



# Mains Supply Transfer Switch Unit MT NU 2300

## Introduction

by purchasing of the MT NU 2300 automatic mains supply transfer switch, you have chosen a quality product from BÜTTNER ELEKTRONIK.

This mains supply transfer switch unit meets all requirements of an high quality automatic mains supply changeover switch. It also offers full switch- ingpower up to 10 A so that consumer loads can be operated without any problems at 230 V supplied by mains, inverter or generator.

Please check the contents of the package for completeness immediately when opening. An overview of the scope of delivery can be found in the chapter "Scope of delivery".

We hope you enjoy your new mains supply transfer switch unit MT NU 2300.

Your BÜTTNER ELEKTRONIK team

## About these Operating instructions

The installation assistance on the following pages will help you to put your mains supply transfer switch unit into operation – quick and easy. Please read these instructions attentively and carefully. Pay attention to the safety instructions in particular to ensure proper operation of the device.

### Symbols used



**Danger!** Warns of dangers to persons, damage to the device or other objects. Injuries or damage may result from improper handling. Failure to do so can lead to serious damage, fire and personal injury!



**Tips and Tricks!** This icon is used to designate tips, helping to use your equipment even easier and more efficient.

## Scope of Delivery

- 1 x MT NU 2300 mains supply transfer switch unit
- 1 x User manual

## General Information

Please read all the following instructions carefully before starting the installation or commissioning your new device. Avoid incorrect operation and protect yourself and your device from possible damage caused by improper use. Keep this instruction manual and all other included documentation in a safe place for later consultations.

### Safety instructions

The manufacturer does not accept any liability for damages caused by improper handling and non-compliance with safety precautions or improper installation. Changes to the device may result in a loss of operating license or violation of other legal requirements (e.g. Equipment and Product Safety Law, Electronic Compatibility Law). Upon resale of the conversion, the person responsible for the conversion becomes the manufacturer and is liable accordingly. Furthermore, the manufacturer's warranty is no longer applicable and a loss of warranty rights may result. The following safety and hazard warnings serve to protect your health not only to protect the device. Read all the following points carefully and completely. In the case of damage or personal injuries caused by improper handling or noncompliance with this manual or the safety instructions listed here, the warranty/guarantee expires. For consequential damages we are not liable!

- The mains supply transfer switch unit is part of the 230 V AC electrical installation. Therefore, the prescribed standards and guidelines apply to the installation and work on this device (DIN VDE 0100 and VDE 0105 and other supplementary standards and regulations depending on usage and country!).

- Installation, assembly and wiring as well as all other work may only be carried out by qualified electrical specialists. Respect all the applicable accident prevention regulations.

- When the device is opened, there is a risk of electric shock! Make sure that all connected power sources are turned off and protected against powering back on.

- Repairs may only be carried out by authorized personnel and only original spare parts must be used. Deviating spare parts could result in personal injury and damage to property.

- The operation of the device is only permitted at 230 V / 50 Hz AC sine-wave voltage with a maximum load of 10 A under the released operating conditions. Overload may cause damage of the device, fire or electrical accident.

- The use in case of a damaged device (by transport) or operation on damaged wiring is not permitted.

- Operate the device only indoor and avoid influence of moisture, dust, direct sun or other heat irradiation.

- Installation in potentially explosive areas such as rooms with inflammable liquids or gases is not permitted.

- Connected cabling must have sufficient cross-section to avoid damage caused by overheating, fire. Check cables for damage after installation and secure against tensile stress with suitable counter-measures.

- Never put cables for 12 V DC voltage and 230 V AC voltage in the same installation channel.

- The inverter applied must be equipped with a safety isolation (galvanic isolation) between input (battery voltage) and AC output (230 V AC)!

- The device must be installed or stored out of reach of children. Dispose of the packaging after assembly to avoid risk of danger for children!

### Operating Voltage / Supply Voltage

The MT NU 2300 automatic mains supply transfer switch unit is designed for operation at sinusoidal AC voltage of 230 V / 50 Hz. For trouble-free operation, the deviation of the alternating voltage must be within the usual tolerances. Only inverters with **pure sine wave** must be used. Connected consumer loads must also comply with these voltage rating and the maximum power consumption must be within the specified maximum permissible power.

### Recommendation on the application

The mains supply transfer switch unit was developed for Recreational Vehicles (RV) and can be used according to the specified protection type after proper installation and cable routing with suitable cable diameters and external strain relief. However, the device is not suitable for outdoor use.

### Function

The MT NU 2300 mains supply transfer switch unit ensures automatic and trouble-free operation of all 230 V AC consumers on board of your RV. Regardless of whether you want to operate your consumers on site supplied from external grid power (230 V AC mains current) or autonomously from an installed inverter. The different operating states are monitored, and the automatic switching takes place as soon as a change of the input supply is detected.

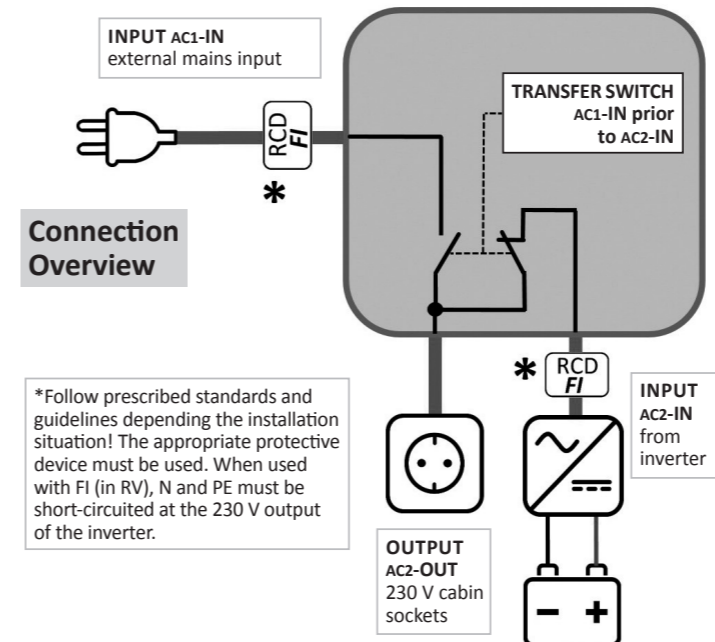
The integrated microprocessor-controlled electronics of the MT NU 2300 mains supply transfer switch unit enables a fully automated supply selection for the connected 230 V AC consumers in your RV, either from the external connected 230 V from grid or from your installed inverter. The monitoring automatically detects whether the external 230 V AC mains voltage is available and supplies it directly to the 230 V sockets. If the external 230V AC mains voltage is not present, the unit shifts and the interior sockets are supplied from the inverter.



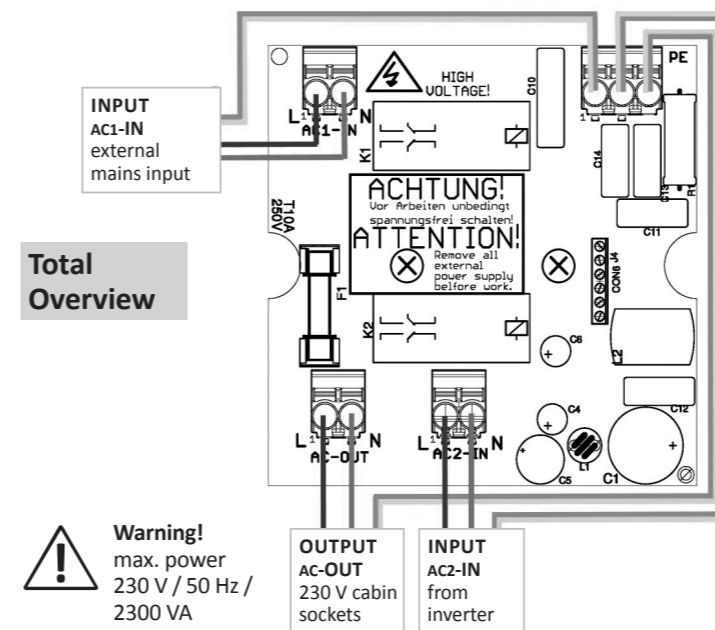
**Especially for motorhomes.** When the mains supply transfer switch unit is operated via inverter, no power is required from this connection for its operation. This ensures that the on-board battery is not unnecessarily discharged.

### Priority always has the external 230 V AC mains input

230 V AC mains consumers, which should only be operated with existing external mains supply (e.g. battery charger/ refrigerator / air conditioning / e-bike charger, etc.) can be connected directly to the existing connector AC1-IN.



**NOTE!** If higher loads needs to be operated by an inverter while driving, it must be ensured that the infrastructure is accordingly designed (charging cables, boosters, etc. sufficiently dimensioned).



**Warning!** max. power 230 V / 50 Hz / 2300 VA



**Warning!** NO connect on between PE and N at output AC OUT allowed!



**Warning!** Required protective devices such as personal protection by Residual Current Device (RCD) must be used depending on the type of installation and regulations! Installations must therefore be carried out by trained professionals with the appropriate level of knowledge and authorization.

## Installation

The installation must be carried out in accordance with prescribed standards and guidelines (DIN VDE 0100 and VDE 0105) and according to other additional standards and regulations depending on their use and country.

Only trained specialists allowed to install equipment and release them for use after testing. Used inverters must have electrical galvanic insulation between input and output. No connection between neutral conductor N and protective conductor PE is allowed at the output of the mains supply transfer switch. Consumers with classic grounding (N and PE connected) are not allowed to be operated and connected to the mains supply transfer switch unit. Take care to ensure that the specified values of voltage and connected loads meet the present requirements and will not exceed.

The mains supply transfer switch unit should be installed in a clean place, protected against vibrations, explosive materials, moisture, heat and pollution inside of the RV. The cables to be connected are to be passed professionally through the existing rubber sleeves and protected outside against tensile loads and vibration. The diameters of the cables used must correspond the diameter of the rubber sleeves in order to comply with the protection class.



**Warning!** Before any work on the 230 V AC wiring, make sure to switch off all dangerous voltage! Ensure that no accidental switching on or plugging in of mains voltage is possible!

## Technical data:

Input voltage: 230 V AC, 50 Hz, pure sinewave  
Output voltage: 230 V AC, 50 Hz  
Input current: (max.) 10 A  
Output power: (max.) 2300 VA  
Switchover time: ca. 0,5 s

Internal fuse: T 10 A / 250 V  
Protected against: Overload, short circuit, reverse current  
Temperature range: -20° C .... +60° C  
Protection class: IP 55  
Dimension: 113 x 93 x 55 mm  
Weight: approx. 195 g



**Disposal!** This product may not be disposed with household waste.



**CE Declaration:** The product is in line with the requirements of the following European Union directives and standards:

**Directive 2014/30/EU Standards:** DIN EN 61000-6-3, VDE 0839-6-3: 2011/09, (B1:2012-11); DIN EN 61000-6-4; VDE 0839-6-4: 2011-09; DIN EN 55022; VDE 0878-22:2011-12, B1:2016-08: (CISPR 22:2008 mod.); DIN EN 55011; VDE 0875-11:2011-04, A1:2015-11; DIN EN 55014-1 VDE 0875-14-1:2012-05, A1:2016-03; DIN EN 61000-6-1 VDE 0839-6-1:2016-05; DIN EN 55014-2 VDE 0875-14-2:2016-01

**Low voltage directive 2014/35/EU standards:**

DIN EN 60335-1:2012/A11: 2014; DIN EN 60730-1: 2017-05; VDE 0631-1:2017-05

**ROHS und REACH compliant:** DIN EN 50581:2013-02; VDE 0042-12:2013-02, VDE 0042-12:2013-02 (EG) Nr. 1907/2006 (REACH)

## Warranty

The company BÜTTNER ELEKTRONIK GmbH assumes a 24-month warranty in the event of a proven warranty claim (purchase receipt with date). All functional errors occurring within the warranty period, which are demonstrably caused despite proper use, will be corrected free of charge up to 24 months after the date of purchase. In order to carry out the warranty work, the defective device must be sent to the factory free of charge for the manufacturer. It remains up to the manufacturer to repair or replace defective parts. The costs for the return shipment are to be paid by the customer. Warranty services do not extend the warranty period granted from the date of purchase.

Excluded from the warranty:

- Damages caused by non-compliance with the instructions in the user manual.
- Damage caused by reverse polarity, overcurrent, overvol-tage or lightning strikes.
- Devices opened by end-users.

The manufacturer's warranty does not limit the statutory warranty. In the event of a defect, please contact our hotline or your dealer.

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