

# **SJ/L100-PB Product Manual**

ProfiBus-DP Module for the Hitachi SJ100 / L100 Series

HB-SJL100PB-8/00-e

Revision 1.01



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# 1 Description

The SJ/L100-PB is a Profibus communication module that allows an L100 or an SJ100 drive to be controlled from a Profibus network. The SJ/L100-PB is designed to plug into the RJ45 connector on the bottom of the drive where the remote terminal would be connected. The SJ/L100-PB has a DIN rail connector on the back so that it can be mounted on a DIN rail near the drive and comes with a cable to connect the communications from the drive to the interface. The SJ/L100-PB allows the user to configure and control the functions of an L100 or an SJ100 drive from a Profibus network. The SJ/L100-PB can communicate on the Profibus network at baud rates up to 12 Mbit/s. A relay contact is provided on the SJ/L100-PB to connect to the drive so that when communications is disrupted between the drive and the SJ/L100-PB, or between the SJ/L100-PB and the Profibus master, the drive can be configured to perform a shutdown.

## 1.1 Features

- Control and monitoring of the drive from Profibus
- Start/Stop
- Direction
- Fault Reset
- Speed Control
- Acceleration/Deceleration Control
- Possibility to access every parameter within the drive

 **WARNING** In order for the Emergency Stop relay to function properly, the settings of terminal block 5 needs to be changed. The parameter C15 should be set to one so that the terminal block 5 is normally closed. Also the desired functionality at Emergency Stop should be set to the parameter C05. Suggested setting is 12, which will cause the drive to trip. Please refer to Section 7 of the inverter's Instruction Manual for a description of this function and how to program it. The Comm Loss cable must also be installed. Please refer to Section "Installation Instructions" of this manual for a description of the installation procedure. **FAILURE TO PROPERLY CONFIGURE THE EMERGENCY STOP RELAY COULD RESULT IN EQUIPMENT DAMAGE, PERSONAL INJURY, OR DEATH.**

## 1.2 Description of operation

The SJ/L100-PB is used to provide a Profibus-DP connection between a Hitachi L100 or SJ100 series drive and a Profibus master. After proper installation and configuration of the SJ/L100-PB, the L100 or SJ100 drive can be continuously controlled and monitored over a Profibus network. In the basic mode of operation, the SJ/L100-PB provides 8 bytes of input data and 8 bytes of output data.

In basic mode of operation the Profibus master sends the following data to the SJ/L100-PB:

- Whether the drive should be controlled (FWD/REV/STOP) by the Profibus master or input signals on the terminal block.

- The speed reference source for the drive (SJ/L100-PB, the terminal block or the potentiometer on top of the drive).
- The Fwd, Rev and Stop signals to the drive. (If controlled from Profibus).
- The Fault Reset signal to the drive.
- The Speed Reference value (in Hz) for the drive. (If controlled from Profibus).
- The acceleration/deceleration time of the drive.

In basic mode of operation the SJ/L100-PB sends the following data to the Profibus master:

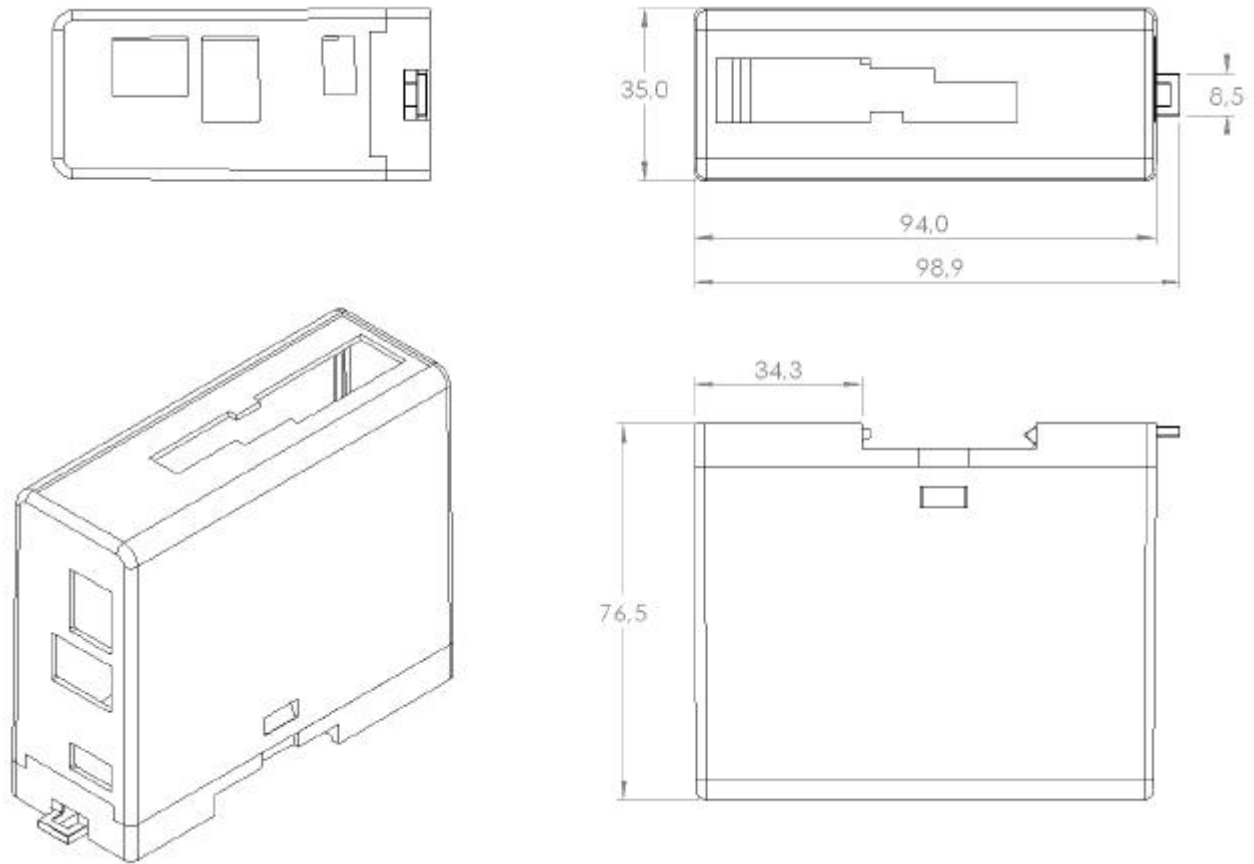
- The state of the drive, running forward, running reverse, stopped, faulted.
- Fault information (if the drive is faulted).
- Whether the drive is controlled (FWD/REV/STOP) by the Profibus master or input signals on the terminal block.
- The actual speed reference source for the drive (SJ/L100-PB, the terminal block or the potentiometer on top of the drive).
- The actual speed of the drive (in Hz).
- The output current of the drive (in A).

Through the use of Profibus configuration software, such as HMS SyCon, the size and type of information being exchanged between the Profibus master and the SJ/L100-PB can be modified to fit the user’s application. Any parameter in the drive can be read or written if the module is properly configured.

### 1.3 Specifications

Environment	<p><b>Ambient temperature:</b>                  Operating: -10 to + 40/55°C                  Storage: -25 to +70°C</p> <p><b>Humidity:</b>                  20 to 90% non-condensing</p> <p><b>Maximum Altitude:</b>                  1000 meters</p> <p><b>Vibration:</b>                  0.6G 10-55 Hz</p>
Communications	<p>Compliant with DIN 19245 Part 3.</p> <p><b>Data Rates:</b>                  9.6 kbps to 12Mbps.</p>
Electrical	<p>All power derived from the drive.</p> <p>5V/290mA max.</p>
Mechanical	<p><b>Enclosure rating:</b>                  NEMA1/IP20</p> <p><b>Dimensions:</b>                  See drawings</p>

## 1.4 Housing dimensions



**NOTE:**

The fieldbus connector and rotary switches will protrude approximately 5 mm from the front.

## 2 Installation Instructions

**⚠ WARNING** DO NOT INSTALL OR PERFORM MAINTENANCE ON THIS DEVICE WHILE THE CONTROLLER IS ENERGISED. DEATH OR SEVERE PERSONAL INJURY CAN RESULT FROM CONTACT WITH ENERGISED EQUIPMENT. VERIFY THAT NO VOLTAGE IS PRESENT BEFORE PROCEEDING WITH INSTALLATION OR MAINTENANCE. Only qualified persons should be permitted to install, maintain, or operate this device. These persons should be familiar with the installation, maintenance, and operation of this device and the equipment onto which it is installed. Additionally, these persons should be familiar with all applicable local, state, and national regulations, industry standards, and accepted practices regarding safety of personnel. These instructions are provided only as a general guide to such qualified persons and are not all-inclusive. They do not cover every application or circumstance which may arise in the installation, maintenance, or operation of this equipment. Users are advised to comply with all local, state, and national regulations, industry standards, and accepted practices regarding safety of personnel and equipment.

**⚠ WARNING** BEFORE INSTALLING AND OPERATING THE SJ/L100-PB WITH AN L100 OR SJ100 INVERTER, YOU SHOULD BE FAMILIAR WITH THE WARNINGS AND CAUTIONS FOUND IN THE SJ/L100-PB INSTRUCTION MANUAL. YOU SHOULD ALSO BE FAMILIAR WITH THE FEATURES AND FUNCTIONS OF THE INVERTER AS THEY APPLY TO YOUR APPLICATION.

### General Notes:

Do not connect or disconnect the SJ/L100-PB to a powered inverter. Doing so may result in an inverter trip.

The plastic package of the SJ/L100-PB is not meant to be directly mounted to a panel. Damage may result if screws are used to attach the SJ/L100-PB to a panel.

### Installation:

Remove all power to the inverter and wait for all displays to extinguish.

Determine a mounting location for the SJ/L100-PB that is within reach of the cable to the inverter and away from heat generating components.

### DIN Rail Mounting:

Attach DIN rail. Snap the SJ/L100-PB onto the DIN rail. For applications where vibration is a concern, secure the SJ/L100-PB in place with DIN rail end stops on each side of the module.

### Cable and Communications:

Supplied with your SJ/L100-PB is a length of wire which is terminated at one end by a quick disconnect type connector. Attach this connector to the PE tab at the bottom of the unit. Connect the other end to the grounded panel the SJ/L100-PB is mounted on. To minimise the effects of electrical disturbances on the product, trim this wire to the shortest possible length before connecting to ground.

If the Interface Cable between the SJ/L100-PB and the inverter is damaged or removed, drive communications will be lost. Also if the Profibus communication between the SJ/L100-PB and the Profibus master is lost, control of the drive from the PLC will be lost. Normally it is desirable to

respond to this loss of communication by tripping and stopping the inverter. To enable this response the SJ/L100-PB Comm Loss contact must be wired to the inverter as described below. Alternately the inverter can be configured so that a loss of communication automatically results in a Free Run Stop (FRS) or Hold Last Speed as described below.

**Fault/Stop** - Loss of communications activates an External Trip (fault) which trips the inverter, removing power to the motor. The trip must be reset before the inverter can be restarted. In order to activate the Fault/Stop setting the inverter parameter C15 should be set to 1 (Normally Closed) and the parameter C05 should be set to 12 (External Trip).

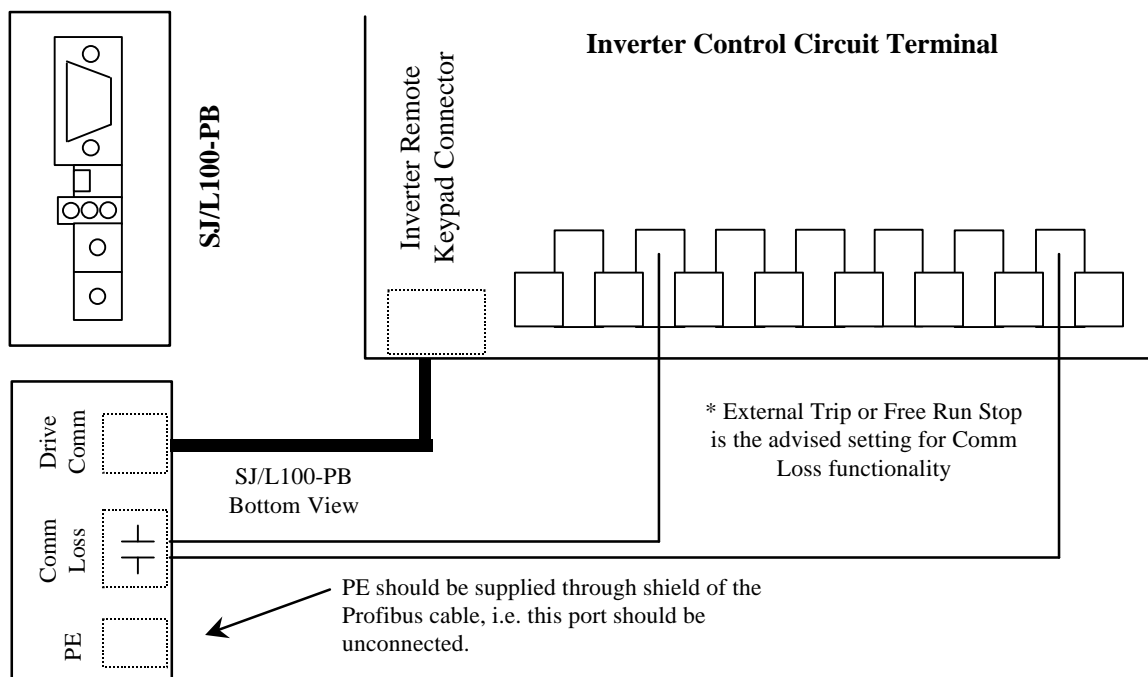
**Free Run Stop (FRS)** – Loss of communications activates an inverter Free Run Stop causing the inverter output to be inhibited, removing power to the motor. If communications is restored the inverter will again respond to messages from the SJ/L100-PB. In order to activate the Free Run Stop setting the inverter parameter C15 should be set to 1 (Normally Closed) and the parameter C05 should be set to 11 (Free Run Stop). Please refer to section7 of the inverter’s Instruction Manual for a description of these functions and how to program them.

⚠ **WARNING** If Run/Stop control was set to the inverters terminal block (NetCtrl = 0) and communications is restored, the drive will automatically restart, applying power to the motor. If the desired response is to Fault/Stop or Free Run Stop, wire the SJ/L100-PB’s Comm Loss contact, located at the bottom of the enclosure, to terminals 5 and P24 as shown below.

⚠ **WARNING** With the Comm Loss contact connected to terminal 5 of the inverter, do not program the inverters intelligent terminal 5 for any of the Run or Jog functions. Failure to observe this warning could result in the inadvertent starting of the drive upon loss of communications between the SJ/L100-PB and the inverter or between the SJ/L100-PB and the Profibus master.

**Hold Last Speed** – Loss of communications causes the drive to hold the last setting of Frequency Reference (Speed Reference) and continue to operate indefinitely until stopped by external means. If communication is restored the inverter will again respond to messages from the SJ/L100-PB.

If the desired response is Hold Last Speed, the Comm Loss contact should not be wired to the inverter. However, an external Stop circuit must be provided to stop the drive when it is operating in the Hold Last Speed mode. Also, during configuration, the intelligent input terminal 5 must be reprogrammed to enable normal operation.



1. If your application requires that the drive can be shut down by external means regardless of the mode of operation (Local, Remote, or Network), an external Inverter Emergency Stop must be installed. The E-Stop circuit should be connected to an inverter input terminal that has been assigned the appropriate E-Stop function. Among your E-Stop choices are External Trip and Free Run Stop. Refer to section 7 of the inverter’s Instruction Manual for a description of these functions and how to program them. Do not use terminal 5 if it is wired to the Comm Loss contact of the SJ/L100-PB.
2. Determine the desired node address of the SJ/L100-PB. Set the rotary switches on the front of the interface accordingly. Multiplying the left switch by ten and then adding the value of the right switch gives the set node address of the switches. E.g. if the desired node address is 25, the left switch should be set to 2 and the right switch should be set to 5.  
**Note:** The node address cannot be changed during operation.
3. PE-connection should be supplied to the module through the shield of the Profibus cable according to Profibus installation requirements. Please see the Profibus specification for further details.
4. Setup the Profibus master with the desired configuration for the assigned node id.
5. Connect the Profibus network cable to the Profibus connector at the top of the SJ/L100-PB. A description of the pin assignment can be found below.
6. With the inverter unpowered, attach the interface cable to the RJ 45 connectors at the bottom of the interface and at the bottom of the inverter.  
**Note:** Do not connect or disconnect the SJ/L100-PB to the inverter while power is supplied to it.

**Physical Interface:**

The bus electronics are galvanically separated from the other electronics with an on board DC/DC converter. The bus signals (A-line and B-line) are isolated via opto couplers. The fieldbus interface of the SJ/L100-PB is a 9-pin female DSUB connector. Please refer to the table below for the pin layout.

Pin	Name	Function
Housing	Shield	Connected to PE
1	Not Connected	-
2	Not Connected	-
3	B-Line	Positive RxD/TxD according to RS485 specification
4	RTS	Request To Send*
5	GND BUS	Isolated GND from RS485 side*
6	+5V BUS	Isolated +5V from RS485 side*
7	Not Connected	-
8	A-Line	Negative RxD/TxD according to RS485 specification
9	Not Connected	-

\* In standard applications only A-line, B-Line and Shield are used.

**⚠ WARNING** THE POWER SUPPLY OF THE FIELDBUS INTERFACE (+5V BUS AND GND BUS) MUST NOT BE USED. IF ANY POWER IS DERIVED FROM THE INTERFACE, THE CONTROL LOGIC OF THE INVERTER MAY CEASE TO FUNCTION PROPERLY, RESULTING IN EQUIPMENT DAMAGE, PERSONAL INJURY OR DEATH.

## 3 Configuration

This section will explain the usage of the different modules available in the GSD-file. Please note that some modules are represented twice, once for the L100 inverter and once for the SJ100 inverter.

- ⚠ **WARNING** IT IS VITAL THAT THE CONFIGURATION TOWARDS THE SJ/L100-PB AT ALL TIMES IS CORRECT. BEFORE CONNECTING THE SJ/L100-PB TO THE PROFIBUS NETWORK, YOU SHOULD MAKE SURE THAT THE CONFIGURATION USED IS INTENDED FOR USE WITH THE SJ/L100-PB AND THE INVERTER TYPE YOU HAVE. FAILURE TO DO SO COULD RESULT IN EQUIPMENT DAMAGE, PERSONAL INJURY OR DEATH.
  
- ⚠ **WARNING** WHEN USING THE SJ/L100-PB THE STOP KEY OF THE INVERTER CANNOT BE GUARANTEED TO WORK. IF YOUR APPLICATION REQUIRES THAT THE DRIVE CAN BE SHUT DOWN BY EXTERNAL MEANS AN EXTERNAL INVERTER EMERGENCY STOP MUST BE INSTALLED. FAILURE TO DO SO COULD RESULT IN EQUIPMENT DAMAGE, PERSONAL INJURY OR DEATH.

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### 3.1 Basic Parameters

This is a parameter block containing the most commonly used parameters. It is believed that using this block should be sufficient in most cases. The parameter block consists of 8 bytes in and 8 bytes out. For each of the drives there are two modules containing the basic parameters. The difference is the order of the bytes within the words (I.e. Intel or Motorola format). The standard module should be used together with the EH-150 PLC and the Swapped version should be used with the H252-PLC. Also please observe that a possible byte swap is only affecting the basic parameter block. If any parameters are added along with the basic parameter block, the bytes of those parameters will not be swapped.

**Please Note:** If the basic parameter block shall be used, it has to be selected as the first module of the configuration.

### 3.1.1 Out Area

These are the parameters being transmitted from the master to the SJ/L100-PB:

Word	Bit 15-8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	-	Reset	Net Ref	Inv Ref	Net Ctrl	-	-	Run Rev	Run Fwd
1	Speed Reference								
2	Acceleration Time								
3	Deceleration Time								

Parameter	Explanation of parameter
Reset	If the drive is faulted, a 0 → 1 transition will reset the fault.
Net Ref	The speed reference is taken from the Profibus network if set to 1. The speed reference is taken from the inverter if set to 0. (See the Inv Ref bit)
Inv Ref	If it is set to 0 the terminal block will be used as speed reference. If it is set to 1 the potentiometer on top of the inverter is used as speed reference.
Net Ctrl	The run commands are taken from the Profibus network if set to 1. The run commands are taken from the terminal block of the drive if set to 0.
Run Rev	Issues a reverse run command to the drive if set to 1.
Run Fwd	Issues a forward run command to the drive if set to 1.
Speed Reference	Sets the speed of the drive. Please observe that the speed is given in a resolution of 1/100Hz. (For instance 1388hex equals 50 Hz). Value range: 0.00 - 360.00 Hz
Acceleration Time	Defines the acceleration time of the drive. Please observe that the acceleration time is given in a resolution of 1/10 s. (For instance 64hex equals 10 s). Value range: 0.1 – 3000.0 s
Deceleration Time	Defines the deceleration time of the drive. Please observe that the deceleration time is given in a resolution of 1/10 s. (For instance 64hex equals 10 s). Value range: 0.1 – 3000.0 s

### 3.1.2 In Area

These are the parameters being transmitted from the SJ/L100-PB to the master.

Word	Bit 15-14	Bit 13-8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	-	Trip Cause	Faulted	Net Ref	Inv Ref	Net Ctrl	Trip Cond. 1	Trip Cond. 0	Run Rev	Run Fwd
1	Speed Actual									
2	Output Current									
3	Inverter Status									

Parameter	Explanation of parameter
Faulted	If set, the drive is faulted.
Trip Cause	Determines the reason of the current fault (if any). Please refer to the table below.
Trip Cond. 1 & 2	Determines under what circumstances the drive faulted (if any). Please refer to the trip condition table below.
Net Ref	If set to 1, the drive is currently using the speed reference being transmitted over the Profibus network. If it is set to 0, the reference is determined by the bit Inv Ref.
Inv Ref	If set to 0, the drive is currently using the speed reference of the terminal block. If set to 1, the reference is taken from the potentiometer on top of the drive.
Net Ctrl	If set to 1, the drive is currently accepting the run commands transferred over Profibus.
Run Rev	If set to 1, the drive is currently running in reverse motion.
Run Fwd	If set to 1, the drive is currently running in forward motion.
Speed Actual	The current speed of the drive. Please observe that the speed is given in a resolution of 1/100 Hz. (For instance 7D0hex equals 20 Hz).
Output Current	The current being supplied to the motor by the drive. Please observe that the current is given in a resolution of 1/100 A. (For instance 32hex equals 0.5 A).
Inverter Status	Represents the current operating state of the drive. Please refer to the table below.

### 3.1.2.1 Trip Condition

Trip Cond. 1	Trip Cond. 0	Trip Condition
0	0	At other than below
0	1	At acceleration
1	0	At deceleration
1	1	At constant speed

### 3.1.2.2 Trip Cause

Bit 13-8	Cause	Bit 13-8	Cause	Bit 13-8	Cause	Bit 13-8	Cause
000000	Overcurrent	010000	-	100000	Overload	110000	CPU error
000001	Overcurrent	010001	-	100001	USP error	110001	CPU error
000010	Overcurrent	010010	-	100010	PTC error	110010	CPU error
000011	Overvoltage	010011	-	100011	-	110011	-
000100	Undervoltage	010100	-	100100	-	110100	CPU error
000101	Overload	010101	-	100101	External trip	110101	-
000110	Eeprom error	010110	-	100110	-	110110	-
000111	-	010111	-	100111	-	110111	-
001000	CPU error	011000	-	101000	CPU error	111000	-
001001	-	011001	-	101001	CPU error	111001	Eeprom error
001010	Thermal error	011010	-	101010	CPU error	111010	Overcurrent
001011	-	011011	-	101011	CPU error	111011	Overcurrent
001100	-	011100	-	101100	CPU error	111100	Overcurrent
001101	Ground fault	011101	-	101101	CPU error	111101	Overcurrent
001110	CPU error	011110	-	101110	CPU error	111110	Overvoltage
001111	Oversupply voltage	011111	Under-voltage	101111	CPU error	111111	Under-voltage

NOTE: Inverter trips are reset by pressing the STOP key on the keypad or by a 0 to 1 transition of the Reset bit in the basic parameter block.

### 3.1.2.3 Inverter Status

Code	Inverter Status
00	Normal Stop
01	Normal Running
02	Jogging
03	Free run stop
04	DC injection brake
05	Retrying
06	Stop under instantaneous power failure
07	Retrying
08	Retrying
09	Writing trip history
0A	Tripping
0B	UV (waiting for recovery)

---

## 3.2 Acceleration Time

<b>Description:</b>	The acceleration time is the time it will take the drive to ramp up from zero Hz to the specified Maximum Frequency.
<b>Access Rights:</b>	Read/Write
<b>Resolution:</b>	0.1 s
<b>Setting range:</b>	0.1 – 3000.0 s

---

## 3.3 Actual Frequency

<b>Description:</b>	This parameter specifies the frequency supplied to the motor.
<b>Access Rights:</b>	Read-Only
<b>Resolution:</b>	0.01 Hz
<b>Setting range:</b>	Not applicable

---

## 3.4 Command Source

<b>Description:</b>	This parameter specifies which port the inverter shall accept control commands from.
<b>Access Rights:</b>	Read/Write
<b>Code:</b>	1 = Terminal block, 2 = SJ/L100-PB
<b>Setting range:</b>	1 – 2

---

## 3.5 Deceleration Time

<b>Description:</b>	The deceleration time is the time it will take the drive to ramp down from the specified Maximum Frequency to zero Hz.
<b>Access Rights:</b>	Read/Write
<b>Resolution:</b>	0.1 s
<b>Setting range:</b>	0.1 – 3000.0 s

---

## 3.6 Frequency Source

<b>Description:</b>	This parameter specifies which port the inverter shall accept frequency reference from.
<b>Access Rights:</b>	Read/Write
<b>Code:</b>	0 = Volume knob, 1 = Terminal block, 2 = SJ/L100-PB
<b>Setting range:</b>	0 – 2

### 3.7 Inverter Status

- Description:** Represents the current operating state of the drive.
- Access Rights:** Read-Only
- Code:** Please see table below.
- Setting range:** Not applicable

Code	Inverter Status
00	Normal Stop
01	Normal Running
02	Jogging
03	Free run stop
04	DC injection brake
05	Retrying
06	Stop under instantaneous power failure
07	Retrying
08	Retrying
09	Writing trip history
0A	Tripping
0B	UV (waiting for recovery)

### 3.8 Output Current

- Description:** This parameter specifies the current supplied to the motor.
- Access Rights:** Read-Only
- Resolution:** 0.01 A
- Setting range:** Not applicable

### 3.9 Output Frequency

- Description:** This parameter specifies the frequency reference the Profibus adapter supplies to the inverter.
- Access Rights:** Read/Write
- Resolution:** 0.01 Hz
- Setting range:** 0.00 – 360.00 Hz

---

## 3.10 Rotation Direction

<b>Description:</b>	This parameter reflects which direction the motor is running.
<b>Access Rights:</b>	Read-Only
<b>Code:</b>	0 = Motor stopped, 1 = Motor in forward motion, 2 = Motor in reverse motion
<b>Setting range:</b>	Not applicable

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## 3.11 Run Command

<b>Description:</b>	This parameter specifies the control command the Profibus adapter supplies to the inverter.
<b>Access Rights:</b>	Write-Only
<b>Code:</b>	2 = Run Forward, 4 = Run Reverse, 8 = Stop
<b>Setting range:</b>	2, 4, 8

---

## 3.12 Generic parameters

These parameters give the user the opportunity to use any parameter within the drive. However the user will have to specify the address, size and, in the case of a Set parameter, the minimum and maximum values. Please consult Hitachi Europe if a parameter other than the ones given in the GSD-file need to be supported.

-  **WARNING** WHEN USING THE GENERIC PARAMETERS, THE SJ/L100-PB WILL USE THE ADDRESS, SIZE, MINIMUM AND MAXIMUM VALUES SPECIFIED BY THE CONFIGURATION WHEN COMMUNICATING WITH THE DRIVE. IT IS THEREFORE VERY IMPORTANT THAT THESE SETTINGS CORRESPOND TO THE ACTUAL PARAMETER LIST OF THE DRIVE. FAILURE TO PROPERLY CONFIGURE THESE PARAMETERS COULD RESULT IN EQUIPMENT DAMAGE, PERSONAL INJURY OR DEATH.

## 4 Inverter Configuration

Your application may require setting some of the inverters parameters that is not accessible or desired to transmit over the Profibus network. Changes to these parameters can be made using the inverters Digital Operator Keypad, but the SJ/L100-PB must first be disconnected as noted below. Consult the inverter Instruction Manual for additional details.

### Procedures:

**SJ/L100-PB must be removed to program inverter parameters from keypad:** All keys of the Digital Operator Keypad are disabled while the SJ/L100-PB is connected to the inverter, except for the STOP key, which should not be relied upon. Access to the inverters parameters requires that the (RJ45) Interface Cable be removed. Always remove power to the inverter and wait for all displays to extinguish before removing or attaching this cable.

**Terminals 5 and P24 may need to be temporarily jumpered to clear E12 trips:** In most applications Terminal 5 of the inverter will be configured to fault the drive (E12, External Trip) if this terminal is not tied to the +24VDC by the Comm Loss contact of the SJ/L100-PB. If you are experiencing E12 trips while you are attempting to set inverter parameters, temporarily jumper the inverter terminals 5 and P24 together.

**Inverter Keypad Operation:** For a description of the inverters keypad operation refer to section 8, “Operation of the Digital Operator Keypad”, of the Inverter Instruction Manual.

## 5 LED Definitions

The SJ/L100-PB includes three LED status indicators: Error, Power and Online. The LEDs indicate the status shown in the tables below.

ERROR LED	Meaning
On	The module is currently not communicating with the Profibus master or the configuration provided by the Profibus master is not valid.
Off	The module is exchanging data with the Profibus master.

POWER LED	Meaning
On	The module is supplied with power.
Off	There is no power supplied to the module.

ONLINE LED	Meaning
On	The communication towards the inverter is working properly.
Off	Communication towards the inverter is not working properly.

## 6 Operation Notes

### Restricted parameters:

The following parameters of the GSD-file should not change value while the inverter is running:

- The NetRef, InvRef and NetCtrl bits of the Basic parameter block.
- Command Source and Frequency Source.

An attempt to set attributes beyond their min/max values will not be executed.

### Drive Faults:

Resetting the drive fault over the Profibus network requires a 0 to 1 transition of the Reset bit in the Basic Parameter Block. Note: In network control, the drive will restart after a drive fault is reset if the basic parameter block is used and the Fwd or Rev bits are set to 1.

It is strongly recommended that the same parameter only exists once in the in-area and/or once in the out-area per configuration to avoid confusion which may be caused by determining the valid value of the two.

When the basic parameter block is used the SJ/L100-PB will continuously send the command (Fwd, Rev, Stop) currently specified over Profibus. This should be considered when it comes to emergency stop requirements, since it will override the press of a STOP key. This behaviour should also be noted prior to resetting a fault.

## 7 Troubleshooting

Error condition	Possible cause
The Power LED of the SJ/L100-PB is not lit.	- The SJ/L100-PB may not be powered. - Communicat. cable may be damaged or not connected properly.
The Error LED of the SJ/L100 is lit.	- Another device with the same node id exists in the network. - The Profibus cable may be damaged or not connected properly. - The configuration of the module may be erroneous.
The Online LED of the SJ/L100 is not lit.	- Communicat. cable may be damaged or not connected properly. - The configuration of the module may be erroneous.
The drive will not start.	- If using the basic parameter block, verify that the NetCtrl bit is set. If not using the basic parameter block, make sure that the parameter A02 (Running Command Setting) is set to 02. - If using the basic parameter block, verify that the NetRef bit is set and that a speed reference is given. If not using the basic parameter block, check the frequency reference of parameter A01 and make sure that there is a speed reference present at the selected source. - Verify that the Comm Loss connection and configuration is correct for your application.
The motor is at a speed other than the one specified in the basic parameter block.	- Verify that the NetRef bit is set high.
Drive does not respond to new value setting.	- The value exceeds min/max limit.