

Installation and Operating Manual

Metor 6E

P/N 92109434 – Rev. 2

Rapiscan[®]
s y s t e m s

An OSI Systems Company

Foreword

Thank You for choosing a Metor product. This manual is intended for the installation and normal daily use of the equipment. In addition to these instructions, local laws and regulations, and requirements by authorities shall be observed.

The user should read this manual and understand its contents before the installation or use of the equipment.

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Content of this Manual

We have made an effort to ensure that the information in this manual is accurate as of the date of publication. However, the product that you have purchased may contain options, upgrades or modifications not covered by this manual.

If you have any questions about the content of this manual or the product that you have purchased, please contact Rapiscan Systems Customer Service.

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Revision History

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Table of Contents

1	IMPORTANT INSTRUCTIONS.....	6
1.1	Types of Alert Messages.....	7
1.2	Symbols used on Unit and in Manual.....	7
2	INTRODUCTION	8
2.1	Intended Use	8
2.2	Product Safety	8
2.3	Main Components	9
2.4	Battery Back-Up	10
2.5	Technical Data.....	10
2.6	Dimensions and Weight	11
3	INSTALLATION	12
3.1	Checkpoint Layout.....	12
3.2	Minimizing External Interference.....	12
3.3	Side-by-Side Operation	14
3.4	Mechanical Assembly.....	15
3.5	Floor Fixing.....	17
3.6	Electrical Connections.....	18
3.7	Connections for Digital I/O	19
3.8	Installation of the Power Supply Inside the Cross Piece.....	20
4	STARTUP AND SHUTDOWN	21
5	DISPLAY AND KEYPAD	22
6	REMOTE CONTROL.....	24
6.1	Installation of Batteries	24
6.2	Enabling Communication between Metor 6E and Remote Control.....	25
7	USER INTERFACE.....	26
7.1	Access to User Interface	26
7.2	User Interface Structure	27
7.3	Metal Detection Parameters.....	28
7.4	Audio/Visual Parameters.....	33
7.5	Accessibility Parameters	34
7.6	Statistics	36
7.7	General Parameters	38
7.8	Diagnostics	39
8	MAINTENANCE.....	41
8.1	Periodic Maintenance.....	41
8.2	Replacing Input Fuse	41
8.3	Replacing Battery	41

9	TROUBLESHOOTING.....	42
9.1	Fault Conditions	42
9.2	Error Messages	43
10	DISPOSAL OF EQUIPMENT	46
	APPENDIX A: Definition of Terms.....	47
	APPENDIX B: Contact Information.....	49

1 IMPORTANT INSTRUCTIONS

Read through this chapter carefully before operating the equipment. Keep this manual so that it is always readily available to the user.

The instructions in this manual shall be followed in all situations, when installing, using, or servicing the equipment. Rapiscan Systems cannot be held responsible for any personal or material damage caused by use contradicting the instructions given in this manual.

All safety regulations must be observed. A dangerous or unsafe manner of operation may be a health risk.

Installation may only be carried out by qualified person.

Before installing, operating or servicing the equipment, make sure that it poses no risk of personal or material damage.

Be aware that although the walk through metal detector unit is heavy it may fall down if a heavy force collides with it. To eliminate the risk of overbalancing the WTMD must be attached (anchored) on the floor.

Do not operate the equipment unless you are fully trained to do so. The operator must know the use, service, and safety instructions of the equipment, and local safety regulations.

Service of Rapiscan products shall be preformed only by a Rapiscan Systems qualified service provider or authorized contractor qualified service provider. Make sure that there are no unauthorized persons in the working area when servicing and repairing the equipment.

It is forbidden to operate the equipment when ill, or under the influence of alcohol or drugs.

The equipment may not be connected to mains supply until all other connections necessary for the installation are completed.

The equipment shall always be connected to an earthed socket outlet.

The equipment shall be disconnected from mains supply before servicing, cleaning, or moving it.

Original Metor spare parts should be exclusively used.

Use a damp cloth for cleaning the equipment. Do not use any chemicals or liquid detergents.

The end user is responsible for the final calibration of the equipment for the intended application. It is also the end user's responsibility to regularly verify calibration to the desired sensitivity level by using a suitable test object or objects.

If there is any reason to suspect that the security level of the equipment may have deteriorated due to incorrect operation or external damage, the equipment should be removed from operation and an authorized service provider should be called in.

1.1 Types of Alert Messages

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and/or equipment damage or generally unsafe practices.

NOTICE

Indicates an important notice to the reader, that does not necessarily involve the possibility of personal injury or equipment damage.

All warnings, cautions, notices and instructions presented in this manual should be read and followed by all personnel who will use or maintain this equipment.

Failure to follow all such warnings, cautions, notices and instructions may result in damage to the equipment and/or injury or death to personnel. Such failure may also nullify any warranties provide by the manufacturer.

1.2 Symbols used on Unit and in Manual



General Warning Sign

This sign is used to alert the user to potential hazards. All safety messages that follow this sign shall be obeyed to avoid possible harm.



Recycling Symbol

This symbol means that according to local laws and regulations this product should not be disposed of in the household waste but sent for recycling.



CE Symbol

CE marking on a product is a manufacturer's declaration that the product complies with the essential requirements of the relevant European health, safety and environmental protection legislation.



Symbol for Direct Current (DC)

2 INTRODUCTION

2.1 Intended Use

The Metor 6E is a walk through metal detector (WTMD) designed to detect metal objects people are carrying with them. The product is used primarily for weapons detection. Typical applications are:

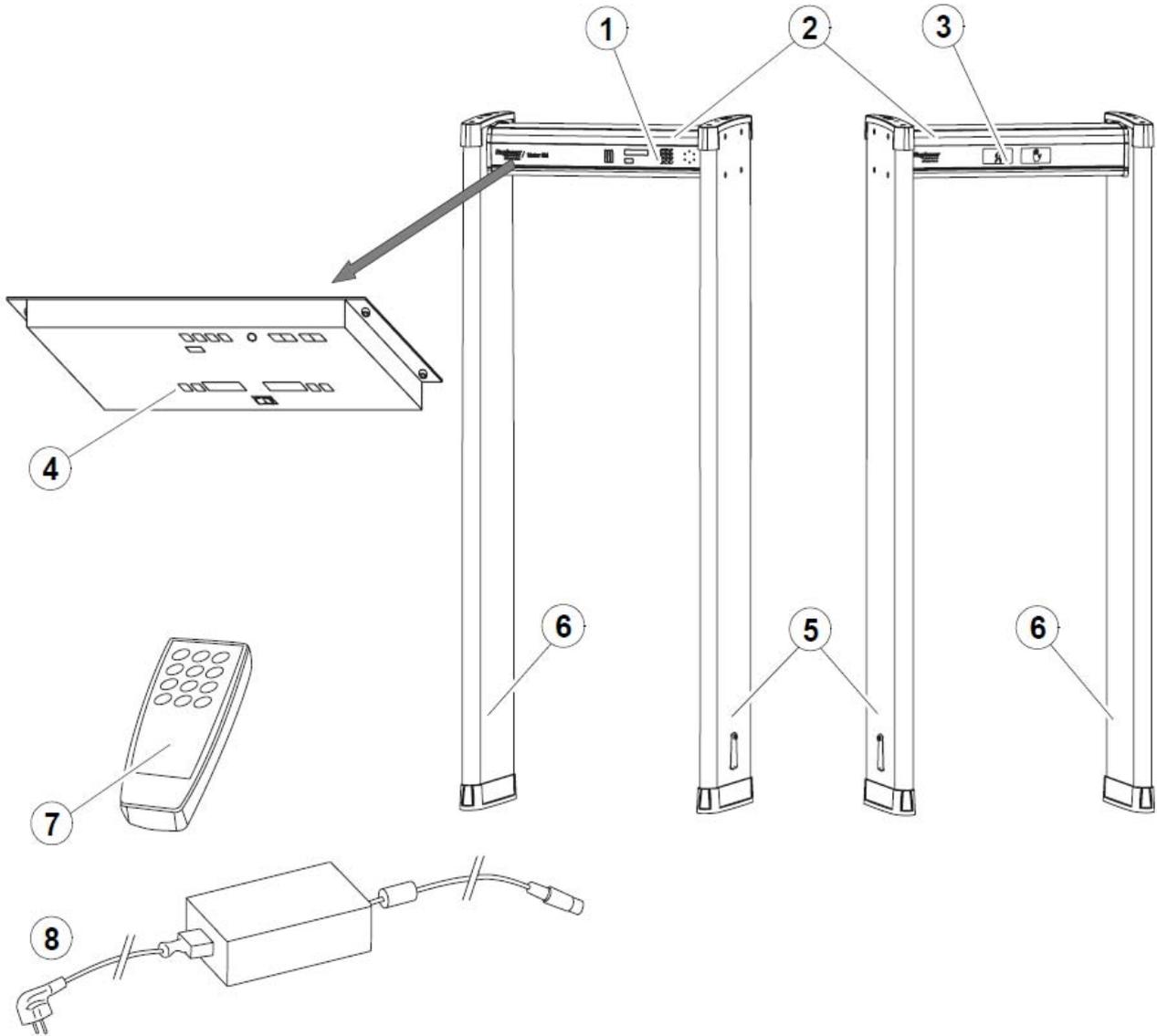
- Airports: passenger screening
- Seaports: passenger screening
- Public and private buildings: visitor screening

The manufacturer disclaims all liability if the equipment is used for purposes incompatible with the above descriptions.

2.2 Product Safety

The engineering and manufacture of this product is based on long experience and research. The equipment is designed so that its use according to the instructions does not, pursuant to currently available knowledge, cause any health risks to pregnant women, persons with a pacemaker, or any other people walking through the equipment.

2.3 Main Components



- 1. Display (MCDS 5155-6E) and keypad
- 2. Cross piece (MCSS 5264-30)
- 3. Traffic lights (MTLS 5169)
- 4. Main electronics (MELS 5261)

- 5. Coil panel 1 (MTRP 5266)
- 6. Coil panel 2 (MTRP 5267)
- 7. Remote control (MRCS 5116)
- 8. External power supply

2.4 Battery Back-Up

A battery back-up accessory is available for emergency power in case of power outage, MBBS 5238, Rapiscan part number 20102858.

The battery back-up unit guarantees uninterrupted operation in case of a temporary power outage for up to 8 hours. The unit is installed inside the cross piece.

For more information on battery back-up unit refer to its Installation and Operating Manual, Rapiscan part number 92102858.

2.5 Technical Data

Power

- Input, nominal..... 12.5 VDC, 2.1 A
- Input, absolute limits 12 – 15 VDC, 4 A
- Power consumption, typical 26 W (12 VDC)
- Power consumption, maximum..... 37 W (12 VDC)
- Power consumption, at standby..... 11 W (12 VDC)

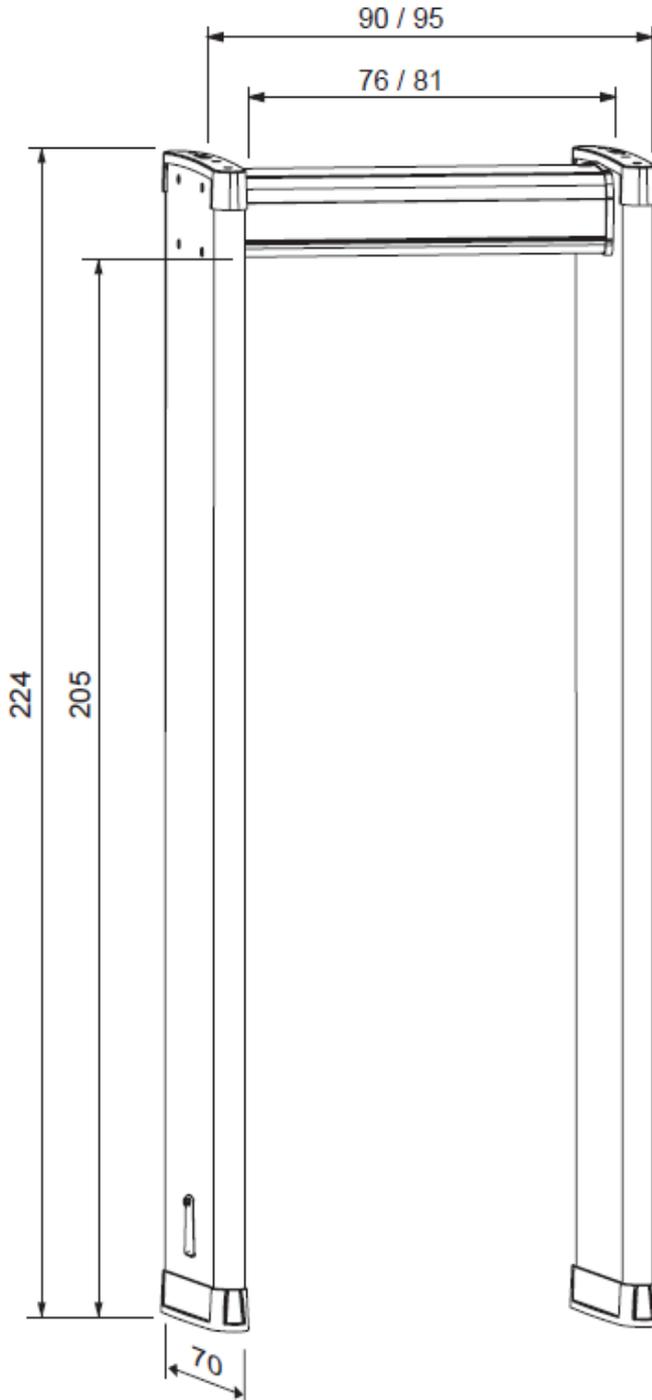
Ratings of recommended external power supply

- Voltage, nominal 100 – 240 VAC
- Voltage, absolute limits 90 – 264 VAC
- Frequency, nominal..... 50/60 Hz

Recommended operating conditions

- Ambient temperature.....-20 °C – +60 °C / -4 °F – +140 °F
-15 °C – +45 °C / +5 °F – +113 °F,
when battery back-up is in use
- Storage temperature-30 °C – +70 °C / -22 °F – +158 °F
- Relative humidity 0 – 95 %, no condensation
- Elevation max. 3000 m / 9840 ft
- Ingress protection rating..... IP55, excluding external power supply
- Pollution degree 2

2.6 Dimensions and Weight



Dimensions.....	[cm]	[in]
Max. height.....	224	88
Max. width (std).....	90	35
with extension kit.....	95	37
Internal height	205	81
Internal width (std)	76	30
with extension kit.....	81	32
Depth.....	70	28

	[kg]	[lbs]
Weight.....	65	143

3 INSTALLATION

When planning the installation of a WTMD there are a few important things that should be considered. The optimum operation of the WTMD as well as maximum traffic flow at the security checkpoint can be ensured only when these factors have been taken into account.

3.1 Checkpoint Layout

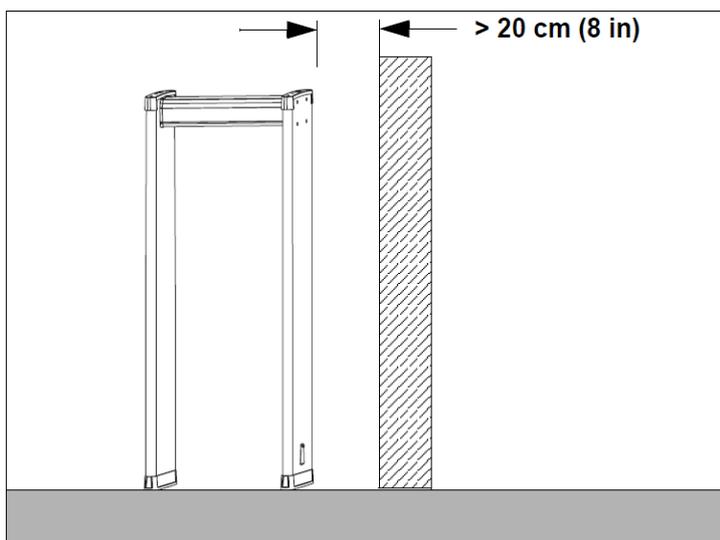
The layout of a security checkpoint should be planned carefully before installing the equipment in order to maximize the traffic flow. In addition to the considerations regarding mechanical and electrical interferences at the installation site, operative security checking should be organized properly. The functionality of a checkpoint is very much affected by the following:

- Queuing to enter the WTMD should be arranged so that only the person screened is in the immediate vicinity of the WTMD.
- The secondary screening of persons causing alarms should not stop the screening with the WTMD.
- The checking of hand luggage should be arranged so that it does not cause extraneous alarms.

3.2 Minimizing External Interference

It is important to minimize the effect of different sources of interference that may have an influence on the operation of the WTMD. The following recommendations should be considered when selecting the installation site.

Static Metal



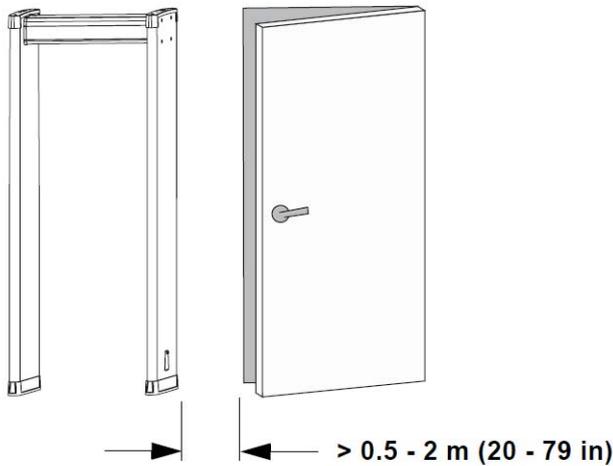
Static metal

Large static or stationary metal objects should be at least 20 cm (8 in) away from the WTMD. The effect on sensitivity is small but may make the WTMD more prone to the effects of vibration.

Floor vibration

The floor should be even and solidly supported to prevent vibration. Especially when there are vibrating metal constructions beneath the floor, people walking through the WTMD can cause unnecessary alarms.

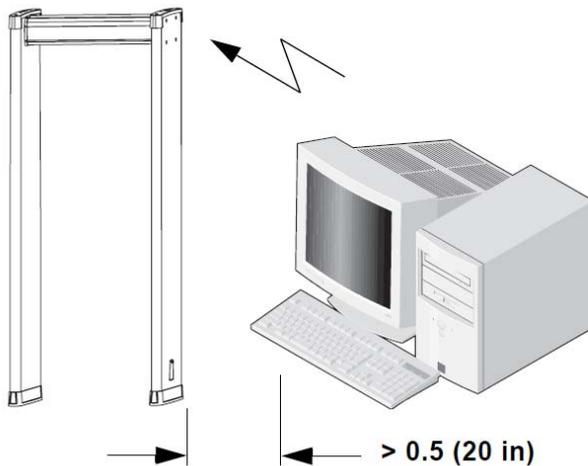
Moving Metal



Moving metal objects

Large moving metal objects outside the WTMD should be kept at least 0.5 - 2 m (20 - 79 in) away from the WTMD to avoid false alarms. The required distance between the moving metal and the WTMD varies depending on the size of the metal object.

Electromagnetic Interference



Radiated EM interferences

The distance between electromagnetic interference sources and the WTMD should be maximized. Recommended minimum distance is 0.5 m (20 in). However, the exact distance has to be determined for each case separately, i.e. by moving the WTMD and the interference source in respect to each other until the optimal position is found. Interference may be generated for example by electrical control panels, radio and computer equipment, video monitors, powerful electric motors and transformers, AC power lines, thyristor control circuits, flickering fluorescent lighting, and arc welding equipment.

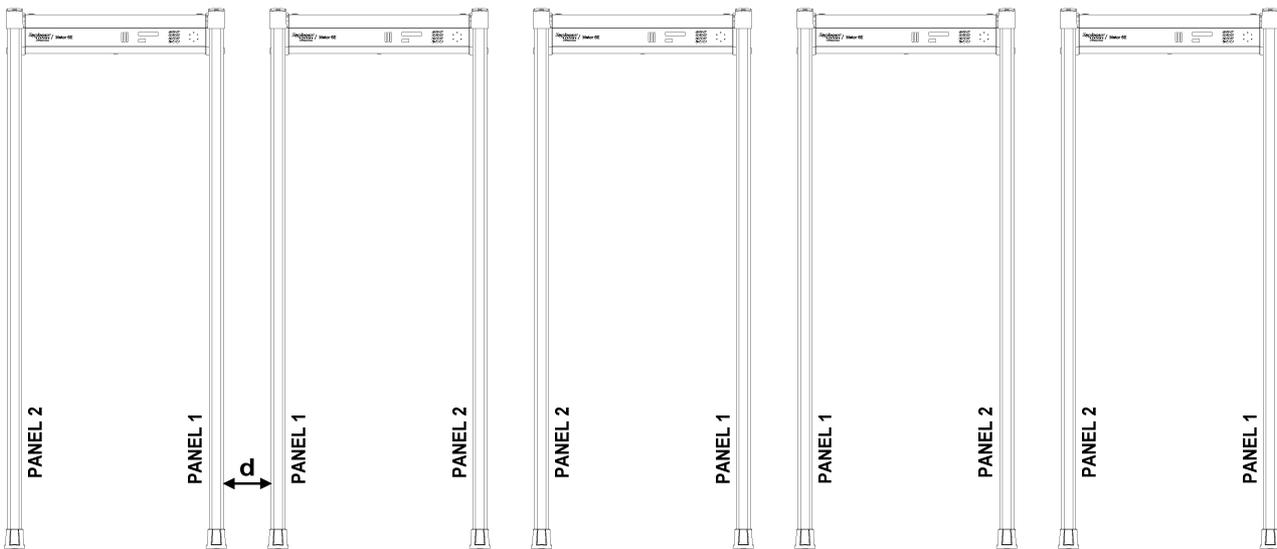
Conducted EM interferences

Plug the power cord to a line not sharing any heavy loads, like large electric motors. They can cause major power or voltage surges in the line.

The magnitude of interference may vary depending on the selected operating frequency of the unit. If the source of interference can not be removed or its distances to the unit changed select an operating frequency which minimizes the interference. However, if the frequency spectrum of the interference is broad changing operating frequency of the unit may not help.

3.3 Side-by-Side Operation

Side-by-side operation means that two or more Walk Through Metal Detectors operate close to each other. When operated side-by-side, WTMDs may interfere with each other to some extent. The level of interference depends on the distance between the units, their operating frequencies and selected detection sensitivity.



When using two or more Metor 6E units near to each other assemble the units so that coil panels 1 or panels 2 of adjacent units are next to each other as illustrated in the figure above. With just two units coil panels 1 of adjacent units should be next to each other to achieve minimum gap between the units.

The recommended minimum gap (marked as *d* in the figure) between the units is 20 cm (8 in). However, actual usable minimum gap between the units depends on installation site, the number of units, and selected detection sensitivities.

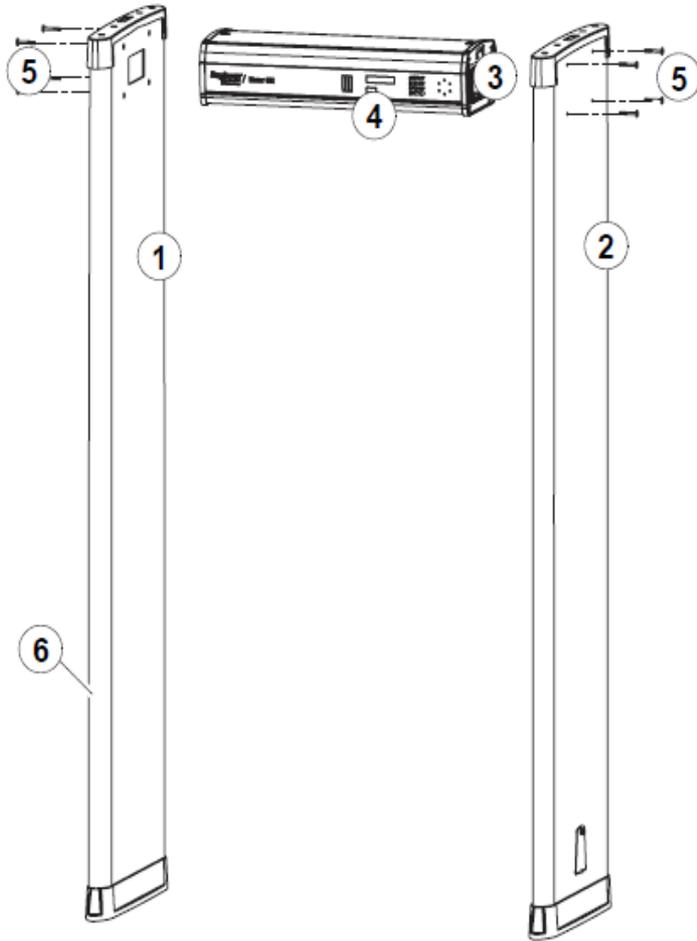
When operating two or several units close to each other their operating frequencies need to be different. Metor 6E has ten different operating frequencies to enable operation of multiple units close to each other. All the operating frequencies are suitable for side-by-side use. See chapter 7.3 to learn how to change the operating frequency.

When selecting operating frequencies for several units turn on the units one at the time. Turn on first the outmost unit and select a suitable frequency for it. Then turn on the next unit and select a suitable frequency for it. Do not turn off the first unit. Do the same for all the units one at the time. If you have more than ten units or some frequencies are not suitable select the frequency of the first unit.

NOTICE

Do not use FREQUENCY SEARCH IN START-UP function when having multiple units. Having several units searching for suitable frequencies at the same time may prevent the units from finding suitable frequencies.

3.4 Mechanical Assembly



The items needed in mechanical assembly are packed in the box containing the cross piece.

For checking the distance of the coil panels there is a pasteboard gauge in the cross piece box.

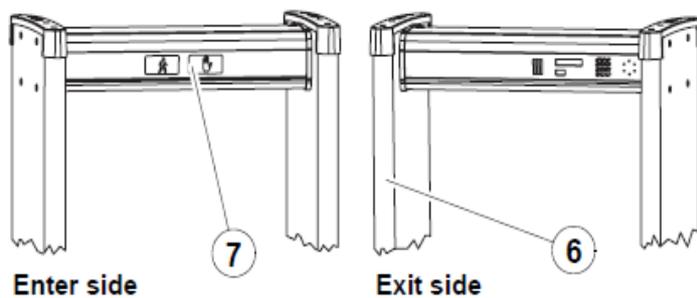
Ref	Part	Pcs
1	Panel 1 (MTRP 5266)	1
2	Panel 2 (MTRP 5267)	1
3	Cross piece	1
5	Mounting screws	8
	Washers	8
	Allen key	1

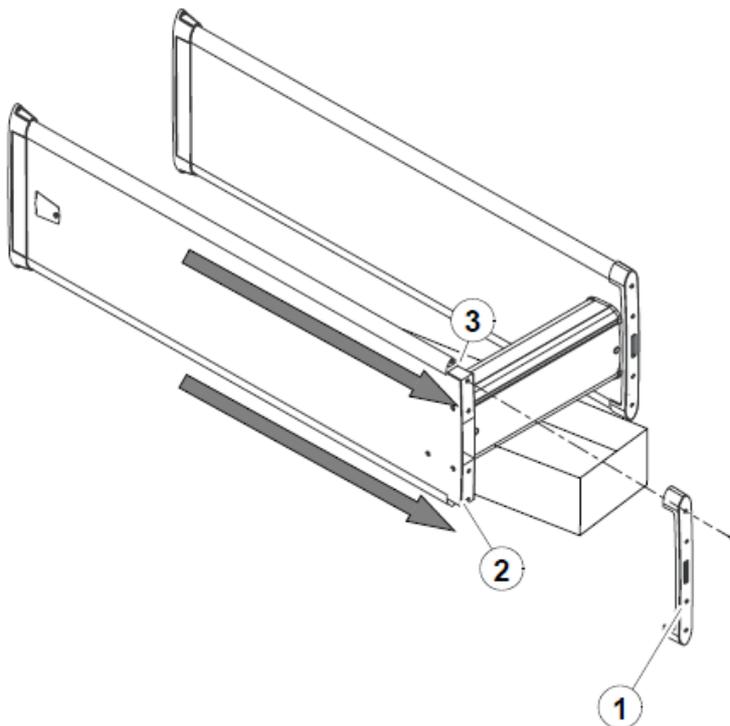
The following parts illustrated in pictures are integrated into coil panels or cross piece, but they must be considered in assembly:

Ref	Part	Pcs
4	Display and keypad	1
6	Zone displays (one in each coil panel)	2
7	Traffic lights	1

Assembly:

- First define the sides of the coil panels if you have side-by-side operation.
- Zone displays are assembled at factory so that they are towards exit side when panel 2 is on left side and panel 1 on right side. Position of the displays is also shown by stickers on the panels.
- Lay the coil panels on the floor.
- Install the cross piece with display and keypad towards the exit side.
- Place the cross piece to the holes in the coil panel and fasten using the mounting screws and washers.
- Repeat with the other panel.
- Do the final tightening of the screws after lifting the unit to ensure that the panels are parallel.





Switching the zone displays to other side of the coil panels:

- Lay the Metor 6E down. Place a support under the cross piece so that only the coil panel bottoms touch the ground (e.g. the cardboard package the cross piece came in).
- Detach the top piece (1) which is held in position by four screws.
- Detach the zone display cable connector (2) and the counter cable connector (3) from the top of the tubes.
- DO NOT remove the green and red cables on top of the panel. DO NOT switch the positions of the cables.
- Gently slide out the zone display and counter tubes to the direction indicated.
- Slide the tubes gently in on the opposite sides of the coil panel.
- Reconnect the cables in corresponding connectors. Check that connectors lock in position.
- Re-install the top piece and fasten it with the four screws.
- DO NOT over tighten the screws as you may damage the thread in coil panel.
- If you are installing an additional zone display simple remove counter tube and replace it with the zone display tube.

NOTICE

After changing the side of the zone display you need to select correct zone display mode from the user interface to enable the zone display using menu “2.4.1 ZONES”. Refer to chapter 7.4 for further information.

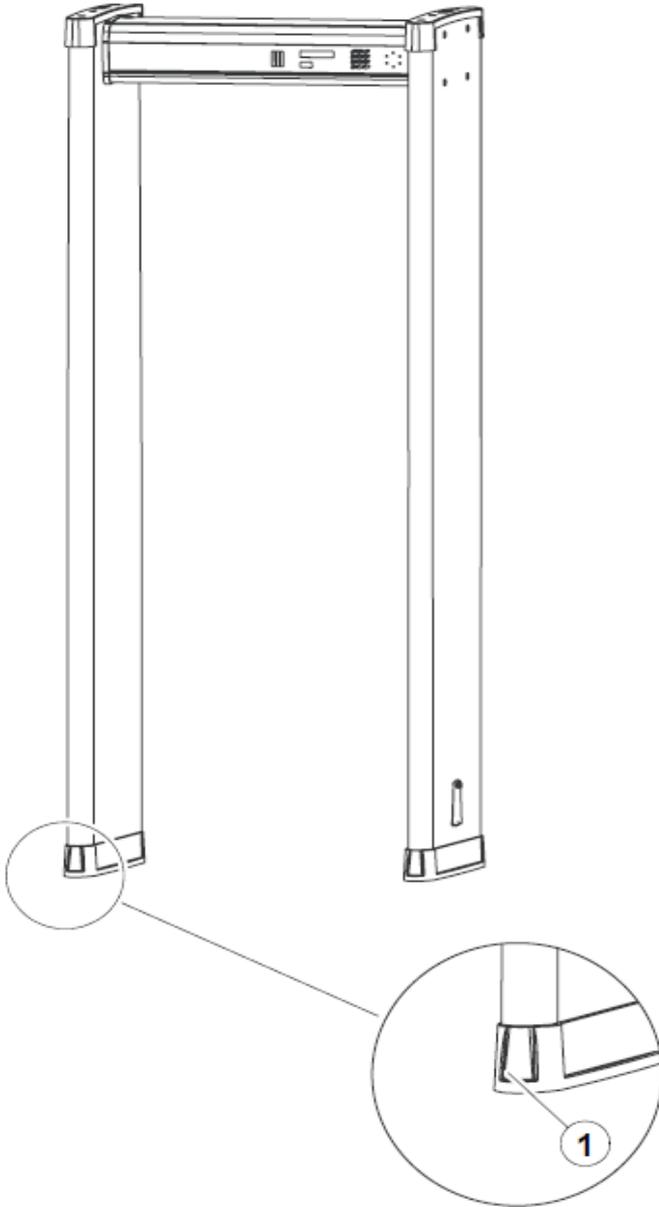
Do not switch zone displays between panels as it will cause counter malfunction. Zone displays for panel 1 have blue RX stickers on them and displays for panel 2 have red TX stickers. Same applies to infrared RX/TX counters.



CAUTION

While assembled three persons are recommended for safe lifting and lowering of the equipment.

3.5 Floor Fixing



- Lift the unit up to a vertical position in its final mounting location.
- Check that the panels are parallel both in walking direction and sidewise. Use the pasteboard gauge provided to ensure that distance between panels is the same at top and at bottom.
- Tighten the mounting screws.
- Use the mounting holes (1) in the panel boots to fix the unit to the floor with screws.
- If drilling holes to the floor is not preferred you can use the flat areas under the boots to attach the unit to the floor with double sided tape or suitable adhesive.

CAUTION

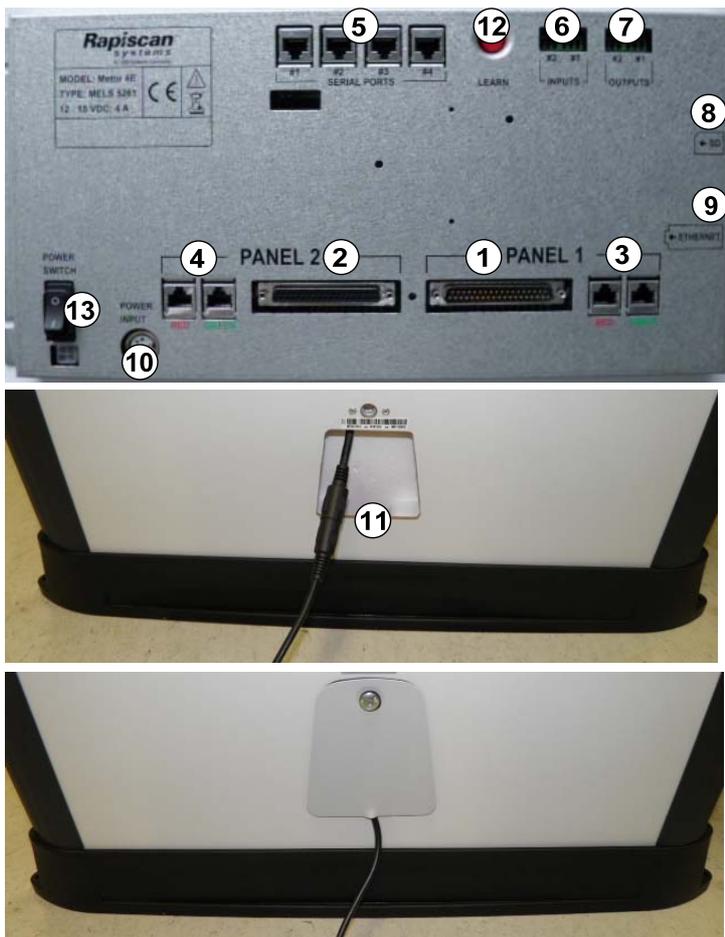


To eliminate the risk of overbalancing the equipment must be fastened to the floor.

The equipment must be disassembled before carrying by a single person or suitable carrying equipment must be used. Care must be taken not to overbalance the equipment when screws are removed from the floor.

3.6 Electrical Connections

- Open cross piece hatch to access connections to the electronics.
- Power supply can be connected to either panel. Remove cable hatch of the selected panel to connect power supply.
- Alternatively power supply can be placed over the unit for direct connection to the electronics through cable gland holes on top of the cross piece.



Connections:

1. Panel 1 coil connector
2. Panel 2 coil connector
3. Panel 1 zone display and counter connectors (2 pcs)
Note color coding of connections.
4. Panel 2 zone display and counter connectors (2 pcs)
5. Serial port connections (4 pcs), all similar, for:
 - Display and keypad
 - Traffic lights
 - MetorNet (option)
 - Remote display (option)
6. Digital inputs (2 pcs)
7. Digital outputs (2 pcs)
8. SD memory card slot
9. Ethernet connector
10. DC power input connector
11. Power supply connection under cable hatch

Switches:

12. LEARN button
13. Power switch

- Do not force connections to avoid damaging the contacts.
- Panel coil connectors are polarized to avoid misconnections.
- Observe color coding when connecting zone display and counter cables.
- Display and traffic lights cables can be connected to any of the serial ports.

WARNING

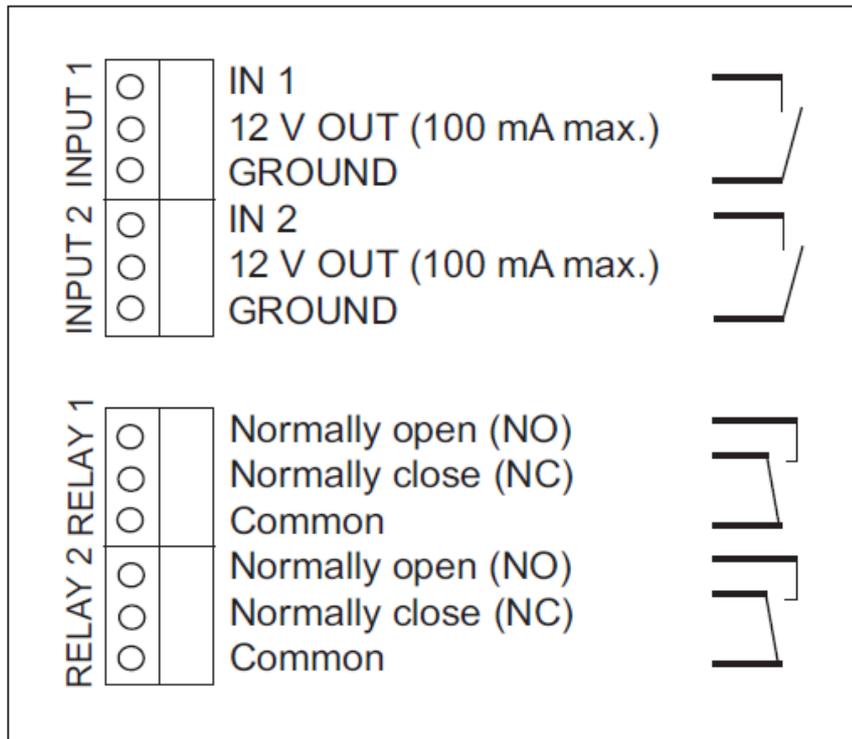


Manufacturer supplied power supply must be used. Do not connect any other power supply to the DC power cable.
Power supply shall be located to be easily accessible for disconnection.

3.7 Connections for Digital I/O

The Metor 6E has two configurable digital inputs and two configurable digital outputs. See chapter 7.7 for instructions how to configure the I/O.

The digital inputs have a pull-up resistor to 12 V. Maximum input voltage is 15 VDC. Recommended connection is a switch that connects input (pin 1) to ground (pin 3).



Maximum load for each relay output is 24 V and 1 A.

WARNING



Line voltage or any circuit connected to line voltage may not be connected to any of the connectors in the electronics, including the relay outputs. External isolation circuitry (double/reinforced insulation) must be used if a circuit connected to line voltage must be controlled.

3.8 Installation of the Power Supply Inside the Cross Piece



Should it be necessary to put the power supply inside the cross piece do as follows:

- Using a draw thread pull the AC cable through the coil panel cable channel. Select the panel close to mains outlet.
- When you remove the hat of the panel you will be able to see into the cable channel.
- Place the power supply for example to the side of the cross piece.
- You can secure the supply using two-sided tape or Velcro tape.
- Secure the AC cable to the DC cable and coil cable harness with a cable tie.



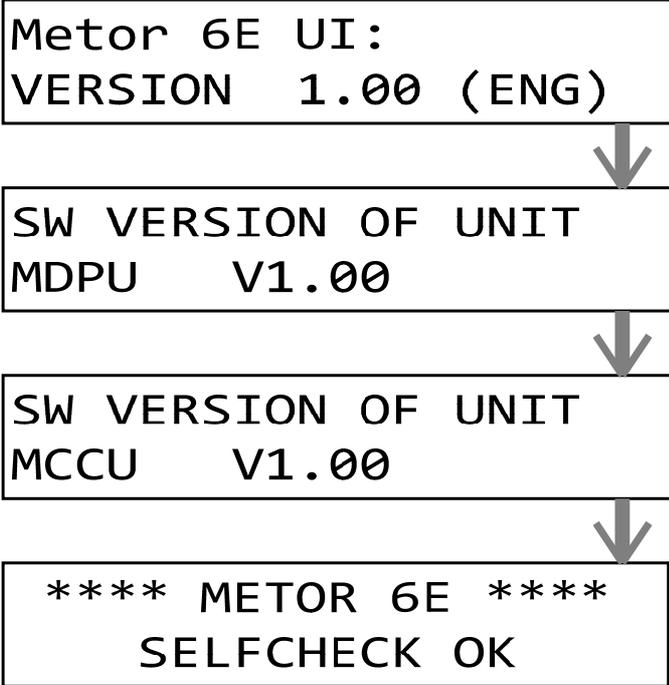
CAUTION

You must not place the power supply inside the cross piece when using the equipment at temperatures exceeding +50 °C (+122 °F) to prevent overheating.

4 STARTUP AND SHUTDOWN

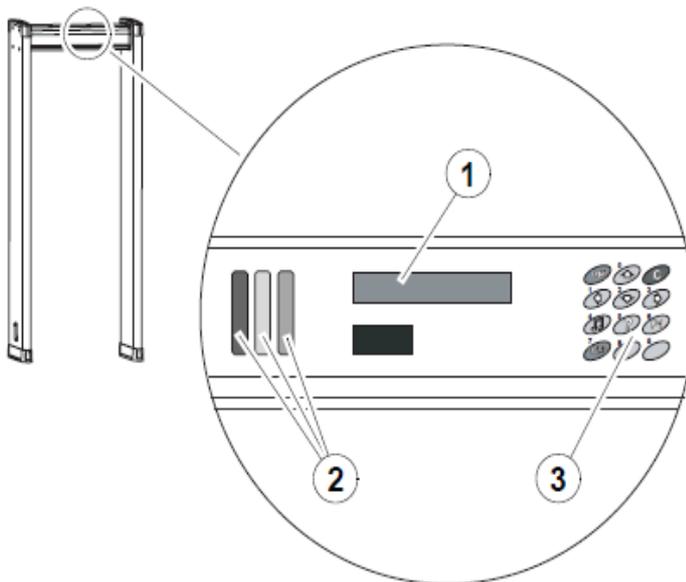


- Metor 6E is turned on and off from the power switch on the main electronics inside the cross piece.
- To access the switch open the cross piece hatch with the key provided.
- The unit can be switched to standby without the need to open the cross piece hatch by enabling the standby feature from the user interface, refer to chapter 7.7. Standby is turned on and off with button <C> on the keypad. During standby all displays and lights are off and metal detection is disabled with magnetic field generation turned off.

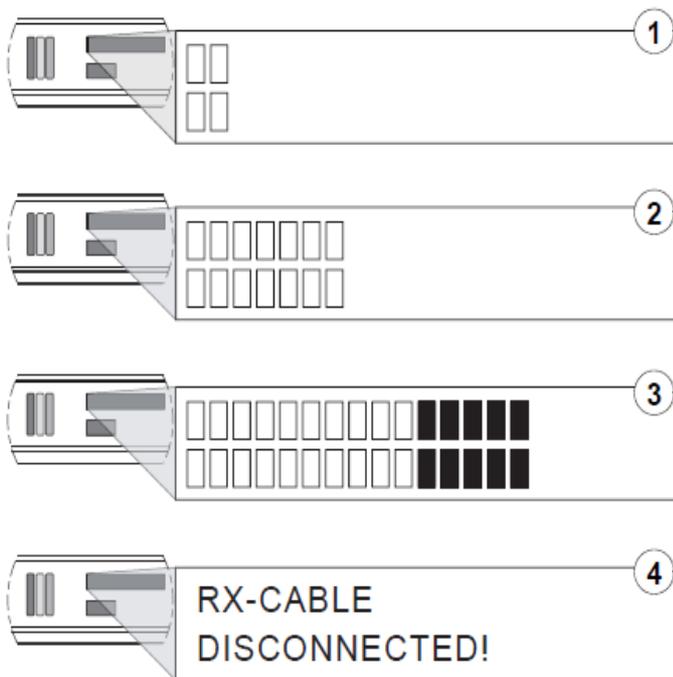


- After switching on Metor 6E runs a self-test.
- Also all lights are turned on briefly.
- During the self-test software versions of the unit will shown as illustrated on the left:
 - User interface version
 - Display unit SW version
 - Electronics SW version
- In the end selfcheck result is shown.
- SW versions may differ from the ones displayed.

5 DISPLAY AND KEYPAD

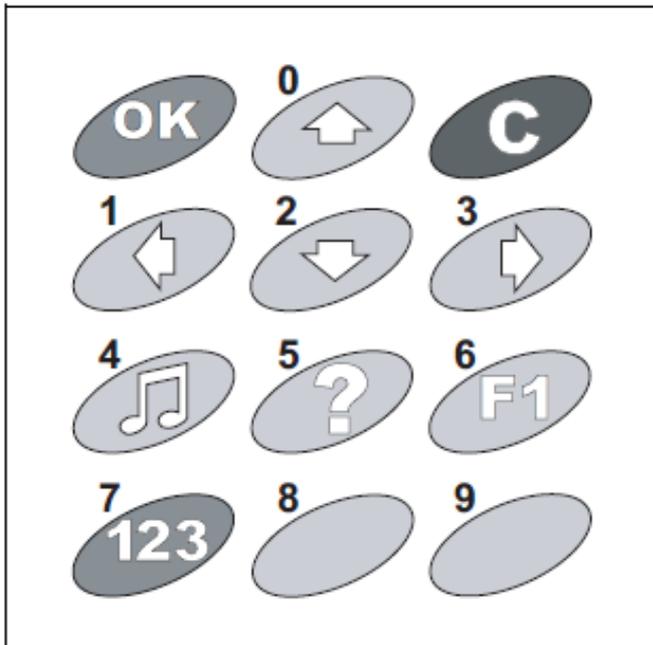


- All functions of Meteor 6E are controlled with the display unit. The display unit consists of an alphanumeric display (1), status lights (2) and keypad (3).
- The alphanumeric display has two rows with 20 characters each. It displays the proportional signal value and any error messages and is used to assist in controlling the unit.
- The status lights consist of a red, yellow, and green light. The red light is flashing when the WTMD raises an alarm. The yellow light is on when browsing menus or when the WTMD is not ready for operation. When the green light is on the unit is ready.



Examples of displayed information:

1. Normal operating situations, minor background interferences are shown on the display. For optimal operation of the equipment in normal operating situations no more than 2-4 boxes should be illuminating when nobody is passing through. Otherwise, the operating frequency should be changed or the effect of the source of interference minimized.
2. A situation where a person passing through does not cause an alarm, but the changes in the signals caused by allowed metal objects (buckle, shoes, eye wear) are shown on the display.
3. The alarm limit has been exceeded. The status lights are flashing (red light).
4. In case of operating error or unit malfunction corresponding message is displayed, refer to chapter 9.2 for additional information.



Keypad features are:

- **<OK>** This button is used to accept the functions selected and the changes made to settings, as well as to navigate the menus.
- **<◀>, <▲>, <▼>, <▶>** The arrow keys are used for navigation of menus and to change the settings.
- **<C>** This button is used to return to a higher menu level or to cancel the current function without changing the settings. This button can also operate as a standby switch.
- **<♪>** This button is used to adjust the volume (no access code required).
- **<?>** This button can be pressed to receive instructions.
- **<F1>** With this key you can view the detection program and sensitivity value in use. Change displays with **<▲>** and **<▼>** keys. Use **<C>** to return to normal operation.
- **<123>** This button is used to access the unit's settings for editing or to directly enter numeric values. You can enter a value by pressing the corresponding number key(s).

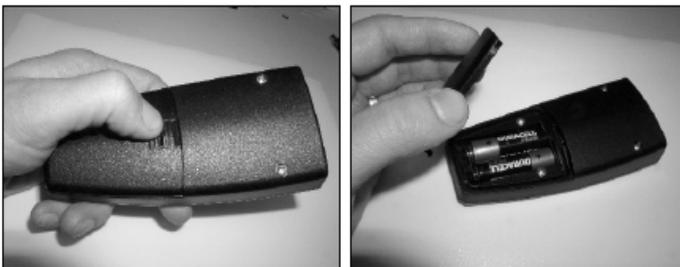
6 REMOTE CONTROL



Instead of using the keypad on the cross piece you can use the remote control supplied with the unit. The remote control keypad is identical to display unit keypad.

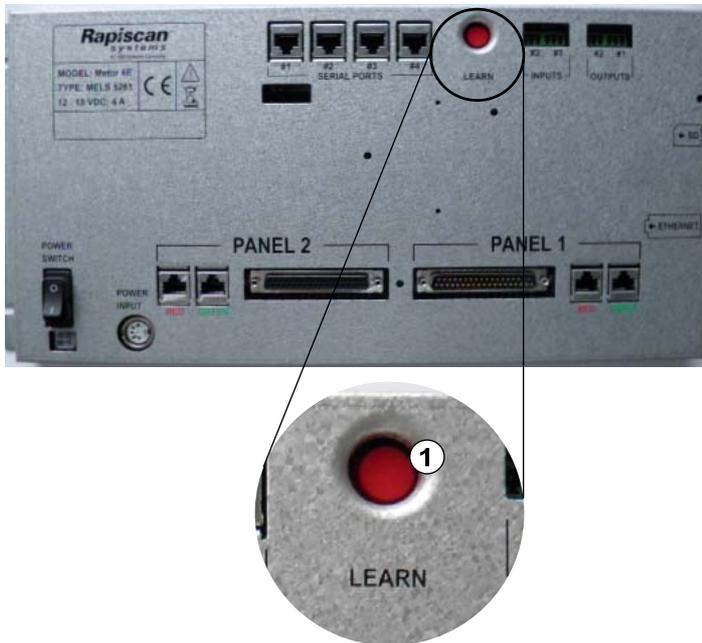
- The remote control unit operates within a distance of 3 m (120 in.) from the unit when the infrared beam is aimed towards the display.
- Metor 6E will not accept commands from a remote control before it has been validated, refer to chapter 6.2.
- Communication between the remote control and Metor 6E is secured.
- One remote control unit can be used for controlling one or several units.
- In addition, the remote control can be used to copy operating parameters from one unit to others. This simplifies set-up of several units.
- Also standby feature can be used with the remote control.
- There is a holder inside cross piece hatch for the safekeeping of the remote control.

6.1 Installation of Batteries



- Remote control uses two 1.5 V AA size batteries. Always replace both batteries at the same time.
- To open battery compartment lid slide the lock down.
- Check for correct orientation before inserting batteries.
- There will be a warning message on the display when batteries should be replaced.

6.2 Enabling Communication between Metor 6E and Remote Control



- Before using a Remote Control its serial number must be taught to the main electronics.
- Open cross piece hatch.
- Press the LEARN button (1) until you hear **one** beep.
- Message “*Validate remote. Press any key*” appears on the display.
- Point the remote control towards the display and press any one of the keys. The message should disappear.
- Now the remote control is ready for operation.
- Up to ten (10) remote controls can be validated to a single Metor 6E.
- All validations can be erased with user interface function “3-21 REMOVE ALL VALID REMOTES”, refer to chapter 7.5.

NOTICE

If the LEARN button is pressed continuously for more than five (5) seconds the access code of user ID 0 is reset to factory default.

7 USER INTERFACE

7.1 Access to User Interface

Only a valid user can access the user interface using his unique access code. Maximum number of users is 100. Users are identified with a user ID number. The range of ID numbers is 0 – 99.

Each user is attached to a user group. The unit allows 10 different user groups with specific access rights to user interface functions. User groups are named “SUPER”, “USER”, and with numbers 2 – 8. Access rights of groups “USER” and 2 – 8 can be freely configured. The user group “SUPER” has full and permanent access to the user interface.

The unit comes with two users factory-set:

- User ID 0, group SUPER, access code 1, 2, 3. User ID 0 is permanent, it can not be deleted or changed to another user group.
- User ID 1, group USER, access code 7, 8, 9.

To access the user interface:

- Press **<OK>** key. The message “ENTER USER ID:” should be displayed.
- Enter a valid user ID number and press **<OK>** key. The message “ENTER ACCESS CODE:” is displayed.
- Enter the access code of the user and press **<OK>** key.

As factory-set the user group USER privileges are:

- Group members can change their own access codes.
- Group members can view counter values.
- Group members can reset counter values to zero.

Without using an access code a user can view detection program and sensitivities in use and adjust volume:

- Press **<J>** key to adjust volume. Note minimum adjustable volume is limited by a separate parameter, refer to chapter 7.4.
- Press **<F1>** key to view current detection program and overall sensitivity value.

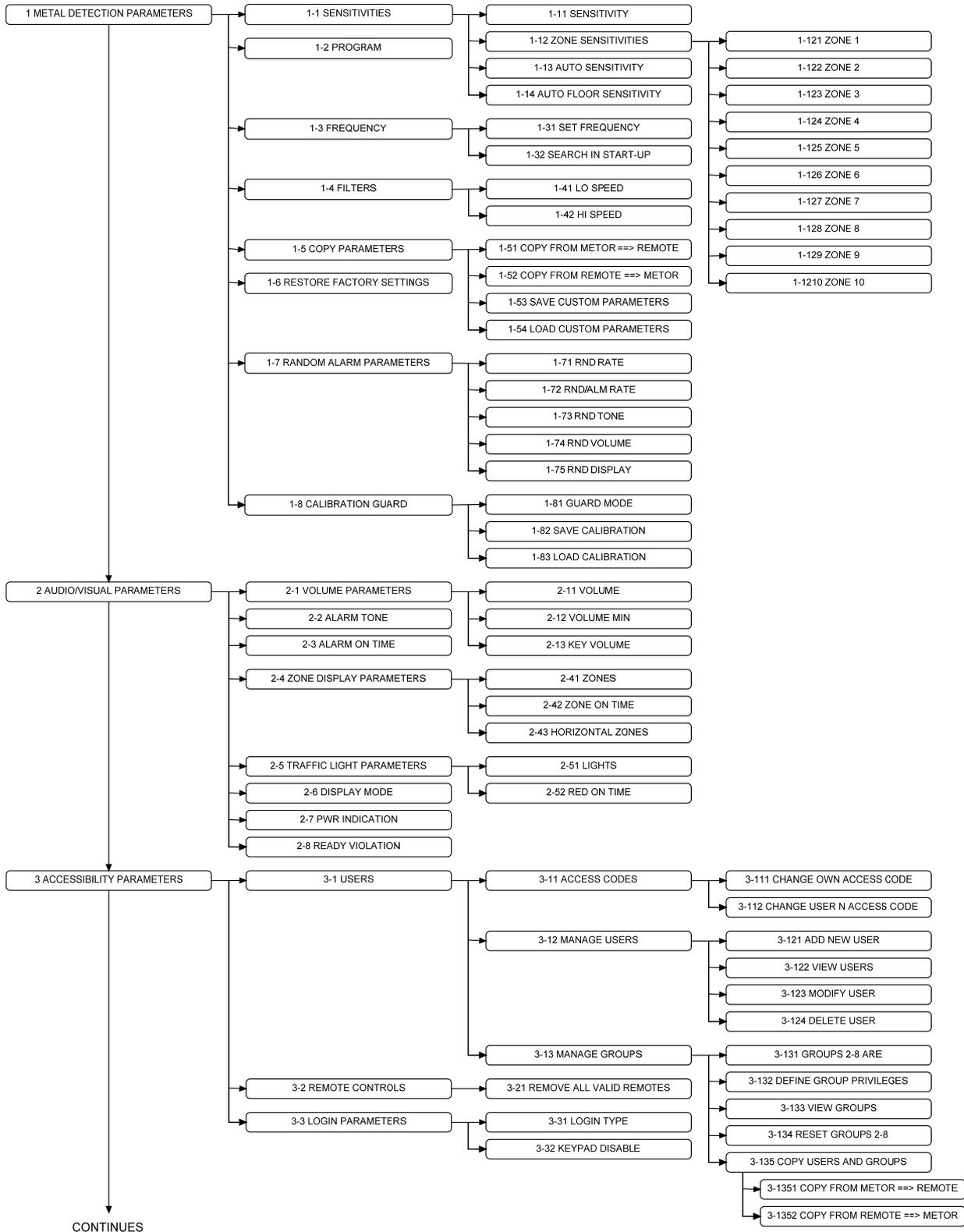
NOTICE

If wrong access code for a user is entered for three consecutive times the user is locked meaning that he can no longer access the user interface. Locking can be undone by a user with sufficient privileges using the “3-123 MODIFY USER” function, refer to chapter 7.5.

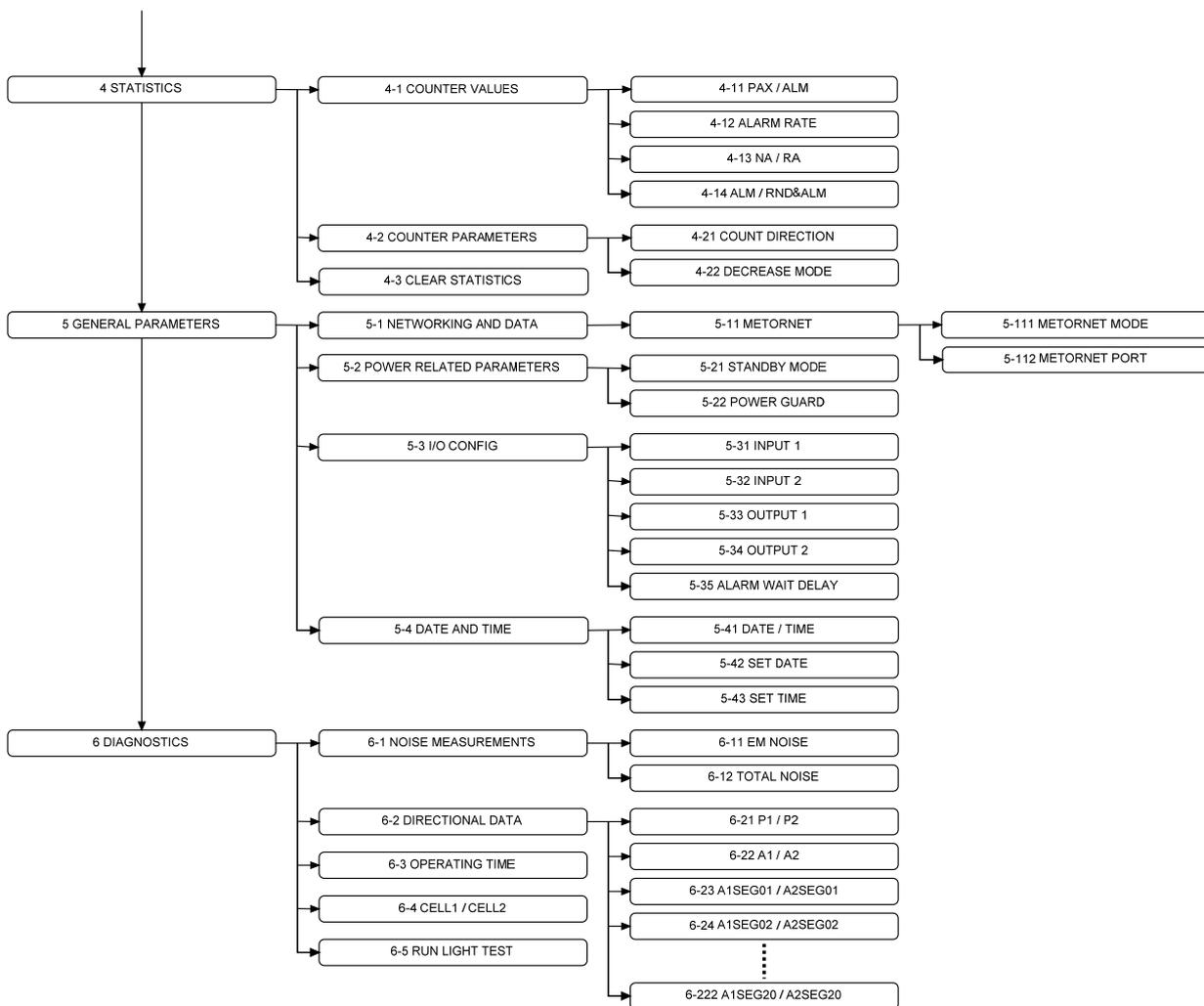
User ID 0 locking can only be undone by resetting the access code, refer to chapter 6.2.

7.2 User Interface Structure

The complete Metor 6E user interface structure is shown in the following diagrams.



CONTINUES



7.3 Metal Detection Parameters

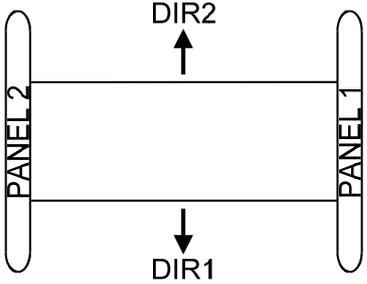
Function	Possible values	Factory setting	Notes
1-11 SENSITIVITY	1 – 100	50	The larger the sensitivity value the smaller metal item causes an alarm.
1-12 ZONE SENSITIVITIES	0 – 200 %	100 %	The relative sensitivity adjustments of separate vertical zones. Note that effective areas of adjacent zones overlap.
1-13 AUTO SENSITIVITY	-	-	Auto sensitivity function assists the user in selecting the sensitivity value for the test object set of the user. Press <OK> key to start the function. Walk through the WTMD carrying a test object. After each pass the display shows the total number of walks, the sensitivity value needed to cause an alarm on the last walk, and the highest sensitivity values of all walks.

Function	Possible values	Factory setting	Notes
			<p>After a successful walk through the unit makes a beep. If sensitivity value required for an alarm exceeds the set range an audible and text warning is made. Select another detection program that is better suited for the detection of your test objects.</p> <p>After you have tested all test objects press <OK> key to accept the new sensitivity value. A minimum of three (3) walks through is needed. Press <C> key If you choose to exit without accepting the new sensitivity value. If there are no walks through in five (5) minutes the WTMD will return to normal operation mode without changing the sensitivity value.</p>
1-14 AUTO FLOOR SENSITIVITY	-	-	<p>Auto sensitivity function assists the user in selecting the sensitivity values for zones effective at floor level. Press <OK> key to start the function.</p> <p>Walk through the WTMD carrying a test object at your foot or ankle.</p> <p>After each pass the display shows the total number of walks and the zone sensitivity value needed to cause an alarm on the last walk for the floor level zone better detecting the object.</p> <p>After a successful walk through the unit makes a beep. If zone sensitivity values required for an alarm exceeds the set range an audible and text warning is made. Select another detection program that is better suited for the detection of your test objects or increase overall sensitivity.</p> <p>After you have tested all test objects press <OK> key to accept the new sensitivity value. A minimum of three (3) walks through is needed. Press <C> key If you choose to exit without accepting the new sensitivity value. If there are no walks through in five (5) minutes the WTMD will return to normal operation mode without changing the sensitivity value.</p>
1-2 PROGRAM	see the following table	13 EU2	The WTMD has various detection programs for selection of suitable detection performance for different types of objects and to optimize discrimination.
1-31 SET FREQUENCY	SEARCH F1 – F10	F1	<p>In case of having several units close to each other select different frequencies to each unit.</p> <p>Also in case of external interferences select a frequency with low interference level.</p> <p>Selecting value “SEARCH” the unit scans through the frequencies in search of a frequency with low interference level. Note that the search may take up to two (2) minutes.</p> <p>Do not move any metal items in the vicinity of the unit during the frequency search.</p>
1-32 SEARCH IN START-UP	OFF / ON	OFF	<p>OFF = Frequency search is disabled.</p> <p>ON = Frequency search is done every time power is turned on from the power switch.</p>

Function	Possible values	Factory setting	Notes
			Search is not done when returning from standby to normal operation. It is not advisable to use this function when there are several units near to each other.
1-41 LO SPEED	1 / 2	2	Low speed range setting. 1: For very slowly moving objects. 2: For objects carried through the WTMD by people.
1-42 HI SPEED	1 / 2	1	High speed range setting. 1: For objects carried through the WTMD by people. 2: For very quickly moving objects. Note that interference attenuation is lower with value 2.
1-51 COPY FROM METOR ==> REMOTE	-	-	Copies all the parameter values of the WTMD, excluding the operating frequency, into the remote control. The parameter values copied will remain in the remote control until new values are copied over them. Aim the remote control to the display until the WTMD indicates that copying has been completed successfully. The copying will take a few seconds.
1-52 COPY FROM REMOTE ==> METOR	-	-	Copies the parameter values from the remote control to the WTMD. The parameter values overwrite the current values in the WTMD and are applied immediately. Aim the remote control to the display until the WTMD indicates that copying has been completed successfully. The copying will take a few seconds.
1-53 SAVE CUSTOM PARAMETERS	-	-	Saves the current values of parameters, including the operating frequency, to a separate memory location.
1-54 LOAD CUSTOM PARAMETERS	-	-	Reverts to using the saved custom parameter values. Saved custom values are applied immediately. If no parameter values have been saved an error message is issued. Parameter values in use before the loading attempt remain in force.
1-6 RESTORE FACTORY SETTINGS	-	-	Resets all parameter values back to factory settings. Saved custom parameter values are not affected. Neither is created user IDs affected nor defined user group privileges. However, user groups 2 – 8 are disabled. None of the defined access codes are resetted.
1-71 RND RATE	0 – 100 %	0 %	Random alarm rate value. The percentage of alarms generated to the non-alarming people. The random alarm calculation is based on groups of 100 non-alarming people. Therefore only after 100 non-alarming people does the actual random alarm rate equal the set rate. The accuracy of the random alarm function is under 1 % for groups over 100. If zone display is enabled the whole length of display is lighted during a random alarm. When the value is 0 % no random alarms are generated.

METOR 6E DETECTION PROGRAMS		
No	Name	Description
Metor Security Programs		
01	MET1	For detection of hand guns.
02	MET2	For detection of hand guns.
03	MET3	For detection of hand gun parts.
04	MET4	For detection of hand gun parts.
05	MET5	For detection of hand gun parts.
International Security Programs		
10	NIJ1	NIJ Standard-0601.02 large object size.
11	NIJ2	NIJ Standard-0601.02 medium object size.
12	EU1	EU airport level 1.
13	EU2	EU airport level 2.
14	EU3	EU airport level 3.
15	US	US airport.
16	CN	CN airport.
17	AU	AU airport.
18	JP	JP airport.
Material Selective Programs		
20	ALL METALS	Selective to all metal types.
21	MAGNETIC1	Selective to magnetic metals.
22	MAGNETIC2	Selective to magnetic metals.
23	NON-MAGNETIC1	Selective to non-magnetic metals and steels.
24	NON-MAGNETIC2	Selective to non-magnetic metals and steels.
25	ALL METALS HS	Selective to all metal types, increased sensitivity.

7.4 Audio/Visual Parameters

Function	Possible values	Factory setting	Notes
2-11 VOLUME	0 – 8	2	Adjustment of audible alarm volume. Volume can not be less than the value set by 2-12 VOLUME MIN. Note that volume can be adjusted also using <♪> key without the need to enter the User Interface.
2-12 VOLUME MIN	0 – 8	2	The minimum value to which the audible alarm volume can be adjusted.
2-13 KEY VOLUME	0 – 8	2	Adjustment of keypad beep volume.
2-2 ALARM TONE	1 – 6	5	Adjustment of audible alarm tone.
2-3 ALARM ON TIME	0.4 – 3.0 s	1.0 s	Adjustment of the time audible and visual alarms are on.
2-41 ZONES	OFF DIR1 DIR2 BOTH	DIR1	<p>Selection of the side of the WTMD on which the zone displays are operational. The sides DIR1 and DIR2 are shown on the drawing below.</p>  <p>OFF = Zone displays are disabled. DIR1 = Zone displays on DIR1 exit side are enabled. Zone displays are installed at the factory to the DIR1 exit side. DIR2 = Zone displays on DIR2 exit side are enabled. Note that you have to first change the displays to the other side for the DIR2 to work. BOTH = Zone displays on both sides are enabled. For zone displays to operate on BOTH sides additional zone displays have to be installed.</p>
2-42 ZONE ON TIME	0.4 – 6.0 s	1.0 s	The adjustment of the time the zone displays are on after an alarm. The time can not be shorter than the alarm on time.
2-43 HORIZONTAL ZONES	OFF / ON	ON	OFF = Zone displays on both panels show the same information of the height(s) of alarming object(s). ON = Zone displays show in addition to vertical information also the side of the alarming objects. If the alarming object is passing through the center of the unit both zone displays are lit. Same happens if two objects are passed through opposite sides at the same height.
2-51 LIGHTS	OFF / ON	ON	OFF = Traffic lights are disabled. ON = Traffic lights are enabled.

Function	Possible values	Factory setting	Notes
2-52 RED ON TIME	0.4 – 6.0 s	1.0 s	The time the traffic light stays red when a non-alarming passenger walks through the unit. In case of an alarm traffic light stays red as long as there is an alarm indication or zone display indication.
2-6 DISPLAY MODE	OFF Lightbar Counters Alarm rate	Lightbar	Selection of the display during normal operation. OFF: Blank display. LIGHTBAR: Display shows the signal size caused by metal objects. COUNTERS: Display shows the number of passengers and the number of alarms. ALARM RATE: Display shows the alarm rate percentage.
2-7 PWR INDICATION	OFF / ON	OFF	OFF = Power indication is disabled. ON = The green power indication LEDs on top of the zone displays flash to show that the unit has power.
2-8 READY VIOLATION	OFF / ON	OFF	OFF = Ready state violation is disabled. ON = An audible and visual warning is made if the unit is entered before it is ready for a new person.



CAUTION

When using the maximum setting the audible alarm volume is exceeding 90 dBa at distances less than 1 m.

NOTICE

Audible alarms are automatically muted when User Interface is opened using the keypad. However, if remote control is used to open the User Interface, alarms are not muted.

7.5 Accessibility Parameters

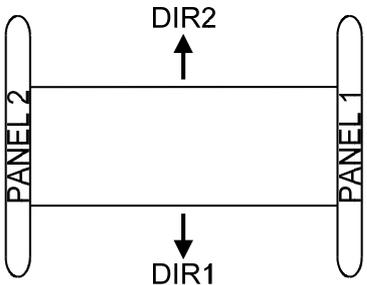
Function	Possible values	Factory setting	Notes
3-111 CHANGE OWN ACCESS CODE	-	-	Change access code of the currently logged in user ID. Access codes have to be three to six characters long. Depending on login type selection access code characters have to be numerals only or they can be alphanumerical.
3-112 CHANGE USER N ACCESS CODE	-	-	Change access code of a specific user ID. Only a user ID belonging to the user group SUPER can change access code of another user ID. Knowledge of the earlier access code is not needed.

Function	Possible values	Factory setting	Notes
3-121 ADD NEW USER	1 – 99	-	Add a new user with specific ID number. Lowest free ID is shown when function is selected. Access code needs to be created for the new user ID. New user ID needs to be attached to a defined user group. Note that if you want to attach a new user to an earlier undefined user group you must first enable and configure the user group.
3-122 VIEW USERS	-	-	View the list of user IDs that are in use.
3-123 MODIFY USER	1 – 99	-	Change the group of a user or lock/unlock a user.
3-124 DELETE USER	1 – 99	-	Delete a user. User ID 0 can not be deleted.
3-131 GROUPS 2-8 ARE	OFF / ON	OFF	OFF = The use of user groups 2 – 8 is disabled. When user groups 2 – 8 are disabled users belonging to these groups can not access the user interface. Disabling does not change group configurations. ON = The use of user groups 2 – 8 is enabled.
3-132 DEFINE GROUP PRIVILEGES	USER 2 – 8	-	Define which menu items are accessible to the user group members. Possible privileges are: <HIDDEN> = No access to menu item. <READ-ONLY> = Users can view parameters values but they can not change values. <FULL ACCESS> = Users have full access to the menu item. Group SUPER full privileges can not be changed.
3-133 VIEW GROUPS	USER 2 – 8	-	View the status and privileges of user groups.
3-134 RESET GROUPS 2-8	-	-	Clear the privileges of user groups 2 – 8.
3-1351 COPY FROM METOR ==> REMOTE	-	-	Copies all user IDs in use and all user group definitions into the remote control. The data copied will remain in the remote control until new data is copied over it. Aim the remote control to the display until the WTMD indicates that copying has been completed successfully. The copying will take a few seconds.
3-1352 COPY FROM REMOTE ==> METOR	-	-	Copies the user IDs and user group definitions from the remote control to the WTMD. The current user IDs and group definitions in the WTMD are overwritten and the new data is applied immediately. Aim the remote control to the display until the WTMD indicates that copying has been completed successfully. The copying will take a few seconds.
3-21 REMOVE ALL VALID REMOTES	-	-	Removes all remote control serial numbers from the memory disabling the access to user interface with any remote control.

Function	Possible values	Factory setting	Notes
3-31 LOGIN TYPE	NUMERIC ALPHA- NUMERIC	NUMERIC	Defines whether access codes are numeric or alphanumeric. Alphanumeric access codes are entered by scrolling through the characters using <▲> and <▼> keys. Move forward using <▶> key. Note that if login type is changed from alphanumeric to numeric users with alphanumeric access codes can not no longer access the user interface.
3-32 KEYPAD DISABLE	OFF / ON	OFF	OFF = Keypad fn the WTMD is enabled. ON = Keypad of the WTMD is disabled. The function can be turned on only using the remote control. If the remote control is lost keypad can be enabled by pressing the LEARN button until "Validate remote. Press any key" appears on the display and then pressing any key on the keypad. If all remote controls are removed keypad is automatically enabled.

7.6 Statistics

Function	Possible values	Factory setting	Notes
4-11 PAX / ALM	-	-	Displays values of following counters: PAX = Number of passengers. ALM = Number of alarms caused by metal objects.
4-12 ALARM RATE	-	-	Displays the alarm rate percentage (ALM/PAX %).
4-13 NA / RA	-	-	Displays values of following counters: NA = Number of passengers that did not cause an alarm by having excess metal objects. RA = Number of random alarms generated.
4-14 ALM / RND&ALM	-	-	Displays values of following counters: ALM = Number of alarms caused by metal objects. RND&ALM = Number of generated random alarms for alarming passengers.
4-21 COUNT DIRECTION	DIR1 DIR2 AUTO	DIR1	Selection of the counting direction. The directions DIR1 and DIR2 are shown on the drawing below. Counting direction also define the direction on which random alarms function.

Function	Possible values	Factory setting	Notes
			 <p>DIR1 = Passenger counter is increased when passing through with Panel 1 on your left side. Alarm counter is increased DIR2 = Passenger counter is increased when passing through with Panel 1 on your right side. AUTO = Next walk through defines the counting direction. Note that changing the selection with the unit already been in operation may lead to negative counter values.</p>
4-22 DECREASE MODE	OFF PAX ONLY PAX+ALM	OFF	<p>Selection of whether counter values decrease when passing through the unit in opposite direction to selected counting direction. OFF = Counter values are not decreased. PAX ONLY = Passenger counter (PAX) value is decreased. PAX + ALM = Both passenger counter (PAX) and alarm counter values are decreased. Alarm counter value is decreased only when passenger causes an alarm when passing through in the opposite direction. Note that changing the selection with the unit already been in operation may lead to negative counter values.</p>
4-3 CLEAR STATISTICS	-	-	Resets all counters to zero.

NOTICE

Maximum value of counters is 4 294 967 295. Should a counter ever reach its maximum value it will stay at the maximum value. Use the function “4-3 CLEAR STATISTICS” to reset counters.

7.7 General Parameters

Function	Possible values	Factory setting	Notes
5-111 METORNET MODE	NORMAL READ-ONLY	NORMAL	Defines the access rights of MetorNet software. NORMAL = MetorNet has full access to WTMD parameters. Parameter values can be modified with MetorNet. READ-ONLY = MetorNet has read-only access to WTMD parameters. Parameter values can be viewed with MetorNet but the values can not be changed.
5-112 METORNET PORT	NORMAL FDATA	NORMAL	Defines the operation of the serial port used for MetorNet connection. NORMAL = MetorNet can connect to the WTMD. FDATA = MetorNet can not connect to the WTMD. Used with special PC monitoring software applications. Do not use this value unless specially instructed by Rapiscan Systems.
5-21 STANDBY MODE	OFF / ON	OFF	OFF = Standby mode is disabled. ON = Standby mode is enabled. Pressing <C> key for two seconds switches the unit to standby. The unit returns to normal operation immediately after <C> key is pressed again.
5-22 POWER GUARD	OFF / ON	OFF	OFF = Power guard is disabled. ON = Power guard is enabled. If the unit loses power (or power is switched off) an audible alarm is made and a warning message is displayed for up to one minute. Alarm an message can be turned off with <C> key.
5-31 INPUT 1	OFF Tamper switch Manual alarm Alarm inhibit	OFF	Configuration of digital input 1. For physical connections refer to chapter 3.7. OFF = Input is disabled. TAMPER SWITCH = When an optional tamper switch is connected to the input and cross piece hatch is opened a tamper alarm is made. MANUAL ALARM = When input is closed a metal detection alarm is made with all zone segments turned on. ALARM INHIBIT = When input is closed alarms are disabled. The lightbar operates normally.
5-32 INPUT 2	OFF Tamper switch Manual alarm Alarm inhibit	OFF	Configuration of digital input 2. Same values as above. If both inputs are configured for same operation an logical OR is made between them. In case of two conflicting simultaneous inputs the priority is following: 1. TAMPER SWITCH 2. MANUAL ALARM 3. ALARM INHIBIT

Function	Possible values	Factory setting	Notes
5-33 OUTPUT 1	OFF ALARM PAX Pax, no alarm Pax, alarm	OFF	Configuration of digital output 1. For physical connections refer to chapter 3.7. OFF = Output is disabled. ALARM = Output is closed for the duration of an alarm. PAX = Output is closed for 0.2 seconds when PAX counter is increased. PAX, NO ALARM = Output is closed for 0.2 seconds after the time determined by the ALARM WAIT DELAY parameter when a non-alarming passenger passes through the unit. PAX, ALARM = Output is closed for 0.2 seconds after the time determined by the ALARM WAIT DELAY parameter when a passenger generating a random alarm passes through the unit. Output is closed for 0.2 seconds without the delay when an alarming passenger passes through the unit.
5-34 OUTPUT 2	OFF ALARM PAX Pax, no alarm Pax, alarm	OFF	Configuration of digital output 2. Same values as above. Both outputs can be configured to same operation.
5-35 ALARM WAIT DELAY	0.4 – 3.0 s	1.0 s	Delay time for “PAX, NO ALARM” and “PAX, ALARM” modes of the digital outputs.
5-41 DATE / TIME	-	-	Displays the date and time. Format is YYYY/MM/DD and HH:MM:SS.
5-42 SET DATE	-	-	Function for setting the date. Format is YYYY/MM/DD. Use <▲> and <▼> keys to change value and <▶> and <◀> keys to change position of cursor.
5-43 SET TIME	-	-	Function for setting the time. Format is HH:MM:SS. Use <▲> and <▼> keys to change value and <▶> and <◀> keys to change position of cursor.

7.8 Diagnostics

Function	Possible values	Factory setting	Notes
6-11 EM NOISE	-	-	EM NOISE measures and displays the level of electromagnetic interferences from the surrounding environment. Initial measurement takes 10 seconds after which noise value is updated every 10 seconds. Noise levels are: 0 – 2: LOW 3 – 5: MEDIUM 6 – 10: HIGH >10: ALARM

Function	Possible values	Factory setting	Notes
			During EM NOISE measurement magnetic field generation is turned off.
6-12 TOTAL NOISE	-	-	TOTAL NOISE measures in addition to electromagnetic interferences mechanical interferences caused by vibration and nearby moving metal structures. Initial measurement takes 10 seconds after which noise value is updated every 10 seconds. Noise levels are same as with EM NOISE. Comparing noise levels of EM NOISE and TOTAL NOISE the nature of possible interferences may be deduced.
6-21 P1 / P2	-	-	Number of passengers in both directions excluding DECREASE MODE setting. P1 = Number of passengers in direction DIR1. P2 = Number of passengers in direction DIR2.
6-22 A1 / A2	-	-	Number of alarms caused by metal objects in both directions excluding DECREASE MODE setting. A1 = Number of alarms in direction DIR1. A2 = Number of alarms in direction DIR2.
6-23 A1SEG01 / A2SEG01 . . 6-222 A1SEG20 / A2SEG20	-	-	Relative alarm rates of each vertical zone display segment in both directions. Zone display has twenty vertical segments. Segment number 1 is the lowest and segment number 20 is the highest segment. A1SEG01 is the rate of zone segment 1 being lit divided by total number of alarms A1 in direction DIR1 and A2SEG01 is the corresponding rate in direction DIR2. Counters are updated independent of zone display mode.
6-3 OPERATING TIME	-	-	Displays the number of hours the unit has been turned on. Time on standby state is not counted.
6-4 CELL1 / CELL2	-	-	Displays the status of the infrared transmitter/receiver units used for passenger counters. The infrared units are in the zone display profiles at the edges of the coil panels. CELL1 is the entry side transmitter/receiver pair in direction DIR1, i.e. with panel 1 on your left side, and CELL2 is the exit side pair. When the infrared units are operating normally the status is as follows: 0 = Infrared beam is not blocked. 1 = Infrared beam is blocked.
6-5 RUN LIGHT TEST	-	-	Turns on all unit lights for 10 seconds.

8 MAINTENANCE

8.1 Periodic Maintenance

The Metor 6E is virtually maintenance-free. However, the operation should be checked regularly, preferably daily, to ensure that the security is not compromised.

For additional information on maintenance please refer to the Maintenance Manual.

8.2 Replacing Input Fuse

Inside the electronics (MELS 5261) there is a 5.0AT fuse F8 protecting the electronics. Fuse type is Littlefuse Nanofuse 0454005.MR, part number 58105674.



WARNING

Replace fuse only with equivalent type to avoid risk of fire.

8.3 Replacing Battery

Inside the electronics (MELS 5261) there is a CR2032 type 3 V lithium battery that powers the real time clock while power is off. When battery is empty, the clock resets to January 1, 2010. Empty battery can also corrupt counter statistics. Typical battery life is over ten years.



WARNING

Replace battery only with equivalent type to avoid risk of fire.

9 TROUBLESHOOTING

9.1 Fault Conditions

Fault	Possible cause	Recommended actions
Random alarming	External interference	Change operating frequency. Relocate the unit. Reduce sensitivity.
High interference level	Selected frequency not suitable for the environment	Change operating frequency.
	Interference source close to the unit	Remove interference source or relocate the unit.
	Large moving metal close to the unit	Increase distance between the unit and the metal.
	Floor vibrating when people walk through the unit	Improve support of the floor or relocate the unit.
No power to electronics	Power cable loose	Check power cable connections.
	Power supply faulty	Replace power supply.
	DC power cable faulty	Connect power supply directly to electronics to check if DC power cable is faulty. Connect power supply to the DC power cable in the other panel. Replace DC power cable.
Unit does not start	Mains not connected	Check power connections.
	Power switch is off	Turn power switch on.
	Display unit not connected	Check connection of the display unit to the electronics.
Zone displays not working	Zone displays not enabled	Check from user interface that zone displays are enabled and correct direction is selected.
	Display cables misconnected or faulty	Check display cable connections. Replace cables.
	Zone display faulty	Replace zone display.
Passenger counting does not work	Zone display and counter cables misconnected or faulty	Check cable connections. Replace cables.
	IR transmitters or receivers faulty	Replace faulty parts.
Traffic light stays red	Zone display and counter cables misconnected or faulty	Check cable connections. Replace cables.
	Traffic light faulty	Replace traffic light.

Fault	Possible cause	Recommended actions
Remote control does not work	Batteries are empty	Replace batteries.
	Remote control communication not enabled	Enable communication between Metor 6E and the remote control.
	Remote control faulty	Replace remote control.
	Display unit faulty	Check operation with another remote control, if possible. Replace display unit.

9.2 Error Messages

Message	Fault condition	Recommended actions
SIGNAL OVERFLOW!	Large metal item too close to the unit.	Remove item or relocate the unit.
	Another WTMD too close to the unit.	Increase the distance between units.
SYSTEM MESSAGE: MDPU Vcc TOO LOW	Display unit connection cable faulty	Replace cable.
	Internal failure	Replace display unit or electronics.
SYSTEM MESSAGE: MDPU TEMP TOO LOW	Ambient temperature too low	Relocate the unit to a warmer place. Wait for the unit to warm up.
SYSTEM MESSAGE: MDPU TEMP TOO HIGH	Ambient temperature too high	Relocate the unit to a cooler place. Prevent direct sunlight hitting the unit.
SYSTEM MESSAGE: MDPU EEPROM INIT.	Memory was corrupted	Cycle power off-on. Verify that all parameter values are correct.
SYSTEM MESSAGE: ACCESS CODE INIT.	The LEARN button was pressed for more than five seconds	Change user ID 0 access code.
BATTERIES OF REMOTE CONTROL ARE EMPTY!	Empty batteries in remote control	Replace batteries.
LOW REMOTE CONTROL BATTERY LEVEL!	Almost empty batteries in remote control	Replace batteries soon.
SYSTEM MESSAGE: MCCU Vcc TOO LOW	Battery Back-up empty	Recharge battery.
	Power supply failure	Replace power supply.
	MCCU failure	Replace electronics.
SYSTEM MESSAGE: MCCU TEMP TOO LOW	Ambient temperature too low	Relocate the unit to a warmer place. Wait for the unit to warm up.

Message	Fault condition	Recommended actions
SYSTEM MESSAGE: MCCU TEMP TOO HIGH	Ambient temperature too high MCCU failure	Relocate the unit to a cooler place. Prevent direct sunlight hitting the unit. Replace electronics.
SYSTEM MESSAGE: MCCU EEPROM INIT	Memory is corrupted	Cycle power on the unit. Verify that all parameter values are correct.
SYSTEM MESSAGE: PANEL1 CABLE FAILURE	Panel 1 coil cable is loose or disconnected	Check coil cable connection.
SYSTEM MESSAGE: PANEL2 CABLE FAILURE	Panel 2 coil cable is loose or disconnected	Check coil cable connection.
SYSTEM MESSAGE: RX xx FAILURE!	Receiver xx malfunction Coil or coil cable failure Electrical failure	Check corresponding coil cable connector and connection. Check coil resistance. Replace corresponding panel. Replace electronics.
SYSTEM MESSAGE: TX x FAILURE!	Transmitter x malfunction Coil or coil cable failure Electrical failure	Check corresponding coil cable connector and connection. Check coil resistance. Replace corresponding panel. Replace electronics.
SYSTEM FPGA INTERRUPT FAIL!	Electronics failure	Cycle power to check if unit recovers. Replace electronics.
OPERATION FAILED: NO REPLY FROM MCCU	Display unit can not communicate with electronics	Check display unit cable and cable connections. Replace display unit cable. Replace display unit. Replace electronics.
MAX COUNT OF REMOTES IS VALIDATED!	No more remote controls can be taught to the unit	Remove all remotes and try again.
CUSTOM PARAMS ARE NOT SET!	Custom parameters have not been saved	Save custom parameters before loading them.
NO METAL DATA FROM MCCU	Display unit does not receive signal data from electronics	Cycle power to check if unit recovers. Check display unit cable and cable connections. Replace display unit cable. Replace display unit. Replace electronics.
MCCU PARAMS CORRUPTED!	Parameter values are corrupted in electronics	Cycle power to check if unit recovers. Verify that all parameter values are correct. Check display unit cable and cable connections. Replace display unit cable. Replace electronics.

Message	Fault condition	Recommended actions
NO REPLY FOM MDPU!	Display unit can not communicate with electronics	Check display unit cable and cable connections. Replace display unit cable. Replace display unit. Replace electronics.
WARNING! POWER LOSS!	Power cord disconnected or unit switched off while POWER GUARD on	Press <C> button to clear warning or reconnect power.
SYSTEM MESSAGE: C1RED CABLE FAILURE!	Panel 1 red Ethernet cable disconnected or faulty	Check cable connections. Replace cable.
SYSTEM MESSAGE: C1GRN CABLE FAILURE!	Panel 1 green Ethernet cable disconnected or faulty	Check cable connections. Replace cable.
SYSTEM MESSAGE: C2RED CABLE FAILURE!	Panel 2 red Ethernet cable disconnected or faulty	Check cable connections. Replace cable.
SYSTEM MESSAGE: C2GRN CABLE FAILURE!	Panel 2 green Ethernet cable disconnected or faulty	Check cable connections. Replace cable.
SYSTEM MESSAGE: UI IS MISSING	User Interface has not been programmed	Upload User Interface.
SYSTEM MESSAGE: INVALID UI VERSION	User Interface is incompatible	Upload compatible User Interface.
INCOMPATIBLE SW VERSIONS!	Display unit and electronics firmware versions are incompatible	Upload compatible firmware to the unit.

10 DISPOSAL OF EQUIPMENT

When the equipment is taken out of use, it should be disposed of by observing the following environmental aspects:

- The steel and aluminum of the equipment structures, the copper of the cables, and the precious metals in the electronics should be recycled as raw materials and used for production of new metal products.
- Materials that can be incinerated include fiberboard and plastics, excluding PVC.
- The packaging material of the product is of 100 % recyclable materials.
- Parts made of PVC, electric components, and other hazardous waste shall be disposed of according to the local laws and regulations.

APPENDIX A: Definition of Terms

Some special terms used in this manual are explained below.

WTMD - Walk Through Metal Detector

Sensitivity - Parameter for defining the size of the metal items that will generate an alarm. When sensitivity is increased smaller metal items will be detected.

Discrimination - The WTMD's ability to differentiate harmless items from weapons. The alarm rate of a WTMD at a security check point indicates the discrimination ability of the equipment. Discrimination is affected by several factors e.g. sensitivity level, passenger profile, season (cold or warm) etc.

Unwanted alarm - (=nuisance alarm). Alarm caused by harmless metal items that people carry with them through the WTMD.

False alarm - Alarm caused by some other reason than metal objects (e.g. electrical interferences). Alarms caused by metal objects (wanted or unwanted) are not false in the case of a metal detector.

Alarm rate - The amount of alarms due to metal items as a percentage of the total number of people passing through the WTMD. The alarm rate is affected by the discrimination ability of the WTMD. If discrimination is poor i.e. there are a lot of alarms due to harmless items the alarm rate is higher. **Note! Alarms caused by electrical interferences or reasons other than items taken through the WTMD, are not included in the alarm rate.**

Throughput rate - The maximum number of people in a given time that can pass through without affecting the detection performance of the WTMD. Represents the WTMD's ability to return to stand-by condition after a person has walked through. In practice, the maximum throughput rate is only theoretical and can usually not be reached because it is limited by the checking procedure and maximum walking speed of people.

Object speed response - The ability of a WTMD to maintain the sensitivity level unchanged when people pass through at different speeds.

Calibration - Procedure to set the parameter values of the WTMD for reaching the optimal performance according to the requirements of the application.

Side-by-side use - Two or more WTMDs are operated so closely-spaced that their electromagnetic fields affect each other's operation. The effect of the adjacent WTMD can be minimized by using different operating frequencies.

Operating frequency - The frequency of the electromagnetic field generated by a WTMD. Usually WTMDs have several different operating frequencies. When calibrating a WTMD at the installation site the operating frequency with lowest interference level is chosen. Several operating frequencies enable also side-by-side use of multiple WTMD without synchronization cables.

Detection uniformity - The ability of a WTMD to maintain uniform sensitivity throughout the whole detection area regardless of the shape and orientation of the metal item. Detection uniformity directly affects the discrimination capability of a WTMD. The sensitivity of a WTMD is usually set according to the weakest position of the detection area. In case of poor detection uniformity this may lead to unnecessary high sensitivity in other parts of the passage, considerably degrading discrimination. When the detection uniformity of a WTMD is tested it should always be done with real objects e.g. a weapon, or their simulators. Cylinders or spheres as test items can give wrong indications on the true detection uniformity of a WTMD.

Interference immunity - The operation of a WTMD can be affected by electrical or mechanical interferences. Electrical interferences are caused by other electrical equipment which are usually located near the installation site. Electrical interferences can be conducted through the mains power line or radiated. Mechanical interferences are caused by e.g. moving metal items near the WTMD or vibrating behind wall or underneath floor constructions. Good interference immunity can only be achieved through effective hardware and software filtering as well as specialized coil design.

Critical test object - The most difficult object to be detected from a group of test objects. Requires the highest sensitivity for detection.

APPENDIX B: Contact Information

Use these addresses when ordering spare parts and in warranty or repair issues.

E-mail sales@rapiscansystems.com
 service@rapiscansystems.com

United Kingdom's Customer Service Center for Europe, Africa, Mid East

Rapiscan Systems Ltd.
X-ray House
Bonehurst Road
Salfords
Surrey RH1 5GG
UNITED KINGDOM
Tel: +44 (0) 870 777 4301
Fax: +44 (0) 870 777 4302

U.S.A. Customer Service Center for Canada, South America, Caribbean

Rapiscan Systems
2805 Columbia St.
Torrance, CA 90503
USA
Tel: +1 888 258 6684 (toll-free for US customers calling inside USA)
• Press #3 Tech Support
• Press #5 WTMD

Customer Service Center for Asia, Australia

Warranty and Repair Issues

Rapiscan Systems Sdn. Bhd.
PTD 151290, 6.5km
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Kempas Lama 81300
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MALAYSIA
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Spare Part Orders

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