

Manual

OPW Fluid Transfer Group Europe BV



***Tank Truck Tester
1397E & 1398E***

Disclaimer

With this document an user manual is presented of the **OPW** tank-truck-tester 1397E & 1398E and is designed to use in conjunction with the **OPW /CIVACON** 5-wire overfill sensors connected to 44xx or 41xx socket.

OPW Fluid Transfer Group Europe BV guarantees that this product is adequate for the stated use in chapter 1 and is in accordance with the Directive(s) stated in the declaration of conformity in this manual.

OPW Fluid Transfer Group Europe BV can not be held responsible for incorrect use of the 1397E & 1398E tank-truck -testers. These testers are designed to periodically test the overfill sensors, socket and wiring of a tank truck.

In case these testers are used in another location then mentioned in the initial quotation or is abused, all guarantees will be declined.

This user manual is a part of the supplied product and must stored in a known position, when the tester is relocated or sold to a third party the manual must be attached at all times. All pages of this manual should be present, in accordance to the table of contents. If not, please contact the **OPW Fluid Transfer Group Europe BV**.

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This is an **OPW Fluid Transfer Group Europe BV** product, for technical assistance, information and/or complaints contact:

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Mr. Harry Gilde
Managing Director

Warranty

All parts and products are thoroughly inspected and tested from the time raw material is received at our plant, until the product is completed. We guarantee that all products are free from defects in materials and workmanship for a period of one year from the date of shipment. Any product that may prove defective within said one year period will, at our option, be promptly repaired, or replaced, or credit given for future orders. This warranty shall not apply to any product which has been altered in anyway, which has been repaired by any party other than an authorized service representative, or when such a failure is due to misuse or conditions of use. We shall have no liability for labour costs, freight costs, or any other cost or charges in excess of the amount of invoice for the products.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND SPECIFICALLY THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Approvals

The 3J-slot blue 1397E and 4J-slot 1398E Tank Truck testers are suitable for
Equipment group II, category 2
II 2 (1)G Ex ia IIB T4 ATEX

Technical assistance in the U.S.A.

If at any time during the installation a question arises that is not covered in this Installation Instruction, or with any other applicable documents referenced, feel free to call the CIVACON ELECTRONICS TECHNICAL ASSISTANCE LINE :

In the U.S.A., Call 1-800-5 CIVACON . (800-524-8226)

For the CUSTOMER SERVICE DEPARTMENT :

In the U.S.A., Call 1-888-526-5657

In other countries, call your local agent.

4304 MATTOX RD. * KANSAS CITY, MO 64150
PH: (816) 741-6600 * FAX: (816) 741-1061
(888) 526-5657 (888) 634-1433

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1 Specifications

1.1. Mechanical:

The 1397E and 1398E are designed to test 5-Wire sensors and ground bonding on a tank truck. The 1397E tank truck tester is housed in a blue plug with three slot pins and the 1398E tank truck tester is housed in a black plug with four slot pins.

All dimensions of this worldwide used plug are defined in the EN-NEN13922 "Tanks for transport of dangerous goods – Service equipment for tanks - Overfill prevention systems for liquid fuels" and the API (American Petroleum Institute) recommended practice 1004.

1.2. Electrical:

Both testers are electrical the same. And based on the same printed circuit board. Since the testers are only designed to analyze the 5-wire sensors and ground bonding the electrical parameters stated in the EN-NEN13922 for 5-Wire sensors applies.

It is not possible to test 2-Wire sensors with these testers.

Battery Energizer Industrial 522 must be used for use in a hazardous environment.

1.3. Specifications external environment

Usage Temperature Range (T_u) : -20°C to +60°C
 Storage Temperature (T_s) : -20°C to +40°C
 Max. Surface Temperature (T_4) : ≤135°C
 IP Class closed : IP54 acc. to IEC 60529
 Resistant to : UV Light (within Sun light), Corrosion
 : Ingress of Gasoline vapors and liquids : Explosive Mixtures
 : (Diesel) Exhaust fumes, Rain Water
 : All other weather conditions
 External Pressure : 80 kPa (0.8 bar) to 110 kPa (1.1 bar) (atmospheric pressure)
 Air : Normal oxygen content, typically 21% v/v

1.4. General Specifications

Outline dim. Tester : max. width = 88 mm
 : max. length = 142 mm
 Material Housing : 60D Urethane
 Max. capacitance : 15 pF
 Surface Resistance : < 1GΩ at (23±2)°C and (50±5)% relative humidity
 Weight : 500gr. (17.6 ounces)

1.5. Entity parameters

Entity Parameters	Socket Contact Pins		
	Pin 4,5,6 & 9 to pin 10	Pin 8 to pin 10	Total & pin 10
Uo	9,9 V	9,9 V	9,9 V
Io	210mA	200mA	410mA
Po	520mW	495mW	
Co	10µF	10µF	
Lo	80mH	80mH	

1.6. Directive and Standard Compliance

To use the 1397E & 1398E in a hazardous environment the following directives are applicable. and only when Energizer 522 PP3 battery is used.

Directive Compliance:

ATEX : II 2 G Ex ia IIB T4

The 1397E & 1398E are designed according to the following standards.

Use of Standards:

EN 60079-0 *Electrical apparatus for explosive gas atmospheres – Part 0: General requirements*

EN 60079-11 *Electrical apparatus for explosive gas atmospheres Intrinsic safety 'I'*

EN 60529 *Degrees of protection provided by enclosures (IP Code)*

EN 13922 *Tanks for transport of dangerous goods- Service equipment for tanks- Overfill prevention systems for liquid fuels*

2 Initial installation

No special measures have to be taken to install the tester. This Product is ready for use when taken from the box.

3 Maintenance

Do not store the tester for a long period with a battery attached. Leakage of the battery and corroding of the clips may occur

Contact pins are spring loaded and should be clean for proper operation. Replace battery when red light is flashing rapidly.

4 Operational Use

Place the plug, blue on a 3J-slot socket or black on a 4J-slot socket. One of the spring loaded pins will energize the circuit. A short green flash on the rear of the plug will indicate that power is applied. A test sequence is started to analyze the sensors and verifies the ground connection. A bicolor led pattern will indicate the status of the sensors (see figure 1). A second circuit is designed to verify the connection between pin 9 and 10. If the impedance is within the specifications of the EN-NEN13922 **6.1.2 Bonding**, a white Led is flashing on the rear of the plug. After 10 minutes the tester will be switched to hibernate and the power to the sensors will be switched off to preserve power. To re-start the tester the plug has to be removed from its socket and replaced.

5 Key features

- No operating action required
- Bi-color Led indicator for amount of compartments
- Separate White Led indicator for ground verification
- Test ground loop and ground bolt
- Fitted with an approved Energizer 522 PP3 battery
- Available for 3-J and 4-J slots
- Extra diagnostic information available
- Robust and small housing, can be stored in truck cabin
- Auto switch off when removed from socket
- Auto switch to hibernate after 10 min. to preserve battery life



For additional features please contact OPW Fluid Transfer Group Europe bv.

6 Indicators

The tester is equipped with two LED indicators on the back of the plug. One white LED indicator with the text GND and one bi-color LED indicator with the text dry/wet.



The white LED informs the user over the status ground bonding.
LED indicator off : Bad or no grounding.
LED indicator flashing : Grounding OK

The bi-color LED indicator flashes green when the sensors are Permissive (dry).
The bi-color LED indicator flashes red when the sensors are non-permissive (wet).

A special green pattern indicates the amount of detected dry sensors.
In case of a wet sensor the pattern will indicate the compartment with the wet sensor in a Red pattern
Since counting up to 12 can cause counting errors the pattern consist of two parts.
A short flash is 1 sensor and a long flash is 5 sensors. This means one long flash and one short flash designates the sensor in compartment 6 (e.g. see label on the rear of the tester). More patterns are shown at the end of the document.
The LED indicator flash pattern will be repeated every 5 seconds.

7 Battery replacement.

Remove the screw shown in RED to remove the insert. The battery is placed on the printed circuit board and snapped into the positive and negative battery clip. Remove the battery gently and replace the it with a new one.
Make sure you dispose the battery according local regulations.



8 Safe disposal battery.

This device is marked according the European directive (2002/96/EC) on Waste Electrical and Electronic Equipment WEEE. Please read attachment on safe disposal

(Disposing of spent batteries/accumulators in the household waste is prohibited!)

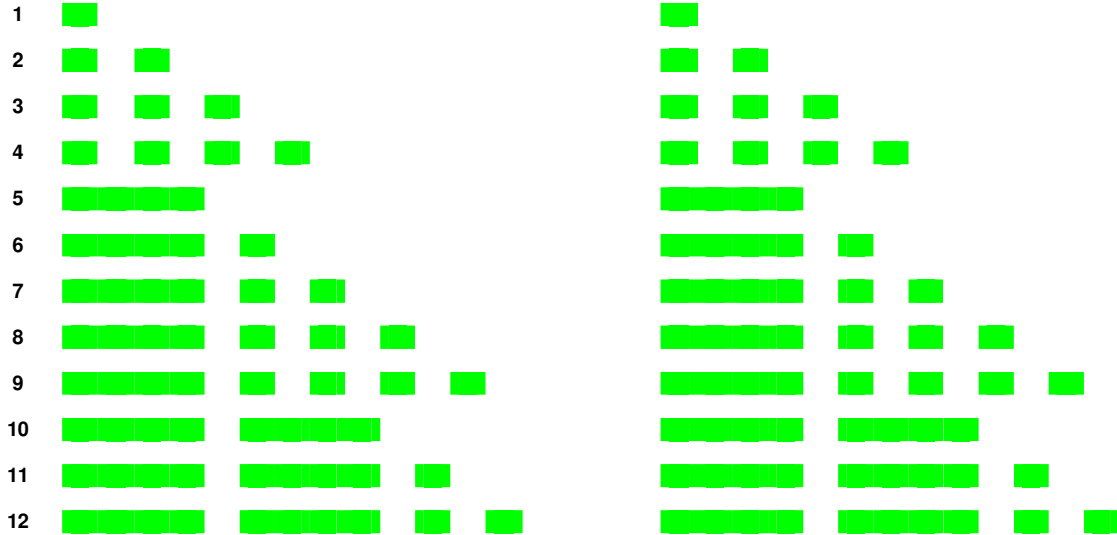


For example:

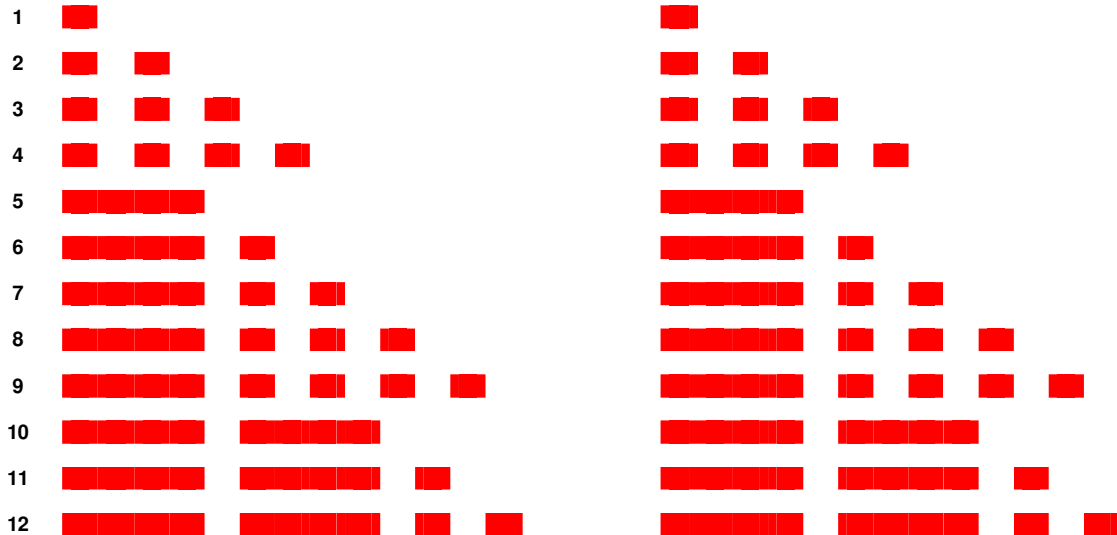
→ ▨ ← 250mS

→ ▨ ▨ ▨ ▨ ▨ ▨ ▨ ▨ ▨ ▨ ▨ ▨ ← ~2Seconds

DRY compartments



WET compartments



LOW BAT
 → ▨ ← 25mS
 → ▨ ▨ ▨ ▨ ▨ ▨ ▨ ▨ ▨ ▨ ▨ ▨ ← ~5 Seconds

Current to high to sensors



When a low battery indication appears, battery should be replaced, no further use possible.

Figure 1



CERTIFICATE OF APPROVAL

This is to certify that the Quality Management System of:

**OPW Fluid Transfer Group Europe B.V.
Nieuw-Vennep, The Netherlands**

has been approved by Lloyd's Register Quality Assurance
to the following Quality Management System Standards:

ISO 9001 : 2000

The Quality Management System is applicable to:

**Engineered Products for the Transfer, Monitoring,
Measuring and Protection of Hazardous Fluids for the
Chemical, Petroleum and Food Industry.**

Approval
Certificate No: 654734

Original Approval: 6 March 2001

Current Certificate: 1 April 2008

Certificate Expiry: 31 March 2011

Issued by: LRQA (Rotterdam)



This document is subject to the provision on the reverse

This approval is carried out in accordance with the LRQA assessment and certification procedures and monitored by LRQA.

EC Declaration of Conformity

In accordance with ISO/IEC 17050:2004

We **OPW Fluid Transfer Group Europe BV**
of Roggestraat 38
2153 GC Nieuw Vennepe
The Netherlands
T: +31 (0)252 660 300

declare that:

Product description : Tank-Truck-Tester
Item number : 1397E & 1398E
Brand name : Civacon
Protection Type : Ex ia IIB T4
Certificate number : Zelm 10 ATEX 0xxx X
Product category : II 2 (1)G

is/are in accordance with the following Directives:

94/9/EC

ATEX 95 – Explosion Safety Directive
and its amending directives

has been designed and manufactured to the following specifications:

EN 60079-0 *Electrical apparatus for explosive gas atmospheres
Part 0: General requirements*
EN 60079-11 *Electrical apparatus for explosive gas atmospheres
Intrinsic safety 'I'*

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all essential requirements of the Directives.

The commitments are fulfilled towards: **Zelm Ex**
Siekgraben 56, 38124 Braunschweig, Deutschland
Identification number: **CE 0820**

Place : Nieuw Vennepe Date :

Mr. Harry Gilde
Managing Director

(Authorized signatory on behalf of OPW Fluid Transfer Group Europe B.V.)