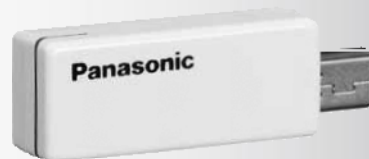


Operation Manual Wireless LAN Dongle Part No. DV0PM20105



- Thank you very much for purchasing the Panasonic product.
- Carefully read this operation manual prior to use the product correctly.
- Always read "Cautions for Safety" prior to use.
- Store this operation manual carefully.
- This equipment is used only for the industrial purpose. You cannot use in ordinary homes.

Read operation manual for setup support software downloaded from our website prior to use.

【Panasonic Corporation Motor Business Unit Website】
<https://industrial.panasonic.com/ww/products/motors-compressors/fa-motors>

Hand over this operation manual to the end-user.

- Caution**
- (1) Republication of any part or all of this document without permission is prohibited.
 - (2) Contents of this document are subject to change without notice.

■ 登记卡 (为了今后咨询、修理时的需要, 请填写登记卡)

购买年月日		型号	DV0PM20105
销售商店名			
	电话 ()	-	

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Cautions for safety Be sure to comply with.

The following section explains the items that you shall comply with to prevent dangers to humans and damage to properties.

- This section explains the level of dangers and damages by the classification, which may occur when the wrong usage is carried out.



DANGER

The content that
“it may result in death
or serious injury.”



WARNING

The content that
“it may lead to death
or serious injury.”

- Following pictographic symbol explains the content that you shall comply with.



The content that you shall not perform.



The content that you must execute.

DANGER

	Do not use the product in the place where water may splash over, in the corrosive atmosphere or flammable gas atmosphere or near the combustible objects.	Otherwise, it may cause fire, electric shock, malfunction or breakage.
	Do not install the product near the heating element such as a heater or a large fixed wire-wound resistor.	Otherwise, it may cause fire or malfunction.
	Install the product in the place with few dust and water or oil is not splashed over.	If the installation place is not correct, it may cause electric shock, fire, malfunction or breakage.
	Always check the safety after the occurrence of earthquakes.	Otherwise, it may cause electric shock, injury or fire.
	Ensure to install and set the equipment so that fire, accident causing injury or death does not occur in earthquakes.	Otherwise, it may cause electric shock, injury or fire.

WARNING

	Do not use the product in an airplane.	Otherwise, it may cause problems to the safety of aircraft operation.
	Do not use the product in a hospital or a place where an electro-medical apparatus is placed.	The electric wave from the product may have an effect on the electro-medical apparatus and cause accident due to the abnormal operation.
	Do not use the product when there is a person nearby who has a cardiac pacemaker.	Otherwise, the electric wave may adversely affect the operation of pacemaker.
	Do not use near the automatic control equipment such as an automatic door or a fire alarm box.	The electric wave from the product may have an effect on the automatic control equipment and cause accident due to the abnormal operation.

Cautions for safety

Be sure to comply with.

	Do not approach the equipment because the equipment may operate suddenly or the movement may change rapidly by changing the setting.	Otherwise, it may cause injuries.
	The person who has a cardiac pacemaker shall keep the distance 22 cm or more off the product.	Otherwise, the electric wave may adversely affect the operation of pace-maker.
To discard this product, process as the industrial waste.		

Requests to use Wireless LAN Dongle

◆ Frequency band for use

The product uses the frequency band of 2.4 GHz band, and also other wireless equipment may use the same frequency. To prevent the radio wave interference with other wireless equipment, please use paying attention to the following terms.

Cautions to use Wireless LAN equipment

In the frequency band for use of this equipment, the in-plant radio stations for the mobile identification which is used on the manufacturing lines in factories (Radio station that needs the license), specified low power radio stations (Radio station that needs no license) and amateur radio stations (Radio station that needs the license) are operated in addition to the industrial/scientific/medical equipment like microwave ovens.

1. Check that the in-plant radio stations for the mobile identification, specified low power radio stations and amateur radio stations are not operated in the vicinity prior to use this equipment.
2. If the case of harmful radio wave interference occurred from this equipment to the in-plant radio stations for the mobile identification, immediately change the location or stop the use of electric wave and then contact to our company (Page E30) to have a talk about the action to the interference avoidance (e.g. the installation of partitions).
3. If you have any problem, for example; when the case of harmful radio wave interference occurred from this equipment to the in-plant radio stations for the mobile identification or the amateur radio stations, please contact to our company (Page E30).

Requests to use Wireless LAN Dongle (continued)

◇ Equipment qualification

The product needs no license of radio stations because it has been approved for the certification of conformance to technical standards in accordance with the Radio Act. However, it is prohibited to implement the following acts to the product by the Radio Act.

- To disassemble or remodel,
- To erase the nameplate attached to the side of product.

◇ Usage restrictions

Please note that there are following restrictions to use the product.

When those restrictions are not complied, we deny any liability for the incidental loss and damage raised by the use of the product or the unusable product.

- Use the product as the wireless LAN equipment.
- The product can be used only in the operational countries listed on our website.
- The product is designed to be able to operate in the country where the legal regulation standard is different. Set the country code corresponding to the country to use the product because the specified country code has been set at manufacturing. Please set the code with great care because it will be the violation of law if you set the wrong country code.
- **Do not connect to the wireless network which you have no authority of utilization.**
During automatic search in the wireless network circumstances, a wireless network (SSID*) which you have no authority of utilization may be indicated. It may be deemed as an illegal access.

- **Do not use the product where magnetic field/static electrical charge/radio disturbance occurs.**

When you use the product near the following equipment, the communication may break up or the speed may be slow.

- Microwave oven
- Digital cordless telephone set
- Near the equipment that uses the electric wave of 2.4 GHz band.

Example; Equipment supporting Bluetooth, wireless audio apparatus or game machine.

Select the wireless broad band router (Access point) of 802.11 n (2.4 GHz). Use the encryption scheme of “AES.”

- **Transmitting and receiving data by electric wave may be intercepted.**
- **To reduce the security risk of the interception of communications or illegal access, set the password for the access point and PIN code to set for the driver so as to be complicated containing the alphanumeric characters.**
- **You are required to set the country code.**
Please set with great care because it will be the violation of law if you set the wrong country code.

* It means the name to identify the specified network by wireless LAN. When this SSID is matched by mutual equipment, the communication is enabled.

Requests to use Wireless LAN Dongle (continued)

Application

The product is the dedicated device to our servo driver.

(You cannot use it by connecting to PC.)

- **For the servo driver you can connect with the product, terminals that can be connected by wireless, setup of the product and using method, check on our website;**

<https://industrial.panasonic.com/ww/products/motors-compressors/fa-motors>

When there is a person nearby who uses a pacemaker or you cannot use the wireless LAN, please use the communication cable (Use USB mini-B connector for the driver, and select a proper connector according to specification of the terminal.).

Listed contents on the website

- List of servo drivers possible to connect
- List of functions available in the wireless communications
- Operating procedure manual of the setup support software
- Countries where you can use the product.
- Supported wireless authentication standards
- Specifications of the recommended terminals
- Specifications of the recommended access points

1. Introduction

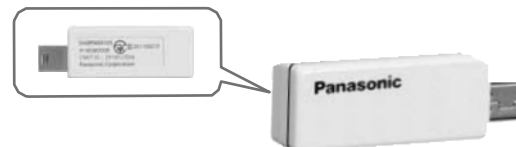
When you unpacked

- Is the product type correct by your order?
- Is there any broken part during transportation?

If you found any defective portion, please contact the retailer that you purchased the product.

Type confirmation

Nameplate is attached to the side of product.



Part No. _____
Serial Number _____
Example: P 1604 0001

DV0PM2010S
P16040001
CMIIT ID : 2016DJ2804
Panasonic Corporation

Sequential number
Manufacturing month
Manufacturing year (Last two digits of the Christian year)

1. Introduction (continued)

Name of parts

Wireless LAN Dongle



The lamp shows the state of product when it is connected to the servo driver.

- **Lights on:**

The state when the power is supplied to the product but it is not communicating with the application. (Standby state)

- **Low speed blinking (Light off 1 sec. Light on 1 sec.):**

The state when communicating with the application. (Communicating state)

- **High speed blinking (Light off 0.1 sec. Light on 0.1 sec.):**

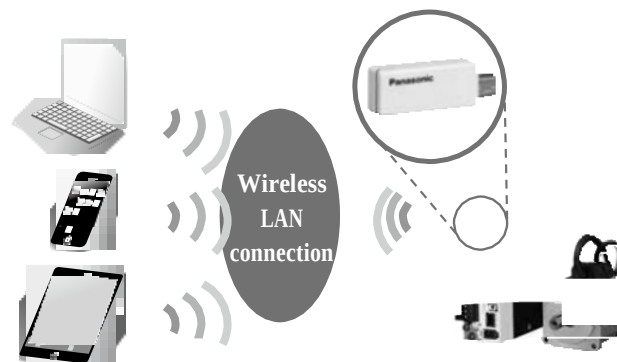
The state when the product failed to initialize and cannot communicate. (Error state)

- **Lights off:**

The state when the power is not supplied to the product. (Non-energized state)

Outline

This product is the wireless LAN dongle which enables the wireless connection between the servo driver and your terminals (PC, smartphones, tablet type terminals) by connecting to the servo driver. When you use the Windows OS applicable setup support software "PANATERM" or the iPhone terminals and Android terminals applicable setup support software "Panasonic Motor Setup App," it is required to connect your PC and servo driver with cables, but the wireless system will be possible by using this product.



By using this product and setup support software, primarily the following items will be realized in wireless communication.

- Edition of parameters for the servo driver
- Monitoring the operation and inner conditions
- Monitoring and clearing the alarm

1. Introduction (continued)

However, you cannot use the product in the wireless communication for the function to drive the motor, such as commissioning or frequency characteristics measurement.

Since the function which is available varies depending on the using application, refer to the instruction manual of each setup support software listed on the website for details.

The product cannot be connected to the Internet.

- iPhone is the trademark of Apple Inc. registered in the United States and other countries. The trademark of iPhone is used based on the license of Aiphone Co., Ltd.
- Android is the trademark or the registered trademark of Google Inc.
- Windows is the registered trademark or the trademark of Microsoft Corporation in the United States and other countries.
- You can download “PANATERM” applicable to Windows OS from our website.
- You can download “Panasonic Motor Setup App” applicable to iPhone terminals from App Store.
- For “Panasonic Motor Setup App” applicable to Android terminals, the smartphone version and tablet version are available. You can download either one from Google Play.

2. Connection mode

You can use the STA mode (Station mode) with the product.

• STA mode (Station mode)

This is the mode that this product operates as a station (Wireless LAN adapter) and communicates with the terminal via the equipment that operates as an access point (Wireless LAN access point). When you connect in this mode, please separately prepare the equipment which operates as an access point. In addition, change the network setting of the terminal and internal parameters in the driver so as to connect with the prepared access point.

In this mode, all the products in the same local area network can be selected from the terminal.



2. Connection mode (continued)

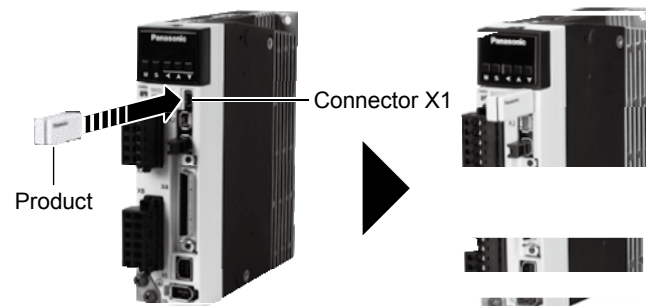
The access point to be prepared shall satisfy all the following specifications. If the following specifications are not satisfied, change the access point setting or prepare other access point.

- The wireless communication standard supports either IEEE 802.11n, g or b.
- The security protocol supports either WPA or WPA2.
- Use 2.4 GHz band as the frequency range (5 GHz band is prohibited to use).
- Communications between terminals located in the same local area is permitted.

For recommended access points, please check them on our website.

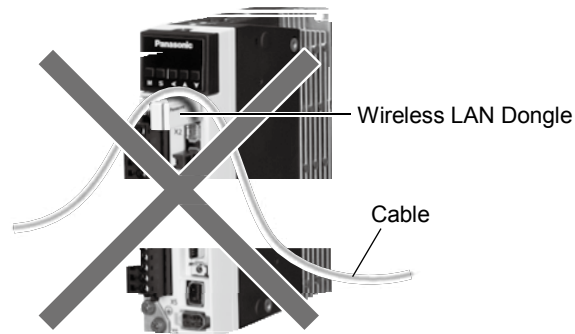
3. Connection

Connect the product to the connector X1 of the servo driver. When servo driver is connected by wireless for the first time, initial setup is necessary. Refer to “4. Setting” for details.



Requests

Do not hook or place other wiring on the main body of product.



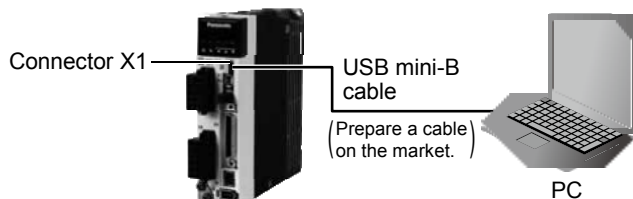
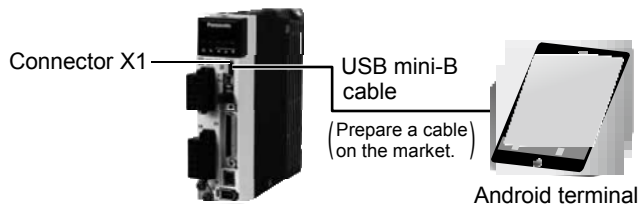
4. Setting

The servo driver has the parameter for setting the wireless LAN communications as the internal parameters. Before starting the wireless communications with the product, it is required to set (Initial setup) the parameters for wireless LAN communications by the use of USB communication. The following section shows the initial setup method. For the initial setup, you need to install the setup support software, and at the same time the terminal (i.e. Windows PC or Android terminal) that can use the USB communication and a USB mini-B cable is required.

1 Initial setup (Wired connection)

1. Connect the servo driver and terminal with the USB mini-B cable.

Use a USB mini-B type in the marketplace as the driver side connector. Select the terminal side connector to match to the specifications of the terminal.



2. Start up the setup support software to start the communications with the driver.
3. Set the following parameters on the “Wireless LAN/Driver Information Setting” screen of the setup support software and then write those parameters in EEPROM of driver.

Item	Description	Remarks
Security	Select either WPA or WPA2. Select to match the setting of the terminal and access point.	Default: WPA
Country code	Select the country to use the product. Please set with great care because it will be the violation of law if you set the wrong country code.	Default: JP
SSID	Match to SSID of the access point to be connected. Settable number of characters: 1 to 32 characters Accepted characters: half-width characters 0 to 9, a to z, A to Z, -, _	Default: Panasonic Servo000

4. Setting (continued)

Item	Description	Remarks
PWD	Match to the password of the access point to be connected. Settable number of characters: 8 to 32 characters ^(*) Accepted characters: half-width characters 0 to 9, a to z, A to Z, -, _, !, @, #, \$, %, ^, *, ,, ., /	Default: Panasonic Servo000
DHCP	When it is set valid, the IP addresses are automatically assigned from the access point. When it is set invalid, you are required to set the IP address manually.	Default: Valid
IP address	Set the IP address to be used when DHCP is invalid.	Set only when DHCP is invalid Default: 192.168.0.1
Subnet mask	Set the subnet mask to be used when DHCP is invalid.	Set only when DHCP is invalid Default: 255.255.255.0
Default gateway	Set the default gateway to be used when DHCP is invalid.	Set only when DHCP is invalid Default: 192.168.0.1

Item	Description	Remarks
PIN code	Set the PIN code which is required when the setup support software is used by wireless connection. At the start of wireless communication, the function cannot be used by wireless communication if the PIN code set here is not input. Also, the function cannot be used by wireless communication if the PIN code has not been set. Settable number of characters: 8 characters ^(*) Accepted characters: half-width characters 0 to 9, a to z, A to Z	Default: Not set up
Driver nickname	Set the driver nickname which is indicated on the setup support software. Settable number of characters: 1 to 8 characters Accepted characters: half-width characters 0 to 9, a to z, A to Z, -, _	Default: NoName Setting is voluntary.

* To ensure the safety on the security, set the password and PIN code for the access point in the long and complicated character string as much as possible.

4. Setting (continued)

4. Turn off the power supply of driver.

The initial setup is now completed.

Next, establish the wireless system between the terminal and driver by using the product.

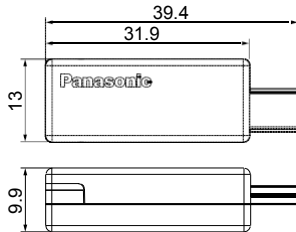


1. Turn on the power supply of access point.
2. Connect the product to the connector X1 of the driver.
3. Turn on the power supply of driver and check that the lamp of the product lights up.
4. Change the network setting of the terminal you want to use and connect to the target access point.
5. Use the terminal to start up the setup support software.
6. When the communication with the product has been succeeded, the nickname, part number and serial number of the corresponding driver will be displayed on the driver select screen.
7. When the driver is selected which is the target to connect, the entry of PIN code will be requested, and so enter the PIN code you set at the initial setup.
8. When the correct PIN code is input, the main screen of the setup support software will open.

Afterward, parameter setting or status monitoring can be carried out by wireless communications by using the setup support software.

For the method to use the setup support software, separately refer to the operating manual of each setup support software.

5. General Specifications

Power supply	DC 5V (Supplied from USB) 500 mA
Power consumption	Max.2500 mW
Outline dimensions	 Unit: mm
Weight	Appr. 4 g
Ambient temperature for use	Temperature for use: 0 °C – 55 °C (Shall be no freeze) Temperature for storage: –20 °C – 65 °C (Shall be no condensation)
Ambient humidity for use	20 % – 85 % RH both for use and storage (Shall be no condensation)
Interface	USB mini-B
Standards	Conformable to IEEE802. 11b/IEEE802. 11g/IEEE802. 11n

5. General Specifications (continued)

Frequency range/Channels (Center frequency)	2.412 GHz – 2.462 GHz 1 – 11 ch
Data transfer speed (Value of standard *1)	IEEE802.11b: Max.11 Mbps IEEE802.11g: Max.54 Mbps IEEE802.11n: Max.72.2 Mbps
Access system	Infrastructure mode
Security	WPA-PSK (TKIP/AES) /WPA2-PSK (TKIP/AES)
Max. transmission distance (Prospect)	Indoors: Appr. 20 m (Varies depending on the installation circumstances)

* 1 This is the theoretical speed and the actual communication speed differs due to the usage circumstances or the connected equipment.

6. When you are in trouble

- Q. I connected the product to the driver and then turned on the power supply but the lamp of the product does not light up (Power is not supplied). Or the lamp immediately lights off.
- A. The servo driver may not support the product. For the supported servo drivers, please check them on our website.
- Q. The lamp of the product blinks at a high speed and the communication is impossible.
- A. The servo driver fails to read the parameters for setting wireless communications. Contact failure with the connector X1 may have occurred, therefore, reinsert the product and then turn on the power supply again. When the syndrome is not improved even if the above action was taken, the servo driver may not be supported in the system. Please check the supported servo drivers on our website.
- Q. The lamp of the product lights up, but the communication is impossible.
- A. Communication setting may be wrong. First of all, check the wireless LAN/driver parameter setting of the servo driver and check whether the SSID/password of the access point and parameter setting of the driver are matched, and whether the security protocol satisfies the setting of access point. Check if the same IP address as other equipment has been set when DHCP is set invalid and the IP address is set manually.

6. When you are in trouble (continued)

However, if the situation is not still improved, check whether the network setting of the terminal is set to connect to the target access point.

Also check that the access point is in accordance with the specifications for access point as described before.

Q. Wireless communication breaks up during communications.

A. The wireless communication circumstances may be in the interference. Check if the situation can be improved by the method to change the communication channel or eliminate the interference of communications after stopping the wireless communication of other equipment.

Electric wave may be blocked off by obstacles. Since the metal has property difficult to transmit the electric wave in particular, the wireless communication may be impossible if the circumstances are covered by metal.

Guarantee

Guarantee period

- The guarantee period of the product shall be one year after your purchase or one year and six months after our manufacturing month.

Guarantee description

- We will replace the product without charge when a failure occurred in the guarantee period in the normal use situation in accordance with this operation manual. However, the following cases shall be charged even if it is in the guarantee period.
 - (1) Failures caused by the wrong usage method and improper repair or remodeling.
 - (2) Failures caused by the fall after the purchase and damages during the transportation.
 - (3) Failures caused because the product is used beyond the scope of specifications.
 - (4) Failures caused by fire, earthquake, lightning strike, wind and flood, brine damage, abnormal voltage or other Acts of God and disasters.
 - (5) Failures caused by the intrusion of water, oil, metal fragments or other foreign matters.
- The scope of the guarantee shall be only for the delivered product unit. The damage induced by the failure of the delivered product shall be out of the scope.

Precautions for use

- Cautions to export the product or the equipment installed with the product.

When the final user or the final application of the product is involved in the military affair or weapons, make sure to take the sufficient probation and required export procedures because the situation may be subject to the export control regulated by the “Foreign Exchange and Foreign Trade Control Law.”

- The product is manufactured only aiming at the use for general industrial products but not designed or manufactured for the purpose to be used with the equipment or the system involving human lives.
- The specialist who has the knowledge shall perform dealing with the product such as the installation, wiring, operation, maintenance and inspection.
- To apply to the facility where the occurrence of serious accident or damage is forecasted due to the failure of the product, make sure to install the safety device.
- If you conduct a study on the use of product in the special circumstances as for the nuclear energy control, aerospace instruments, transport facilities, medical equipment, various safety devices and equipment that demands the cleanness class, please contact us.
- We make our maximum effort to ensure the quality of the product, however, please take it into consideration to establish your fail safe design and ensure the safety in the operable range at the operation place because the product may generate unexpected actions caused by the loading of external noise or static electrical charge exceeding expectation or the possible failure of the input power source, wiring or parts.
- The wireless communications may break out and the function may not be accomplished normally due to the interference in the wireless communication circumstances or

the cause that the far distance between the product and access point or the access point and terminal, communication interception by obstacles such as the metal which blocks electric waves, failure of the terminal or access points. When the communication breaks out, please check the using wireless communication circumstances and the condition of using terminals and access points.

- Since this product uses radio wave and it may generate unexpected actions by the delay until the result is reflected actually on the movement of equipment when the setting change is carried out, please check there are no people around the site when the setting is changed and please take it into consideration to ensure the safety.
- Smoke of a cigarette may be generated depending on the content of failure of the product. Give consideration to it when the product is used in a clean room.
- When the product is used in the environment where the concentration of sulfur or sulfide-based gas (H₂S, SO₂, NO₂, Cl₂ etc) is high, please take the conditions into account because the disconnection of chip resistor or bad contact of contacts by the sulfurization may occur.
- For the matching of structure, dimensions, lifespan, characteristics and laws and regulations with the installing equipment and parts, or the matching when the specification of installing equipment is changed, please make the final decision by the customer.
- We cannot guarantee the use beyond the scope of specifications of the product. Please use the product with great care.
- A part may be partially changed to improve the performance.
- Do not disassemble or remodel the product because it is prohibited by the Radio Act.

Federal Communication Commission Interference Statement

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

- FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

- **Radiation Exposure Statement:**

The product comply with the FCC portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.

Repair.

- Consult to a dealer from whom you have purchased the product for details of repair.

Technical information

- Technical information of this product (Operating Instructions, CAD data, Inquiries) can be downloaded from the following web site.

■ **Convenient note** (Write in for your inquiry or repair.)

- E32 -

[illegible]

English

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