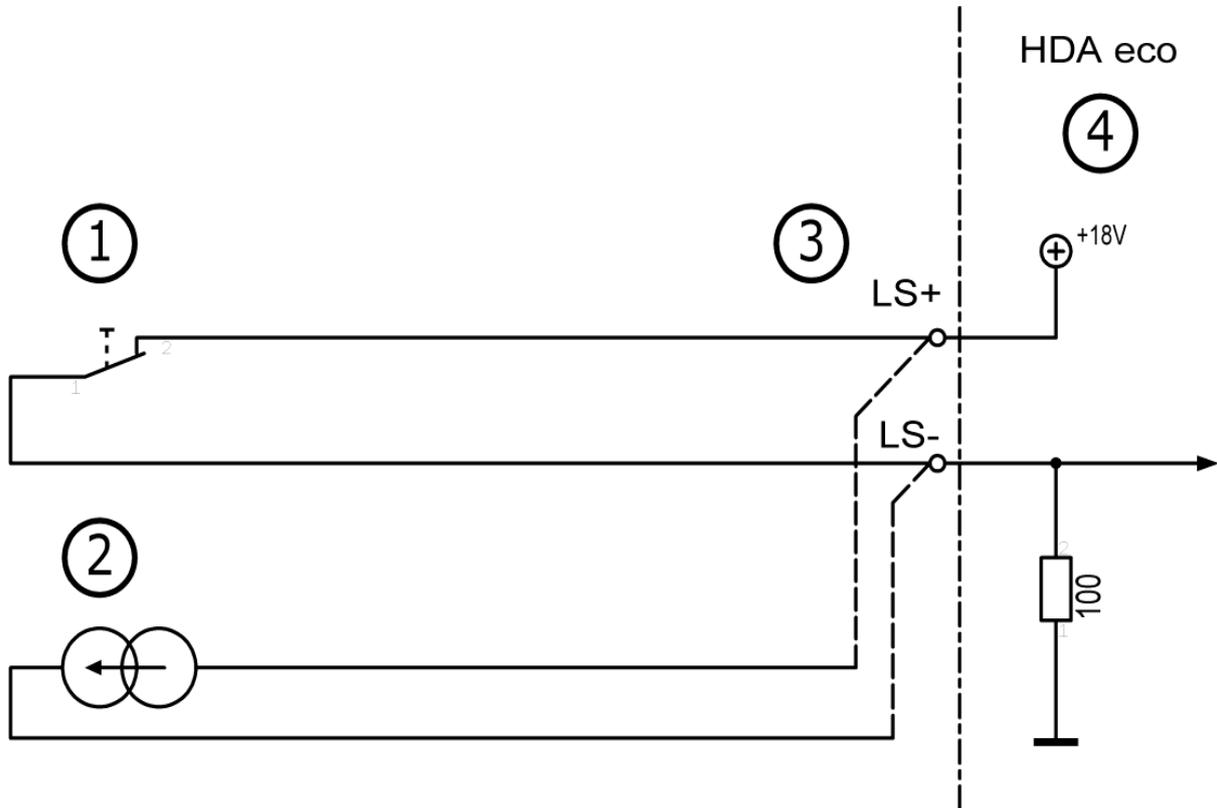
Explanation	
No.	**Description**
1	Level switch (nc)
2	Level gauge 4-20mA
3	Connection clamp inside HDA eco
4	HDA eco internal

Input configured for level gauge		
Parameter	**min.**	**max.**
Supply voltage	16V	22V
Input current range	3mA	22mA

Input configured for level switch		
Parameter	**min.**	**max.**
Switching voltage		22V
Switching current	4.5mA	5.5mA

! **The input configuration for connection of a level gauge 4 – 20 mA is an option and must be ordered separately!**

2.5.3 Interface nozzle switch

Typical connection of a nozzle switch:
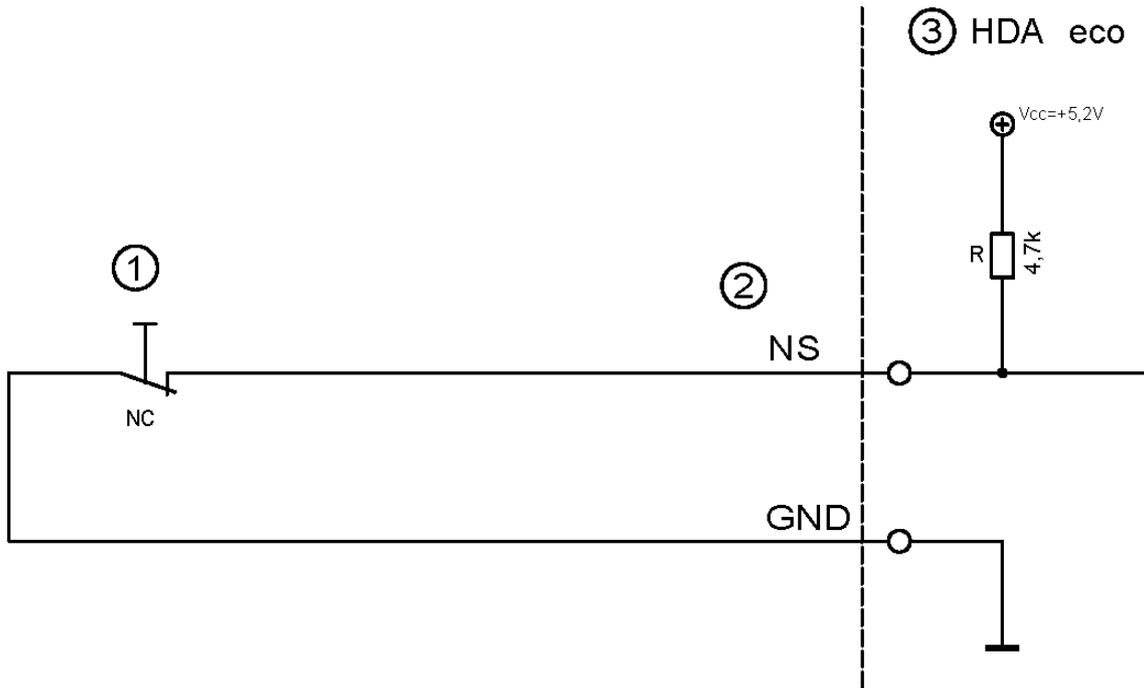
Explanation	
No.	**Description**
1	Nozzle switch
2	Connection clamp inside HDA eco
3	HDA eco internal

Input Nozzle switch		
Parameter	**min.**	**max.**
Switching voltage	5,5V	
Switching current		1.3 mA

☞ **A nozzle switch that is qualified for the low current has to be used, e.g. a reed switch.**

2.5.4   Interface pump motor

Pump motor circuit diagram
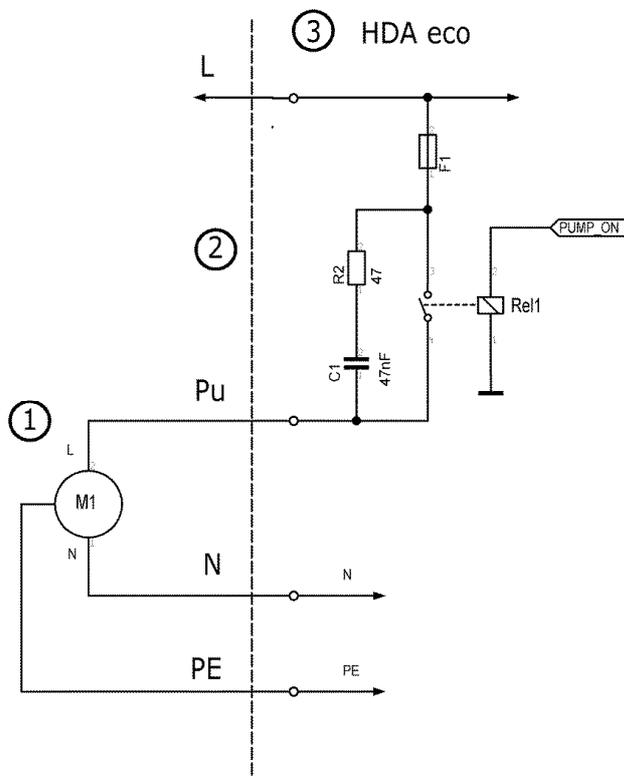
HDA eco circuit board version E   HDA eco circuit board version F
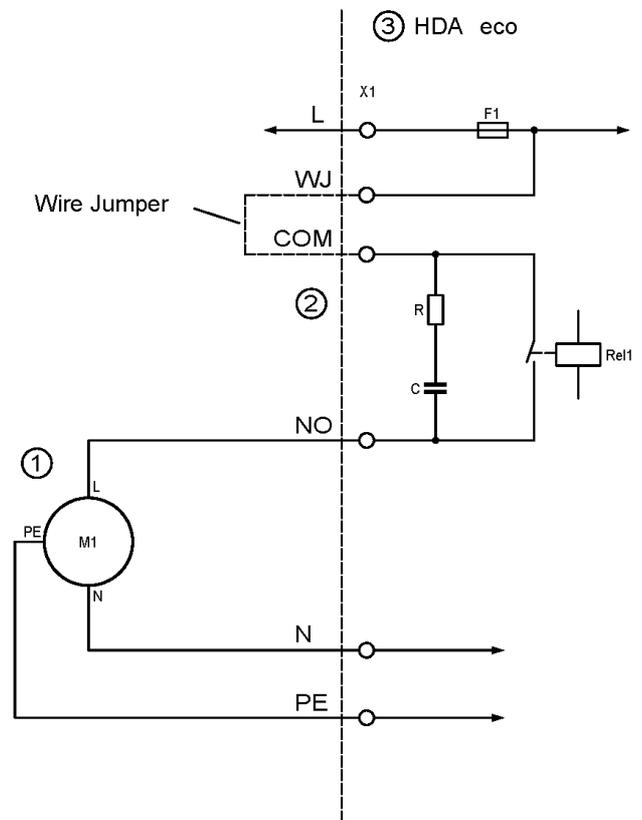
Key	
No.	**Description**
1	External pump motor
2	Terminal block in HDA eco
3	HDA eco, internal

Relay		
Parameters	Min.	Max.
Switching voltage		250 VAC
Rated current		10 A

☛ Note:
If, instead of the pump motor, a contactor is connected, note that in the "off" state of the pump relay (see above, Rel1) a current of approx. 3.5mA flows through the RC element of the spark quenching. In the case of sensitive contactors, it may be the case that they do not drop out.
This can be remedied by using an RC element (e.g. 100 Ohm + 0.47μF, item no. 450300550), and/or an additional resistor parallel to the coil of the contactor. A 10 kOhm resistor with a 7W load capacity is sufficient in most cases.

2.6   Accessories

The following accessories are available for the Wonder Box:

Artikel-Nr.	Benennung	
233400170	Interface RS422	(Plug-in PCB; please indicate the serial number & year of manufacture of the dispenser when ordering for retrofitting)
233400190	Interface RS232	
233400032 / -33	LAN Interface	
233400035	WLAN Interface	
CMR – Module (cellular mobile radio)		
233400038	GPRS – Module	
233400042	UMTS – Module	
233400045	LTE – Module	
233400200	TAG	(Key for driver/vehicle identification)
233400081	USB TAG reader	
233400165	Float switch	
233400160	Interface level probe	(When ordering for retrofitting include the serial number and year of manufacture)
233400470	Activation code fee	(activation by telephone when retrofitting the level probe)
224010000	Level probe 200 mbar	(tank height max. 3m; cable length 5m)
224020000	Level probe 300 mbar	(tank height max. 3m; cable length 5m)
224050000	Level probe 500 mbar	(tank height max. 5m; cable length 7m)
224061000	Terminal box with pressure compensaton filter	(for extending the cables of the level probes)

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@tecalemit.de

2.6.1 Software connection

Manage your tank data conveniently on the PC or tablet.

2.6.1.1 mytecalemit Cloud

Use our mytecalemit Cloud for managing your tank data.
Safe, reliable, easy, intuitive and flexible. Start immediately at
www.mytecalemit.com. Got questions? We're happy to advise you.

For a graphical representation of the options offered by mytecalemit Cloud, please refer to Annex C.

Artikel-Nr.	Beschreibung	
227000000	mytecalemit Cloud	Base module petrol station
227000100		Reporting and service module
227000200		Level module
227000300		Full-Service Package
227001100	mytecalemit Data module	SIM card M2M petrol station
227702050	mytecalemit factory-made software preconfigured	50 Drivers/Vehicles
227702100		100 Drivers/Vehicles
227702500		500 Drivers/Vehicles
227702800	Software commissioning and instruction	
227702900	Software commissioning and instruction on-site	

3   Assembly Instructions

The electronics of the HDA eco are installed in a plastic housing with a removable housing cover.

Before the wiring work always remove the cover of the housing with the keyboard film.

❗ The flat ribbon cable is very sensitive and should not be pulled or twisted!

Remove the cover as follows:

- Loosen the four lid screws and carefully lift the cover
- Pull out the plug of the ribbon cable attached to the keyboard
- Carefully disconnect the plug of the transponder antenna and pull it out
- Put the cover to the side

❗ Before HDA eco initial operation the optional socket modem has to be checked for proper fit. A loose socket modem has to be pressed into its socket carefully. If inserting a socket modem the right position has to be double checked! Due to a wrongly installed socket modem damages to the device may occur. In case of doubt the HORN TECALEMIT Service has to be contacted.

3.1   Electric connection

The HDA eco is operated on 100V … 240V / 50 … 60 Hz. The power consumption is about 5 W. The maximum switching current is approx. 10 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!

Connection plan, circuit board version E

HDA eco 1670-E
TECALEMIT

LEDs operating voltage

Keyboard connection

Lithium battery

Fuse

Serial interface

Connection RFID antenna

LAN interface

Pump motor

Mains voltage

Emergency mode switch

Connection plan, circuit board version F

HDA eco 1670-F
TECALEMIT

5V TX RX GND

18V — LEDs operating voltage
5,2V

USB X7

Status

Keyboard connection

X5

X6 1

Lithium battery

CR 2032 − +

X3

V+ PI GND NS GND LS+ LS−

DSR
DTR
RXD
TXD

S1
On

Fuse

F1

Socketmodem

1

Jumper

X1

PE NO COM PE N WJ

X2

X10

X4

RJ45

PE 6 5 4 3 2 1

PE NO COM PE N L

Mains voltage

Serial interface

Connection RFID antenna

Pump motor / contactor

Emergency mode switch

LAN interface

Terminals version E

Terminal strip	Terminal	Signal	
X1	L	Mains voltage - live	
	PE	Mains voltage - protective earth	
	N	Mains voltage - neutral	
	Pu	Switched phase for motor	
	2. L and Pu	Emergency mode switch	
X2	**Socket modem serial**	**RS422**	**RS232**
	1	GND	GND
	2	TX-	DSR
	3	TX+	DTR
	4	GND	GND
	5	RX-	RX
	6	RX+	TX
	PE	Earth terminal	
X3	V+	Pulse generator operating voltage +5.2V	
	PI	Pulse input	
	GND	Pulse generator ground	
	NS	Enabling contact (potential-free contact)	
	GND		
	LS +	Sensor (4-20 mA) operating voltage + or float switch	
	LS -	Sensor (4-20 mA) operating voltage - or float switch	
X4	RFID antenna connection		
X5	Display connection		
X6	Keyboard connection		
X7	USB port		
X8	Not used		
X9	Not used		
X18	Socket modem LAN	RJ 45 plug LAN	

Terminals version F

Terminal strip	Terminal	Signal	
X1	L	Mains voltage - live	
	PE	Mains voltage - protective earth	
	N	Mains voltage - neutral	
	NO	Switched phase for motor/contactor when jumper (WJ-COM) is installed	
	WJ and COM	Without a jumper, COM and NO are potential-free	
	2. COM and NO	Emergency operation switch	
X2	**Socket modem serial**	**RS422**	**RS232**
	1	GND	GND
	2	TX-	DSR
	3	TX+	DTR
	4	GND	GND

	5	RX-	RX
	6	RX+	TX
	PE	Earth terminal	
X3	UB	Pulse generator operating voltage +5.2V	
	IG	Pulse input	
	GND	Pulse generator ground	
	ZV	Release contact (Potential-free contact)	
	GND		
	LS +	Sensor (4–20mA) Operating voltage +	
	LS -	Sensor (4–20mA) Operating voltage -	
X4	RFID antenna connection		
X5	Display connection		
X6	Keyboard connection		
X7	USB port		
X8	Not used		
X9	Not used		

Switch

Switch	No.	Position	Operation
S1 (DIL-Schalter)	1	On	Initialisation
		Off	Normal operation
	2	On	Programming
		Off	Normal operation

LEDs

LED	Function	Comments
18V	18 V operating voltage present	
5,2V	5.2 V operating voltage present	
DSR	Serial interface signal DSR active	Remote station operational
DTR	Serial interface signal DTR active	HDA eco operational
RxD	Serial interface signal RX active	Send data
TxD	Serial interface signal TX active	Receive data

3.1.1 Notes concerning electrical connection

3.1.1.1 Relay Contact

The relay contact for the pump motor is protected by fuse F1 (10 A slow-blow, 5x20.

3.1.1.2 Emergency mode switch

The emergency mode switch bridges the relay contact for controlling the pump, e.g. in the case of a defective customer activated terminal. In emergency operation mode, no filling is registered!

3.1.1.3   Battery Exchange

De-energize the device. Switch off power supply. Use exclusively type CR2032 (3 V lithium). The used battery has a minimum shelf life of five years.

3.1.1.4   Socket Modem

De-energize the device. Switch off power supply. The data line (X2, X18) is to be disconnected or cut off during installation of the socket modems.

Observe the polarity. If the direction of installation of the socket modem is incorrect, this can lead to damage affecting the socket modem and the HDA eco! Pin 1 of the socket modem plug slot is located underneath on the left hand side.

3.1.1.5   Float Switch

The float switch is connected to X3, LS+ and LS-. It must be implemented as a normally closed switch (open = low medium)

3.1.1.6   Cable Shielding

Shielded cables must be used for the control cable of the flow meter and the data cable. Otherwise a negative effect of the function can occur and damages or malfunction can happen.

3.1.2   Installation of the float switch

It is possible to connect a float switch to the HDA eco in order to prevent the tank from being pumped completely empty.

The float switch is not installed on delivery and must be mounted in the tank at the desired fill level by the installation company. The float switch must have normally closed contacts that open when the liquid level drops.
HORN TECALEMIT has a suitable float switch (see section 2.6). Please contact the HORN TECALEMIT SERVICE for the right recommendation.
The 'float switch' function must be activated in the HDA eco automatic dispenser (see section 5.3.5.1 and the float switch must be connected in accordance with the circuit diagram. (see section 3.1).

3.1.3   Installation of the level probe (Optional)

It is possible to connect a level probe (4-20 mA) to the HDA eco. This makes it possible to monitor the level of fuel in the tank on the HDA eco and to switch the pump off when the adjustable minimum level is reached. This protects the pump against damage caused by dry running and prevents any dirt on the floor of the tank from being sucked in.
The 'level probe' function must be activated in the HDA eco automatic dispenser and the probe must be connected in accordance with the circuit diagram (see section 3.1). This function should be activated on ordering the dispenser, but it can also be activated later by telephone. To do so, please contact our customer service. Subsequently, the automatic dispenser must be parameterized with the tank values (see section 5.3.5.2).

A suitable level probe must be selected with a measuring range adapted to the tank height (see section 2.6).

The level probe is not installed on delivery and must be mounted on the floor of the tank by the installation company. If the probe cable is extended, a terminal box with a pressure compensation element must be used (see section 2.6).

The sensor should be positioned horizontally at the lowest point of the tank so that the effective installation height (offset) is as close as possible above the bottom of the tank (see sketch). In particular cases it can be necessary to position the sensor suspended above the floor of the tank. Then the offset for this tank must be entered in the corresponding input mask.
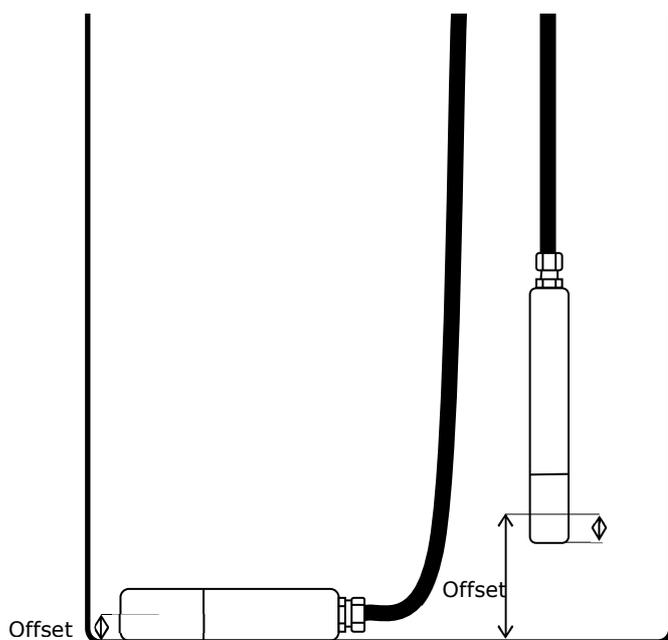
Offset

Offset

* *The offset depends on the type of sensor*
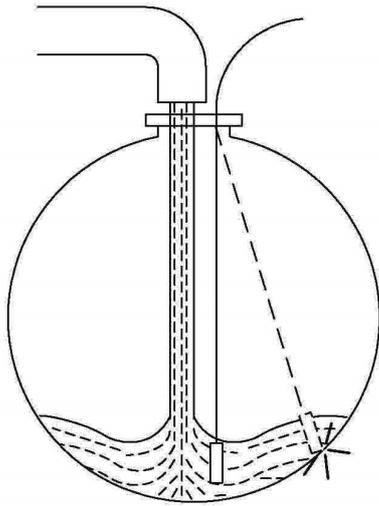
Please observe the following during installation:

- Ensure that the sensor is not swinging during and after installation. A protective pipe with bleeding hole on the upper end is to be foreseen in case the sensor is to be installed near a filling or suction line.
- The connecting cable of the sensor must not be bent during installation, as there is also a capillary for pressure equalization in the cable.
- For the same reason, when using a terminal box to connect an extension cable, there must be an opening in the terminal box with a filter for pressure equalization. We recommend using our terminal box, item no. 224061000.

3.1.4 Retrofitting the level probe interface

It is possible to retrofit the optional level probe. Please contact TECALEMIT Customer Service.

3.1.5 Connection of the RS232 / RS422 interface

It is optionally possible to transmit data from the HDA eco to a PC. The HD Manager, HD Manager Basic or HD Manager eco PC software is required for this and the HDA eco must also be fitted with an additional module ('socket modem') for the respective interface.
The PC can be connected via an RS232 or RS422 interface, depending on the local conditions:

3.1.5.1 RS232-connection

In this case interference-free data transmission is possible only up to a cable length of approx. 600" (depending on the type and routing of the cable). A free RS232 interface (COM port) or a USB-to-RS232 adaptor is required on the PC and the RS232 socket modem must be plugged in on the HDA eco.

Connection diagram

PCB HDA eco

D sub socket 9-pole
(front view)
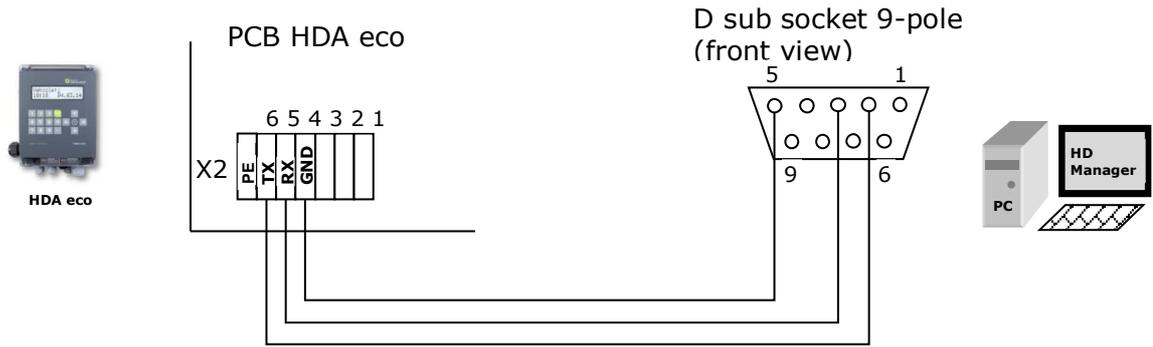
3.1.5.2   Printer connection

Via the serial interface, it is possible to connect an EPSON TM20 RS232 printer. An undisturbed printout is possible with a cable length of approx. 15m (depending on the cable type and how it is laid). The RS232 socket modem must be plugged into the HDA eco.

Connection diagram

PCB HDA eco

D sub socket 9-pole
(front view)

EPSON TM-T20
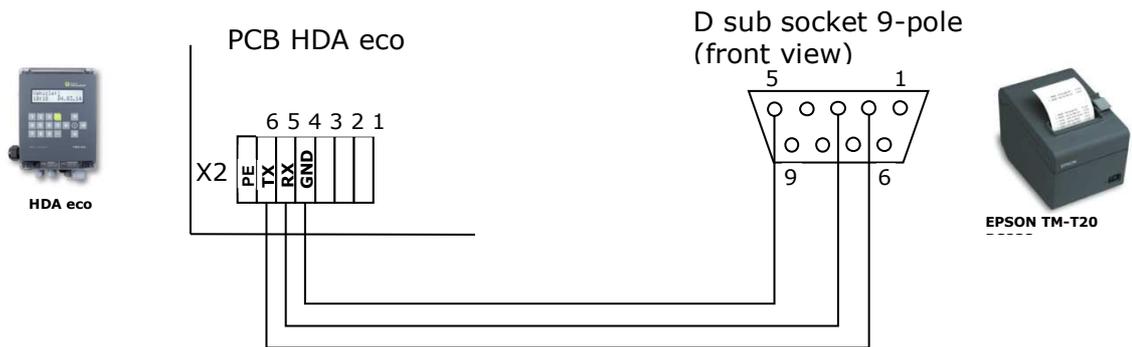
3.1.5.3 RS422-Connection

In this case data transmission is possible up to a cable length of approx. 1100 yards. An RS232-to-RS422 converter is required at the PC end and the 'RS422 socket modem' must be plugged in on the HDA eco. The PC must have a free COM port or a USB-to-RS232 adaptor.

Connection diagram
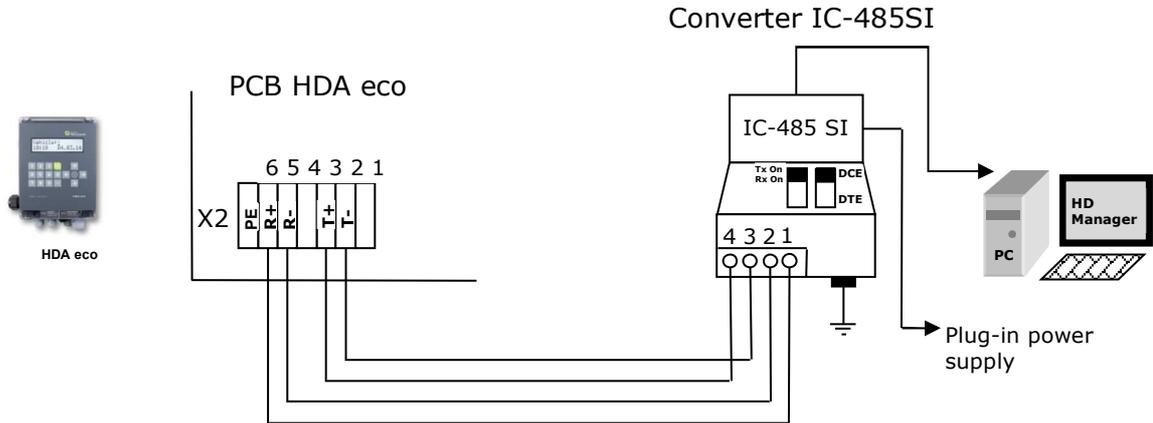
3.1.5.4 LAN Connection

The link via a cable-connected LAN interface to an existing local network enables communication to a PC. The PC must be in the same network. For details concerning the connection and the necessary settings, see chapter 5.3.4.3.10.

Connection diagram
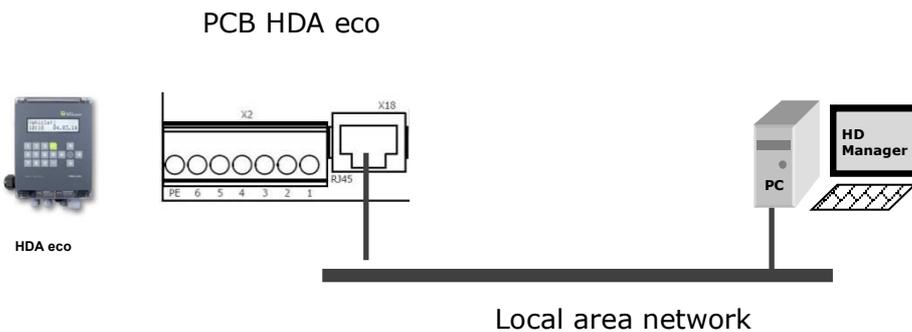
3.1.5.5   WLAN connection

The link via the WLAN interface to an existing WLAN network enables communication to a PC. The PC must be in the same network. For details concerning the connection and the necessary settings, see chapter 5.3.4.3.10.

Connection diagram

Local area network
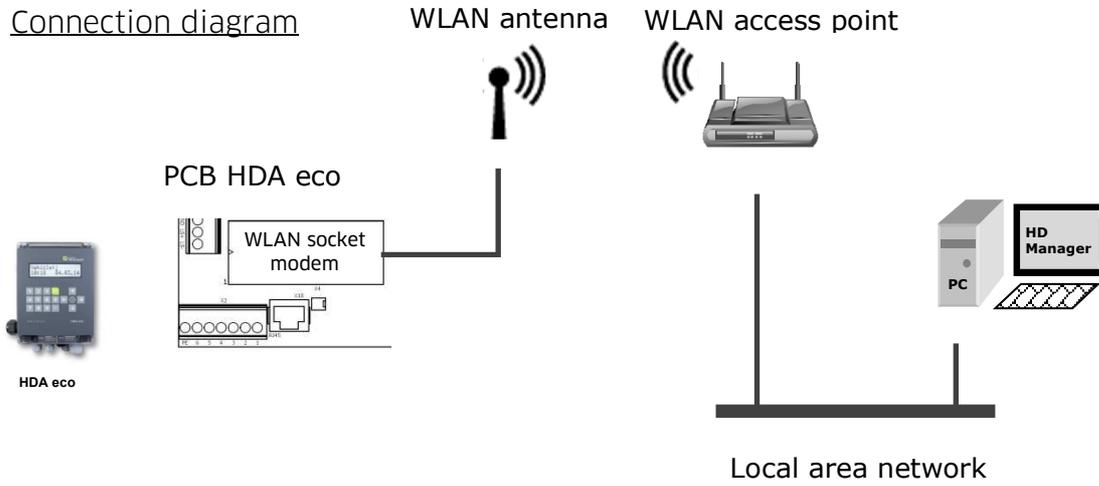
3.1.5.6   CMR-connection

The link via CMR socket modem enables communication via internet to a PC. The PC must be connected to the internet, too. For details concerning the connection and the necessary settings, see chapter 3 and Annex B.

Connection diagram
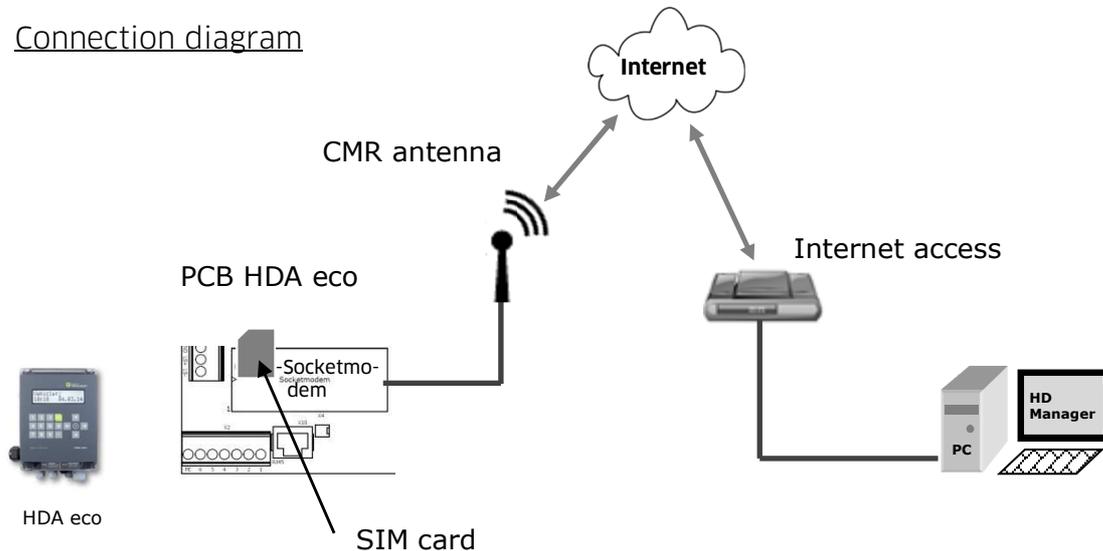
☞ **For CMR modem operation an activated M2M (Machine to Machine) SIM card (not in scope of delivery) from an Internet Service Provider (ISP) is needed. Many ISP's have reliable service plans for this purpose. The SIM card in standard format has to be inserted in to the provided card holder on the CMR socket modem.**

⚠ **Before this the HDA eco has to be switched off! (see Chapter 3). Take precautions against the possibility of electrostatic discharge when inserting the SIM card.**

3.1.5.7   Retrofitting the Data Interface

It is possible to retrofit the optional data interfaces.
Please contact TECALEMIT Customer Service.

3.2 Calibration of the measuring system

If the HDA eco has been installed in a TECALEMIT pump system and/or a dispensing station, a calibration of the entire system has already been performed at the factory. If a different flow meter is installed, calibration should be performed.
Only by doing so can it be ensured that the pulses generated by the flow meter are processed correctly by the HDA eco, and that the measurement and display results correspond to the volume dispensed.

The following steps have to succeed for the calibration:

Step 1:

Enter the pulse value of the used flow meter as in sector 0 is described. If the exact value is unknown it can be estimated

Step 2:

Make a delivery into a satisfactorily accurate vessel or undertaken by means of a reference meter.

Step 3:
The pulse value is calculated as follows:

$$\text{Pulse value}_{new} = \frac{\text{Volume}_{displayed}}{\text{Volume}_{delivered}} \times \text{Pulse value}_{old}$$

Example:
A 20 litre measurement vessel is filled; the meter only indicates 19,7 litres. The old pulse value is 53,95. The new pulse value is calculated as follows:

$$\text{Pulse value}_{new} = \frac{19.7}{20.0} \times 53.95 = 53.14 \text{ (rounded)}$$

Step 4:

As last step enter the pulse value$_{new}$ as in sector 0 described.
When the last step is succeeded, the measuring system is calibrated.

4   First steps – HDA eco

The HAD 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 Wonder Box, 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   24.03.12
```

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

All specific settings for the extraction point or an optional available interface can be-set after the first power-up in the management mode (see section 5.3).

☛ **Special aspects when using the LAN/WiFi or CMR socket modem: The login data for an unconfigured WiFi/LAN or CMR socket modem (optional) can be conveniently loaded by inserting a USB memory stick containing a configuration file. This file will need to be created beforehand using the HD Manager program or via the corresponding website of mytecalemit Cloud (see chapter 5.3.4.3.12.4).**

5 Operating of the Fluid Inventory Control System HDA eco

The user is guided through the operation of the HDA eco by a menu structure (shown in Annex A). The operating manual is orientated to this menu structure.

5.1 Switching on

After switching on the HDA eco, a function test runs (display test, program version display, memory test, real-time clock test). If equipped with a WiFi socket modem and if the WiFi interface has already been set up (see section 5.3.4.3.10), the HDA eco will establish a connection with the existing network. The signal level and quality will then be shown on the display for a few seconds.

The automatic dispenser is in the 'Dispensing' mode after switching on.

5.1.1 Entry of values

The operation of the automatic dispenser takes place mainly via keyboard. The following basic entries are possible depending on the input fields (Exceptions are treated in the corresponding sections):

a) Entry of numerical values (figures)
Entry is made via the number pad. Wrong entries can be deleted character by character with the '◄' key. Press 'ENTER' to confirm, 'EXIT' to cancel. Where is it meaningful, a minus sign can be entered with the '►' key.

b) Entry of alphanumeric values (letters & numbers)
Entry of numbers is made via the number pad. The entry of letters and special characters is made via the keys'▲'and '▼' confirm the character with the '►►' key. The characters are arranged as follows: 'a' - 'z', 'A' - 'Z', '0' - '9', special characters.
Wrong entries can be deleted character by character with the '◄' key.
Press 'ENTER' to confirm, 'EXIT' to cancel.

c) Selection of fixed settings
In many input fields only a selection of few alternatives is possible. These are present and can be selected using the '◄' and '►' keys and confirmed via 'ENTER'. For cancelling use 'EXIT'.

5.2 Refuelling mode

Refuelling can be carried out. Some of the necessary entries are optional. The querying of the inputs in the appropriate input screens as well as additional dispensing parameters can be specified in the menu item 'Dispensing options' (see section5.3.4.1). Entering is cancelled when for more than 30 seconds no button is pushed. The following steps are necessary to dispense fuel:

5.2.1 Driver identification (optional)

The driver is identified by the associated ID (code or transponder + optional PIN). The IDs are specified in the menu item 'IDs' (see section 5.3.3)

Display (e.g.):

```
Driver:***
10:29  24.03.12
```

A code with a maximum of 5 digits must be entered. A '*' character appears on the display for each digit entered. Entering leading zeros is not necessary.
A transponder tag can be used as ID instead of the code. Mixed operation (operator code and transponder tag) is possible; each ID may be assigned either a code or a transponder tag.
The transponder tag needs to have a distance of 1 – 2" to the reader. Acceptance is indicated by a short beep tone.

It is possible to additionally issue a PIN with a maximum of 5 digits for each ID (code or transponder), (see section 5.3.3.1.1).

If an incorrect code or an incorrect PIN is entered, or if a transponder tag is used that has not been released, input is disabled for a period of time that is extended with each subsequent incorrect entry.

Display (e.g.):

```
Pin:***
10:29 24.03.12
```

The current time is displayed in the lower line.
After dispensing, the dispensed amount from the last fuelling is displayed in the lower line for 15 minutes after dispensing ends.

Entry of the **master code** or the use of the master transponder switches to the **management operating mode.**

Master code factory setting: 99999. It is absolutely essential to change this code (see section 5.3.3.2)

5.2.1.1 Vehicle identification (optional)

The vehicle is identified by the associated ID (code or transponder + optional PIN) in the same way as the identification of the driver.

Display (e.g.):

```
Vehicle:***
10:29 24.03.12
```

5.2.1.2   Tank content display (optional)

It is possible to switch to the tank content display from the input screens for the driver or vehicle identification by pressing the '▼' button. The contents in percentage, the measured level and the contents in litres are displayed. (Only if the level probe is installed and set up.)

Display (e.g.):

```
Tank  20%
510mm     68000L
```

The display disappears automatically a few seconds after the button is released.

5.2.1.3   Software version display

It is possible to switch to the display of serial no., hardware revision and the software version from the input screens for the driver or vehicle identification by pressing the '►' button.

Display (e.g.):

```
S/N 1802456 HW:E
V:4.250 EU
```

This information is requested by our customer service staff in the event servicing is required. The display disappears automatically a few seconds after the button is released.

5.2.2   Dispensing without entering a code (optional)

If Code query: 'none' has been selected in the dispensing options in section 5.3.4.1.1 I, dispensing is possible without entering a code by pressing the 'ENTER' key. Nevertheless, if a vehicle code is available it can be entered; the dispensed fuel will then be assigned to it.

Display (e.g.):

```
Code:***
10:29   24.03.12
```

The code query serves only to switch to the **management operating mode** with the master code (see section 5.3).
Notice: If "*ID query: none*" has been selected and the *Order* and *Mileage* queries have been deactivated too, dispensing begins **as soon as** the "**ENTER**" key is pressed or **the nozzle is drawn** when a nozzle switch is installed.

5.2.3 Entering the Odometer reading (optional)

A 1 to 8-digit odometer reading can be entered directly. A plausibility check can be carried out if necessary (see dispensing options).

Display (e.g.):
```
Odometer:12000
10:29  24.03.12
```

For a downstream refuelling data evaluation the odometer reading must to be assigned to a vehicle, i.e. the vehicle must be queried!

5.2.4 Entering the order number (optional)

An alphanumerical value with a max of 8 digits can be entered.

Display (e.g.):
```
Order: 56385265
10:29 24.03.12
```

5.2.5 Refuelling

After all queried parameters have been entered, refuelling is requested.

Display (e.g.):
```
Please refuel!
Volume:  0.00L
```

5.2.5.1 Entry of a preselected quantity

It is possible to enter a preselected quantity before drawing the nozzle. To this end the desired quantity in litres is entered directly using the numeric keys. After having pressed the first numerical key or 'ENTER', the display changes and indicates the preselected quantity.

Display (e.g.):
```
Preset: 120  L
Volume:  0.00
```

The preselection quantity is confirmed with 'ENTER'; the entry of the preselection quantity is cancelled with 'EXIT'. After pressing 'EXIT', a normal refuelling procedure is initiated without using the preselected quantity.

5.2.6 Refuelling procedure

After drawing the nozzle, the pump is switched on.

Display (e.g.):

```
 0.0L_
```

The dispensed quantity is updated continuously during dispensing.
Dispensing can be stopped using the 'EXIT' button, even before the nozzle has been drawn. The time and quantity limits specified in the Menu Refuelling Options (5.3.4.1) apply to the refuelling procedure.

Completion of dispensing by replacing the nozzle, pressing the 'EXIT' button or reaching the preselected quantity / dispensing limit is shown by a corresponding message for approx. 5 seconds.

Display (e.g.):

```
Refuelling done!
Volume:  789,5 L
```
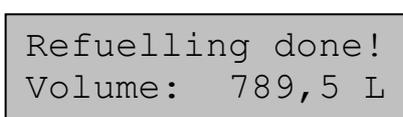
If dispensing is aborted due to a timeout, the cause of the abortion is shown in plain text on the display.

Display (e.g.):

```
Time Out
Volume:  789,5 L
```

The dispensed quantity is displayed for 15 minutes or until a new refuelling operation is initiated.
After completion of the refuelling procedure, the dispensing event is saved in the memory of the automatic dispenser with all entered data (driver, vehicle, etc.) plus a time stamp and can be processed running the corresponding management functions (see section5.3).

5.2.7 Data retrieval

The data is retrieved either via the USB port on the automatic dispenser onto a commercially available USB flash drive or optionally by means of a data connection to a PC (corresponding accessory is required – RS232/RS422 interface) or via the LAN / WLAN or CMR interface. Data retrieval is possible only in the 'Refuelling' mode from the input screens for the identification of the driver or vehicle.

5.2.7.1 Data retrieval via USB flash drive

The dispensing and system data of the HDA eco are written to a USB flash drive. We recommend using the supplied USB flash drive. It is possible to use other USB flash drives but we cannot guarantee for their performance. The data on the USB flash drive can be processed on a PC using the HD Manager refuelling data administration program. To retrieve the data, the USB flash drive is inserted into the opening provided on the left of the automatic dispenser housing. Before doing so, the cover (if any) must be swivelled away after loosening the knurled screw.
Optionally, in order to protect against access by unauthorised persons, an optional preset USB code must be entered after inserting the USB flash drive (see section 5.3.3.2). By default the USB code requisition is not activated.

Display (e.g.):

```
Storing
refuelling data
```

The storage of the data takes place in a folder whose name is equal to the name of the serial number of the device, e. g. 1820345. The dispense data of several devices can be stored on one USB flash drive by this method.
To prevent the loss of data, the USB flash drive must not be removed during reading or writing.
After completion of the data retrieval, the retrieved refuelling data are marked as transmitted and are therefore ignored in the case of subsequent data retrievals. See Annex B for further details, regarding the retrieved data and storage on the USB flash drive.
After completion of the data retrieval, the cover must be replaced and the knurled screw tightened.

5.2.7.2 Data retrieval via data cable

The connection of the appropriate accessory kit to a PC is necessary for data retrieval via a data cable. The data are retrieved and processed via the 'HD Manager refuelling data administration program' – refer also to the separate manual.

5.3   Management operating mode / main menu

The operating mode is switched to management by entering a master *code or by the use of the master transponder.*

Attention:
Master code factory setting: 99999. It is absolutely essential to change this code (see section 5.3.3.2)

In this mode of operation system parameters can be set and various management functions can be performed, such as administration of the dispensing data, totals, IDs etc.

Display (e.g.):

```
Main menu
▼Refuelling data
```

Menu items are selected with the ▲' ' and '▼ ' keys and selection is confirmed by pressing the 'ENTER' key.
Sub-menus or menu items can be aborted by pressing the 'EXIT' key.
Pressing the 'EXIT' key in the main menu will return you to the dispensing mode.

5.3.1   Refuelling data menu

The functions for the display and processing of the dispensing data are combined in this menu. The HDA eco automatic dispenser can store approx. 10,000 dispensing data records. The oldest data records are overwritten once the memory is full.

Display (e.g.):

```
Refuelling data
▼Show Refuell.
```

After selecting the appropriate menu item, the respective sub-menus can be used to display or delete the dispensing data, to display the number of stored dispensing events or to create a report on a USB flash drive.
Select with 'ENTER', abort with 'EXIT'.

5.3.1.1 Show Refuellings

Display (e.g.):

```
Refuell.: 53 ♦
24.03.12  14:44
```

All of the refuellings stored in the memory can be viewed, beginning with the last dispensing event. The refuelling to be displayed can be selected using the '▲' and '▼' buttons. The '◄' and '►' buttons can be used to select the individual dispensing data (date, quantity, driver, vehicle, mileage, order no). For cancelling use 'EXIT'.

The status of the dispensing event is shown by means of letters / special characters after the time. Meanings:

'T'   :   Dispensing interrupted due to timeout
'X'   :   Dispensing data record was transmitted / saved to the
             USB flash drive

When pressing the 'ENTER' button an input mask appears. There the **displayed dispensing data set and all newer ones** can be marked as not transmitted. So these data can be retrieved from the PC or printed out again following e.g. loss of data or transmission errors.

Display (e.g.):

```
Refuelling data
recover?
```

Confirm with 'ENTER', abort with 'EXIT'.

5.3.1.2 Print Refuellings (Option ‚Printer')

Display (e.g):

```
Refuell.     53 ♦
28.10.11 14:44 T
```

All the data stored in the memory can be printed.
The delivery (of fuel) to be printed is selected in the same way as described in the menu point, i.e. via buttons ‚▲' and ‚▼'. Using the ◄' and ‚►' buttons it is possible to display details relating to the delivery (data, quantity, driver, vehicle, kilometrage, order number).
The displayed data set is printed by actuating the 'ENTER' button, abort using 'EXIT'.

5.3.1.3   Reset Refuellings

Display (e.g.):

```
Menu Refuellings
♦ Reset Refuell.
```

Confirm with 'ENTER', abort with 'EXIT'. The data from the stored dispensing events will be marked as already transmitted.

Notice:
The dispensing data are NOT physically deleted from the memory, but merely marked as already transmitted. That means that they will be ignored at a new transmission or USB report. It is possible to undo the deletion (see section 5.3.1.1).

5.3.1.4   No. of Refuellings

Display (e.g.):

```
Refuell.: 1532
 76.3% engaged
```

The number of refuellings saved and the memory used (in percent) are displayed. The maximum possible number of dispensing data records that can be saved is approx. 10,000.

5.3.1.5 USB Report – Refuellings

A report for the dispensing data not marked as already transmitted is saved as a text file ('DSPDATA.TXT') on a USB flash drive. The file can for example be opened with a text editor on a PC and printed out. The prerequisite for this is that a recordable USB flash drive is inserted in the USB port provided for it on the automatic dispenser.

Display (e.g.):

```
Saving report
   1 / 122
```

File (e.g.):

```
HDM eco 1820025

USB Report - Refuelling data
...........................
....

Date 24.03.12   Time 12:42

Dispensing data: 1
...........................
....
Date 04-19-11   Time 09:24
Driver:         12
Vehicle:        15
Order:          17635
Mileage:        115050 mls
Dispensing:     32.49  L

Dispensing data: 2
...........................
....
Date 04-20-11   Time 02:38
```

The dispensing data are not marked as transmitted after the creation of the report. They will be saved again with a later report. If necessary, it is advisable to manually 'delete' the dispensing data (see section 5.3.1.3).

5.3.2 Total Data Menu

This menu comprises the functions for the display and processing of the dispensing totals, i.e. the accumulated dispensing quantities.
The totals (driver / vehicle) to be processed must be selected beforehand.

Display (e.g.):

```
Main menu
▼Total data
```

Subsequently, the items for the processing of the totals can be selected in the sub-menu.

Display (e.g.):

```
Menu Total data
▼Totals Driver
```

After selecting the appropriate menu item, the respective sub-menus can be used to display or delete the totals data or to create a report on a USB flash drive. Select with 'ENTER', abort with 'EXIT'.

5.3.2.1 Display Totals

Display (e.g.):

```
Driver:  all   ♦
Total1:  110556
```

Display (e.g.):

```
Driver:       1 ♦
Total:      190
```

The total dispensed quantities 'Total1' (not resettable) and 'Total2' (resettable), the individual totals per vehicle and the total number of dispensing events without code entry can be displayed.
The total to be displayed can be selected using the '▲' and '▼' buttons. For cancelling use 'EXIT'.

5.3.2.2 Reset Totals

Display (e.g.):

```
Menu Total data
♦Reset totals
```

Confirm with 'ENTER', abort with 'EXIT'. The total dispensed quantity 'Total 2', the individual totals vehicle and the total number of dispensing events without code entry are reset. The total dispensed quantity 'Total1' is not reset.

5.3.2.3 USB Report – Totals

A report of the counter readings is saved as text file on a USB flash drive ('DTOTDATA.TXT' for drivers, 'VTOTDATA.TXT' for vehicles). The file can be opened on a PC using a text editor and printed. Therefore a recordable USB flash drive has to be inserted to the USB port of the automatic dispenser.

Display (e.g.):

```
Saving report
     100 / 100
```

File (e.g.):

```
HDM eco 1820025

USB Report - total data
..............................


Date 24.03.12     Time 08:20

Vehicle totals

Total 1:          1430      L
Total 2:          611       L

Vehicle    1:     275       L
Vehicle    2:     569       L
Vehicle  100:     26        L
Vehicle  ---:      5        L
```

5.3.3 Ident Codes menu

In this menu the IDs can be edited and ID reports can be created.
The medium for the identification of the driver or vehicle before the start of refuelling is called an ID. Various system parameters can be specified for each ID. The master ID is a special ID. It is required in order to access the management mode.

The ID (driver / vehicle / master) to be processed must be selected first.

Display (e.g.):

```
Menu Ident
Codes
```

The respective ID can subsequently be accessed via the sub-menu.

Display (e.g.):

```
♦ Driver        3
◆▶Code:    18734
```

The ID to be edited can be selected using the '▲' and '▼' keys; '-' means that the respective ID has not been set up. In case a transponder has been set as access authorisation for an ID, the entry '**TRANS**' appears instead of the code.
After selecting an ID switching between its different parameters takes place using the '◄' or '►' buttons. Press the 'ENTER' button to change the parameter and 'EXIT' to complete the entry.

5.3.3.1   Code

A driver code with one to five digits can be entered. An existing code can be deleted by confirming deletion.

Instead of the five-digit code, a transponder tag can be assigned to an ID. The transponder tag needs to be held at a distance of 2 – 5 cm to the reader. A beep tone indicates that the transponder tag has been read.

5.3.3.1.1   PIN

A 1 to 5-digit PIN can be entered in addition to the code or the transponder tag. In case a PIN was assigned it has to be entered after the code. Only some (or none) of the IDs can be assigned with a PIN.

Display (e.g.):

```
♦ Vehicle      1
◆▶Pin:   1234
```

5.3.3.1.2   Refuelling Limit

Here a refuelling limit per refuelling can be entered for the vehicle, maximum 9999 litres.

Display (e.g.):

```
♦ Vehicle      1
◆▶Limit: 123 L
```

Attention:
If the general dispensing limit for the dispenser is lower, then this applies.

5.3.3.1.3   Maximum Refuelling Time

Here a refuelling time limit per refuelling can be entered for the vehicle, maximum 99 minutes. The default value is 30 minutes.

Display (e.g.):

```
♦ Vehicle      1
◆▶Time:    30
```

Attention:
If the general dispensing time limit for the dispenser is lower, then this applies.

5.3.3.1.4   Odometer or Operating hours Request

Depending on the vehicle type, prior to refuelling the odometer reading or operation hours of the vehicle can be entered to calculate the fuel consumption using additional software, e.g. HD Manager. Here it is specified whether the odometer reading or operating hours (hrs) are input. For odometer reading you can choose between Kilometer (km) or Miles (mls).

Display (e.g.):

```
♦ Vehicle      1
◆▶Request:   km
```

5.3.3.1.5 Odometer or Operating hours Range

Here a odometer or operation hours range can be input, that defines the maximum allowable difference between two refuellings. This value is checked when either odometer readings or operating hours are input. Maximum is 9999 km / mls or hours.

Display (e.g.):

```
♦ Vehicle        1
◆▶Range: 1000mls
```

5.3.3.1.6 Odometer or Operating Hours Status

Here the current mileage or operating hours of a vehicle can be viewed. If necessary the value can be edited.

Display (e.g.):

```
♦ Vehicle        1
◆▶miles:  123456
```

☞ It is not necessary to enter the odometer reading when creating a vehicle. This should be done prior to the first refuelling. A selected odometer window becomes effective only from second refuelling.

5.3.3.1.7 Lock / Release ID

An ID can be blocked or released here. Blocked IDs will not be accepted for refuelling. The Master ID cannot be blocked.

Display (e.g.):

```
♦ Vehicle        1
◆▶locked:      No
```

5.3.3.1.8 Quota dispense quantity

Display of the maximum quantity that can be fuelled in the time frame (see below) of the quota. The setting is only possible through the HDA manager.

Display (e. g.):

```
♦ Vehicle        1
◆▶Amount:     250L
```

5.3.3.1.9 Quota time frame

Display of the time frame in days in which the quota dispense quantitycan be fuelled. Zero days are configured ex works, meaning the quota management is deactivated. The setting is only possible through the HAD manager.

Display (e. g.):

```
♦ Vehicle        1
◆▶Days:         5
```

5.3.3.2   Master ID

For secure access to the HDA management functions entering a master code with optional master pin is necessary.

The factory presets are: master code '99999'.

Display (e.g.):

```
    Master
◀▶Code: 99999
```

The '◀' and '▶' keys can be used to switch between the code and the PIN entry. Press 'ENTER' to change the respective parameter and 'EXIT' to complete the entry.

Instead of a code, a transponder can be assigned to the master code. After pressing the 'ENTER'-Key, the transponder tag must be held within a distance of 1 – 2" to the reader.

Notice:
In case the master code/PIN was forgotten (or a master transponder was lost) no more management functions are accessible. Please contact Tecalemit service for help.

5.3.3.3   USB Report – IDs

A report for the driver IDs ('DIDDATA.TXT') and a report for the vehicle IDs ('VID-DATA.TXT') are saved as text files on a USB flash drive. The file can be opened on a PC using a text editor and printed. Therefore a recordable USB flash drive has to be inserted to the USB port of the automatic dispenser.

Display (e.g.):

```
Saving report
    3 / 100
```

File (e.g.):

```
HDM eco 1820025

USB report - IDs
.................................
Date: 24.03.12          Time: 14:01
.................................

Master
        Code:           99999
        Pin:            -
.................................

Vehicle   1

        Code:           123
        Pin:            123
.................................

Vehicle   2

        Code:           234
        Pin:            -
.................................

Vehicle   3
```

☛ **The ID file contains all codes and/or the associated PINs in plain text and should not be made accessible to unauthorised persons.**

5.3.3.4　Web Update (optional)

Display (e.g.):
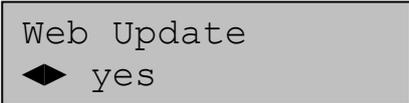
```
Web Update
◆  yes
```

In this menu, for the version of the HDA eco with a LAN/WiFi/CMR (optional) socket modem, a synchronization of the ID data with the customer data on the web server can be performed when operating with mytecalemit Cloud or www.hdmanager.net. This will delete all existing ID data on the HDA eco and reload it.
This can be helpful e.g. during initial commissioning with the "HD Manager" PC program in conjunction with hdmanager.net in order to force synchronization of the driver and vehicle data without waiting time or a previous dispensation. During initial commissioning with mytecalemit Cloud, synchronization takes place automatically.

The selection has to be set to „yes" and to be confirmed with key ‚ENTER'.

Display:
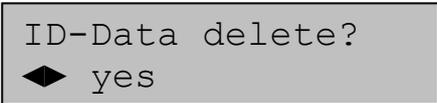
```
ID-Data delete?
◆  yes
```

The security query has to be confirmed by key „ENTER", key „EXIT" cancels the procedure. The ID data are deleted and after leaving the management mode a connection to the webserver will be established automatically. All the existing ID data will be downloaded to the HDA eco.

5.3.4　Menu System

Various system parameters for the operation of the dispenser can be viewed and adjusted in this menu.

Display (e.g.):
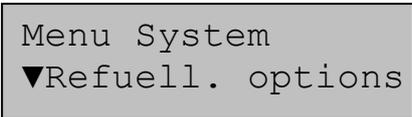
```
Menu System
▼Refuell. options
```

Menu items are selected with the '▲ ' and '▼ ' keys, confirmed with 'ENTER' and cancelled with 'EXIT'.

5.3.4.1　Menu Refuelling Options

In this menu you can specify the items which are to be queried before a dispensing event. In addition, the inputs of a general dispensing limit, a maximum dispensing time and a timeout are also possible.

Display (e.g.):
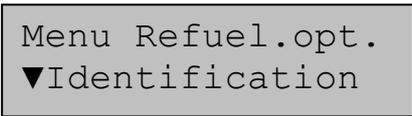
```
Menu Refuel.opt.
▼Identification
```

Menu items are selected with the '▲'and '▼' keys, confirmed with
'ENTER' and cancelled with 'EXIT'.

5.3.4.1.1 Identification

Display (e.g.):

```
Identification
◆▶ Vehicle
```
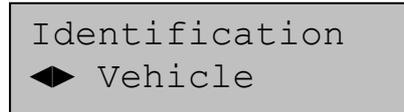
The query of the driver and vehicle ID is optional.
You can choose between 'No', 'Driver', 'Vehicle' and 'Both'.

! **If Identification: 'no' has been selected and the order and mileage queries have also been deactivated, refuelling will begin as soon as the ENTER button is pressed or the nozzle is drawn when a nozzle switch is installed!**

5.3.4.1.2 Odometer y/n

Display (e.g.):

```
Odometer
◆▶do not inquire
```
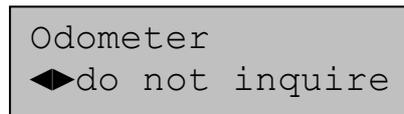
Entering the tachometer value before each dispensation is optional. You can choose between "Request", "Do not request", "Forced mode 1" and "Forced mode 2".

Mode	Function
1	Updating of mileage by querying database. Dispensation will still be possible even if the database connection fails.
2	Updating of mileage by querying database. Dispensation will **not** be possible even if the database connection fails.

! The querying of the current mileage can only be done via a LAN or WiFi interface and the HD Manager program, but not via a connection to hdmanager.net or mytecalemit Cloud.

Selecting "Forced mode" means that an input with a verification of the value will be obligatory. The value entered must be equal to or larger than the last value entered, but the difference between it and the last value entered must be smaller than the *window* defined for the vehicle (see chapter 5.3.3.1.5). If the consumption of the corresponding vehicle is calculated according to hours of operation, the same will apply analogously for the input of the hours of operation.

5.3.4.1.3 Previous Odometer y/n

Display (e.g.):

```
Prev. Odometer
◆▶yes
```
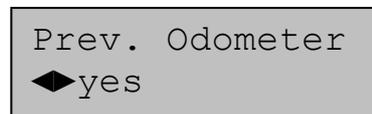
In order to simplify the odometer entry, the odometer reading (km / mls) from the last refuelling event (if available) can be displayed and edited. You can choose between 'yes' and 'no'. In case a consumption calculation according to operating hours takes place for the vehicle in question, the same applies in turn for the display of the operating hours.

5.3.4.1.4   Order y/n

Display (e.g.):

```
OrderNo
◆▶query
```

The entry of an order no. before each refuelling is optional. You can choose between 'inquire and 'do not inquire'.

5.3.4.1.5   Nozzle switch y/n

Display (e.g.):

```
Nozzle switch
◆▶no
```

In order to keep the runtime for the pump working against a closed nozzle as short as possible it is useful to install a nozzle switch. You can choose between 'yes' and 'no'. The default setting is 'no'.

5.3.4.1.6   Refuelling limit

Display (e.g.):

```
Refuell. limit
   9999 L
```

The maximum possible dispensing quantity per refuelling operation can be specified here (absolute limit). A quantity between 5 and 9999 litres can be entered. In case the vehicle specific limit is lower than it applies.

5.3.4.1.7   Max. Refuelling time

Display (e.g.):

```
Max.refuel.time:
   30 min
```

The maximum possible refuelling time per refuelling operation can be specified here. A value between 1 and 99 minutes can be entered. In case the vehicle specific limit is lower than it applies.

5.3.4.1.8   Time Out Refuelling

Display (e.g.):

```
Time-out units
    Minutes ◆▶
```

Before configuring the time-out time, it may be necessary to set the unit of the time interval. Users may choose between minutes and seconds. Minutes are the default. After confirming with the <ENTER> key, configuration of the time takes place.

Display (e.g.):

```
Time out refuel
    2 min
```

a. Unit set to "Minutes":
The maximum elapsing time during a dispensing event without any medium being dispensed can be specified here. (Example: The nozzle wasn't replaced after refuelling

was completed). A time between 1 and 98 minutes can be entered. Default value: 1 minute.

b. Unit set to "Seconds":
The time-out time only commences when a small amount of medium has been dispensed.
If this does not take place within 60 seconds (regardless of the time set), the device will terminate the dispensation.

5.3.4.1.9   Receipt (Option ‚Printer')

Display (e.g.):
```
Receipt
◆▶yes
```

If this menu point is **'yes'**, an receipt is printed out on a connected printer. This menu item is only available if the HDA eco has the option socket modem RS-232 or RS-422 .

5.3.4.2   Menu Dispensing Point
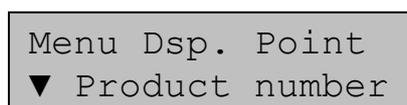
Display (e.g.):
```
Menu Dsp. Point
▼ Product number
```

After selection of the menu items, the corresponding dispensing point parameters can be adjusted in the respective sub-menus.

5.3.4.2.1   Product number
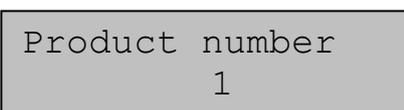
Display (e.g.):
```
Product number
        1
```

This menu item allows an identification number to be assigned to the product when there are multiple HDA eco units which dispense varying products. The values that can be configured range from 1 (factory default) to 90.

5.3.4.2.2   Pulses / Litres

The range of the pulse value: 1.00 up to 1000.00
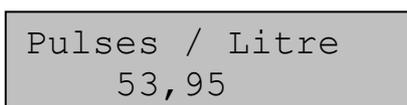
Display (e.g.):
```
Pulses / Litre
    53,95
```

The pulse value of the used pulse generator can be set in this menu. The number of volume pulses per litres must be entered. A value between 1.00 and 1000.00 can be entered.
The default pulse value is 53,95, equivalent to the pulse value of the FMOG100 flow meter. (This means 53,95 pulses per litre.)

It can be necessary to change the value after the calibration of the measuring system. How the measuring system can be calibrated see section 3.2.

5.3.4.2.3 Post Decimals

Display (e.g.):
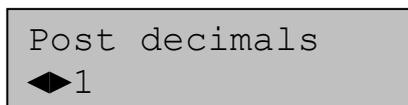
```
Post decimals
◆▶1
```

The number of decimal points displayed after dispensing can be displayed and changed here.
You can choose between '0' and '1'.

5.3.4.2.4 Automat Lock

Display (e.g.):

```
Automat lock
◆▶No
```

Here you can set if the automatic dispenser should be blocked for refuelling or enabled again after having been blocked.
You can choose between 'yes' and 'no'.

5.3.4.2.5 Device Address

Display (e.g.):
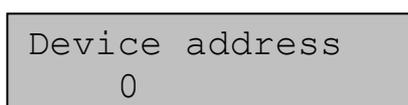
```
Device address
        0
```

The device address is necessary for the joint operation of several HDA eco units connected to one serial port (e.g. RS422).
A value between 0 and 9 can be entered.

5.3.4.2.6 Max Zero Refuellings

Several sequential refuelling events that were completed with a dispensing quantity below 500 ml ('zero refuelling') indicate a system error, e.g. lack of fuel, defective pump or meter.

Display (e.g.):
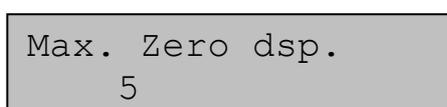
```
Max. Zero dsp.
        5
```

When a value different from 0 has been set for 'max. zero refuellings' the HDA eco blocks automatically after the adjusted number of consecutive zero refuelling occurred. A blocked HDA eco can be enabled again via the corresponding menu in the device once the cause for zero refuellings has been eliminated (see section 5.3.4.2.4). A value of 0 deactivates the blocking function. Values from 0 to 98 can be entered.

5.3.4.3 Menu Extended

Extended system settings or queries can be made here.

Display (e.g.):

```
Menu Extended
▼Date / Time
```

Menu items are selected with the '▲'and '▼'keys, confirmed with 'ENTER" and cancelled with 'EXIT'.

5.3.4.3.1 Menu Date / Time

Display (e.g.):

```
Menu RTC
▼Date / Time
```

The settings for the real time clock (RTC) can be made here. Menu items are selected with the '▲ 'and '▼ ' keys, confirmed with 'ENTER' and cancelled with 'EXIT'.

5.3.4.3.1.1 Date / Time

Display (e.g.):

```
Date: 24.03.12
Time: 11:21:04
```

The date (mm-dd-jj) and time (hh:mm:ss) settings of the integrated real-time clock can be inspected and changed if necessary.
You can change the position using the '◄◄' and '►' buttons.

5.3.4.3.1.2 Clock Correction

Display (e.g.):

```
Clock correct.
◄► + 5 sec. / day
```

In order to achieve the greatest possible accuracy of the integrated real-time clock a correction of up to ± 20 seconds per day can be done. The correction is carried out each time at midnight or when the device is switched on. When the device is switched off the clock still runs, but no correction is carried out.
The correction ranges can be set from -20 to + 20 sec. / day using the '◄' and '►' buttons.

5.3.4.3.1.3 Daylight Saving Time

Display (e.g.):

```
Time:  11:52
◄► Preset 1h
```

Using the '◄' and '►' buttons, the system time can be manually set 1 hour forward or backward, depending on the season. The system time is then changed by pressing the 'ENTER' key.

5.3.4.3.2   Contrast LCD

Display (e.g.):

```
Contrast LCD
◆ 44
```
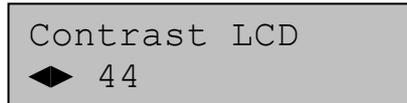
The contrast can be decreased or increased using the '◀' and '▶▶' buttons.
The setting range extends from 0 (low contrast) to 63 (high contrast). Changing the default value should only be necessary under extreme operating conditions (very low/very high temperatures).
In case the incorrect contrast has been saved inadvertently (display unreadable): Switch off the device and switch on again keeping the 'EXIT' button pressed (standard contrast will be selected). Subsequently adjust the contrast as described.

5.3.4.3.3   Language

Display (e.g.):

```
Language
◆ English
```
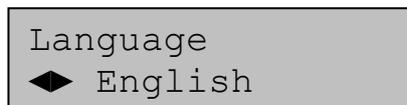
Various languages for the driver menus are to be selected using the '◀' and '▶' buttons. One of the languages ('language USB') can be loaded and selected as defined by the driver (see section 0).

5.3.4.3.4   Language from USB flash drive

Display (e.g.):

```
Reading file
```
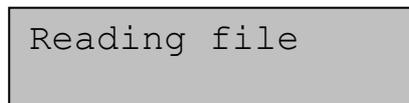
It is possible to load an additional language for the user guidance from a USB flash drive. The prerequisite for this is that a USB flash drive containing a suitable language file 'LANGUAGE.CSV' is inserted in the USB port provided for it on the automatic dispenser. For further information see 0.

5.3.4.3.5 Initialisation / Restoring Factory Settings

Display (e.g.):

```
Initialisation?
ENT / EXIT
```

The device can be initialised here. Some of the factory settings are restored. Dispensing data records and non-resettable totals (Total 1) are not deleted. The following values are manipulated:

The driver and vehicle totals as well as the resettable counter 'Total 2' are cleared
The non-resettable counter Total 1 is not deleted
The dispensing data records are marked as transmitted
All ID codes are deleted and the parameters re-initialised
The 'Master code' is set to "99999" without Master Pin
The 'Dispensing limit' is set to 99999 L
The 'Maximum ref. time' is set to 30 minutes.
The 'Ref. Timeout' is set to 2 minutes
The 'Contrast' of the LCD is set to 44
The 'Communication code' is deleted.
The 'Lock automat' is released
The settings of a LAN, WiFi, and/or CMR interface will be deleted

5.3.4.3.6 Info Configuration

This display is intended for service purposes. It provides information about the configuration of the automatic dispenser.

Display (e.g.):

```
Info config.
      11110001
```

5.3.4.3.7 Activation

This display is intended for service purposes. It can be used to change the configuration of the automatic dispenser

Display (e.g.):

```
Activation
Code:
```

NOTE! Entering the incorrect information may result in existing options (e.g. fill level probe connection) no longer being available!

5.3.4.3.8 Communication PIN

Display (e.g.):

```
Comm. PIN
     12345
```

Here an optional communication PIN for the transmission of data to the HD Manager PC program can be viewed (but not changed). The communication PIN can only be set or deleted using the HD Manager program.

5.3.4.3.9 USB PIN

Display (e.g.):

```
USB Pin
◆ no
```

Here it can be specified if the retrieval of the refuelling data via USB flash drive in dispensing mode is to be protected against unauthorised access by the input of master code or by the use of the master transponder.
You can choose between 'yes' and 'no'.

5.3.4.3.10 Menu Interface for LAN socket modem option

Display (e.g.):

```
Menu Interface
▼ Ident. No.
```

This menu is only available– if a LAN socket modem has been selected as the interface. This is where users can enter the necessary parameters for operating the LAN socket modem. The type and number of menu items vary depending on the nature of the connection type. A corresponding note points this out (where applicable) in the description of the individual menu items.
We recommend not configuring the settings manually, but instead generating them on the website www.mytecalemit.com and importing them into the fuel terminal using a USB flash drive.

☞ For operation with mytecalemit Cloud, the LAN must fulfill the following prerequisites:

- Connecting the HDA eco to the internet must be possible without having to log in to a proxy server, as the HDA eco does *not* support a login.
- Port 53 for DNS queries must be enabled for the TCP/IP protocol.
  The HDA eco does not perform any DNS queries via the UDP protocol.

This menu is only available if a LAN socket modem is present (option). This is where it is possible to enter the necessary parameters for operating the LAN socket modem. If necessary, a network administrator should be consulted for the correct settings and adjustment to the existing network. Select the menu points using the '▲ and ,▼' buttons and confirm with 'ENTER', abort with 'EXIT'.

5.3.4.3.10.1 Ident. No. (LAN)

Display (e.g.):

```
Ident. No.:
01823481
```

This is where you can see the identification number (device serial no.) for clear identification of the HDA eco in the network (unchangeable). Leave the menu point with 'EXIT'.

5.3.4.3.10.2   Customer ID (LAN)

Display (e.g.):
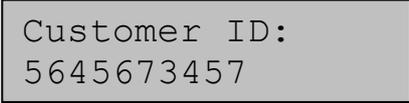
```
Customer ID:
5645673457
```

Only available for operation with www.hdmanager.net or mytecalemit Cloud. Customer number to which the HDA eco is assigned. This is where the customer ID can be entered for the unique identification of the operator of the HDA eco. This unique ID is necessary to allow the correct registration of one or more fuel terminals under a particular operator. This unique customer ID is assigned by TECALEMIT after registration.

For mytecalemit Cloud, registration takes place via https://www.mytecalemit.com.

5.3.4.3.10.3   Read Configuration (LAN)

Display (e.g.):
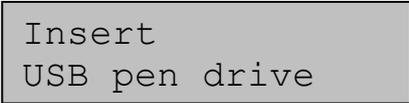
```
Insert
USB pen drive
```

Optionally, the network configuration of the HDA eco can be entered directly on the device or created conveniently with the aid of the HD Manager 8 computer program and stored on a USB pen drive in the folder that belongs to the device(HD Manager 8: Settings → Settings → Miscellaneous → HDA – (W)LAN / CMR). In this menu, the previously stored configuration is imported from the USB pen drive into the HDA eco. Following this, you can leave the 'Interface' menu. As a general rule, further settings are not needed.

5.3.4.3.10.4   Reset time (LAN)

Display (e.g.):

```
Reset time
◆ 23:00
```

This menu item is only available for operation with mytecalemit Cloud.
Here, users can enter a time at which the HDA eco is completely restarted once a day ("Reset"). This also resets the socket modem, and the unit will re-register on the network. A periodic reset can be helpful in the case of sporadic connection problems. If the connection is stable, the factory default *"Off"* can be selected. The factory default is " ".

5.3.4.3.10.5   Send delay (LAN)

Display (e.g.):
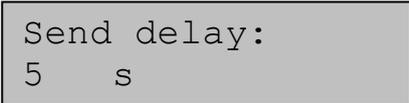
```
Send delay:
5    s
```

This menu item is only available for operation with mytecalemit Cloud.
This is where users can define the time delay after which a completed dispensation is transmitted to the web server. A higher value can e.g. enable the operator to perform several refueling procedures in succession before subsequently transferring them in batch to save time. A value between 0 seconds (transmission directly upon completion of refueling procedure) and 255 seconds can be entered. The factory default is 20 seconds.

5.3.4.3.10.6   Automatic connection time (LAN)

Display (e.g.):

```
Auto conn. time
◆   0:00
```

This menu item is only available for operation with mytecalemit Cloud.
This allows a fixed time to be specified at which the HDA eco connects to the web server once a day to synchronize any changes in the master data. This time serves as the start time for the connection interval set (see 5.3.4.3.12.8). With the factory default "Off", no automatic connection takes place. In this case, master data is only synchronized after a dispensation has taken place, along with the subsequent data transfer. The factory default is 00:00 hrs.

5.3.4.3.10.7   Connection interval (LAN)

Display (e.g.):
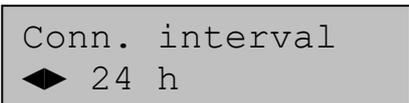
```
Conn. interval
◆ 24 h
```

This menu item is only available for operation with mytecalemit Cloud.
This allows a time interval to be configured at which the HDA eco connects to the web server regularly to synchronize e.g. changes in the master data. **In addition**, a fixed start time will need to be specified in the corresponding menu (see 5.3.4.3.12.7). An interval of, 1, 2, 3, 4, 6, 8, 12 or 24 hours can be selected. The factory default is 24 hours.

5.3.4.3.10.8   DHCP (LAN)

Display (e.g.):

```
DHCP:
◆ on
```

If the existing network which the HDA eco is supposed to be connected to has a DHCP server, this is where the 'on' setting should be selected. The integration of the HDA eco in the network takes place automatically. As the case may be, the setting under the 'Port' menu point (chapter 5.3.4.3.10.14) should be adjusted. Further settings are not necessary.
If no DHCP is supported in the existing network, this is where the 'off' setting should be selected. The following network settings are to be carried out manually

5.3.4.3.10.9   IP Address (LAN)

Display (e.g.):

```
IP Address:
192.168.011.025
```

In the event that *no* DHCP server is available (DHCP=Off), an IP address can be entered here. Ensure that the address selected is not already in use. Use the "◄" and "►" buttons to navigate within the input field, and the number keys to enter the address. If DHCP has been activated, 000.000.000.000 appears here, and the field cannot be edited.

5.3.4.3.10.10   Subnet Mask (LAN)

Display (e.g.):

```
Subnet Mask:
255.255.255.000
```

If network settings are set manually (cf. chapter 5.3.4.3.10.8), this is where the subnet mask is entered for the network. Using the◄ and ,► buttons navigation takes place in the entry field. The address is entered using number buttons.

☛ **A typical sub net mask for smaller network is 255.255.255.000.**
If DHCP has been activated, an address (e.g. 255.255.255.000) appears here, and the field cannot be edited.

5.3.4.3.10.11   IP Gateway (LAN)

Display (e.g.):

```
IP Gateway:
192.168.011.002
```

If network settings are set manually (cf. chapter 5.3.4.3.10.8), this is where the IP address of the network gateway is entered. Using the◄ and ,► buttons navigation takes place in the entry field. The address is entered using number buttons.

☛ **The standard gateway address of the existing network is shown on the start page of the HD Manager 8 computer program**
If DHCP has been activated, 000.000.000.000 appears here and the field cannot be edited.

5.3.4.3.10.12 IP address DNS1 (LAN)

Display (e.g.):

```
IP-Adress
192.168.011.001
```

Dieser Menüpunkt ist nur bei Betrieb mit der mytecalemit-Cloud vorhanden. Einstellung der IP-Adresse des primären DNS-Servers. Diese Einstellung ist zwingend erforderlich. Falls kein DNS-Server im lokalen Netzwerk vorhanden ist, kann auch ein öffentlicher DNS-Server z.B. ‚quad9' mit der IP-Adresse 009.009.009.009 verwendet werden.

5.3.4.3.10.13 IP address DNS2 (LAN)

Display (e.g.):

```
IP-Adress
009.009.009.009
```

This menu item is only available for operation with mytecalemit Cloud. Configuration of the IP address of the primary DNS server. This configuration is mandatory. If no DNS server is available on the local network, a public DNS server e.g. "quad9" with the IP address 009.009.009.009 can also be used.

5.3.4.3.10.14 Port (LAN)

Display (e.g.):

```
Port
54937
```

This is where the address should be entered of the port where communication is supposed to take place.

- For communication with the HD Manager program, it is recommended that the standard port 54937 be used. The setting must be identical with the corresponding setting in the HD manager program. This also applies if several HDA ecos communicate with a computer program.
- For communication with mytecalemit Cloud or www.hdmanager.net, Port = 80 must be configured.

☞ **If, for example, two HDA eco have to communicate in an existing network, however each with a different computer, two different ports have to be selected for the respective HDA eco / PC pairs using the HD Manager computer program.**

5.3.4.3.10.15 MAC Address (LAN)

Display (e.g.):

```
MAC address:
0018FC00019A
```

This is where the MAC address of the LAN socket modem can be viewed.

5.3.4.3.11 Menu Interface for WiFi socket modem option

Display (e.g.):

```
Menu Interface
▼Ident. No.
```

This menu is only available– if a WiFi socket modem has been selected as the interface. This is where users can enter the necessary parameters for operating the WiFi socket modem. The type and number of menu items vary depending on the nature of the connection type. A corresponding note points this out (where applicable) in the description of the individual menu items.
We recommend not configuring the settings manually, but instead generating them using the HD Manager program (only full version) or on the website www.mytecalemit.com and importing them into the fuel terminal using a USB flash drive.

☞ For operation with mytecalemit Cloud, the WiFi/LAN must fulfill the following prerequisites:

- Connecting the HDA eco to the internet must be possible without a proxy server, as the HDA eco does *not* support a login.
- Port 53 for DNS queries must be enabled for the TCP/IP protocol.
  The HDA eco does not perform any DNS queries via the UDP protocol.

This menu is only available if a WLAN socket modem is present (option). This is where it is possible to enter the necessary parameters for operating the WLAN socket modem. If necessary, the network administrator should be consulted for the correct settings and adjustment to the existing network. Select the menu points using the '▲ and '▼' buttons and confirm with 'ENTER', abort with 'EXIT'.

5.3.4.3.11.1 Ident. No. (WLAN)

Display (e.g.):

```
Ident. No.:
01823481
```

This is where you can see the identification number (device serial no.) for clear identification of the HDA eco in the network (unchangeable).
Leave the menu point with 'EXIT'.

5.3.4.3.11.2 Customer ID (WLAN)

Display (e.g.):

```
Customer ID:
5645673457
```

Only available for operation with www.hdmanager.net or mytecalemit Cloud.
Customer number to which the HDA eco is assigned. This is where the customer ID can be entered for the unique identification of the operator of the HDA eco. This unique ID is necessary to allow the correct registration of one or more fuel terminals under a particular operator. This unique customer ID is assigned by TECALEMIT after registration.

For mytecalemit Cloud, registration takes place via https://www.mytecalemit.com.

5.3.4.3.11.3 Read Configuration (WLAN)

Display (e.g.):

```
Insert
USB pen drive
```

Optionally, the network configuration of the HDA eco can be entered directly on the device or created conveniently with the aid of the HD Manager 8 computer program and stored on a USB pen drive in the folder that belongs to the device (HD Manager 8: Settings → Settings → Miscellaneous → HDA – (W)LAN / CMR). In this menu, the previously stored configuration is imported from the USB pen drive into the HDA eco. Following this, you can leave the 'Interface' menu. As a general rule, further settings are not needed.

5.3.4.3.11.4 Signal (WLAN)

Display (e.g.):

```
Level    :   67%
Quality  :   59%
```

This is where the signal level and the quality of the connection to the existing wireless network can be examined. Higher values indicate a better connection. A signal level and quality above 30% indicates a stable connection.

☞ **This menu point is helpful in order to optimize measures for improving reception quality (e.g. external aerials, repeaters etc.).**

5.3.4.3.11.5 Restart Time (WLAN)

Display (e.g.):

```
Restart Time
◆ 23:00
```

This menu item is only available for operation with mytecalemit Cloud.
This is the place where a time can be selected, to which the WLAN Socketmodem is restarted once a day and at the WLAN network registers itself again. A periodic restart can create remedy with sporadic connecting difficulties. In stable WLAN networks factory setting „off" can be used.

5.3.4.3.11.6 Send delay (WLAN)

Display (e.g.):

```
Send delay
20 s
```

This menu item is only available for operation with mytecalemit Cloud.
This is where users can define the time delay after which a completed dispensation is transmitted to the web server. A higher value can e.g. enable the operator to perform several refueling procedures in succession before subsequently transferring them in batch to save time. A value between 0 seconds (transmission directly upon completion of refueling procedure) and 255 seconds can be entered. The factory default is 20 seconds.

5.3.4.3.11.7 Automatic connection time (WLAN)

Display (e.g.):

```
Auto conn. time
◆▶  0:00
```

This menu item is only available for operation with mytecalemit Cloud.
This allows a fixed time to be specified at which the HDA eco connects to the web server once a day to synchronize any changes in the master data. This time serves as the start time for the connection interval set (see 5.3.4.3.12.8). With the factory default "Off", no automatic connection takes place. In this case, master data is only synchronized after a dispensation has taken place, along with the subsequent data transfer. The factory default is 00:00 hrs.

5.3.4.3.11.8 Verbindungs-Intervall (WLAN)

Display (e.g.):
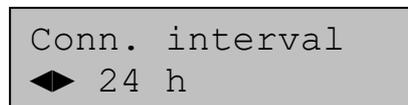
```
Conn. interval
◆▶ 24 h
```

This menu item is only available for operation with mytecalemit Cloud.
This allows a time interval to be configured at which the HDA eco connects to the web server regularly to synchronize e.g. changes in the master data. **In addition**, a fixed start time will need to be specified in the corresponding menu (see 5.3.4.3.12.7). An interval of, 1, 2, 3, 4, 6, 8, 12 or 24 hours can be selected. The factory default is 24 hours.

5.3.4.3.11.9 SSID (WLAN)

Display (e.g.):

```
SSID:
WLAN-Home
```

This is the place where the SSID (Service Set Identifier) of the existing WLAN network has to be entered, i.e. the one which the HDA eco should register with. The SSID is normally defined in the WLAN Access Point. Alphanumeric characters can be used (see chapter 5.1.1).

5.3.4.3.11.10 Password (WLAN)

Display (e.g.):

```
Password:
fsK7ioT3
```

This is the place where the passphrase (also known as the password) of the existing WLAN network has to be entered, i.e. the one which the HDA eco should register with. The passphrase is normally defined in the WLAN Access Point or access router. Alphanumeric characters can be used.

5.3.4.3.11.11   Encryption (WLAN)

Display (e.g.):
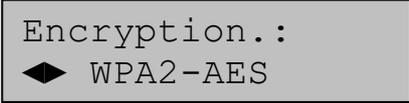
```
Encryption.:
◆  WPA2-AES
```

This is where the encryption method used in the existing WLAN network is to be selected. The encryption method is normally defined in the WLAN Access Point.

5.3.4.3.11.12   DHCP (WLAN)

Display (e.g.):

```
DHCP:
◆  on
```

If the existing network which the HDA eco is supposed to be connected to has a DHCP server, this is where the 'on' setting should be selected. The integration of the HDA eco in the network takes place automatically. As the case may be, the setting under the 'Port' menu point (chapter 0) should be adjusted. Further settings are not necessary.
If no DHCP is supported in the existing network, this is where the 'off' setting should be selected.

5.3.4.3.11.13   IP Address (WLAN)

Display (e.g.):

```
IP Address:
192.168.011.025
```

If network settings are set manually (cf. chapter 5.3.4.3.11.12), this is where the IP address of the HDA eco is entered. Care should be taken that a free address is selected. Using the◄ and ,► buttons navigation takes place in the entry field. The address is entered using number buttons.
If DHCP has been activated, this is where the IP address given by the DHCP server can be viewed (but not changed) once the first data transfer has taken place.

5.3.4.3.11.14   Subnet Mask (WLAN)

Display (e.g.):

```
Subnet Mask:
255.255.255.000
```

If network settings are set manually (cf. chapter 5.3.4.3.11.12), this is where the subnet mask is entered for the network. Using the◄ and ,► buttons navigation takes place in the entry field. The address is entered using number buttons.

☞   **A typical sub net mask for smaller network is 255.255.255.000.**
If DHCP has been activated, 000.000.000.000 appears here.

5.3.4.3.11.15   IP Gateway (WLAN)

Display (e.g.):

```
IP Gateway:
192.168.011.002
```

If network settings are set manually (cf. chapter 5.3.4.3.11.12), this is where the IP address of the network gateway is entered. Using the◄ and ,► buttons navigation takes place in the entry field. The address is entered using number buttons.

☞ **The standard gateway address of the existing network is shown on the start page of the HD Manager 8 computer program**
If DHCP has been activated, 000.000.000.000 appears here.

5.3.4.3.11.16   IP address DNS1 (WLAN)

Display (e.g.):

```
IP-Adress:
000.000.000.000
```

This menu item is only available for operation with mytecalemit Cloud.
Configuration of the IP address of the primary DNS server. This configuration is mandatory. If no DNS server is available on the local network, a public DNS server e.g. "quad9" with the IP address 009.009.009.009 can also be used.

5.3.4.3.11.17   IP address DNS2 (WLAN)

Display (e.g.):

```
IP-Adress:
000.000.000.000
```

This menu item is only available for operation with mytecalemit Cloud.
Configuration of the IP address of the secondary DNS server. This configuration is not mandatory. If no secondary DNS server is available on the local network, a public secondary DNS server e.g. "quad9" with the IP address 009.009.009.009 can also be used.

5.3.4.3.11.18   Port (WLAN)

Display (e.g.):

```
Port
54937
```

This is where the address should be entered of the port where communication is sup-posed to take place.

- For communication with the HD Manager program, it is recommended that the standard port 54937 be used. The setting must be identical with the corre-sponding setting in the HD manager PC program. This also applies if several HDA ecos communicate with a computer program.

☞
- For communication with mytecalemit Cloud or www.hdmanager.net, Port = 80 must be configured.

☞ **If, for example, two HDA eco have to communicate in an existing network, however each with a different computer, two different ports have to be selected for the re-spective HDA eco / PC pairs using the HD Manager 8 computer program.**

5.3.4.3.11.19   MAC Address (WLAN)

Display (e.g.):

```
MAC Address:
0018FC00019A
```

This is where the MAC address of the socket modem can be viewed.

5.3.4.3.12   Menu Interface for CMR socket modem option

Display (e.g.):

```
Menu Interface
▼Ident. No.
```

This menu is only available if a CMR socket modem is present (option). This is where it is possible to enter the necessary parameters for operating the CMR socket modem. If necessary, the support of the selected Internet Service Provider (ISP) should be con-sulted for the correct settings. Select the menu points using the '▲   and ,▼' buttons and confirm with 'ENTER', abort with 'EXIT'.

CMR is short for cellular mobile radio. Various wireless modems can be installed in the CMR socket modem, e.g. GPRS or UMTS.

5.3.4.3.12.1   Ident No. (CMR)

Display (e.g.):

```
Ident. No.:
01823481
```

This is where you can see the identification number (device serial no.) for clear identi-fication of the HDA eco in the network (unchangeable). Via the identification number the HDA eco can be identified in a pool of several devices assigned to one customer. Leave the menu point with 'EXIT'.

5.3.4.3.12.2   Customer-ID (CMR)

Display (e.g.):

```
Customer-ID:
1234567890
```

Only available for operation with www.hdmanager.net or mytecalemit Cloud. Customer number to which the HDA eco is assigned. This is where you can input the customer-ID for clear identification of the HDA ec owner. This unique ID is required in order to assign one or more HDA eco to the appropriate owner on the TECALEMIT web server. The unique customer ID is given by TECALEMIT after registration.

For mytecalemit Cloud, registration takes place via https://www.mytecalemit.com.

Leave the menu point with 'EXIT'.

5.3.4.3.12.3   Signal (CMR)

Display (e.g.):

```
CMR Receive
Signal:        25
```

This is where the signal quality of the connection to the CMR cellular network can be examined. Higher values indicate a better connection. A signal quality above 20 indicates a stable connection.

☞ **This menu point is helpful in order to optimize measures for improving reception quality (e.g. external aerials, repeaters etc.).**

5.3.4.3.12.4   Read Configuration (CMR)

Display (e.g.):

```
Insert
USB pen drive
```

Optionally, the configuration of the HDA eco can be entered directly on the device or created conveniently with the aid of the HD Manager computer program or on the corresponding website of mytecalemit Cloud and saved in the file folder belonging to the device on a USB flash drive. The contents of the *network.dat* file generated are encrypted.

- In "HD Manager":
  Settings → Settings → Other → HDA – WiFi/LAN / CMR)
- www.mytecalemit.com:
  Master data -> Fuel Terminal -> Add fuel terminal
  -> Network configuration

The configuration file stored on the USB flash drive can then be imported from the USB flash drive by the HDA eco under this menu item

5.3.4.3.12.5   Restart Time (CMR)

Display (e.g.):

```
Restart Time
◆  23:00
```

This is the place where a time can be selected, to which the HDA eco is restarted once a day ("Reset"). Simultaneously the CMR socket modem is restarted and the device registers itself at the cellular network again. A periodic restart can create remedy with sporadic connecting difficulties. In stable networks factory setting „off" can be used.

5.3.4.3.12.6   Transmission Delay (CMR)

Display (e.g.):

```
Transm. Delay:
  20 s
```

Here can be specified, after what time delay a terminated delivery will be transmitted to the Web server. A higher value can make it for the operator possible to accomplish several refuellings successively in order to transfer them afterwards together time and cost-saving, e.g. A value between 0 seconds (transmission immediately after completion of refuelling) and 255 seconds can be entered. Factory setting amounts to 10 seconds.

5.3.4.3.12.7   Time Auto Connection (CMR)

Display (e.g.):

```
Time Auto Conn.:
◆  23:00
```

Here a time can be specified at what the HDA eco connects to the web server in order to synchronize master data (ID's, HDA options…). This time is used as a start time for the selected connection interval (cf. 5.3.4.3.12.8). If factory setting „off" is selected, no automatic connections will take place. In this case master data will be synchronized after preceding dispensing and involved data transfer only.

5.3.4.3.12.8   Connection Interval (CMR)

Display (e.g.):

```
Conn. Interval:
◆   4h
```

Here the time interval for the periodic connection of the HDA eco to the web server can be specified in order to synchronize altered master data. Additionally a fixed start time for the interval must be input (cf. 5.3.4.3.12.7). It can be selected between 1, 2, 3, 4, 6, 8, 12 and 24 hours interval.

5.3.4.3.12.9 SIM PIN (CMR)

Display (e.g.):

```
SIM PIN:
12345
```

Here the up to six digits SIM PIN of the used SIM card (not in scope of delivery) of the Internet Service Provider (ISP) has tob e input. The PIN can be seen from the contract documents of the ISP. If no PIN is required, the input field has to be left empty.

5.3.4.3.12.10 Access Point Name (CMR)

Display (e.g.):

```
Access Point:
nternet.telekom
```

This is the place where the Access Point Name (APN) of the chosen Internet Service Provider (ISP) for internet access has to be input. The APN can be seen from the ISP contract documents. If this is not the case, contact ISP support.

An alphanumeric character string containing up to 63 characters can be entered (cf. chapter 5.1.1). With more than 15 characters the text scrolls out of the display to the left.

5.3.4.3.12.11 User name (CMR)

Display (e.g.):

```
User:
t-mobile
```

In order to connect to the Access Point Name (APN) some Internet Service Providers (ISP) demand user data. Here the user name can be input if required. The User name can be seen from the ISP contract documents. If this is not the case, contact ISP support. If no user name is required, the input field can be left empty.
An alphanumeric character string containing up to 31 characters can be entered (cf. chapter 5.1.1). With more than 15 characters the text scrolls out of the display to the left.

5.3.4.3.12.12 Password (CMR)

Display (e.g.):

```
Password:
tm
```

In order to connect to the Access Point Name (APN) some Internet Service Providers (ISP) demand user data. Here the password can be input if required. The password can be seen from the ISP contract documents. If this is not the case, contact ISP support. If no password is required, the input field can be left empty.
An alphanumeric character string containing up to 31 characters can be entered (cf. chapter 5.1.1). With more than 15 characters the text scrolls out of the display to the left.

5.3.4.3.12.13   IP Address DNS1 (CMR)

Display (e.g.):

```
IP Address:
193.254.160.1
```

In order to connect to the Access Point Name (APN) some Internet Service Providers (ISP) demand a primary DNS Server Address (DNS1). This is where the address should be entered. The DNS1 can be seen from the ISP contract documents. If this is not the case, contact ISP support.

☛ **If no DNS1 is required, the input field must be set to 000.000.000.000 (factory setting).**

Using the◄ and ,► buttons navigation takes place in the entry field. The address is entered using number buttons.

5.3.4.3.12.14   IP Address DNS2 (CMR)

Display (e.g.):

```
IP Address:
000.000.000.000
```

In order to connect to the Access Point Name (APN) some Internet Service Providers (ISP) demand a secondary DNS Server Address (DNS2). This is where the address should be entered. The DNS2 can be seen from the ISP contract documents. If this is not the case, contact ISP support.

☛ **If no DNS2 is required, the input field must be set to 000.000.000.000 (factory setting).**

Using the◄ and ,► buttons navigation takes place in the entry field. The address is entered using number buttons.

5.3.4.3.12.15   IMEI (CMR)

Display (e.g.)

```
IMEI:
256894585212547
```

The International Mobile Station Equipment Identity (IMEI) is a unique
15-digit serial number by which each GSM/UMTS or LTE end device worldwide can be uniquely identified. Some service providers require the IMEI in order to purchase or activate a SIM card.

5.3.4.3.12.16   Port (CMR)

Display (e.g.):

```
Port:
80
```

In order to connect to the Access Point Name (APN) some Internet Service Providers (ISP) demand the inputof a communication port. Here the port name can be input if required. The communication port can be seen from the ISP contract documents. If this is not the case, contact ISP support. If no port is required, the input field can be left empty.

5.3.4.3.12.17   GSM Band (CMR)

Display (e.g.):

```
GPRS GSM Band:
EU 900/1800 MHz
```

☛ This menu item is only available for the CMR modem MTSMC-E1.

In different regions different GSM frequency bands are used for GSM / CMR mobile communications. Predominantly the frequency bands in the range 900 / 1800 MHz are used. In North America and parts of South America the frequency bands in the range 950 / 1900 MHz are used. The setting "automatic" causes an automatic detection of the used frequency band immediately after power-on. In the factory setting the frequency band is set to the one that is used in the delivery area.

5.3.4.4   Transponder ID

Display (e.g.):

```
ID 002
01 04 FA C7 8C
```

Transponder tags and the associated ID, if any exist, can be identified. The transponder tag needs to be held at a distance of 2 – 5 cm to the reader. To cancel use 'EXIT'.

5.3.5   Menu Fuel Tank

The function of the tank monitoring as well as tank parameters (level probe option only) can be set in this menu.

Display (e.g.):

```
Menu Fuel Tank
▼Stock control
```

5.3.5.1   Stock Control

Stock control of the tank contents including blocking of the dispensing point in case of empty tank can be switched on or off. This applies both to control by means of a low medium contact (e.g. float switch) and to the control and display of the tank contents by means of a level probe (optional).

Display (e.g.):

```
Stock control
◆  no
```

You can choose between 'yes' and 'no'. When the setting is 'no', the '▼' key has no function. The tank volume is not displayed.

Note:
In the case of use of the low medium contact, the automatic dispenser is disabled when the contact switches from the closed to the open state. The level at which disablement takes place when a level probe (optional) is used depends on the setting of the disable volume (see section5.3.5.2.7).

5.3.5.2   Tank Parameter Menu (Option Level Probe)

In the case of use of a level probe, it is necessary to parameterise the probe and the associated tank as accurately as possible in order to obtain exact level values.
You can switch between the different tank parameters using the '◄' or '►' buttons.
Press the '**ENTER**' button to change the parameter and '**EXIT**' to complete the entry.

Instructions for the installation of the level probe in the tank can be found in section 3.1.3

5.3.5.2.1   Form / Tank Shape

The form of the employed tank can be set here. If there is no tank, then accordingly no tank is set (shape '---').

Display (e.g.):
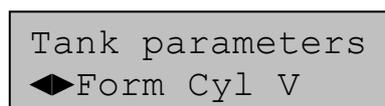
```
Tank parameters
◆►Form Cyl V
```

Change the tank form using the buttons '◄' and '►'. There is a choice of the tank forms Cube, Cylinder vertical ('Cyl V'), Cylinder horizontal ('Cyl H'), 'Ball' or no tank (---).

5.3.5.2.2   Max. Volume / Maximum Tank Volume

The maximum tank volume can be entered here. It corresponds to a completely filled tank.

Display (e.g.):

```
Tank parameters
◆►MaxVol 10000 L
```

A value of between 0 and 99999 litres can be entered.

5.3.5.2.3   Height / Maximum Filling Height

Display (e.g.):

```
Tank parameters
◆▶Height  1600 mm
```

The maximum filling height of the tank in mm is entered as value between 0 and 9999.

5.3.5.2.4   Density Medium

Display (e.g.):

```
Tank parameters
◆▶Dens. 860 g/L
```

In order for the hydrostatic tank probe to work precisely, the density of the tank medium [g/l] must be entered. A value of between 0 and 9.999 can be entered.

5.3.5.2.5   Sensor Type

Display (e.g.):

```
Tank parameters
◆▶Sensor  200 mbar
```

Input of the sensor type (sensor range). There is a choice of the types 200, 300, 500 and 1000 mbar. The selection of the type of sensor is made according to the height of the tank. Hence, 200 mbar correspond to 200 cm water gauge or 230 cm diesel gauge, 300 mbar to 300 cm water gauge or 340 cm diesel gauge and so on.

5.3.5.2.6   Offset Sensor

Display (e.g.):

```
Tank parameters
◆▶Offset  11 mm
```

Offset entry [mm] (corresponds to the effective installation height of the sensor relative to the floor of the tank). Using the '▶' button at the first position, with '-' it is possible to enter a negative offset (e.g. when the sensor is installed below the tank floor or inclined tank). A value of -999 to 9999 mm can be entered.

5.3.5.2.7   Min. Volume / Cut Off Volume

A limit value can be entered here, below further refuelling with the HDA eco will be disabled.
The value is checked before and during each refueling. The active refueling will be stopped to prevent dry running of the pump. The disablement is automatically cancelled after refilling the tank or switching the tank monitoring off.

Display (e.g.):

```
Tank parameters
◆▶MinVol 5000 L
```

A value of 0 to MaxVol (see 5.3.5.2.2) can be entered.

5.3.5.2.8　Zero Point Compensation Sensor

☛ Attention:
The sensor must be outside the liquid for the zero point compensation.

Display (e.g.):

```
Tank parameters
◆Zero adjust?
```

The presently measured probe current is displayed after pressing the '**ENTER**' button. The value should be within the range 4 mA +/- 0.2 mA.

Display (e.g.):

```
Zero compensation
Current:  4.05 mA
```

Pressing the '**ENTER**' button twice executes the zero point compensation for the probe, while the '**EXIT**' button aborts the compensation.

5.3.5.3　Tank Level (Level Probe Option)

The filling quantity in percent, the measured filling level and the filling quantity in litres are displayed.

Display (e.g.):

```
Tank      20%
510mm     6800L
```

Elektronics, see drawing ET-1670001

10	PCB HDA eco (Information of the exact configuration of the HDA eco required)	816708001
20	Set USB cover	816708002
30	Cover HDA eco inkl. keypad & RFID antenna	816708003
40	Battery (exchange every 5 years)	450600900
50	Fuse HDA eco	450506200

6.1 Exchange of the buffer battery

The HDA eco automatic dispenser has a buffer battery for the backup of the time and the date in the event of a power failure. The battery must be exchanged every 5 years by an electrician.

When an exchange of the battery is necessary, use exclusively type CR2032 (3 V lithium). The battery should have a minimum shelf life of five years.

After exchanging the battery, check the system time and correct if necessary. (see section 5.3.4.3.1.1)

6.2 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.**

7   Trouble shooting What to do, if…?

…the LC display is too pale or dark?

- The contrast setting is incorrect. It should be adjusted (chapter 5.3.4.3.2) If the display is no longer legible, the contrast setting can be reset to the factory setting (44) by pressing the 'EXIT' button when switching the HDA eco on. The button must stay pressed until the date and time are displayed.

…the language has been accidentally changed?

- The language can be set 'blindly'. For this, change to the management mode (chapter 5.3) and using the ,▼ button, change downwards three menu points following this, confirm with the 'ENTER' button, change downwards two menu points, then change downwards two menu points once again and confirm. The correct language can now be selected using the◄ and ,► buttons and then confirmed with 'ENTER'.

…after drawing the nozzle and/or starting the delivery of fuel, the pump is not switched on via the keyboard?

- The pump motor is not correctly connected to the switch output of the HDA eco. Check the connection. If an additional relay or safety device is used, check the connection of this component.
- The setting of the menu point 'nozzle switch y/n' (chapter 5.3.4.1.5) is not correct. Adjust the setting.
- HDA eco is blocked. Unblocking should take place in the corresponding menu (chapter 5.3.4.2.4).
- HDA eco is blocked due to too many zero fillings. It should be unblocked (chapter 5.3.4.2.4) and the reason for the zero fillings should be dealt with, e.g. a defective pump, or a defective flow meter. As the case may be, the number of successive zero fillings should be increased (chapter 5.3.4.2.6.)

…the pump runs and the medium is pumped, but the quantity display does not change?

- The flow meter is not correctly connected to the pulse input of the HDA eco. The connection should be checked (chapter 2.5.1, chapter 3.1).
- The flow meter is blocked. It should be checked and, as the case may be, cleaned.

…the pump runs and the medium is pumped, but the quantity display does not correspond with the quantity which is dispensed?

- The pulse value in the HDA eco does not correspond with that of the flow meter. It should be checked and adjusted (chapter 5.3.4.2.2) As the case may be, a calibration should be carried out (chapter 3.2).

…the fuse blows each time a delivery is started?

- The current consumption of the pump is too high for the HDA eco (max. 10 A). An additional relay or safety device should be used.

- The pump has a defect (e.g.: a blocked rotor). It should be checked.

…without intervention on the part of the user, the delivery is suddenly terminated?

- The value of the delivery limit is too low. It should be adjusted (chapter 5.3.4.1.6)

- The value of the maximum delivery time is too low. It should be adjusted (chapter 5.3.4.1.7)

- The delivery timeout value is too low. It should be adjusted (chapter 5.3.4.1.8)

…the serial RS232 connection does not work?

- The wrong COM port was selected on the computer. It is necessary to ensure that the COM port that is used and selected in the HD manager program correspond with each other.

- The interface connection is not correct. The connection should be checked (chapter 3.1.5.1, chapter 3.1.5.2).

…the serial RS422 connection does not work?

- The RS422 converter set does not have any supply voltage. The mains power pack (supplied) should be used.

- The wrong COM port was selected on the computer. It is necessary to ensure that the COM port that is used and selected in the HD manager program correspond with each other.

- The interface connection is not correct. The connection should be checked (chapter 3.1.5.3, chapter 3.).

- The setting of the DIP switch on the RS422 converter set is not correct. The connection should be checked (chapter 3.1.5.1, chapter 3.1.5.3).

…the LAN / WLAN connection does not work?

- Different ports for the communication have been set at the HDA eco and in the HD manager program. It has to be made sure that the ports do match (factory setting: 54937).

- The existing network does not use a DHCP server. The network settings in the HDA eco (IP Address, Subnet Mask, IP Gateway) have to be configured. If necessary, the network administrator should be consulted for the correct settings.

- The network settings in the HDA eco (IP Address, Subnet Mask, IP Gateway) in a network without DHCP server have been input incorrectly. If necessary, the network administrator should be consulted for the correct settings.

- On the used PC there is a firewall installed that blocks communication of the HD Manager program with the HDA eco. The firewall has to be adjusted. If necessary, the network administrator should be consulted for the correct settings.

…the LAN communication does not work?

- The LAN cable connection to the existing network is not correct. The connection should be checked (cf. Chapter 3.1.5.4).

…the WLAN communication does not work?

- The login details for the existing WLAN network have been input incorrectly. The login details (SSID, Password, Encryption) have to be input correctly. If necessary, the network administrator should be consulted for the correct settings.

- The field strength of the WLAN signal is too weak or is floating. (cf. chapter 5.3.4.3.11.2). Measures to improve the signal quality have to be taken (e.g. external antenna, repeater etc.). As the case may be a cable connection (e.g. LAN) may be the better solution.

…the network connection is established without any errors via LAN/WiFi, but there is still no connection to mytecalemit Cloud?

- The network must be configured such that the HDA eco can connect to the without a proxy server.
- On the network, port 53 for DNS queries must be enabled for the TCP/IP protocol.

…the CMR communication does not work?

- The used SIM card has not been activated or is not applicable for M2M (Machine to Machine) operation. If necessary, Internet Service-Provider (ISP) support has to be contacted.

- The login details for the Access Point Name (APN) of the chosen Internet Service Provider (ISP) have been input incorrectly. The login details (APN, User, Password, DNS1, DNS2, Port) have to be input correctly. If necessary, Internet Service-Provider (ISP) support has to be contacted

- The CMR field strength is too weak or is floating. (cf. chapter 5.3.4.3.12.3). Measures to improve the signal quality have to be taken (e.g. external antenna, change of ISP).

- The customer ID has not been input on the HDA eco or it has been input incorrectly. It has to be input correctly. The unique customer ID is allocated by HORN TECALEMIT at the address „http://hdmanager.net/register.php" after registration. (cf. Annex B).

- The customer login details in the HD Manager PC program have not been input or have been input incorrectly. See manual HD Manager program.

- On the used PC there is a firewall installed that blocks communication of the HD Manager program with the web server via internet. The firewall has to be adjusted. If necessary, the network administrator should be consulted for the correct settings.

- If the display shows "Server Error Code 2110" the customer ID has been input incorrectly. It has to be input correctly.

…The data doesn't seem to be saved on the USB flash drive?

- The data produced by the HDA eco are saved in a folder whose name is equal with the serial number of the device, e. g. "1820034".

…The configuration data can't be found on the USB flash drive of the HDA eco?

- The data has to be saved in the subfolder that belongs to the device and not in the root directory.

- Exception: The data "network.dat" and "language.csv" have to be in the root directory.

8   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.**

8.1   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.

Annex A. Menu Structure Management Operation

Menu Refuellings
Show Refuellings
Print Refuellings
Reset Refuellings
No. of Refuellings
USB-Report Refuellings

Menu Total Data
Totals Driver
Totals Vehicle

Totals Driver
Display Totals
SummReset Totals
USB Report Totals

Totals Vehicle
Display Totals
SummReset Totals
USB Report Totals

Driver
Code
PIN
Locked

Menu Ident Codes
Driver
Vehicle
Master
USB report
Web Update

Vehicle
Code
PIN
Refuelling Limit
Max. Refuelling time
Request miles / hours
Range miles / hours
Status miles / hours
Quota quantity
Quota time frame
Lock ID

Master
Code
PIN

Menu items are selected with the '▲' and '▼' keys and confirmed by pressing the 'ENTER' key.

Sub-menus or menu items can be quitted by pressing the 'EXIT' key.

Pressing the 'EXIT' key in the main menu switches to the Refuelling mode.

Menu items in italics are optional / not available in all versions.

Main Menu
Refuelling Data
Total Data
Ident Codes
System
Fuel Tank

Menu Refuelling Options
Identification
Mileage y/n
Previous Mileage y/n
Order No y/n
Nozzle Switch y/n
Refuelling Limit
Max. Refuelling time
Time Out Refuelling
Receipt

Menu System
Refuelling Options
Dispensing Point
Extended
Transponder-ID

Menu Dispensing Point
Pulses / Liter
Post Decimals
Automat Lock
Device Address
Max. Zero

Menu RTC
Date / Time
Clock Correktion
Daylight Saving Time

Menü Extended
Date / Time (RTC)
Contrast LCD
Language
Language from USB
Initialisation
Info Configuration
Activation
Communication Pin
USB Pin
Interface

Menu Fuel Tank
Stock Control
Tank Parameters
Tank Level

Menu Tank Parameters
Form
Max. Volume
Height
Density Medium
Sensor Type
Offset Sensor
Min. Volume
Zero point adjust

Menu Interface
Submenu structure according to version, see next page

```
                 ┌─────────────────────────┐
                 │     Menu Interface      │
                 │   when operating with   │
                 │  "HD Manager" PC software, │        CMR socket modem
                 │  depending on socket modem │        only in combination
                 └─────────────────────────┘        with
                       ╱      │      ╲              www.hdmanager.net !
                      ╱       │       ╲
                     ╱        │        ╲
          ┌──────────┐  ┌──────────┐  ┌──────────────┐
```

LAN
Ident No.
Read Configuration
DHCP
IP Address
Subnet Mask
IP Gateway
Port
MAC Address

WLAN
Ident. No.
Signal
Read Configuration
Restart Time
SSID
Password
Encryption
DHCP
IP Address
Subnet Mask
IP Gateway
Port
MAC Address

CMR
Ident No.
Customer-ID
Signal
Read Configuration
Restart Time
Transmission Delay
Time Auto Connection
Connection Interval
SIM PIN
Access Point
User name
Password
IP Addresse DNS1
IP Addresse DNS2
IMEI
Port
GSM Band

Additional in the
menu Ident Codes :

**Menü Ident
Codes**
.
.
.
Web Update

```
                    ┌─────────────────────────┐
                    │     Menu Interface      │
                    │    when operating with  │
                    │     mytecalemit Cloud   │
                    │  depending on socket modem │
                    └─────────────────────────┘
```

LAN
Ident No.
Read Configuration
DHCP
IP Address
Subnet Mask
IP Gateway
Port
MAC Address
IP-Adresse DNS1
IP-Adresse DNS2

WLAN
Ident. No.
Signal
Read Configuration
Restart Time
SSID
Password
Encryption
DHCP
IP Address
Subnet Mask
IP Gateway
Port
MAC Address
IP-Adresse DNS1
IP-Adresse DNS2

CMR
Ident No.
Customer-ID
Signal
Read Configuration
Restart Time
Transmission Delay
Time Auto Connection
Connection Interval
SIM PIN
Access Point
User name
Password
IP Addresse DNS1
IP Addresse DNS2
Port
IMEI
GSM Band

Additional in the
menu Ident Codes :

Menü Ident Codes
.
.
.
Web Update

Schematic for one Customer with three HDA eco

HTE Web Server

- Assignment HDA to customer
- Control data stream

Internet

CMR

LAN

HD Manager 8

01823481

01823482

01823483

1234567890
Unique Customer ID

Unique Ident Number for each HDA

HDA eco equipped with M2M SIM cards

Annex C. Functional Principle mytecalemit Cloud

Schematic for a Customer with three HDA

Unique Customer-ID
1234567890

Registration: www.mytecalemit.com

Internet

Router

LAN

Wi-Fi

CMR

01823481

Wi-Fi

01823482

LAN

01823483

Web-Browser

1234567890
Unique Customer ID

Unique ident. number for each HDA

HDA eco equipped with M2M SIM cards

Annex D. Data export or Import via USB-flash-drive

Refuelling and ID data are written as a file to the USB flash drive or read from it (ID data only). The data is processed with the HD Manager eco program. It is preferable to use the USB flash drive included in the scope of supply or available as a special accessory; the suitability of third party makes cannot be guaranteed.
A maximum of approx. 240 files can be created on the USB flash drive. A corresponding error message is displayed if this number is exceeded. In this case older files are to be deleted.
The device saves Data in a folder whose name is equal to the serial number of the device, e. g. "1810123". If the folder is not existing, it is set up automatically.

Export of dispense data
In the first export, all existing and not yet exported refuelling data are saved in the file 'DATA0001.TXT'. For all subsequent transmissions, all newer refuelling data are saved in the files 'DATA0002.TXT', 'DATA0003.TXT' and so on; i.e. a new file with an incrementing index is generated for each export procedure. If older files are deleted, moved or renamed, the procedure starts with 'DATA0001.TXT' again.
Export of ID data
ID data for drivers or vehicles are automatically saved in the file 'DATAOUT.TXT'. If the data are to be exported again at a later time (e.g. because new vehicles have been created), then this file must be deleted, moved or renamed. It will then be created again at the next data transfer.

Import or restoring of ID data
A previously saved ID data file 'DATAOUT.TXT' can be read into the HDA eco again by being renamed or copied to 'DATAIN.TXT'. This file can be also be created by the HD Manager eco program. After the transfer the restored file is renamed '_DATAIN.TXT', so that it is not read in again next time. Any already existing file with the name '_DATAIN.TXT' will be overwritten.

Refuelling data format
Each file comprises up to 2,000 consecutively numbered fuelling data records.
Each refuelling data record is written in a line closed by CR, LF. The data fields are separated by a comma.

Data fields:
- Dispenser no.(numerical, two-digit),
- Dispensing point no.(numerical, two- digit),
- Dispensing No. (numerical, five-digit)
- Driver (numerical, four-digit),
- Vehicle (numerical, four-digit),
- Order (alphanumerical, eight-digit),
- Mileage (numerical, eight-digit),
- Quantity [L] (numerical, four integer digits, decimal point, post decimal positions.),
- Product-no. (numerical, two-digit),
- Date (DD.MM.YY),
- Time (HH.MM).
- Checksum (sum of all characters modulo 256 in ASCII representation)

Example:
```
Version=004316,DeviceId=01820257,TypeInfo=HDA_ECO_EU
01,01,00001,0001,0001,Test   1,00000100,0001.000,01,04.06.02,15:35,3B
01,01,00002,0002,0002,Test   2,00000200,0002.000,01,04.06.02,15:35,41
01,01,00003,0003,0003,Test   3,00000300,0003.000,01,04.06.02,15:35,47
01,01,00004,0004,0004,Test   4,00000400,0004.000,01,04.06.02,15:35,4D
01,01,00005,0005,0005,Test   5,00000500,0005.000,01,04.06.02,15:35,53
```

ID data format
Each file comprises up to 4000 ID data records, with a maximum of 2000 for drivers and 2000 for vehicles and a header line.
Each data record is written to CR, LF closed line when doing so. The data fields are separated by a comma.

Fields of the header line
- Version   :   Firmware version with two preceding "0" digits
- DeviceId   :   Serial no. of the device with one preceding "0" digit
- TypeInfo   :   ID for the device type

Data fields:
- ID type (numerical, one-digit: ‚1': Driver ID, ‚2': Vehicle ID),
- ID number (numerical, four-digit),
- ID code (alpha numerical, max. ten-digit),
- ID pin (numerical, max. five-digit)
- ID blocked (numerical one-digit'0': no, '1': yes, ‚)
- Entry mileage (miles) / operating hrs. (numerical, one-digit, '0': mileage (miles), '1': operating hours.)*
- Mileage window: (numerical, four-digit)*
- Max. dispensing time in minutes (numerical two-digit)*
- Dispensing limit in litres (numerical, four-digit)*
- Quota quantity in litres (numerical, four-digit)
- Quota time frame in days (numerical, four-digit)
- Checksum (sum of all characters modulo 256 in ASCII representation)

*Values are only applicable to vehicles and ignored for drivers

Example:
```
Version=004316,DeviceId=01820257,TypeInfo=HDA_ECO_EU
2, 0001,        123,        , 0, 0, 1000, 15, 0999, 0999, 00, F7
2, 0123, 011A342F02, 55555, 0, 0, 1500, 15, 1100, 0100, 05, EF
2, 0003,          3,        , 0, 0, 0000, 00, 9999, 0150, 03, D8
2, 0004,          4,        , 0, 0, 0000, 00, 9999, 0999, 00, DA
2, 0005, 0F0068FD24,        , 1, 0, 0000, 00, 9999, 200,  07, BC
```

Generation of a language file
A new language file has to be examined and approved by HORN TECALEMIT. Please contact customer service at HORN TECALEMIT.

A faulty language file can impair the operation of the automatic dispenser.

The name of the language file is specified as 'LANGUAGE.CSV'.

Language file format
Each file consists of a number of lines. Each line contains two data fields separated from each other by comma or semicolon and corresponds to a unique text entry. Spaces between the data fields are not permitted and may possibly be considered to be part of the text. Each line must be closed by CR, LF.

Data fields:
Unique text ID (numeric, maximum three-digit) each text in the driver guidance is assigned exactly one ID
Text (1 - 16 characters) translation of the original text. Characters will be cut off if the maximum text length is exceeded.

Example:
```
0,Yes
1,No
2,Tank level
…
```

TECALEMIT