User's Guide
DynaPower7

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This manual may be revised without prior notice for product improvement. Images in this manual may differ from the actual product.

1. About User Manual

2. Safety signs

3. Appearance and Specifications

4. How to use

5. Maintenance

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1. About User Manual

1) General

- This document contains information protected by copyright.
- This instruction manual is provided to users with the Surgical Battery Power Tools(DynaPower7) of DynaMedic.
- This user's manual describes precautions and possible dangers that users may be aware of and pay attention to while using the DynaPower7.
- If you have any questions about our products or need more information, please refer to our contact information or contact our customer service.
- The manufacturer shall not be liable for any consequential problems, loss or damage resulting from the use of performance specifications or other information other than those contained in this instruction manual.

2) Definitions

- A Caution highlights a product reliability issue. It is to point out special procedures of precautions that must be followed to avoid damaging the instruments.
- A Warning highlights a safety-related issue. It is to indicate that the safety of the patient and hospital staff could be involved.
- A Note supplements and clarifies procedural information.

3) Revision history

- The contents of this document are subject to change without notice.
- Document numbers and revision numbers appearing in this document refer to the current version.
- The version number changes when there is a significant change in the document number or technical content of the document.
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4) Safety signs

- Safety sign symbols appear on the exterior, on the product packaging, and in this instruction manual.
- The symbol alerts the user to important cautions, warnings, and prohibitions. Please read the symbols shown below carefully.
- This information should be put to good use for use and storage.

2. Safety sign

1) General precautions

 Caution

① Do not expose the device to direct sunlight, heat, water, high humidity, or mechanical shock.

② Do not repair or disassemble the product if it does not operate normally. Contact the manufacturer to take any necessary action.

③ Arbitrary disassembly of the device and replacement of internal parts are not permitted. All information on repair and replacement of equipment is provided to our after-sales team and must be performed by personnel designated by us.

④ The device may be damaged if the product is modified/disassembled/repaired by persons other than qualified technicians. In addition, if unauthorized persons modify/disassemble/repair arbitrarily, the product cannot be guaranteed.

⑤ Electromagnetic waves generated by this product and other equipment may cause other devices to malfunction, so using this product near other devices or stacking them together with other devices may cause operation problems. In such use, observe this product and other devices to ensure proper operation.

⑥ Do not use this product close to other devices as it may cause malfunctions due to impact.

⑦ Do not use this product near fire or near equipment that emits RF energy, such as electric cautery or electro surgery.

⑧ Use of accessories other than those specified or provided by the manufacturer of this product may increase electromagnetic radiation or decrease the electromagnetic immunity of this product, resulting in operational problems.

⑨ Do not place the product near magnetic fields or equipment that generates strong magnetic fields as it may be affected by magnetic fields.

⑩ Do not drop or step on the product. It may cause malfunction.

2) General warning

 Warning

① This product should only be used by the intended person (physician) after special training (user setting) has been completed.

② Anyone using this product must read the instruction manual.

③ Do not use in environments or locations without the intended operator and sufficient knowledge. Also, please do not use it for any purpose other than the intended use of the product. Misuse may result in user (or patient) damage.

④ Check that the power is supplied to the product normally and check that it operates normally before use.

⑤ If any abnormality is found in the device, stop operation immediately and consult the manufacturer.

⑥ When cleaning and transporting the device, follow the cleaning and transport methods described in the manual.

⑦ To avoid the risk of electric shock, this device should only be connected to a power supply with a protective earth ground.

⑧ If this equipment is not used in a location with the specified type of shielding, it may cause poor performance, interference with other equipment, or interference to radio services.

⑨ In order to prevent electromagnetic interference while using the product, it must be used at a considerable distance from generators, X-ray equipment, broadcasting equipment, moving wires and other electromagnetic radiation devices.

3. Appearance and Specifications

1) Intended purpose, Indication for use, and clinical benefit
is a battery-powered device for transmitting a rotational force to cut bone or make a hole on the bone during orthopedic, plastic, and neurosurgery procedures.

Clinical benefit

DMP-7000M

- Highly efficient surgery time due to rotation speeds up to 1,200 RPM which gives enough power to drill, ream, and wire on the bone during orthopedic, plastic, and neurosurgery procedures and less potential infection to the patients.
- Use the trigger of the device for one minute continuously and cordlessly which provides more accurate output on the specific position.

DMP-7000S

- Highly efficient surgery time due to rotation speeds up to 15,000 CPM which gives enough power to cut the bone during orthopedic, plastic, and neurosurgery procedures and less potential infection to the patients.
- Use the trigger of the device for 20 seconds continuously and cordlessly which provides more accurate output on the specific position.

2) Standard

(1) DMP-7000M

• Medical device class(MFDS)	Powered ME Equipment (Power supply)
• Mounting	battery installed
• Package	1 set
• Warranty	1 year
• Rating	11.1 Vdc, 3,000/6,000 mAh
• Protection type and degree of protection against electric shock	Internally powered device type B mounting part
• Size	38(W) X 137.5(D) X 165.9(H) mm
• Weight	875 g
• Classification of installation and use	Portable equipment
• Speed	Drill Attachment : 1,200 RPM (±15%) - Product name : DMP-700DH, DMP-700DJ, DMP-700DA Reamer Attachment : 1,200RPM (±15%) - Product name : DMP-700RH Wire Attachment : 1,200 RPM (±15%) - Product name : DMP-700W1, DMP-700W2
• Direction	Check with LED lights - FOR : CW - REV : CCW - If the operation button is released during operation, the machine stops immediately
• Safety device	It stops working when you release the trigger on the main unit. It does not work when the trigger on the main body is rotated counterclockwise
• Duty Cycle	Discontinuous mode : 1 minutes on, 4 minutes off, 5 times Rest between cycles : 3 hours

(2) DMP-7000S

• Medical device class(MFDS)	Powered ME Equipment (Power supply)
• Mounting	Battery installed
• Package	1 set
• Warranty	1 year
• Rating	11.1 Vdc, 3,000/6,000 mAh
• Protection type and degree of protection against electric shock	Internally powered device type B mounting part
• Size	38(W) X 177.65(D) X 170.7(H) mm
• Weight	1,070 g
• Classification of installation and use	Portable equipment
• Speed	15,000 CPM (±15%)
• Safety device	It stops working when you release the trigger on the main unit. It does not work when the trigger on the main body is rotated counterclockwise
• Duty Cycle	Discontinuous mode : 1 minutes on, 4 minutes off, 5 times Rest between cycles : 3 hours

3) Option Specifications

Battery (DMP-BP100): Li-ion 11.1 Vdc, 6000 mAh
Battery Charger (DMP-BC100)

Rating(In)	Voltage	AC 220~240 V
	Frequency	50/60 Hz
	Power	60 W
Rating(Out)	Voltage	12.6 V
	Electric current	2.0 A
Size		300 X 200 X 71 (mm)
Weight		1.2 kg
Parameter form of protection against electric leakage		Class 1 device
Mode action		Continuous operation

4) Application of safety standards

The standard for General requirement of Medical electrical equipment. IEC60601-1:2012 : Medical electrical equipment - Part 1 : General requirements for basic safety and essential performance
The standard for General requirement of Medical electrical equipment. IEC60601-1-6:2013 : Medical electrical equipment - Part 1-6 : General requirements for safety Collateral Standard : Usability
The standard for Collateral Safety requirement(EMC) of Medical electrical equipment. IEC60601-1-2:2014 : Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral Standard: Electromagnetic disturbances - Requirements and tests

5) Product Features

(1) DMP-7000M

No.	Name	Explanation
1	Attachment connector	It is a part that is used to connect various attachments and Jacobs chucks.
2	Trigger	Operation mode : Trigger 12 o'clock Safety mode : Trigger 3 o'clock The speed changes according to the depth of pressing.
3	Change direction button.	Each time the button is pressed, the rotation direction is changed.
4	LED light	LED is On to indicate the current motor CW/CCW direction.
5	Handle	This is the handle to hold when using the handpiece.
6	Power connector	This is the part used to connect the battery housing.

(2) DMP-7000S

No.	Name	Explanation
1	Locking knob	Turn right to open, and turn left to lock.
2	Blade connector	This is the part where the new medical blade is installed.
3	Trigger	Operation mode : Trigger 12 o'clock Safety mode : Trigger 3 o'clock The speed changes according to the depth of pressing.
4	Handle	A handle to hold when using the handpiece.
5	Power connector	This is the part used to connect the battery housing and battery pack.

6) Components

Components(common) explanation

No	Product name	Name	Appearance	Explanation
1	DMP-BH100 DMP-BH050	Battery Housing 6 cell 3 cell		• A case use to attach the battery to the handpiece • (excluding batteries)
2	DMP-BP100 DMP-BP050	Battery pack 6 cell 3 cell		• A battery that powers the handpiece • Non-sterile and not autoclavable
3	DMP-BS100	Battery Shield 6cell		• When installing non-sterile batteries in a sterile battery case, avoid contamination.
4	DMP-BC100	Battery Charger 2way		• Use to charge the battery pack.
5	DMP-7000T	Case		• A place to store products • Produced by stainless steel material

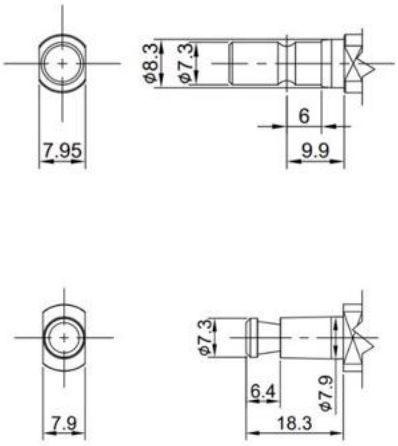
No	Product name	Name	Appearance	Explanation
1	DMP-700DH	Drill attachment (Hudson)		• Operating Speed 1,200 rpm
2	DMP-700DHJ	Chuck (Hudson to Jacobs)		• If you need to use a drill or reamer, connect it to a reusable handpiece.
3	DMP-700DJ	Drill attachment (Jacobs)		• Operating Speed 1,200 rpm
4	DMP-700DA	Drill attachment (AO)		• Use by connecting to a handpiece when using a medical perforator, etc.
5	DMP-700RH	Reamer attachment		• Operating Speed 250 rpm
6	DMP-700JK	Jacobs Key		• Jacobs chuck (DMP-700DHJ, DMP-700DJ) • Use for locking and unlocking.
7	DMP-700W1	Wire attachment (D0.7~1.6)		• When using a medical wire pin for the purpose, it is used by connecting it to the handpiece. • Operating Speed 1,200 rpm • 0.7 mm ~ 1.6 mm

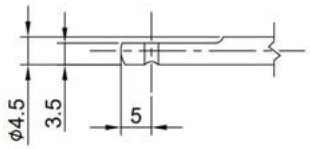
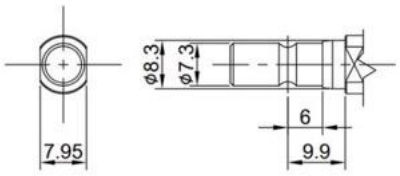
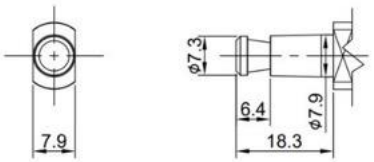
8	DMP-700W2	Wire attachment (D1.7~3.2)		• When using a medical wire pin for the purpose, it is used by connecting it to the handpiece. • With blue bands • Operating Speed 1,200 rpm • 1.7 mm ~ 3.2 mm

Components(optional) explanation – Only use DMP-7000M

Communication with other devices:

Attachments can be connected with Surgical instrument tips such as Surgical drills, and Surgical reamer.

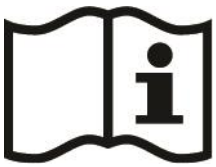
No	Product name	Name	Allowed Shank
1	DMP-700DH	Drill attachment	 or DMP-7000DHJ
2	DMP-700DHJ	Drill attachment	D0.8 - 8 mm Cylindrical Drill Bit
3	DMP-700DJ	Drill attachment	D0.8 - 8 mm Cylindrical Drill Bit

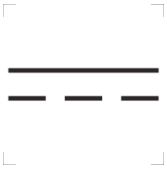
4	DMP-700DA	Drill attachment	
5	DMP-700RH	Reamer attachment	  or DMP-7000DHJ
6	DMP-700W1	Wire attachment	D0.7 - 1.6 mm Kirschner Wire
7	DMP-700W2	Wire attachment	D1.7 - 3.2 mm Steinmann Pin

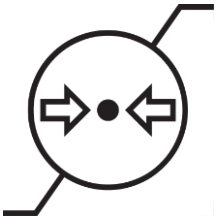
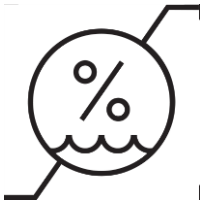
DMP-7000S can be connected with DynaMedic blade only.

No	Product name	Name	Allowed Shank
1	DMP-7000S	Saw Handpiece	 DBD111 ~ DBD335

7) Symbol

	**Caution**
	**Caution, risk of electric shock**
	**Temperature limitation**
	**Non Sterile**
	**Consult instructions for use before operating the device**
	**Dispose of this product according to local regulations**
	**Medical device**
	**Unique Device Identification**

REF	**Catalogue number**
LOT	**Batch code**
SN	**Serial Number**
	**B Type applied part**
	**Direct current**
	**Date of manufacture**
	**Manufacturer**
EC REP	**Authorized Representative in the European Community**

	**Atmosphere pressure limitation**
	**Humidity limitation**

4. How to use

1) Intended patient population

• Ages	N/A
• Weight	N/A
• Health	N/A
• Nationality	None
• Patient condition	Patients requiring hemiarthroplasty or total arthroplasty of joints such as knees, hips, and shoulders
• Application area	Bones and ligaments in joints such as knees, hips, and shoulders
• Contraindication	There is no known contraindication

2) Intended user

- It shall be used by professional surgeons or physicians

3) Preparation before use

- Please read the instruction manual thoroughly before use.
- Check the items below before use.
  - Check the appearance of the product for damage such as deformation or scratches
  - No abnormality in the working part and the connecting part
  - Check the battery charge
  - Check the handpiece, attachments, battery housing and battery shield for foreign matter.
- Users must sterilize sterilized products before use. (Excluding battery pack)
- Connect the attachment and battery only after you have made sure that the trigger is in the safety position.
- Battery chargers require special care according to information regarding potential electromagnetic or other interference.
- Do not place the device in a place where it is difficult to disconnect the battery charger plug.
- We do not provide surgical instruments separately.

4) Installing the battery pack

① Check the charge level of the battery pack before installation.

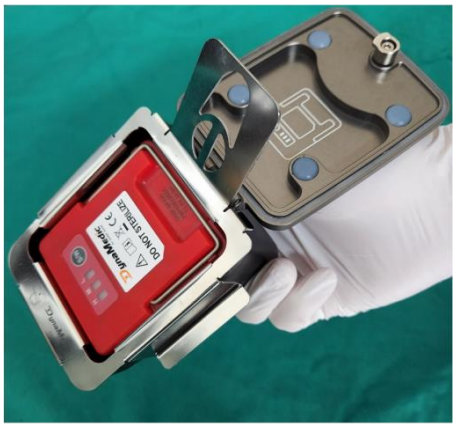
② Put the battery shield (DMP-BS100) on top of the battery housing (DMP-BH100). The direction of the shield corresponds to the laser marked figure on shield.

③ After aligning the direction of the battery pack as shown in the picture inside the battery housing cover, insert it into the battery housing. And take off the shield.

④ After closing the battery housing cover, check that it is firmly fixed to the handpiece.

⑤ After installation, check if the FOR direction LED on the back of the handpiece is on. (only DMP-7000M model.)

⑥ After changing to the FOR/REV mode position with the direction change button, press the trigger to check the handpiece operation status.(only DMP-7000M model.)



- ⚠ Caution
  - Remove the battery from the handpiece and charge it after each operation.

- Do not leave the batteries in the handpieces. If you leave it, battery life will start to shorten.

- Warning
  - Always put the battery pack in the safe mode position before installing it.
  - Use only battery packs with 3 LED lit when the button on the battery pack is pressed.
  - If the non-sterile battery contacts the outside of the handpiece, clean and resterilize the handpiece before being used.

- Charging the battery pack

① After confirming that the switch on the back of this product is set to OFF, connect the AC power using the included cable.

② Set the switch on the back of this unit to ON and dock the battery pack according to the orientation of the picture on the top.

③ The LED lights up when charging and turns off when charging is complete.

④ Press the button on the battery pack to check if it is charged.

- Removing the battery housing

① Hold the handpiece handle with one hand and pull the battery housing forward while pressing the lever behind the battery housing to separate the battery housing.

- Warning
  - Always return the trigger to the safe mode position before removing the battery housing and battery pack.

5) DMP-7000M

- Mounting the attachment

① After turning the handpiece attachment connector counterclockwise, insert the attachment and release the turned to complete the attachment installation.

② Please use it by properly attaching the attachment according to your needs.

- ⚠ Warning

- Always return the trigger to the safe mode position before mounting attachments.
- Before operating the handpiece, always put the trigger in safe mode and pull the attachment to make sure it is securely attached to the handpiece.
- Never touch rotating components while the handpiece is operating.
- Do not apply excessive shock to the attachment.

- Operating the handpiece

① Select the direction with the direction change button, check the LED, and press the trigger slowly to operate it.

② The deeper you press the trigger, the faster it speeds up, and it stops working when you release it.

- ⚠ Warning
  - Do not use the turn button while the handpiece is operating.
  - Never touch rotating components while the handpiece is operating.
  - Do not apply excessive shock to the handpiece. Excessive impact may cause the attachment to bend or break, resulting in tissue damage, loss of tactile control, and fragmentation.

- ⚠ Caution
  - Always follow the recommended cycle to avoid overheating the instrument.
  - Do not stop the handpiece suddenly. It may cause damage to the electric motor and battery pack.
  - If the handpiece is jammed and does not move, release the trigger immediately, clear the obstruction, and operate the handpiece again.
  - If a battery depletion occurs while using the handpiece, replace it with a fully charged battery pack.

- Detaching the attachment

① After turning the handpiece attachment connector counterclockwise, insert the attachment and release the turned to complete the attachment installation.

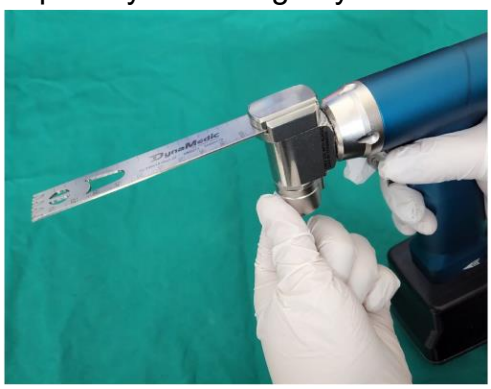
- ⚠ Warning
  - Always return the trigger to the safe mode position before removing the attachment.

6) DMP-7000S

- Mounting the blade

① After turning the locking knob to the right, attach the blade to the connector and turn the lobe to the left to fix it.

② Use the blades fitted appropriately according to your needs.



- Warning
  - Always return the trigger to the safe mode position before installing the blade.
  - Before operating the handpiece, always put the trigger in safe mode and pull the blade to make sure it is securely attached to the handpiece.
  - Never touch rotating components while the handpiece is operating.
  - Do not apply excessive shock to the blade and handpiece.

- Operating the handpiece

① Press the trigger slowly to activate it.

② The deeper you press the trigger, the faster it speeds up, and it stops working when you release it.

- Warning
  - Never touch the rotating blades and connectors while the handpiece is operating.
  - Always follow the recommended cycle to avoid overheating the instrument.
  - Do not apply excessive shock to the handpiece. Excessive impact can cause the blade to bend or break, resulting in tissue damage, loss of tactile control, and debris ejection.

- Caution
  - It is recommended to use a new blade for every operation.
  - Pull the trigger to run the handpiece after properly placing the blade in the cutting guide. If you pull the trigger before placing the blade, the blade

will be damaged because of rubbing.
- To ensure optimal performance, only use DynaMedic saw blades. Otherwise, other saw blades may harm your handpiece.
- While operating, be sure that the saw blade is at the parallel position with the cutting guide.
- Do not stop the handpiece suddenly. It may cause damage to the electric motor and battery pack.
- If the handpiece is jammed and does not move, release the trigger immediately, clear the obstruction, and operate the handpiece again.
- If a battery depletion occurs while using the handpiece, replace it with a fully charged battery pack.

- Removing the blade

① After turning the locking knob to the right, remove the blade and turn the locking knob to the left.

-  Warning

  Always return the trigger to the safe mode position before removing the blade.

7) Transportation, operation and storage environmental conditions

Condition	Transportation	Operation	Storage
Temperature (℃)	-20 ~ 45	10 ~ 38	-20 ~ 45
Humidity (%)	10 ~ 90	20 ~ 75	10 ~ 90
Atmospheric pressure (hpa)	700 ~ 1,060	700 ~ 1,060	700 ~ 1,060

-  Caution

- Notes on transport
- Take special care not to injure yourself from dangerous elements such as sharp edges during transportation.
- Notes on cleaning
- Remove all removable components from the handpiece.
- Do not wet or immerse the device in liquids.
- Do not allow moisture or liquids to penetrate.
- Use only alcohol specifically to clean the device.

8) Cleaning

- Before cleaning, remove all instruments and attachments from the handpiece.
- Remove the battery from the handpiece.
- Rinse the device under running cold tap water.
- Scrub debris from the handpiece using a sponge.
- Manipulate all moving parts of the handpiece such as to ensure all debris is removed.
- Visually inspect the handpiece for any remaining debris. If any debris is present, repeat the cleaning and rinsing procedure.
- After cleaning, Gently shake the handpiece free of water.
- Dry the handpiece with a clean lint-free soft cloth.

●  Caution

- Do not use pointed objects for cleaning.
- Hold the handpiece upright to prevent water from running into the battery receptacle.
- Never immerse the handpieces and the batteries in aqueous solutions or in an ultrasonic bath.
- Do not use pressurized water during washing process.
- Do not utilize cleaning agents with chlorine or chloride.

9) Sterilization

●  Caution

This product is supplied in a non-sterile state, so be sure to sterilize it before use.
Sterilization target products: handpiece, attachment, battery housing, battery shield, sterilization case
Be sure to remove all components from the handpiece before sterilization.
Be sure to use a sterilization indicator to check the status of sterilization. The indicator is not provided separately by us.

Sterilization method: high pressure steam sterilization

- Sterilization conditions

Sterilization type	Minimum temperature(℃)	Maximum temperature(℃)	Minimum exposure time	Minimum drying time

Steam-vacuum	132	135	4 minute	8 minute

Sterilization method: EO gas sterilization EO (20 %) + CO_2 (80 %)

- Sterilization conditions

Sterilization pressure	Sterilization temperature(℃)	Sterilization time	Cleaning (Aeration) time
1 kgf/cm^2	56	3 Hour	10 Hour

10) Disposal

At the end of the useful life of this product, please comply with the regulations regarding environmental protection and the risks associated with recycling or disposal of the device.
Always decontaminate battery packs that have been exposed to infectious materials before sending them to a waste disposal facility.

5. Maintenance

1) Maintenance

If the operation of the device is suspected or does not operate normally during use, please contact the head office to take action.
All information regarding the repair and replacement of this product is provided by us and must be performed by personnel designated by us.

*If there was any serious incident that has occurred in relation to the device, the user/patient should report to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.

6. Appendix

1) Product Warranty

This product is manufactured by DynaMedic Co., Ltd. and repair or exchange of the product will be compensated in accordance with the ‘Consumer Dispute

Resolution Standards' announced by the Fair Trade Commission.
This product is warranted to have been designed, developed and manufactured by DynaMedic Co., Ltd. and properly maintained.
The warranty period of this product is 1 year, and only the battery pack is warranted for 3 months.

2) EMC Declaration

With regards to the EMC (electromagnetic compatibility) 4th Edition, medical electrical devices such - as the DynaPower7(DMP-7000M, DMP-7000S) are subject to special safety measures and must be installed and commissioned in accordance with the EMC instructions in the operating instructions or accompanying documents.

Portable and mobile HF communications equipment (e.g mobile telephones, cell phones) can impact medical electrical devices.

Guidelines and manufacturer declaration - electromagnetic emitted interference		
The DynaPower7(DMP-7000M, DMP-7000S) device is intended for operation in an electromagnetic environment as indicated below. The customer or user should ensure that it is operated in such an environment.		
Emitted interference	Compliance	Electromagnetic environment - guideline
HF emissions in accordance with CISPR 11	Group 1	The device uses HF energy solely for its internal function. Therefore, its HF emissions are very low and it is improbable that it will interfere with neighboring electronic devices.
HF emissions in accordance with CISPR 11	Class A	The device is suitable for use in all facilities, including residential spaces and areas directly connected to the public power supply grid which also supplies buildings used for residential purposes.
Harmonic emissions in accordance with IEC 61000-3-2	-	
Voltage fluctuations / flicker emissions in accordance with IEC 61000-3-3	-	

The device must not be used directly next to or stacked on/under other devices.
If operation near or stacked on/under other devices is necessary, the device should be observed to check for proper operation in this setup.

Guidelines and manufacturer declaration - electromagnetic interference resistance
The DynaPower7(DMP-7000M, DMP-7000S) device is intended for operation in an electromagnetic environment as indicated below. The customer or user should ensure that it is operated in such an environment.

Interference resistance tests	IEC 60601- Test level	Compliance level	Electromagnetic environment - guidelines
Static electricity discharge (ESD) in accordance with IEC 61000-4-2	± 8 kV contact discharge ± 15 kV air discharge	± 8 kV contact discharge ± 15 kV air discharge	Floors should be made of wood or concrete or covered in ceramic tiles. If the floor is made of synthetic material, the relative humidity must be at least 30%.
Radiated RF electromagnetic field IMMUNITY IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m 80 MHz to 2.5 GHz	Portable and mobile radio devices, including the cables, should not be used at distances to the DynaPower7 less than the recommended safety distance which is calculated based on the applicable equation for the transmission frequency.
Electrical fast transient/burst IMMUNITY – a.c. mains IEC 61000-4-4	N/A		
Electrical fast transient/burst IMMUNITY – I/O SIP/SOP PORTS IEC 61000-4-4	N/A		
Surge IMMUNITY IEC 61000-4-5	N/A		
IMMUNITY to conducted DISTURBANCES induced by RF fields (conducted RF DISTURBANCE IMMUNITY) – a.c. mains IEC 61000-4-6	N/A		
IMMUNITY to conducted DISTURBANCES induced by RF fields (conducted DISTURBANCE IMMUNITY) – SIP/SOP PORTS IEC 61000-4-6	N/A		
Magnetic field at the supply frequency (50/60 Hz) in accordance with IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Voltage dips, short interruptions and voltage variations IMMUNITY IEC 61000-4-11	N/A
Voltage dips IEC 61000-4-11	
Remark: U_T is the mains AC voltage prior to applying the test level.	

- Enclosure Port Immunity Test Specification for RF Wireless Communication Equipment

Test frequency (MHz)	Band [a] (MHz)	Service [a]	Modulation [b]	Maximum power (W)	Distance (m)	IMMUNITY TEST LEVEL (V/m)
385	380 –390	TETRA 400	Pulse modulation [b] 18 Hz	1,8	0,3	27
450	430 – 470	GMRS 460, FRS 460	FM [c] ± 5 kHz deviation 1 kHz sine	2	0,3	28
710	704 – 787	LTE Band 13, 17	Pulse modulation [b] 217 Hz	0,2	0,3	9
745						
780						
810	800 – 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation [b] 18 Hz	2	0,3	28
870						
930						
1 720	1 700 – 1 990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation [b] 217 Hz	2	0,3	28
1 845						
1 970						
2 450	2 400 – 2 570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation [b] 217 Hz	2	0,3	28
5 240	5 100 – 5 800	WLAN 802.11 a/n	Pulse modulation [b] 217 Hz	0,2	0,3	9
5 500						
5 785						

NOTE If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.

[a] For some services, only the uplink frequencies are included.

[b] The carrier shall be modulated using a 50 % duty cycle square wave signal.

[c] As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.

3) Manufacturer information

Tel (Service) : +82-43-904-7531
Manufacturer : Dynamedic Co., Ltd.
(#506, #406, KUBIT, 125, Osongsaengmyeong 2-ro, Osong-eup, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do)
Made in KOREA