

Quick guide EQTrace TD/TD-Key



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Functionality

The EQTrace TD/TD-Key (with connection for key module: TD-Key) is a GPS monitoring device which provides the following functions:

- collection of operating data on 4 input
- detection of the current position
- theft protection function
- logbook function (for vehicles)
- worldwide use
- activation via electronic key (optional, T-Key)
- switching off of the machine or function, 1 output

Due to the simple installation and the minimal power consumption during sleep mode it can be used in many areas. A few examples: motor vehicles, construction machines, trucks, boats, electric bicycles, motorcycles, etc.

All data will be transmitted to the Obserwando-Server www.obserwando.de via mobile internet (GPRS). It can be accessed via the Obserwando-Portal with the corresponding vehicle name. The vehicle position can also be accessed from Android, Windows 10, iPhone or smartphones.

The SIM card is part of the yearly flat rate. When delivered it will already be installed and activated.

Installation

The EQTrace TD/TD-Key should be installed horizontal, with the flange side at the bottom and distant of shielding metal pieces to provide the best GPS reception. The device can be installed under plastic covers but under no circumstances under metal.

The case can be painted in the same color as the vehicle. However, no metalic paint is allowed.

EQTrace TD/TD-Key can be used in vehicles and machines with operating voltage of up to 60VDC. Thus, it can be installed in cars, trucks, construction machines, lifting platforms or forklifts. In case of higher operating voltage a voltage transformer (e.g. TR20-150 or TR-230VAC) is required.

To ensure theft protection when the vehicle is turned off the device needs to be connected to a continuous voltage of 10...60VDC.



LED - states

The installed LED's can display the following states when operating voltage is supplied:

Red LED

- 1. LED flashes every 2 seconds: The device is on.
- 2. LED flashes every 5 seconds: The device is in energy saving mode.
- 3. LED flashes two times every 5 seconds: The device is awake, i.e. sending data, in energy saving mode.

Green LED

- 1. LED is off: The device is not connected to the GSM network and has no GPS signal.
- 2. LED flashes shortly every second: The device is connected to the GSM network, but has no GPS signal.
- 3. LED flashes long every second: The device is connected to the internet and server, but has no GPS signal.
- 4. LED flashes long and two times shortly every second: The device is connected to the internet and the server, and has GPS signal.

The LED's are at the bottom of the device. When installed they are covered (manipulation and theft protection). The allocation can be obtained from the type plate.

Wiring table:

white	VPP (plus, max)
brown, green	GND (minus)
yellow	Input 1 (ignition)
grey	Input 2
rose	Input 3
red	Inpu 4
blue	Output (max 500 mA, switched against minus)





Wiring of the relay (EQTrace TD-Key)

One output of the EQTrace TD/TD-Key is available to block one function of the used vehicle. (e.g. the starter for vehicles, lifting for platforms, etc.)



Warning:

When switching inductive load (e.g. power relays) a free-wheeling diode needs to be used.



Connecting the key module

The 5 pole plug will be inserted into the jack of the EQTrace TD-Key-Module. When the function is activated on the Obserwando server and the user is authorised to operate the vehicle, keys will be automatically detected.





Login into the portal

To login into the portal you need your username and password. If you are new to Obserwando, please enter the supplied user ID as your username and password.

OBSERWAN	
Login	
User name	
Password	
To access this restricted a	area you need access authorisation.



Machine parameters

You can start with the configuration of your machine in the following mask.

Machine parameters Machine group Machine all <u>ficco Bühne</u> Show		
Machine name	Iteco Bühne	
Car registration	Iteco Bühne	
Machine group	Diagnoseg -	
Upload new picture	Browse No file selected.	
Delete image	Don't use any image for this machine	
Label input 1	Ein 1	
Label input 2	Ein 2	
Label input 3		
Label input 4		
Label output 1		
Description		
IPAF category	None requi	

The following fields are available:

Machine name:	When the device is delivered the IMEI-Nr. will be in this field. You can freely choose a machine name which will then be shown in all machine
selections.	
Car registration:	You can provide the car registration for a vehicle.
Machine group:	When you have created machine groups (e.g. rental, service vehicles, etc.) you can assign the device to one of the groups.
Upload new picture:	You can upload a picture of the machine in JPG format. The maximal size is 1MB.
Label input 1:	Channel text for input 1.
Description:	Memo field for arbitrary text.
IPAF category:	At the moment of no meaning.

To save your changes click on "Save".



Device parameters

MACHINE DATA	Device parameters
SET UP MACHINE	Machine group Machine all LL703 V Show
Machine parameters	
» Device parameters	
Service settings	Automatic operation detection O none O Combustion engine "motor O Battery-driven machine
Service log book	Operating voltage
KEY FUNCTIONS	● 36 V
THEFT AND ALARM	• 48 V
TOUR	Voltage threshold 25.6
OBSERWANDO MEANS	IMEI 356308043889317
ORDER ONLINE	Operating hours input 2042 send new parameter
	Operating hours input
	change zycles 0 send new parameter
	Recharge channel No chargin
	Deep discharge notification
	activate 🗖
	Voltage 13.6
	User none 👻
	Save

After selecting this menu the following mask will appear.

Please ignore the red box and don't consider the text inside.

The EQTrace TD/TD-Key devices can automatically detect several operating states.

Yet, since this does not work reliably for every machine the necessary settings can also be configured manually.

Important note: The channels record on a per second basis. The channel state is queried 1 * per second.

Automatic operation detection switched off

Please select "Automatic operation detection: none" to switch it off.

Is an operating hour counter available in the machine the current value n can be used for channel 1 (motor runs).





Automatic operation detection activated: diesel machine

To activate the automatic operation detection for a diesel machine select "Automatic operation detection: combustion machine runs".

Additionally, the operating voltage of the battery needs to be selected. Possible options are $_{12V}$ and $_{24V}$.

The voltage threshold is predefined but can also be changed individually for the machine. The operating hours are automatically collected on channel 1.

To activate the settings click on "Save".

MACHINE DATA	Device parameters	
SET UP MACHINE	Machine group Machine all VL703 V Show	
Machine parameters		
» Device parameters		
Service settings	O none O combustion engine "motor Combustion engine "motor	
Service log book	Starter battery O 12 V	
KEY FUNCTIONS	• 24 V	
THEFT AND ALARM	Voltage threshold motor 25.6	
TOUR	IMEI 356308043889317	
OBSERWANDO MEANS	Operating hours input 2042 send new parameter	
ORDER ONLINE	Operating hours input 2 0 send new parameter	
	change zycles 0 send new parameter	
	Recharge channel No chargin:	
	Deep discharge notification	
	activate 📃	
	Voltage 13.6	
	User none 🔻	
	Save	



Deep discharge notification

When the operating voltage falls under a predefined threshold a corresponding notification can be sent from the Obserwando portal via email. To do this the checkbox "activate" needs to be selected in the menu "Deep discharge notification".

The threshold value of the operating voltage needs to be provided. In the options menu "user" an user can be selected who will receive the notification.

Warning: Only users will apear who have provided a valid email address.

The duration of the deep discharge can be obtained from the battery diagram of the operating data.

Please click on "Save" to activate the changes.

Deep discharge notification		
activate		
Voltage	13.6	
User	none 🔻	
Save		

Service settings



Service intervals and yearly examinations such as TÜV or UVV can be defined in the service settings. When a reporting deadline is reached it will be shown in the operating data. The notification of an user via email is also possible. The user must be selected in the field "user".

The meanings of the fields are:

Name:	Name of the event.
Hour limit:	Notification when hour limit is reached.
Km limit:	Notification when km limit is reached. (determined via GPS tracking)
Current km state:	Entry of the km state obtained from the machine. When selecting "update" the value will be saved.
Date:	Notification when date is reached.

Under "notifications" an user with a valid email address can be selected who will be informed via email when an event is reached.

To activate the settings click on "Save".



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Service log book

In the service log book the logs of a machine, e.g. notes about service intervals or damages, photos or circuit diagrams, can be deposited.

To create a new log click on "New log".

MACHINE DATA	Service log book
SET UP MACHINE	Machine group Machine all
Machine parameters	There are no entries for the selected machine.
Device parameters	
Service settings	
» Service log book	

Following an example of attaching a text. In this case the attachment consists of a pdf manual. It is also possible to add multiple attachments to a log.

To save the log and the attachment click on "Save".

MACHINE DATA	Service log t	book	
SET UP MACHINE	Service log for LL703		
Machine parameters	Summary Text	This is an example This is an example log	
Device parameters			
Service settings			
» Service log book			
KEY FUNCTIONS	Attachment (max. 1 MB)		
THEFT AND ALARM	Attachment (max. 1 MB)	Browse No file selected.	
TOUR	File to be attached		
OBSERWANDO MEANS			Save



Operating data collection



The collection of operating data (e.g. motor is running) can be done using the input. The input voltage can range between 10V and 60V. All collected operating data will be automatically transmitted to the server and can be accessed in Obserwando under "machine ata" "operating data". In this view all weekdays on which the machine was operated will be displayed. Weekdays on which the machine was not operated will be hidden, unless changed under "settings". In the column "Start" the time at which the machine was switched on the first time will be shown. In the column "Stop" the last time when the machine was switched off will be shown. The difference of both times is shown as "Total". If you are interested in the effective runtime e.g. of the motor, you can define the corresponding input channel in the settings. The effective sum of the runtimes can then be found in the column "effective".

Principle of data collection

The "start time", "stop time" and "minutes per hour" will be recorded as operating times. This has been proven useful, especially for platforms and other construction machines. The timeline for the effective channel can be made visible by clicking on the yellow arrow ∇ in the last column. If you are interested in the data of all input channels you can change to the daily view by clicking on the calendar symbol in the last column.

Times in the columns "total" and "effective" which are marked in red show operating times longer than 8 hours or at the weekend.





Position determination - map view

When the vehicle is in sleep mode the last transmitted position will be shown. The EQTrace TD/TD-Key will automatically switch into sleep mode when a vehicle is parked for more than 10 minutes. Sleep mode will be interrupted every 24 hours to send a control message to Obserwando. If a new position is available it will also be updated. In drive mode the current position will be updated every 60 seconds. Is the mobile network not available the coordinates will be saved in the device. As soon as GPRS is available again the saved data will be transmitted to the server.

After first commissioning, the current position will be transmitted to Obserwando as soon as it was determined after connecting the supply voltage. For that the vehicle needs to be in the open!

If no new position can be determined the last saved will be displayed.



Theft protection (Flat rate ATS)

Theft protection in Obserwando can be separated into monitoring of rest and work area.

	Alarm Settings
SET UP MACHINE	Machine groupMachine
KEY FUNCTIONS	all 💽 LL301 V Choose
	General
THEFT AND ALARM	activate monitoring
alarm messages	Automatically update centre of rest and work area at the end of a route
» ATS settings	Rest area monitoring
SMS notification	Mon to ▼ 06:00 ▼ o'clock and again from 18:00 ▼ o'clock
TOUR	Tue to 06:00 o'clock and again from 18:00 o'clock Wed to 06:00 o'clock and again from 18:00 o'clock
OBSERWANDO MEANS	Thu to - 06:00 - o'clock and again from 18:00 - o'clock
	Fri to 💌 06:00 💌 o'clock and again from 18:00 💌 o'clock
ORDER ONLINE	Sat up ▼ 00:00 ▼ o'clock to 24:00 ▼ o'clock
	Sun up 🔻 00:00 💌 o'clock to 24:00 💌 o'clock
	Monitor work area radius 10 km

The rest period can be configured for each weekday individually. During the rest period an alarm will be raised if the rest area of 200 m is left. During working hours the configured work area (radius in km) will be monitored. The centre of the rest and work area is either the last transmitted position (i.e. the current position when the area is defined) or the last used position (of a previous sessions).



SMS notification

MACHINE DATA	SMS not	ification				
SET UP MACHINE	Machine group all	Machine LL301	User ▼ Gu	est 💌	Show	
	activate					
THEFT AND ALARM	Activate SMS noti Period	fication				
alarm messages	from 🔲 2007-01-	01 📺 until 2007-12-3	1			
ATS settings	Tage					
» SMS notification	Monday	🔽 except	up up	00:00 🔻	to 24:00 💌	
	Tuesday	🗹 except	up up	00:00 -	to 24:00 🔻	
TOUR	Wednesday	except	up up	00:00 -	to 24:00 🔻	
	Thursday	🗹 except	up up	00:00 -	to 24:00 🔻	
OBSERWANDO	Friday	except	up up	00:00 -	to 24:00 🔻	
MEANS	Saturday	🔽 except	📃 up	00:00 🔻	to 24:00 🔻	
	Sunday	except	up up	00:00 -	to 24:00 -	

The alarm messages will be sent from the server to all users which are activated for the device via SMS. Important is that every user has a valid mobile number in the master data. After sending the alarm message the monitoring of the device will be deactivated to prevent repeated SMS.

Warning: Monitoring must be reactivated before a new alarm message can be sent (see alarm settings).

Key module functions (TD-Key)



When the EQTrace TD-Key is connected to the key module and the read in of keys was activated on the Obserwando server, the output (and thereby the machine) can be activated with an electronic key.

The user who has registered for the key will be logged. The user will be logged off when the vehicles was turned off for at least 30 seconds.

Users who are trying to register while the vehicle is on are not logged.

Use of the key module function

To use these functions please do the following:

Assign a key to every user. All available keys can be found under the corresponding menu.

MACHINE DATA	User keys	
SET UP MACHINE	Guest, Guest	Show
KEY FUNCTIONS	Keys handed out to Guest. G	est
Evaluation by user	Benuzter bearbeiten	
Evaluation by machine		
» User keys	Key number	Assignment
	456745674567	IFM Brinkum
Key access	Add new user Add new key	

Under "Key access" you can define for each user individually which machines the user can access. You just need to click on "Assign" for the desired machine. The key will then be marked for the assignment and will be transferred to the machine. If a device is not reachable it will be postponed until the server can establish a connection.

MACHINE DATA	Key access			
SET UP MACHINE	User Guest, Guest	Group all	▼ Show	
KEY FUNCTIONS				
Evaluation by user	Machine Search		Status	Lock
Evaluation by machine	IFM Brinkum	Mar	ked for assignment	
User keys	Machin Search	e	Status	Assign
» Key access	LL301		Locked	





Evaluation of the key data

The evaluation of the periods of use can be done using different viewpoints:

Evaluation by machine shows when and for how long a user has operated the machine.

MACHINE DATA	Key usage by machine	
SET UP MACHINE	Machine group Machine from to all ▼ LL301 ▼ 2016-06-03 ⊒ 2016-06-09 ⊒	Show
KEY FUNCTIONS	There's no data available for the selected time range.	
Evaluation by user		
» Evaluation by machine		
User keys		
Key access		

Evaluation by user shows all machines which a user has operated in the selected period of time.

MACHINE DATA SET UP MACHINE	Key us ^{User} ^{Guest, Guest}	sage by u	JSET to 2016-0	6-09 📻 [Show	
KEY FUNCTIONS	Connect					
» Evaluation by user	No connection	n				
Evaluation by machine	Machine	Date	Start	Stop	Sum	
User keys	13040500 13040500	13 Jun 2014 13 Jun 2014	10:16 10:17	10:17 10:18	00:01 00:01	⊽ ⊽
Key access	13040500 13040500	13 Jun 2014 13 Jun 2014	10:18	10:19 10:22	00:01	
THEFT AND ALARM	13040500	13 Jun 2014	10:22	10:23	00:01	
TOUR	13040500	3 Jul 2014	16:58	17:00	00:02	
OBSERWANDO MEANS	13040500 13040500	3 Jul 2014 3 Jul 2014	17:02 17:05	17:03 17:06	00:01	
ORDER ONLINE	13040500	4 Jul 2014	10:11	10:12	00:01	
	13040500	4 Jul 2014	10:12	10:13	00:01	∇
	13040500 13040500	4 Jul 2014 4 Jul 2014	10:40	10:41	00:01	
	13040500	11 Jul 2014	13:36	13:37	00:01	V
	13040500	11 Jul 2014	13:52	13:54	00:02	

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Technical Details

Dimensions:	105 x 73 x 35 mm			
Operating voltage:	10 - 60 VDC			
Operating temperature:	-35° C to +65° C	12V	24V	48V
Power consumption:	Idle mode: Transmit mode: Sleep mode:	25mA 120mA 8,9mA	20mA 70mA 7,7mA	25mA 40mA 7,3mA
Internal battery:	Capacity 1050mAh - Power consumption ir battery.	icreases whi	ile charging t	the internal

Inputs:	4 inputs
Outputs:	1 shortcircuit proofed output (up to 0.5A); output wired to GND

Box content

1. EQTrace TD/TD-Key inclusive connection cable 2m