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Service Manual
Personal floor scale with BMI function

KERN MPC_M / MPE_HM / MPE_PM

Version 1.0
05/2013
GB

GB

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Servicemanual

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1 Basic Information

The device must be repaired only by trained specialist staff or personnel with professional formation (such as a repair-specialist accredited by law concerning verification). The service manual is obligatory for repair work. After repair, original conditions of the device have to be restored. Only original spare parts should be used.

Instructions about conformity-evaluated scales:

Repair must be carried only at 100% compliance with the type approval. A violation of this specification will result in a loss of the type approval! After successful repair the balance will have to be reverified before it can be used again in a statutorily regulated field.

The operation and configuration of each scale is described in the accompanying manual of the scale. Any safety information in respect for verification are also described in the accompanying manual

2 Introdution

This service manual covers the MCC series and is edited for the authorized servicing personnel.

3 MAINTENANCE

3.1 General

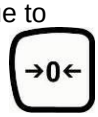
If the scale does not operate properly, find out the problem as possible.
Determine whether the problem is constant or alternate. Be aware that problems can be caused by mechanical or electrical influences.

Check the following.

- Water
- Corrosive materials
- Vibrations or temperature or wind
- Physical damage

Check the scale cables for damage, and check all connections and connecters for any loose contact or incorrect connection

3.2 Error Codes

Error Code	Description	POSSIBLE CAUSES
Err 4	Zero range exceeded, due to turning on or by pressing 	• Goods on the platform • Overload, when zeroing the scale. • Improper calibration • Load cell problem • PCB problem
Err 6	A/D Count out of the range	• Platform not installed • Load cell problem • PCB problem

3.3 Determine the Problem

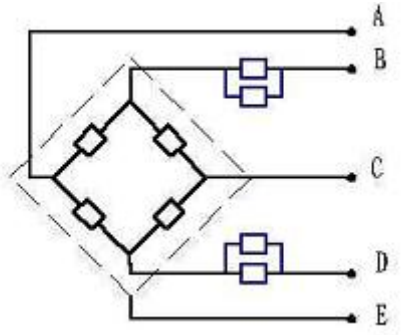
Determine whether the problem is in the PCB or the Load Cell

- Disconnect the power supply from the scale, and disconnect the load cell connection from the PCB
- Reapply power and test the PCB
- If problem goes away, its source is probably in the Load cell. Check the wiring, connecter, load cell and mechanical components of the load cell.
- If problem persists, its source is probably in the PCB. Check the PCB voltages, connecters, cables and function programs

3.4 Check the Load cell

- Remove power from the system, and disconnect the PCB from the Load cell
- Check the moisture, or foreign material inside.
- Make sure all leads are connected and correctly.
- Check load cell for proper input and output resistances

Load Cell Connections



Signal + Green
Supply + Red

Signal - Black

Supply - White
Shield

Measuring Points	**Resistance**
Red (+ Exc) to White (–Exc)	420 ±20Ω
Green (+Sig) to Black (–Sig)	350Ω ±5Ω

3.5 Checking the different Voltages

If the problem is in the PCB, use a multimeter to check the following voltages

AC Power
Check the AC power socket out put voltage.

Adaptor Voltage
Check the adaptor output cable connecter voltage
Compare the value with the name plate on the scale

PCB Input Voltage
Check the PCB input power connecter voltage
Voltage must be minimum 9VDC in to the pin AD+

Check Battery Voltage and Charging Voltage
Check the Battery Voltage**,**
Voltage must be minimum 6VDC. If below the 6VDC connect the adaptor for charging
The battery voltage below the 5.5VDC, replace the battery and install new 6V/3.4Ah battery.

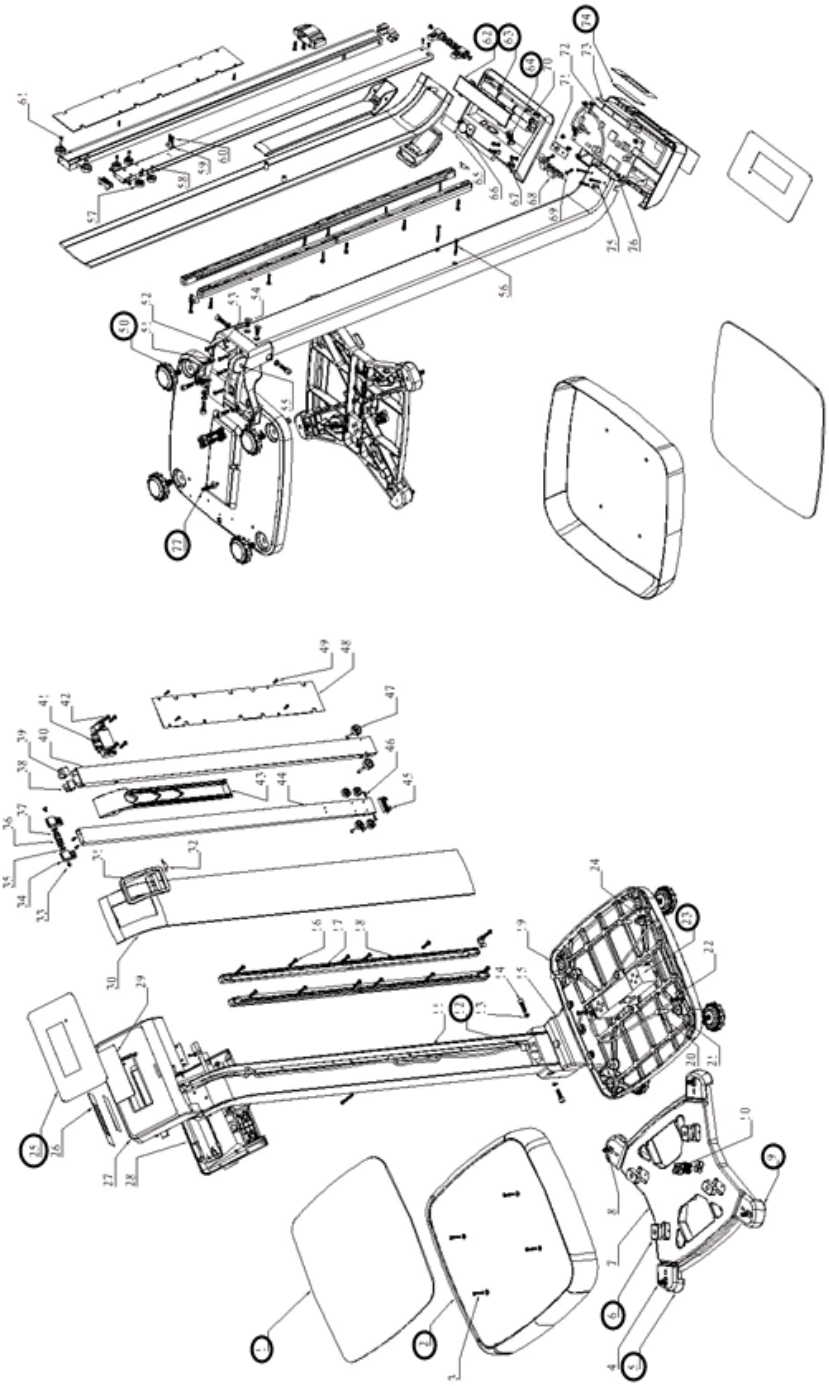
Check the Battery Charging Voltage;
Remove the battery connection terminals (Red and Black) from the battery. Connect the power and turn on the scale Voltage into the terminal minimum 6.5VDC

3.6 Trouble Shooting

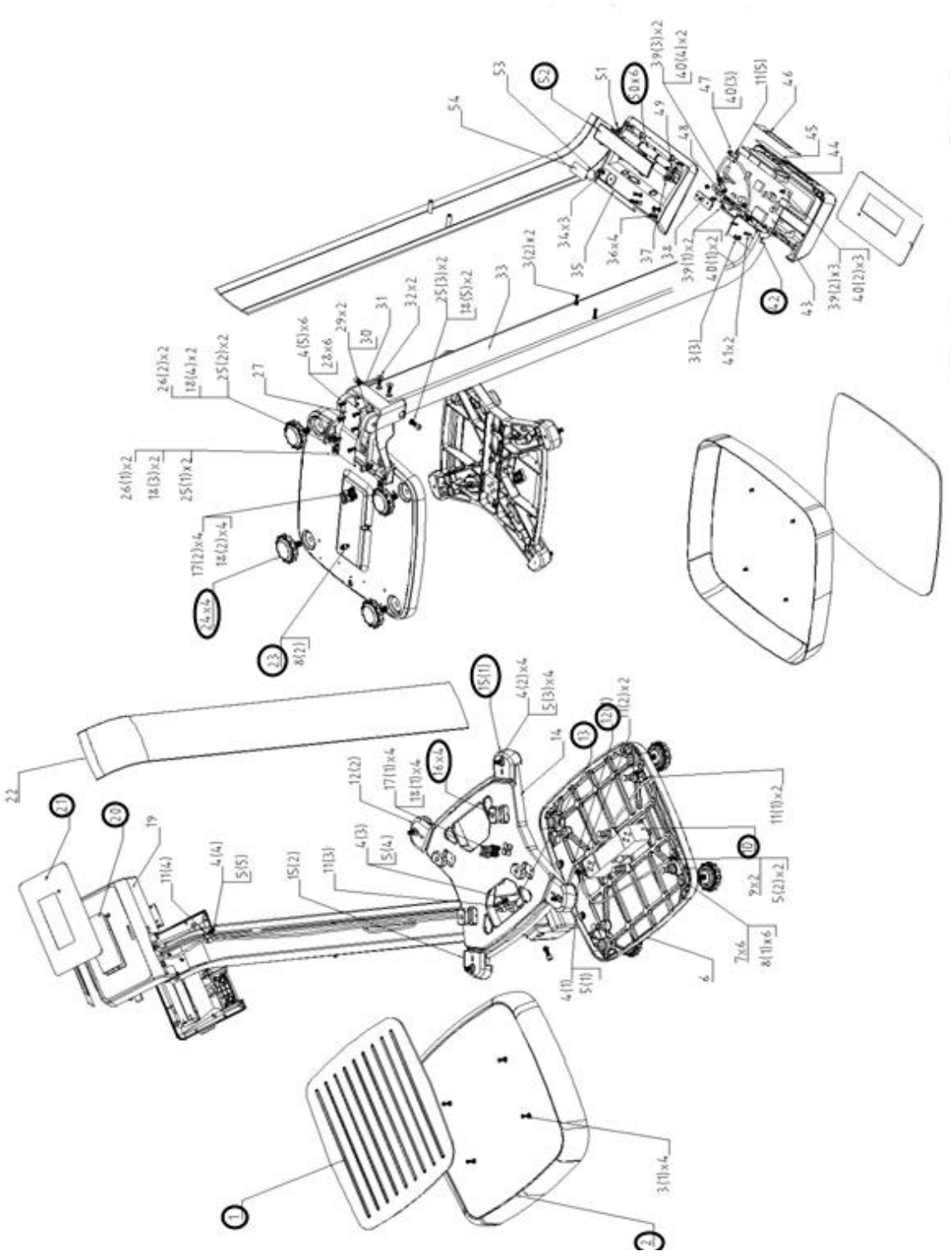
Problems	Possible cause	Common Solutions
Display is blank. No self test	Mains power is turned off. Power supply faulty or not plugged. Internal battery is not charged. On/Off switch problem	Check power is getting inside the scale and on/off switch is working. Verify the voltages, which is on the power labels.
Blank display after self test	Pan not installed. Unstable weight, load cell damaged	Check the pans are installed correctly. Try to turning on again.
OL or -------	Maximum capacity exceeded. Load cell or mechanics damaged. Power supply faulty	Check the platform is installed correctly. Try to turn on the scale again. Do the calibration again
------- or NULL displayed	Weight is on the platform is below permissible limit. Pan not installed correctly. Power supply faulty. Load cell or mechanism faulty	Check the platform is installed correctly. Try to turn on the scale again. Do the calibration again
Display is unstable	Goods touching somewhere. Air variation or any vibrations. Temperature changed. Load cell or connections faulty. Power supply faulty	Check the scale is in acceptable location. Check the connecters and load cell. Check the power supply and battery
Weight value incorrect	Calibration error. Platform of load cell touching somewhere. Wrong weighing unit	Use accurate weight for to do the calibration Check the pan and load cell is installed proper and touching. Check the parameter settings. Check the load cell and connecters
Can not use full capacity	Over load protection stoppers or transport locks are not removed. Parameters are set incorrectly. AD problem. Load cell or mechanism damaged	Check the stoppers and locks under the platform. Check the weighing unit and parameter settings. Check the load cell.
Platform Corner Weight different	Over load protection stoppers or transport locks are not removed. Load cell or mechanism damaged	Check the stoppers and locks under the platform. Use accurate weight for to do the calibration Check the load cell.
Battery not charging	Mains voltage problem Charging circuit problem Battery Problem	Check the mains and adaptor. Check the battery. Check the charging circuit

4 DRAWING

4.1 MPE_HM

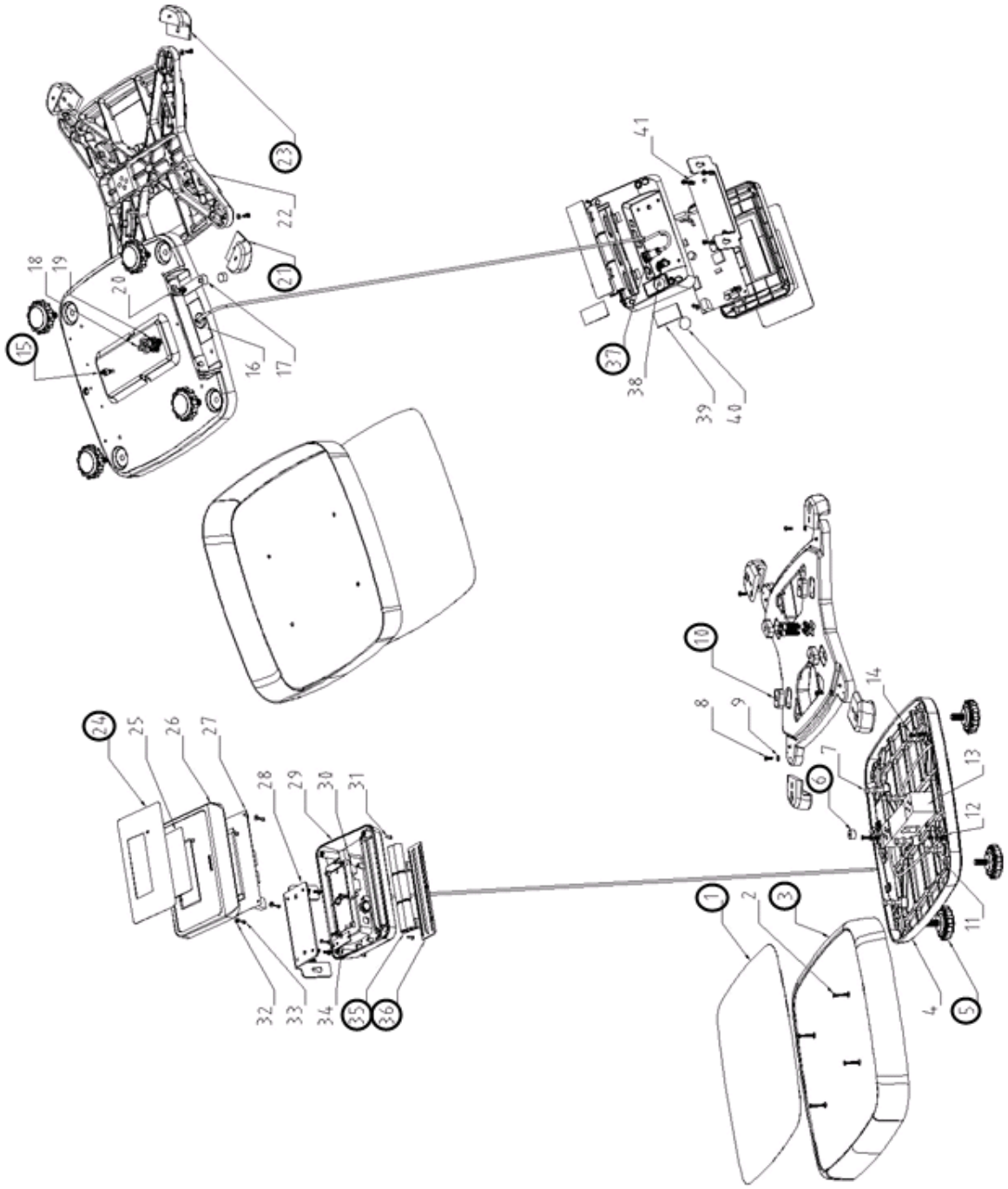


4.2 MPE_PM



MPE	No. in Drawing		KERN Art.Nr.
	HM	PM	
Key panel	25	21	RMPE-4001
Battery cover	62	52	RMPE-8001
MBC-A04			MBC-A04
Footstand	50	24	RMPE-8002
Level bubble	12	13	RMPE-8003
Adapter socket	64	42	RMCC-5001
Scale pan	2	2	RMPE-6001
Exchange Display device			KMF-TM
Load cell	23	10	RMPE-1001
Battery	63	50	MBC-A03
Set Anglepad left/right Retangle rubber pad 2/2/4 pcs.	5, 6, 9	12 15 16	RMPE-9003
LCD Protective plate	74	20	RMBC-9002
Non Slip mat	1	1	RMPE-9004
Inner hexagon screw M6x20, Nut M6	77	23	RMPE-9005

4.3 MPC_M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MPC	No. in Drawing	KERN Art.Nr.
Key panel	24	RMPC-4001
Battery cover	36	RMCC-8001
MBC-A04		MBC-A04
Footstand	5	RMPE-8002
Level bubble	6	RMCC-9001
Power socket	37	RMCC-5001
Scale pan	3	RMPE-6001
Battery group	35	MBC-A03
Set Anglepad left/right Retangle rubber pad 2/2/4 pcs.	21 23 10	RMPC-9001
Non Slip mat	1	RMPE-9004
Inner hexagon screw M6x20, Nut M6	77	RMPE-9005