

# HITACHI INVERTER

**REMOTE OPERATOR  
SRW-0J , SRW-0EX**

## INSTRUCTION MANUAL

Thank you for purchasing Remote Operator. This instruction manual is written about how to use Remote Operator. Could you use this manual for inspection, maintenance, setting and use it with the main body of inverter. After reading this manual, keep it at hand for future reference.

**NB615X**

**HITACHI**

# SAFETY

To get best performance with **Remote Operator**, read this manual and all of the warning sign attached to the inverter carefully before installation and operation, and follow the instructions exactly. Keep this manual handy for your quick reference.

## Definitions and Symbols

A safety instruction (message) is given with a hazard alert symbol and a signal word;

**WARNING** or **CAUTION**. Each signal word has the following meaning throughout this manual.



This symbol means hazardous high voltage. It used to call your attention to items or operations that could be dangerous to your and/or other persons operating this equipment.

Read these messages and follow these instructions carefully.



This is the "Safety Alert Symbol. " This symbol is used to call your attention to items or operations that could be dangerous to your and/or other persons operating this equipment. Read the messages and follow these instructions carefully.



**WARNING**

### **WARNING**


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



**CAUTION**

### **CAUTION**

Indicates a potentially hazardous situation which, if not avoided, can result in minor to moderate injury, or serious damage of product.

The matters described under  **CAUTION** may, if not avoided, lead to serious results depending on the situation. Important matters are described in **CAUTION** ( as well as **WARNING** ), so be sure to observe them.

**NOTE**

### **NOTE**

Notes indicate an area or subject of special merit, emphasizing either the product's capabilities or common errors in operation or maintenance.



**HAZARDOUS HIGH VOLTAGE**

Motor control equipment and electronic controllers are connected to hazardous line voltages. When servicing drives and electronic controllers, there might be exposed components with cases or protrusions at or above line potential. Extreme care should be taken to protect against shock.

Stand on an insulating pad and make it a habit to use only one hand when checking components. Always work with another person in case an emergency occurs. Disconnect power before checking controllers or performing maintenance. Be sure equipment is properly grounded. Wear safety glasses whenever working on electronic controllers or rotating electrical equipment.

## Revision History Table

No.	Revision Contents	The Date of Issue	Operation Manual No.
1	Initial Release of Manual NB615X	Apr. 2000	NB615X

 **WARNING**

Never modify the unit.  
Otherwise, there is a danger of electric shock and/or injury.

 **CAUTION**

Avoid locations of high temperatures, high humidity, dew condensation, dust, corrosive gases, explosive gases, combustible gases, coolant mist and sea damage etc. Install indoors, to avoid direct sunlight and the unit should be well ventilated.  
Otherwise, there is a danger of electric shock and/or injury.

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## 1.1 Outline

This operator is series of SJ300/L300P and it has a 16 characters x 2 lines liquid crystal display. This operator enable monitor data setting, data read setting copy also it can use former operator if which can use DOP/DRW. (but function is restricted.)

## 1.2 Applicable Inverter Models

UNIT	DISPLAY	Attach to the inverter	Remark
SJ300,L300P series	16characters×2 lines	Possible	
SJ100,L100,J300,L300 , J100,J200,JH300,J500 , L50 series	16characters×2 lines (Display to the top row)	Impossible	Left side moving function key and remote function key are invalid

This operator can use the inverter if which can use DOP/DRW.

### 《NOTE》

It is necessary to change the operation mode of remote operator, when the Inverter type is not SJ300/L300P series. Because initial value of the operation mode is the value for SJ300/L300P.(Refer to 6 chapter)

## 1.3 Inspection upon unpacking

Please don't shake the product when you open the package. Make sure that the product is the one you orderd and there was no damage (injury,falling or dents in the body) during transpotation of the unit.

Content of package

1. Main body of remote operator :1
2. Instruction manual :1

If you have any questions please contact your supplier or the local Hitachi Distributor with the following information.

## 1.4 Question and Warranty of the unit

### 1.4.1 Request upon asking

· If you have any questions regarding damage to the unit, unknown parts or for general enquiries, please contact your supplier or the local Hitachi Distributor with following information.

- (1) Model
- (2) Product Model Code
- (3) Date of purchase
- (4) Reason for calling

- Damaged part and its condition etc.
- Unknown parts and their contents etc.

- For reducing down time, we recommend keeping a spare unit.

### 1.4.2 Warranty for the unit

The warranty period of the unit is one year after the purchase date. However within the warranty period, the warranty will be void if the fault is due to;

- (1) Incorrect use as directed in this manual, or attempted repair by unauthorized personnel.
- (2) Any damage sustained other than from transportation (which should be reported immediately).
- (3) Using the unit beyond the limits of the specification.
- (4) Act of God (Natural Disasters: Earthquakes, Lightning, etc)

- The warranty is for remote operator only, any damage caused to third party equipment by malfunction of the remote operator is not covered by the warranty.

### **Repairing for payment**

Any examination or repair after the warranty period (one-year) is not covered. And within the warranty period any repair and examination which results in information showing the fault was caused by any of the items mentioned above, the repair and examination cost are not covered. If you have any questions regarding the warranty please contact either your supplier or the local Hitachi Distributor.

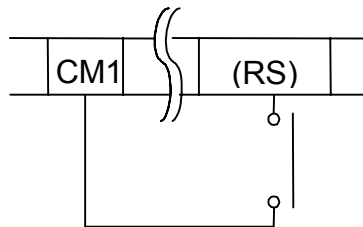
## 2.1 Handling the Cable (Optional)

1. Avoid pulling the cable forcibly for operation or moving the operator by its cable.
2. Fix the cable when the operator is housed in the object inverter panel.
3. Separate the cable more than 15cm from the main circuit, the main circuit relay, and the circuit control cable.
4. The allowable connection/disconnection frequency of the cable is about 1000 times. If errors or unreadable characters are often contained in displayed data, replace the cable. (If the same error symptom appears even after the cable replacement, replace the remote operator itself.)
5. Be sure to turn OFF the power supply of the inverter and confirm the POWER lamp is OFF before connecting /disconnecting the operator cable.

## 2.2 Providing an EMERGENCY Switch

The operator may not stop in some cases when the stop key is pressed if an abnormal event such as contact error, cable break, etc. occurs in the operator itself, its cable or connect during operation.

To prevent such a trouble or unexpected accidents, it is recommended to provide an EMERGENCY STOP switch to the inverter terminal RS or FRS.



## 2.3 Operating Life of Memory Elements of the Remote Operator unit

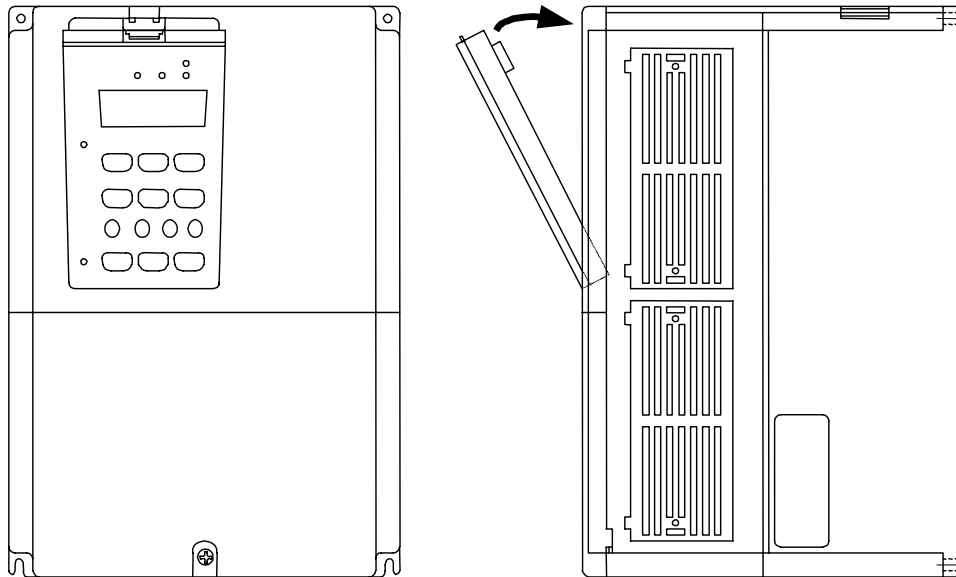
The memory elements of remote operator unit are limited in operating life about 100,000 times of data writing frequency. When the operating life is reached "R-ERROR DATA ROM" will appear and the read, and the copy functions will be disabled. But monitor and data setting are able to use.



### 3.1 Connect to inverter

#### 3.1.1 Connecting to operator on the surface of cover (SJ300/L300P series only )

1. After setting up like a following figure, insert the operator to the connector vertically.
2. Turn on the power supply of the inverter , and Confirm that LCD screen of the operator is ON.



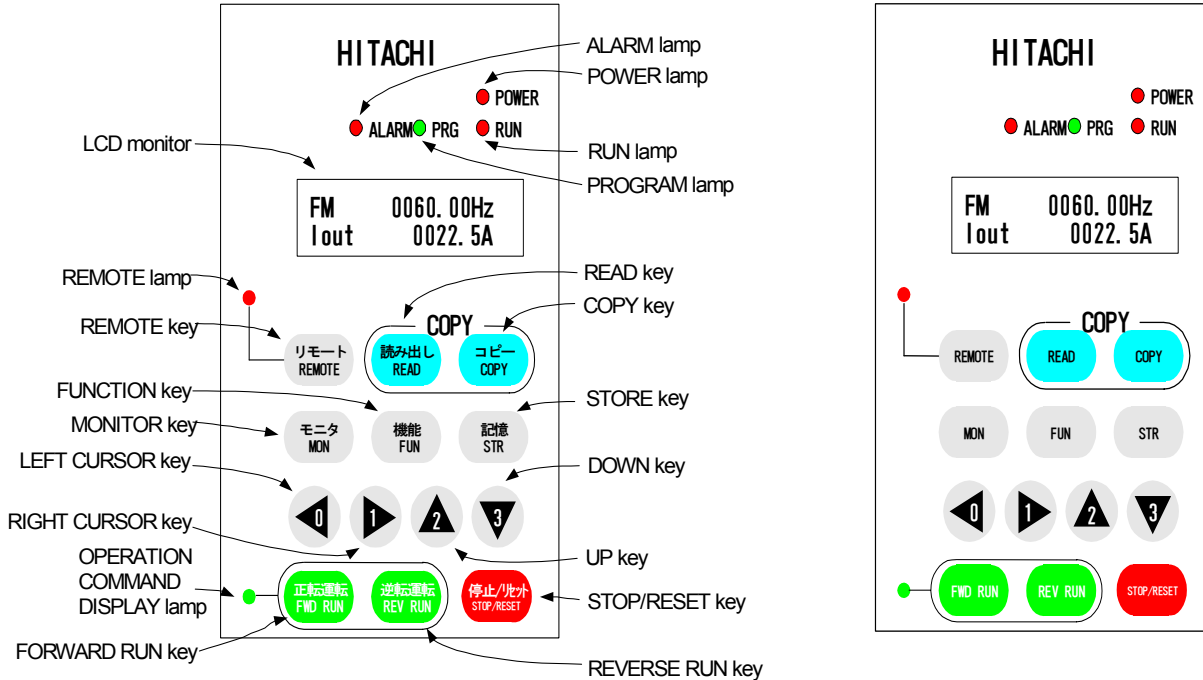
#### 3.1.2 Connecting by cable (Option)

1. Insert the both end of cable to main body and operator.
2. Turn on the power supply of the inverter , and Confirm that LCD screen of the operator is ON.

UNIT	Cable
SJ300,L300P,SJ100,L100 series	ICS-1 , ICS-3
J300.L300,J100,J200JH300,J500,L50 series	ICS-1J ,ICS-3J

SRW-0J

SRW-0EX



Name	Contents
LCD monitor	Display of frequency, output current and set value , etc . (NOTE 1)
RUN lamp	Light on when the inverter is running. (NOTE 2)
PROGRAM lamp	Light on when displaying set value of each function in monitor section. Light will go on and off as a warning (when set value is incorrect). (NOTE 2)
POWER lamp	Power lamp of control circuit.
ALARM lamp	Light on when the Inverter trips. (NOTE 2)
OPERATION COMMAND DISPLAY lamp	Light on only when operating command (RUN/STOP) is set in operator. (NOTE 2)
REMOTE key	Remote key can change operation command and frequency command method to the operator. (NOTE 2) (NOTE 3)
READ key	The key is used for storing the data of the inverter to the memory elements of inside the remote operator.
COPY key	The key to copy the data set which data is memorized in remote operator.
MONITOR key	The key is used to enter monitor mode or trip monitor mode.
FUNCTION key	The key containing basic setting mode, extension functions mode.
STORE key	The key to store the data set. (On changing set value, must be pushed or value is lost.)
CURSOR key	The key is used to move right and left. (NOTE 4)
UP,DOWN key	The keys to change extension function mode, function mode and set value.
FORWARD,REVERSE RUN key	The key is used for operating motor but this key can command only operator. (Check operation command display lamp, whether it flash or nor.)
STOP/RESET key	The key is used to stop the motor, or reset an alarm.

(NOTE 1) 2-LineDisplay for SJ300/L300P series only

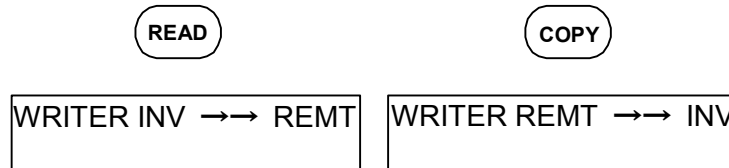
(NOTE 2) SJ300/L300P series only

(NOTE 3) Press the key more than 3 seconds , and can change while the inverter stops .

(NOTE 4) The LEFT CURSOR key is valid for SJ300/L300P series only .


## 5.1 Copy Function

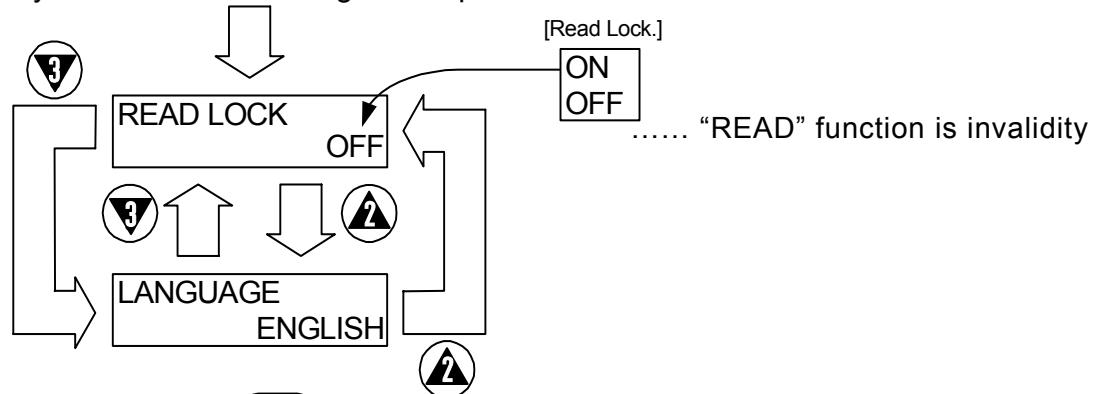
1. The copy function can be used only while the inverter stops. While the inverter is running, tripping, reset or soft-locked, the function is invalidated.
2. Press the Read key or copy key. The following display will appear corresponding to the entered key. When the copying ends, the display will go back to the before one.



3. If any set data is updated after some data is read the inverter, the data is updated only in the inverter. To read the updated data from the inverter into a remote operator, press the Read key again.
4. The data read into a remote operator can be held even when the power supply of the inverter is turned OFF.
5. Copying data between inverters is possible only between the same type ones. (When copying is done between different type inverters ,will display error message and copy function will stop.)
6. In order to protect the data in the remote operator, a function to inhibit transferring data from inverter to remote operator and reading data from inverter is provided. To use this function read 5.2 please.
7. Refer to the each inverter instruction manual about the object item of READ /COPY .
8. When pressing any key or resetting the unit or the power is turned off after the READ key /COPY key is pressed , be sure to wait for at least ten seconds.



## 5.2 Read Lock Operation

More than 2 second, press the **MON** —  — **STOP/RESET** keys at the same time on general operation.



If you press the **STR** key, data will be stored.

If you press the **REMT** key, back to the general mode.

Both of the   keys are used for changing the top and bottom row.

When read lock of remote operator follow as below.

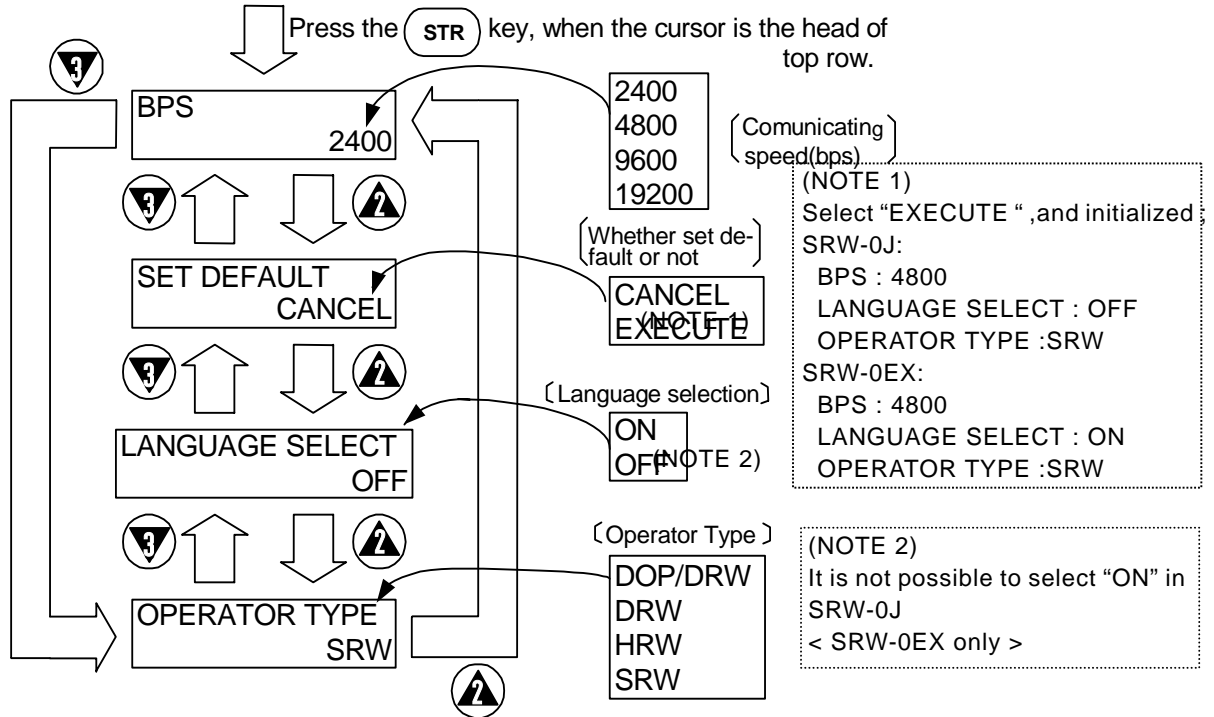
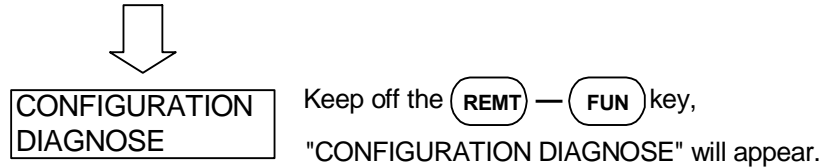
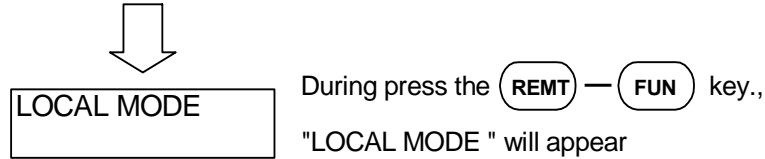
(NOTE)Setting item for Multi language select . The item is displayed , when “OPERATOR TYPE” is “SRW “ or “LANGUAGE SELECT “ is “ON “ in Setting operation mode . ( refer to chapter 6 )

(NOTE)

To change operating mode of the remote operator is written below. The setting data are validity after Power ON again .

Inverter Type	BPS	OPERATOR TYPE	remarks
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Press the **REMT** — **FUN** key at the same time, in order to turn on power.



If press the **STR** key, data will be stored.

If press the **REMT** key, back to the general operation.

Both the keys are used for changing the top and bottom row.

SJ300, L300P series	4800	SRW	
SJ100 ,L100,J100, L50 series	4800	DRW2	It is possible to monitor and data setting ,when "OPERATOR TYPE" is "DOP/DRW". But Copy function is restricted.(NOTE )
J300,L300,J500, JH300 series	4800	HRW	It is possible to monitor and data setting ,when "OPERATOR TYPE" is "DOP/DRW", "DRW2". But Copy function is restricted . (NOTE )

NOTE Refer to the each inverter instruction manual .