INSTALLATION AND OPERATING MANUAL

EN

EXTERNAL MANUAL BYPASS

for NETYS RT4 5 - 10 kVA

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The safety information in this manual should be retained for future reference.

The reference information on safety is in English.

For other languages please contact Socomec or your local distributor.

The manufacturer will not be held liable for failure to follow the instructions in this manual which is also available at www.socomec.com

1. CERTIFICATE AND CONDITIONS OF WARRANTY

The SOCOMEC unit is part of a UPS system.

For the warranty conditions, please refer to the relevant chapter of the UPS manual.

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This document is not a specification. SOCOMEC reserves the right to make any changes to the information provided without prior notice.

2. SAFETY STANDARDS

This user manual specifies installation and maintenance procedures, technical data and safety instructions for SOCOMEC. For further information visit the Socomec website: www.socomec.com.



NOTE!
Any work carried out on the equipment must be performed by skilled, qualified technicians.



NOTE!
Before carrying out any operations on the unit read the installation and operating manual carefully. Keep this manual safe for future reference.



DANGER!
Failure to observe safety standards could result in fatal accidents or serious injury, and damage equipment or the environment.



CAUTION!
If the unit is found to be damaged externally or internally, or any of the accessories are damaged or missing, contact SOCOMEC. Do not operate the unit if it has suffered a violent mechanical shock of any kind.



NOTE!
Install the unit in accordance with clearances in order to prevent access to handling devices and guarantee sufficient ventilation (refer to 'Environmental requirements' chapter).



NOTE!
Only use accessories recommended or sold by the manufacturer.



NOTE!
When the equipment is transferred from a cold to a warm place wait approx. two hours before putting the unit into operation.



WARNING!
Connect the protective earth (PE) conductor before making any other connections.



DANGER! RISK OF ELECTRIC SHOCK!
Before carrying out any operations on the unit (cleaning and maintenance performances, connection of appliances, etc.) disconnect all power sources.



NOTE!
Any use other than the specified purpose will be considered improper. The manufacturer/supplier shall not be held responsible for damage resulting from this. Risk and responsibility lies with the system manager.



NOTE!
The product you have chosen is an Uninterruptible Power Supply option, and it can only be used in combination with its own Socomec Uninterruptible Power Supply. Contact SOCOMEC to confirm the compatibility of this product with your Uninterruptible Power Supply.



NOTE!
Terminal blocks may be energized even if the system is disconnected from the AC power source.

3. WARNING SIGN

SYMBOLS	DESCRIPTION
	Protective earth terminal (PE).
	Authorized personnel only. Only qualified personnel is allowed to work on the batteries.
	Do not use naked flames or cause sparks in the vicinity of the accumulators.
	No smoking.
	Batteries charging! Batteries and related parts contain lead that is dangerous to health if ingested. Wash hands after handling!
	Accumulators are heavy! Use suitable transport and lifting equipment to work safely.
	Risk of electric shock! Connecting accumulators in series creates hazardous voltages.
	Risk of explosion! Avoid short circuits! Never place tools or metal objects on the accumulators.
	Corrosive liquids (electrolyte).
	Read the user instructions carefully. Read the user manual before performing any operations.
	Wear protective gloves
	Wear safety shoes.
	Wear protective goggles.

	In the event of accident, inadequate use, failure or electrolyte leakage wear a protective apron.
	In the event of accident, inadequate use, failure or electrolyte leakage wear a gas mask.
	In the event of contact with the eyes, wash immediately with plenty of water and call a doctor. Call a doctor immediately in the event of accidents or illness.
	Do not dispose of in normal waste stream (symbol WEEE).
	EU separate collection and lead content mark for lead acid batteries. Indicates that the battery must not be disposed of in normal household waste but be separately collected and recycled.
	Environmental Protection Use Period (EPUP).
	Information, advice, assistance.
	Refer to the user manual.

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4. PRODUCT OVERVIEW

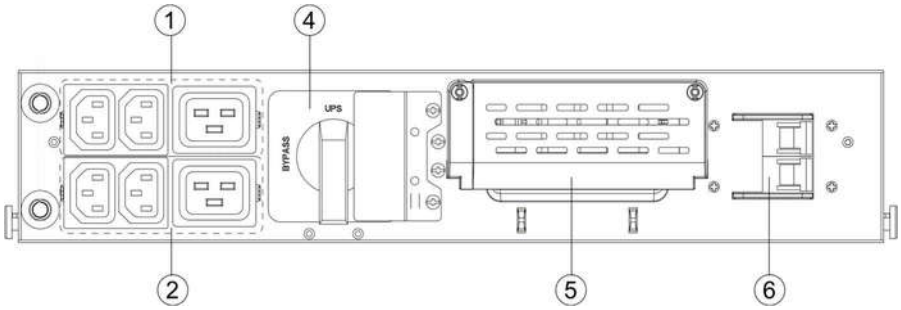
4.1. Model list

Product	Model Name	Net Weights (kg)	Dimensions (mm) W x D x H
NRT4-OP-MBP1	MANUAL BYPASS 5-10KVA 1/1	2.4	426 x 80 x 84.5(2U)
NRT4-OP-MBP3	MANUAL BYPASS 5-10KVA X/1	2.8	426 x 80 x 86.0(2U)

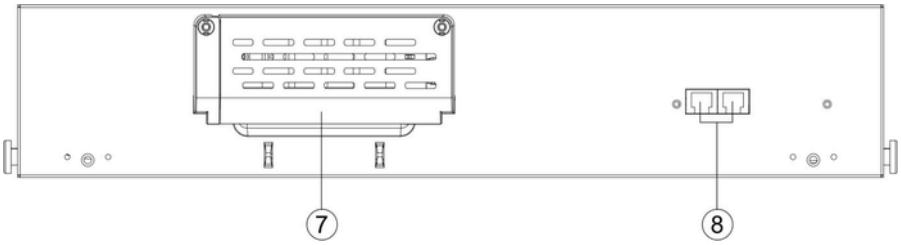
4.2. Presentation

NRT4-OP-MBP1

1. Output socket group 1 (no programmable)
2. Output socket group 2 (programmable)
4. Maintenance bypass switch
5. Input /Output terminal(Connected to power and load)
6. Input switch
7. Input /Output terminal (Connected to UPS)
8. RJ50 port(including EBM Detect and RT model MBP COMM)



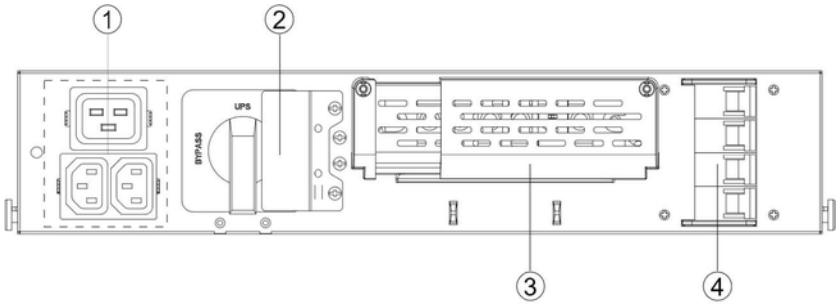
Front Panel



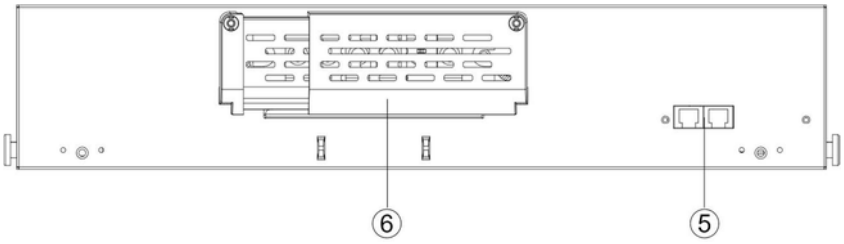
Rear Panel

NRT4-OP-MBP3

1. Output socket group (programmable)
2. Maintenance bypass switch
3. Input /Output terminal (Connected to power and load)
4. Input switch
5. RJ50 (10 pins) port (including EBM Detect and RT model MBP COMM)
6. Input /Output terminal (Connected to UPS)



Front Panel



Rear Panel

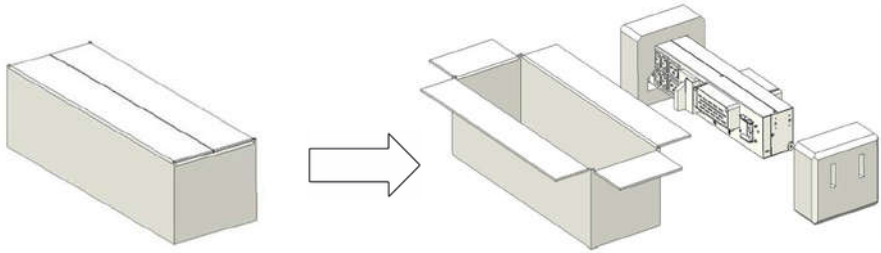
5. INSTALLATION

NOTE!
Before carrying out any operations on the unit, read the "Safety standards" chapter carefully

NOTE!
This option can only be used for single UPS configurations, not parallel configurations.

5.1. Unpacking and Inspecting

NOTE!
Unpacking the unit in a low-temperature environment may cause condensation occurred in and on the cabinet. Do not install the unit until the inside and outside of the unit are absolutely dry (hazard of electric shock). If any equipment has been damaged during shipment, keep the shipping cartons and packing materials for the carrier or place of purchase and file a claim for shipping damage. If you discover damage after acceptance, file a claim for concealed damage.



Note:
Discard or recycle the packaging in a responsible manner, or store it for future use.

NOTE!
Packing materials must be disposed in compliance with all local regulations concerning waste. Recycling symbols are printed on the packing materials to facilitate sorting.

5.2. Checking the accessory kit

Verify that the following additional items are included with the unit:

	NRT4-OP-MBP1	NRT4-OP-MBP3
Cables for UPS Input / Output	√	√
MBP detection cable RJ50	√	√
Copper bus-bar		√
Cable locker for Output socket	√	√
Ear bracket(For tower install)	√	√
Rail kit(For rack install)	√	√
User manual	√	√

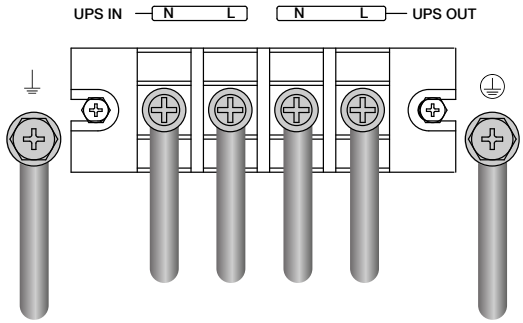
5.3. Mechanical Installation

This model support 2 installation modes: Rack installation and Tower installation.

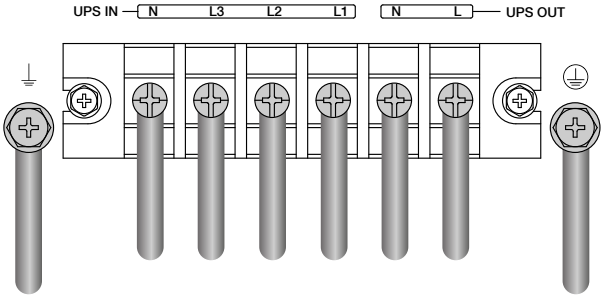
NOTE!
It is recommended to connect ‘cables for UPS Input / Output’ and ‘MBP detection cable’ to the MBP before installing.

1. Remove the cover of terminal blocks and connect ‘cables for UPS Input/ Output’ to terminal blocks refer to the indication on rear panel.

NRT4-OP-MBP1:

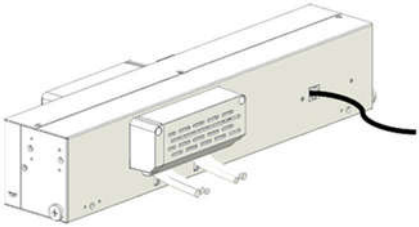


NRT4-OP-MBP3:



NOTE!
For cables well fixed, it is recommended to tie these cables to the convex of rear-panel.

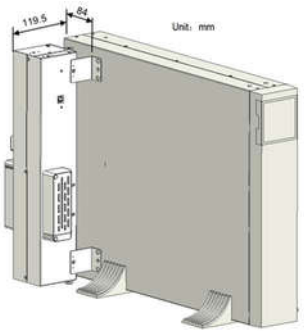
2. Install back the cover of terminal blocks and insert ‘MBP detection cable’.



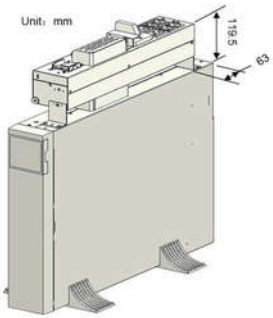
5.3.1. Tower installation :

Assume that you already purchased our UPS and fix the UPS in tower position.

1. Our UPS provided 2 positions to install the MBP, needed additional space is as below.
   It is recommended to select 'Left position' as your final installation according to the configured length of 'cables for UPS Input / Output' and 'MBP detection cable'.

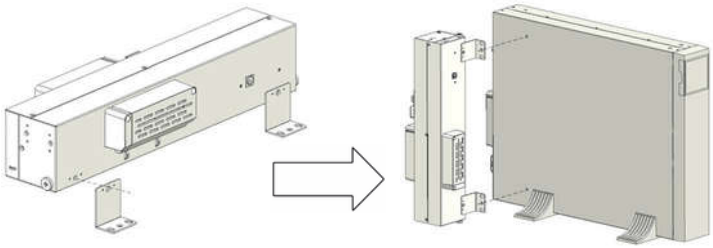


Left position



Top position

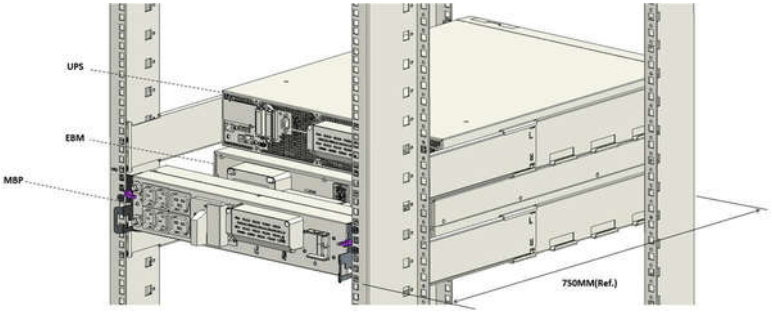
2. Install 'Ear bracket' to MBP, then assemble MBP to UPS by M4 screws. Below pictures are examples of 'Left position' installation.



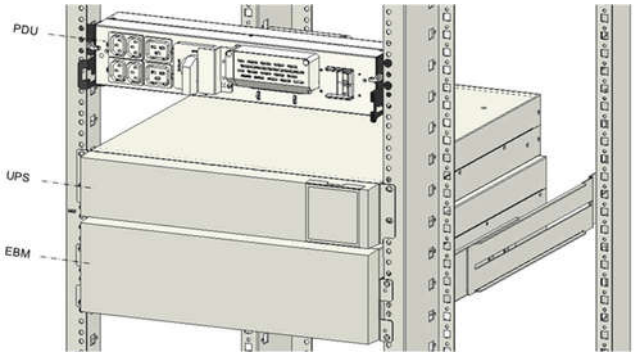
5.3.2. Rack position installation :

This MBP is flexible position installing in a rack cabinet as below.
It is recommended to select ‘Position 1’ as your final installation according to the configured length of ‘cables for UPS Input / Output’ and ‘MBP detection cable’.

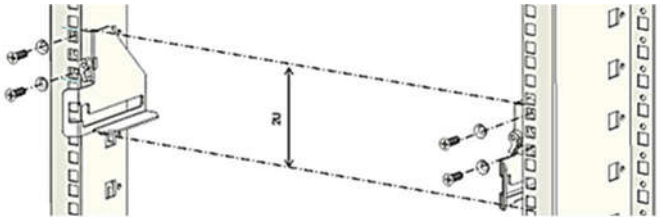
• Position 1 (Rear of rack)



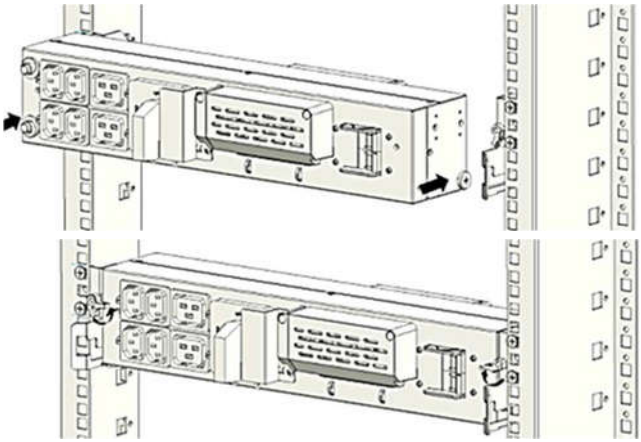
• Position 2 (Front of rack)



1. Install ‘Rail kit’ to rack cabinet by M5 screws and washers.

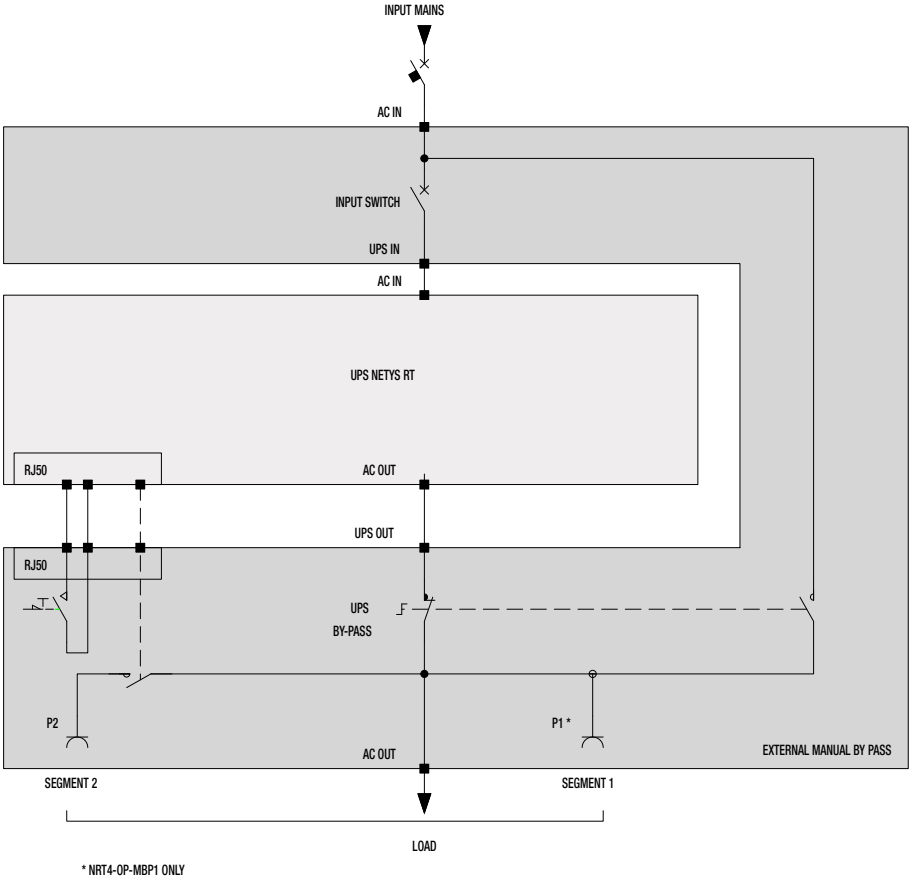


2. Slide MBP into ‘rail kit’ and make sure lock MBP by the 2 clips.



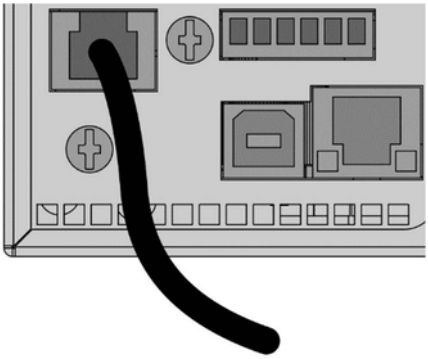
5.4. Power cables connection

This chapter introduces how to connect MBP to UPS, and connect AC IN/OUT cable to MBP.



5.4.1. Wiring for MBP connecting to UPS

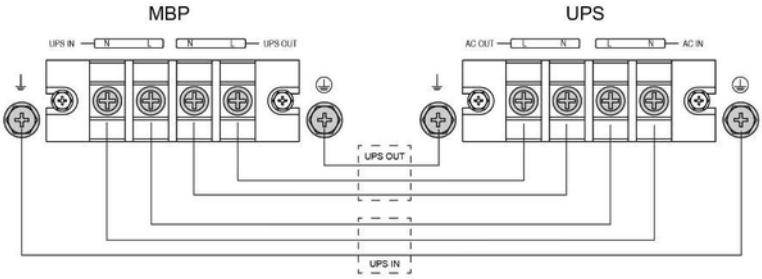
Before power cables connected, Insert ‘MBP detection cable’ to the port ‘MBP/EBM’ on the rear of UPS.



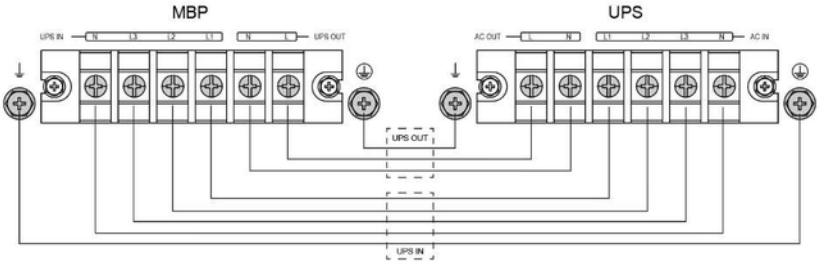
WARNING!
the MBP detection cable is a 10-wires cable with RJ50 plug! do not replace the accessory cable with other standard Ethernet cables.

Connect ‘cables for UPS Input/ Output’ to UPS terminal blocks refer to below indication.

1-1 model:



3-1 model:



5.4.2. Wiring for AC Cable (AC source to MBP)

Please refer to UPS user manual for upstream protection and downstream switch.

Recommended cable minimum cross-sectional area.

Model	NRT4-OP-MBP1		NRT4-OP-MBP3
	NETYS RT 5 - 6 KVA	NETYS RT 8.5 - 10 KVA (1:1)	NETYS RT 8.5 - 10 KW (x :1)
Protective earthing conductor	10 mm^2	10 mm^2	10 mm^2
Input L, N cable	6 mm^2	10 mm^2	10 mm^2
Output L, N cable	6 mm^2	10 mm^2	10 mm^2

The length of the output cable is recommended not to exceed 10 meters, otherwise, it may cause radio interference. If a length of output cable over 10 meters requests, please contact distributors/agents for details.

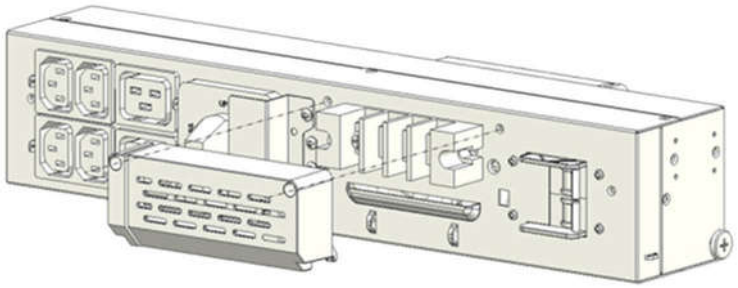


WARNING!
High leakage current:
Earth connection essential before connecting supply.



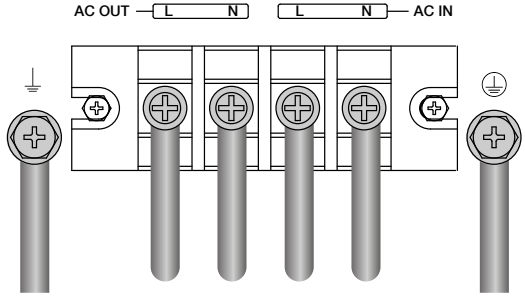
WARNING!
This type of connection must be carried out by qualified electrical personnel.
Before carrying out any connection, check that the upstream protection devices (Normal AC source) are open "O" (Off).

1. Remove the cover of terminal block.



2. Connect the AC cable to terminal blocks refer to the indication on panel.

NRT4-OP-MBP1:

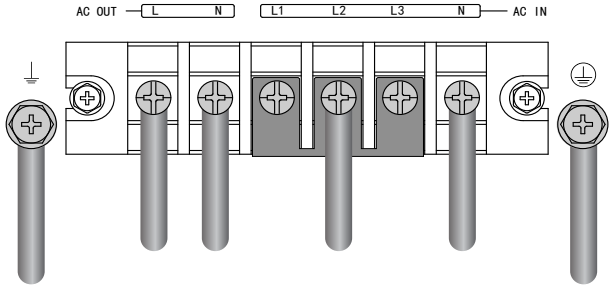


NRT4-OP-MBP3:

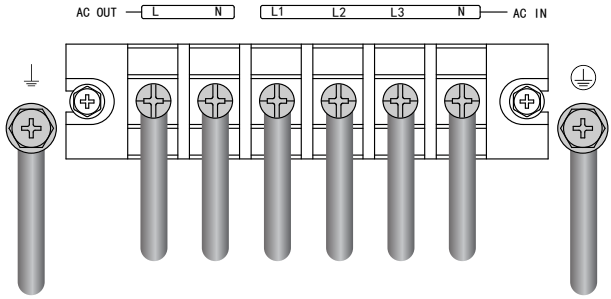
This model support 2 mode setting as below, default is setting with 3-1 mode.

1-1 mode

Short 'MBP input terminal L1/L2/L3' with 'busbar', then connect AC cable



3-1 mode



NOTE!
For cables well fixed, it is recommended to tie these cables to the convex of rear-panel.

3. Install back the cover of terminal block.

6. MAINTENANCE BYPASS PROCEDURE

6.1. Switching onto maintenance bypass

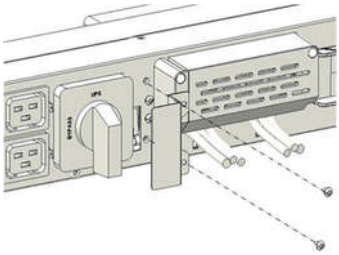
This operation creates a direct connection between the input and output of the UPS, excluding the equipment control part.
This operation is performed in the event of:

- standard maintenance,
- serious failure has occurred.

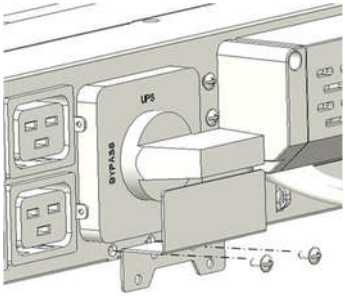
WARNING!
Load powered by input mains ! Your load is exposed to mains disturbances.

CAUTION!
Please make sure the UPS is turned to bypass mode before rotating the maintenance switch to bypass position.

1. Remove the ‘Maintenance switch cover’, the UPS will turn to bypass mode automatically.



2. Rotate the maintenance switch to ’BYPASS’ position.



For an unconscious operation, it is recommended to install back the ‘Maintenance switch cover’ as above to prevent 'BYPASS’ switch back to ‘UPS-mode’.

3. Turn the MBP ‘input switch’ to ‘OFF’ position.
4. After these operations, the MBP will power the load directly via maintenance switch.

6.2. Disconnecting cables between MBP and UPS

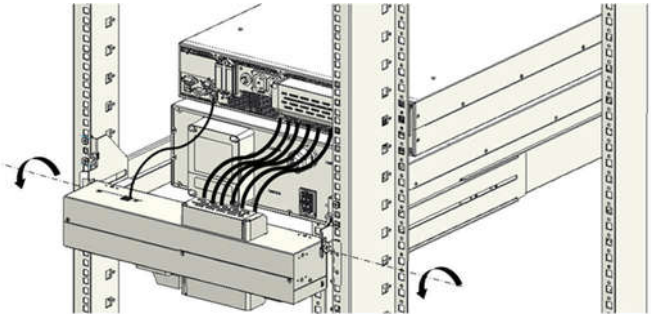
This is to disconnect ‘cables for UPS Input / Output’ and ‘MBP detection cable’.

The pictures as below are examples of ‘Rack position’ only.

Risk of electric shock!
Before proceeding, it is mandatory to perform all the actions listed in the section 6.

Risk of electric shock!
Before proceeding, check the voltage across the poles of the terminal blocks by direct measurement.

1. Unlock the clips and pull out MBP from its position smoothly, then rotate the MBP as below.



2. Disconnecting ‘cables for UPS Input / Output’ and ‘MBP detection cable’ as well as other cables connected on UPS.
3. Remove out the UPS for service or replacement.

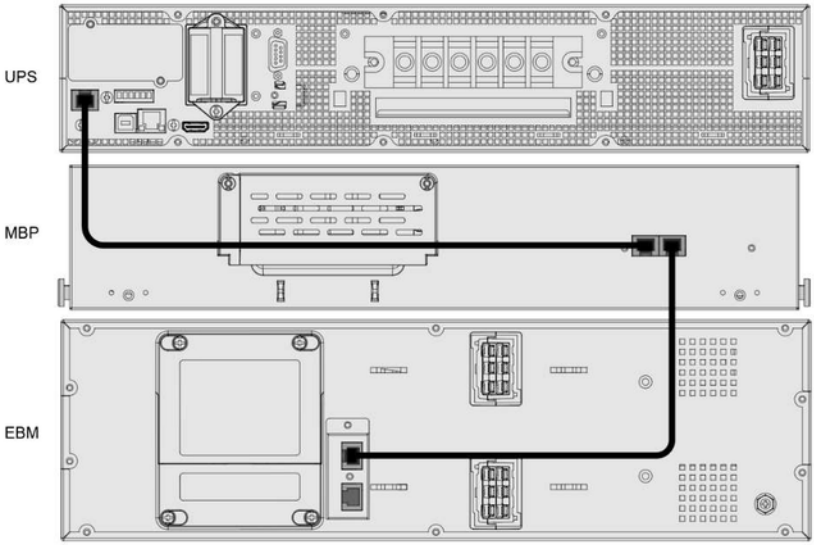
NOTE!
Don’t let the MBP suffer any strong stress during rotation position.

6.3. Switching on from maintenance bypass

1. Turn the MBP ‘Input switch’ to ‘ON’ position. The UPS will turn to bypass mode. If the UPS doesn’t turn to bypass mode automatically, please turn to bypass mode manually.
2. Rotate the maintenance switch to ‘UPS’ position, install back the ‘maintenance switch cover’ to its normal position.
3. Press the button on UPS LCD panel, the UPS will turn to line mode.

6.4. How to detect the EBM to this system

This is to connect the ‘configured EBM’ to a system (UPS+MBP) with ‘EBM detection cable’ as below.



7. SAFEGUARDING THE ENVIRONMENT

Do not dispose of electrical appliances with normal waste, use separate collection facilities.

Follow local council waste regulations for proper disposal arrangements to reduce the environmental impact of waste electrical and electronic equipment or contact your local government for information regarding the collection arrangements available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging health and wellbeing. Depleted batteries are considered as toxic waste. When battery replacement becomes necessary, only give rundown batteries to certified and licensed waste disposal companies. In accordance with local legislation, it is prohibited to dispose of batteries together with other industrial waste or household refuse.



EU separate collection and lead content mark for lead acid batteries. Indicates that the battery must not be disposed of in normal household waste but be separately collected and recycled.



The crossed-out trash bin symbol is placed on this product to encourage users to recycle components and units whenever possible. Please be environmentally responsible and recycle this product through your recycling facility at the end of its lifetime.

For any questions regarding the disposal of the product, contact local distributors or retailers.

8. TECHNICAL SPECIFICATIONS

MBP Model			NRT4-OP-MBP1	NRT4-OP-MBP3
Electrical specifications - Input / Output				
Refer to the UPS data label				
Electrical specifications - Output socket group				
Normal output		A	10A & 16A	
Programmable output		A	10A & 16A	
Environment				
Operating temperature		°C	0 - 45°C full load 0 - 35°C IEC socket 16A 35 - 45°C IEC socket 10A	
Storage temperature		°C	-25 to +60 °C	
Relative humidity		%	95% condensation-free	
Altitude (max)		m	1000 (3000 with derating 1% every 100m)	
Dimensions and Weight				
Dimensions	Width	mm	426	
	Depth	mm	80	
	Height	mm	84.5 (2U)	86.0 (2U)
Unit weight		kg	2.4	2.8
Standards				
Safety			IEC / EN IEC 62040-1 (combined with the approved UPS)	
EMC			EN / EN IEC 62040-2 (combined with the approved UPS)	
Product Certifications			CE / UKCA / CMIM / RCM	
Degree of protection standard			IP20	

Outlet socket group (Programmable) can be set on the LCD or by sending command, see UPS installation and operating manual.

China RoHS

产品中有害物质的名称及含量

Name and content of hazardous substances in products

部件名称 COMPONENT NAME	有害物质 HAZARDOUS SUBSTANCE					
	铅 (Pb) LEAD (Pb)	汞 (Hg) MERCURY (Hg)	镉 (Cd) CADMIUM (Cd)	六价铬 (Cr (VI)) HEXAVALENT CHROMIUM (Cr (VI))	多溴联苯 (PBB) POLYBROMINATED BIPHENYLS (PBB)	多溴二苯醚 (PBDE) POLYBROMINATED DIPHENYL ETHERS (PBDE)
电池类 BATTERY	×	O	O	O	O	O
印刷电路组件 PCBA	×	O	O	O	O	O
电源线插座端子 WIRE TERMINAL	×	O	O	O	O	O
箱体五金类 HARDWARE	×	O	O	O	O	O
开关/断路器类 SWITCH, BREAKER, ETC.	O	O	×	O	O	O

本表格依据 SJ/T 11364 的规定编制。

O：表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572规定的限量要求以下。

×：表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572规定的限量要求。

环保使用期限的免责条款：环保使用期限规定的具体期限仅为符合中华人民共和国的相应的法律规定，并非代表我司向客户提供保证或负有任何义务。环保使用期限中假定客户按照操作手册在正常情况下使用本产品。对于本产品中配备的某些组合件（例如，装有电池的组合件）的环保使用期限，可能低于本产品的环保使用期限。

This table was drawn up according to the provisions of SJ/T 11364.

O: The content of these hazardous substances in all homogeneous materials of these components is below the limit required by the directive GB/T 26572

×: The content of these hazardous substances in certain homogeneous materials of these components is higher than the limit required by the directive GB/T 26572

Environmental Protection Use Period (EPUP) Disclaimer: The number provided as the EPUP is provided solely to comply with applicable laws of the People's Republic of China. It does not create any warranties or liabilities on behalf of our company to customers. The EPUP assumes that the product will be used under normal conditions in accordance with the operating manual. Certain assemblies inside this product (for example, assemblies that contain a battery) may have an EPUP which is lower than the EPUP on this product.

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