

OPERATING MANUAL
CONTAINER SOCKET SYSTEM
VARITAIN OneTouch ECO



WISKA Hoppmann & Mulsow GmbH

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Zng. 86945-04 Varitain OneTouch ECO

System description

The VARITAIN OneTouch ECO Socket System is used for the electrical supply of thermal containers on board seagoing vessels and riverboats, as well as in harbour systems. It is suitable for 440V $\pm 10\%$ 3-phase, but can also be adapted to other voltages in the factory. The current loading is suitable for thermal containers up to a maximum of 32 A.

Each socket is protected against short circuits and overloads by an in-built circuit-breaker. The circuit-breaker trips automatically and must be manually returned to the 0- or 1-Position.

VARITAIN OneTouch ECO is available both with and without monitor sockets. The system can be fitted with and wired for monitoring electronics if required.

VARITAIN OneTouch ECO is an internationally standardised CEE socket device compliant with CEE Publication 17/2, DIN EN 60309, IEC 309 and VDE 0623.

The system components

The system consists of system components

- Housing with screwed cable gland(s)
- Cover
- Circuit-breaker (A)
- Socket flange (B) with bayonet cap (C)
- Socket interior, complete (D) – [with contacts, lines, seals, gear-shift pin (E), ball and socket joint (F)]
- Gear-shift hook (G) with locking component (H)
- Monitor socket with screw cap (J) [Option]
- Internal wiring
- Terminals
- Electronics for Monitoring System if requested

Description

Housing

The housing consists of powder coated (colour as requested by customer) welded stainless steel sheet with welded bolts for fixing the components. In order to ensure the degree of protection IP 67 according to EN 60529, a high quality rubber seal is pressed onto the upper bent section of the housing. Fixing lugs on the housing floor are used to fix the equipment.

Socket

The socket consists of the socket flange (B) with bayonet cap (C), the socket interior (D) with contact sleeves (3-phase sleeves with an earth sleeve), wires, seals, gear-shift pin (E), ball and socket joint (F) and the cap nuts (K). The groove for preventing incorrect connection in respect of the protective conductor contact defines the voltage and frequency. VARITAIN OneTouch ECO is offered and delivered in its 3-hour setting as standard.

Locking system

According to the international regulations the plug can only be plugged in and withdrawn in the switched off state. The plug is therefore locked in the switched on state and cannot be withdrawn.

Operation mode:

After it has been inserted, the plug is rotated approx. 90° clockwise to turn on the circuit-breaker (A). While the plug is being turned, the auxiliary protrusion of the plug is guided into a hollow space inside the socket flange (B) and is thus secured against being pulled out. After switching off, the auxiliary protrusion of the plug is automatically located in the groove for preventing incorrect connection of the socket flange (B) and the plug can be pulled out.



Attention:

Please ensure that you only use plugs that conform with international norms (CEE Publication 17/2, DIN EN 60309, IEC 309 and VDE 0623) as only in this way the safe operation of the installation is ensured. Please particularly ensure that:

- ***the plug housing is undamaged***
- ***the bayonet ring is present with undamaged seal***
- ***the plug is clean and dry***
- ***the auxiliary protrusion of the plug is present***
- ***the plug is plugged after the valid norms.***

Circuit-breaker

Number of poles:	3 + protective conductor
Short circuit switch-off capability:	Standard 10 kA, 25 kA or 100kA (with Current Limiter)
Rated insulation voltage:	630 VAC
Rated current:	max. 32 A

The circuit-breaker (A) is fitted with a trip knob that mechanically simulates tripping, as for e.g. a short circuit or overload.

Connection terminals

Terminal blocks or bolt blocks are fitted in the factory depending on type.

- Terminal blocks up to 50 mm²
Torque for cable connection 5 Nm
- Bolt blocks up to 150 mm²
Cable lug after DIN 46234
Torque for cable connection 20 Nm
- Monitoring terminals for monitoring cable up to max. 1,5 mm²
Torque for cable connection 0,45 Nm

Attention:



Please make sure that the cables for the voltage supply remain connected according to the terminal marking (L₁, L₂, L₃).



- 1) **Maximum electrical pre-fuse**
limit 200 A until 11 gang container-sockets,
according ISO 1496-2
- 2) **Maximum electrical pre-fuse**
limit 250 A until 8 gang **high power container**-sockets

Repair and maintenance

Maintenance

No maintenance is provided in addition to the regular checking of the contact sleeves (unavoidable wear caused by high numbers of plugging cycles and by dirty or faulty plugs).

Repair



Attention:

The housing may not be opened when under voltage and only by trained staff.

Safety measure to DIN VDE 0105

1. ***Disconnect***
2. ***Shield unit from restart***
3. ***Verify disconnected parts are free of voltage***
4. ***Ground an by-pass***
5. ***Protect and separate the energised components near by.***



Repair / reconditioning work may only be undertaken using WISKA original spare parts. Changes or alterations to the equipment are not permitted.

Replacing the housing seal (seal between housing and cover)

- Remove the old seal (L).
- Carefully press the new seal onto the housing collar with some jointing compound (e.g. Omni Visc 1002 or similar) and take care that the seal is generally in uniform contact.
- Measure off the exact length of the seal (L) before pressing on the last 20 cm and carefully stick the two ends together with a commercially available rubber adhesive. Only careful joining and sticking of the two seal ends guarantees a functional seal.

Replacement of the socket interior



Precautionary measures

Switch the entire equipment to the no-voltage state. Remove the cover and check whether the equipment has been switched to the no-voltage state with a voltmeter. Ensure that the equipment is not re-activated while working.

- Remove the locking component (H) for the gear-shift hook (G), remove the top sliding washer (M) and twist the gear-shift hook (G) out of the ball and socket joint (F).
- Release the three screw terminals of the circuit-breaker (A) on the flange side and pull the three cables out of the screw terminals.
- Release the earth connection.
- Remove the four cap nuts (K) with a hexagonal spanner of spanner width 10 from the socket flange (B) and remove the socket flange (B) by pulling it forward.
- Remove the socket interior (D) by gently rocking it out of the housing.

Installing the socket interior

in the reverse order.



Please make sure that the seal is properly emplaced. The cap nuts (K) should be tightened with a torque of 5 Nm. The gear-shift hook (G) is turned in the ball and socket joint (F) of the new socket interior (D). The gear-shift hook (G) should be twisted in the ball and socket joint (F) until it can be placed in the "ON" position of the circuit-breaker (A) by gently pressing the circuit-breaker in the direction of the housing back wall. Make sure that the gear-shift hook (G) is installed with the sliding washer (M) and that the locking component (H) is again properly attached. The cables of the socket interior (D) must be connected according to the cable marking (L₁, L₂, L₃). Check rotary field (clock wise). The earth connection should be fitted first for safety reasons. The following torques apply for the terminal points on the circuit-breaker:

- 1,7 Nm

Replace the circuit-breaker



Precautionary measures

Switch the entire equipment to the no-voltage state. Remove the cover and check whether the equipment has been switched to the no-voltage state with a voltmeter. Ensure that the equipment is not re-activated while working.

Consider the polarity of the connections when re-fitting

- Release the three upper screw terminals of the circuit-breaker (A) and pull the three cables out of the screw terminals.
- Remove the locking component (H) for the gear-shift hook (G), remove the top sliding washer (M) and fold the gear-shift hook (G) to the side.
- Release the three screw terminals of the circuit-breaker (A) on the flange side and pull the three cables out of the screw terminals.

- Remove the circuit-breaker (A) from the mounting rail (O).
 - Install the new circuit-breaker (A) in reverse order. Make sure that the gear-shift hook (G) is installed with the two sliding washers (M) and that the locking component (H) is again properly attached.

The following torques apply for the terminal points on the circuit-breaker:

- ***1,7 Nm***

Replace the monitor socket

- Release the 4 wires of the monitoring socket cable on the associated terminals.
- Release the 4 fixing screws of the monitor socket (J).
- Pull out the monitor socket (J) including the 4 cables towards the front.
- Install the new monitor socket (J) in the reverse order.



Attention:

Check the terminal assignment in accordance with the circuit diagram.

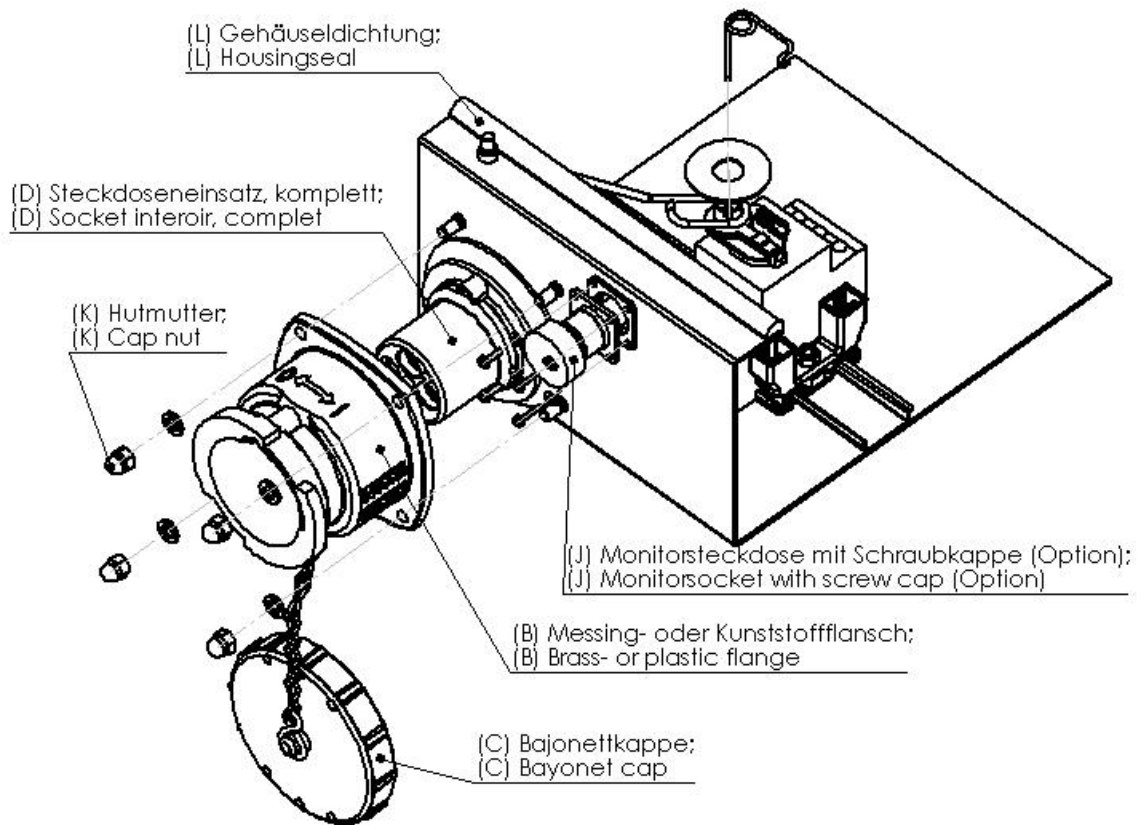


Figure 1: VARITAIN OneTouch ECO structure, external view without cables.



Please obtain the article and order numbers of the individual components from the separate, order-specific spare parts list.

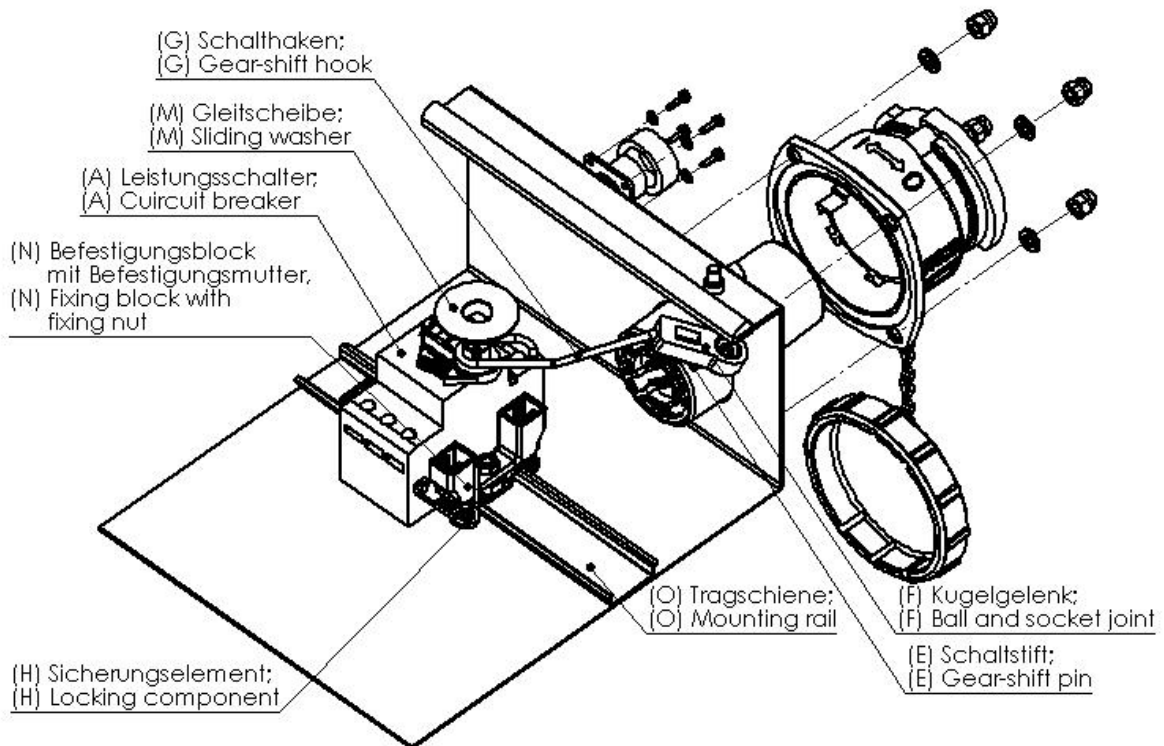


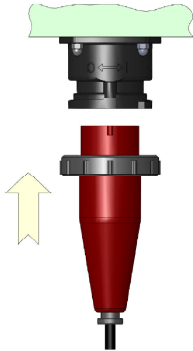
Figure 2: VARITAIN OneTouch ECO structure, internal view without cables.



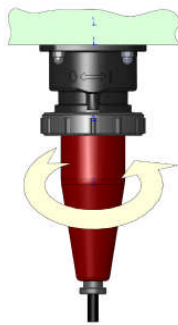
Please obtain the article and order numbers of the individual components from the separate, order-specific spare parts list.

Power On

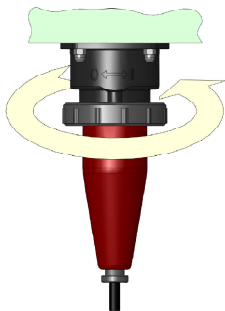
1. Turn the socket cover anticlockwise and remove it.



2. Insert the plug into the socket as far as it will go.

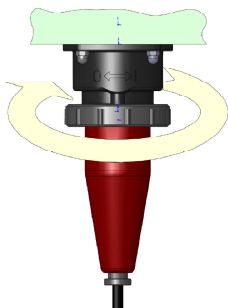


3. Turn the plug clockwise by 90°.
The socket is switched on.

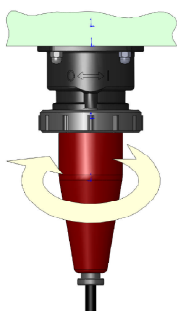


4. Push the bayonet ring over the socket and tighten it firmly in a clockwise direction.

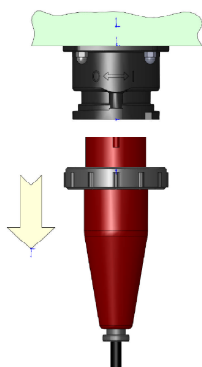
Power Off



5. Release the bayonet ring of the plug by turning it anticlockwise.



6. Turn the plug anticlockwise by 90°. The socket is switched off.



7. Pull the plug out of the socket.

8. Tighten the socket cap by turning it clockwise.


VARITAIN OneTouch ECO with heating (up to -50°C)

Opening the housing



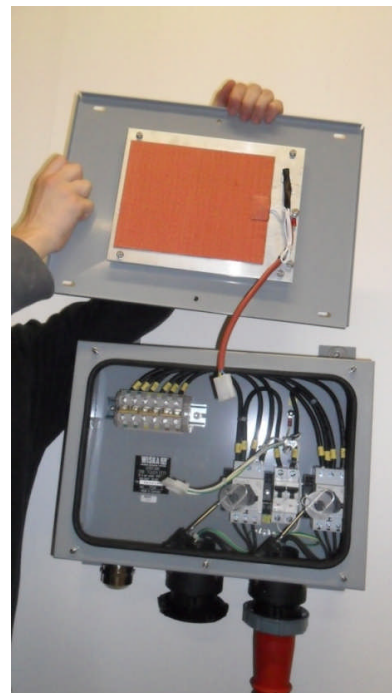
1st step: undo the cap nuts.



2nd step: screw the cover to the box
 (with at least two nuts).




3rd step: disconnect the heating
plug connectors.

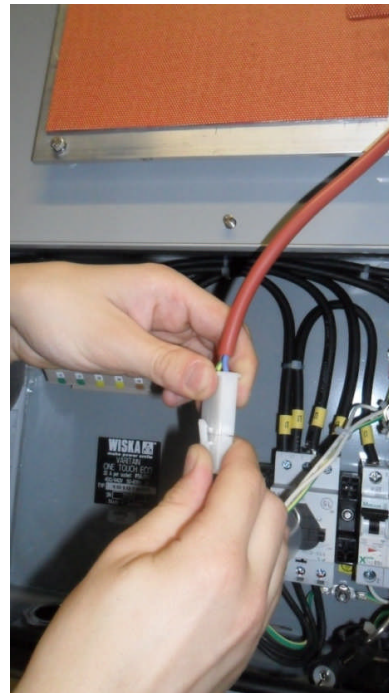


4th step: the cover can now be
removed from the housing.

Closing the housing



1st step: screw the cover to the box.
 (with at least two nuts)



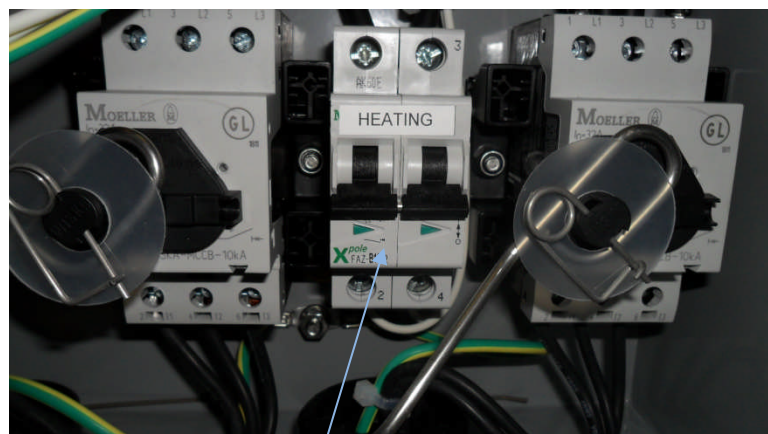
2nd step: Connect the heating plug connectors together.



3rd step: Offer up the cover from below and close the housing.



Attention: Care must be taken not to trap the heater cable between the housing and the cover.



Heating fuse 10A installed in the box.

Type Approval Certificate



This is to certify that the undemoted product(s) has/have been tested in accordance with the relevant requirements of the GL Type Approval System.

Certificate No.	20 255 - 04 HH
Company	WISKA Hoppmann & Nulsow GmbH Kisdorfer Weg 28 24568 Kaltenkirchen, GERMANY
Product Description	Socket-Outlet-System for reefer containers with or without monitoring outlets
Type	VARITAIN ONE TOUCH ECO with max. 10 outlets for fixed installation
Environmental Category	F
Technical Data / Range of Application	Each CEE socket outlet: 3 pole + E, max. 500V AC, 32 A Brass or plastic socket outlet with circuit breaker WISKA- MCCB-.... and mechanical interlocking Material of distribution casing: stainless steel W.N. 1.4301(SUS 304) coated or 1.4571 (SUS 316) Rated freq: 40...60Hz Degree of protection: IP 56/67 Rated short circuit making and breaking capacity: WISKA- MCCB-10kA Icm/Icu:400V/105/50kA,440V/17/10kA, 500V/17/10kA WISKA-MCCB-25kA Icm/Icu: 400V/105/50kA, 440V/52.2/25kA, 500V/17/10kA WISKA- MCCB-10kA, -25kA + CL-PKZ0 Icm/Icu:440V /220/100kA,440V/220/100kA alternatively with: -monitoring outlet socket outlet for general use 16 -looping connection for power supply phase failure relay -power On/off sight device
Test Standard	GL Guidelines for the Performance of Type Approvals: 2003 IEC 60529: 2000, IEC 60309:1998, ISO 1496-2:1996
Documents	Dwg.No. 74116-02, 74145-03, W06-289-00 to -290-00, Specification 'Varitain One Touch ECO' Rev.10-06 PAC report 1309-06:Oct.2006
Remarks	Monitoring (computer) systems are not subject to this approval Operating instruction of the manufacturer to be observed
Valid until	2016-10-20
Page	1 of 1
File No.	I.O.02
Hamburg,	2011-10-21

Type Approval Symbol



Germanischer Lloyd

T. Hattmann
Thomas Hattmann

J. A. Zipfel
Joachim Zipfel

This certificate is issued on the basis of "Guidelines for the Performance of Type Approvals Part 1, Procedure".

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