



# Instruction Manual

## USB Loader cable (Type:PX/PXE) Type: ZZP\*TQ501923C3

Fuji Electric Co., Ltd.

INP-TN405836a-E

Thank you for purchasing our product. Please check that the product is exactly the one you ordered and use it according to the following instructions. Dealers are cordially requested to ensure the delivery of this Instruction Manual to hands of the end-users.

### Safety Precautions

Before using this product, the user is requested to read the following precautions carefully to ensure the safety. Safety precautions must be taken by every user to prevent accidents. The safety requirements are classified into "Warning" and "Caution" according to the following interpretations:

	<b>Warning</b>	Suggesting that the user's mishandling can result in personal death or serious injury.
	<b>Caution</b>	Suggesting that the user's mishandling can result in personal injury or damage to the property.

## 1. Warning

### 1.1 Installation and wiring

- This cable is designed to be installed at the following conditions.

Operating temperature	-10 to +50 [°C]
Operating humidity	90%RH or less (Non condensation)
Pollution degree	2 Conforming to IEC61010-1

- The cable must be installed in such a place that creepage and clearance distances shown in the table below are maintained between the cable and any other equipment which use or generate a voltage shown in the table below. Failure to maintain these minimum distances would invalidate the IEC61010 safety approval.

Voltage used or generated by any assemblies	Clearance (mm)	Creepage (mm)
Up to 50Vrms or Vdc	0.2	1.2
Up to 100Vrms or Vdc	0.2	1.4
Up to 150Vrms or Vdc	0.5	1.6
Up to 300Vrms or Vdc	1.5	3.0
Above 300Vrms or Vdc	Contact with our sales office.	

- If there is a danger of a serious accident resulting from failure or defect in this cable, provide the cable with an appropriate external protective circuit to prevent an accident.
- To avoid damage and failure of the cable, supply the power voltage fitting to the rating.
- To avoid failure and malfunction, do not turn ON the power before all wiring is completed.
- Never attempt to disassemble, fabricate, modify, or repair this cable because tampering with the cable may result in malfunction or failure.

### 1.2 Maintenance

- Some parts of this cable have a limited life span, or they will be deteriorated with the lapse of time.
- Do not disassemble the product. Doing so may cause product failure and will void your warranty.

## 2. Caution

### 2.1 Cautions on installation

Avoid the following places for installation:

- A place where the ambient temperature may reach beyond the range of from -10 to 50°C while in operation.
- A place where the ambient humidity may reach beyond 90% RH while in operation.
- A place where a change in the ambient temperature is so rapid as to cause condensation.
- A place where corrosive gases (sulfide gas and ammonia gas, in particular) or combustible gases are emitted.
- A place where the unit is subject directly to vibration or shock.
- A place exposed to water, oil, chemicals, steam and vapor. (If immersed with water, take the inspection by sales office to avoid an electrical leakage and firing)
- A place where the unit is exposed to dust, salt air, or air containing iron particles.
- A place where the unit is subject to interference with static electricity, magnetism, and noise.
- A place where the unit is exposed to direct sunlight.
- A place where the heat may be accumulated due to the radiation of heat.
- A place near devices that generates a powerful high-frequency or surge.

### 2.2 Cautions on connection

- Be sure to check the orientation of the connector before connecting it. Do not force the connector if it cannot be inserted easily, or it may be damaged.
- Do not connect the cable to PC through USB hub to avoid malfunction.
- Do not use USB extension cable to connect to PC to avoid malfunction.

### 2.3 Cautions on use

- Do not leave the cable connected to the temperature controller all the time. Otherwise, it may cause noise to enter into the cable and result in malfunction.
- Do not use any cables that show signs of damage. Otherwise, minor electric shock, fire, or malfunction may occasionally occur.
- Do not allow metal particles, wires, dust, or dirt to enter the connector. Otherwise, minor electric shock, fire, failure, or malfunction may occasionally occur.
- Do not place heavy objects on top of the cable, bend the cable beyond its natural bending limit, or pull on the cable.
- Do not connect or disconnect the cable during communications. Otherwise, it may cause malfunction or failure.

- Make sure that the metal components of the cable are not touching the external power terminals.
- Do not touch the product with wet hands. Otherwise, an electric shock may occur.

## 2.4 Operation at abnormality

- If any abnormality occurs, turn off the power immediately and remove the cable from PC and the temperature controller.

## 2.5 Others

- Do not use organic solvents such as alcohol and benzene to wipe this cable, as they damage the cable.
- By using this cable to connect your PC and the temperature controller (PX/PXE), the temperature controller (PX/PXE) can be powered via USB. It enables you to use loader communication and front-key operation without connecting AC power source to the temperature controller (PX/PXE). Please note that control output, alarm output, and measured value indication can not be activated in this situation.

## 1. Operating environment

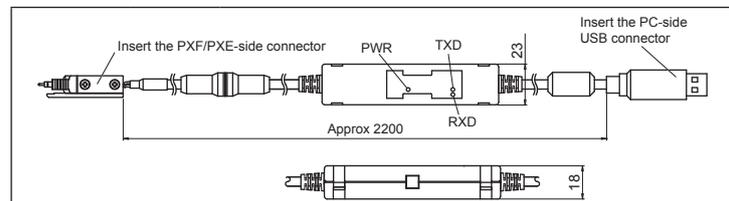
The PC with the following specification is required.

- PC with USB port (USB specification 2.0 or 3.0)
- Windows XP/7/8

## 2. Scope of delivery

- Loader cable × 1
- Instruction manual × 1 (Japanese/English/Chinese)

## 3. Appearance, component names and functions



LED indicators	Color	Description
PWR	Green	Lit while the power is being supplied to the cable.
TXD	Orange	Lit during data transmission to PX/PXE.
RXD	Green	Lit while PC is receiving data.

## 4. Specification

- Power consumption: 360mA max. (Loader cable + PX/PXE)
- Ambient temperature and humidity: -10°C to 50°C 90%RH or less (Non condensation)
- Storage temperature and humidity: -20°C to 60°C 90%RH or less (Non condensation)
- Power supply: USB bus-power DC5V±10%
- Output voltage: DC 5V
- Compatible operating systems: WindowsXP/7/8
- Compatible model: Temperature controller PX/PXE
- Compatible software: PXF Loader, PXE Loader
- USB interface rating: USB2.0/3.0
- DTE speed: 38400bps
- Length: Approx. 2200mm
- Mass: 150g
- Connector specifications: PC side: USB (Type A)  
PXF/PXE side: PXF/PXE dedicated shape
- Insulation class: Functional insulation

## 5. How to use

### 5.1 Download of the driver and software

- Before connecting the cable to your PC, you need to setup the dedicated USB driver and loader software ("PXF Loader" or "PXE Loader") on your PC. "PXF Loader" and "PXE Loader" are available for download free of charge.

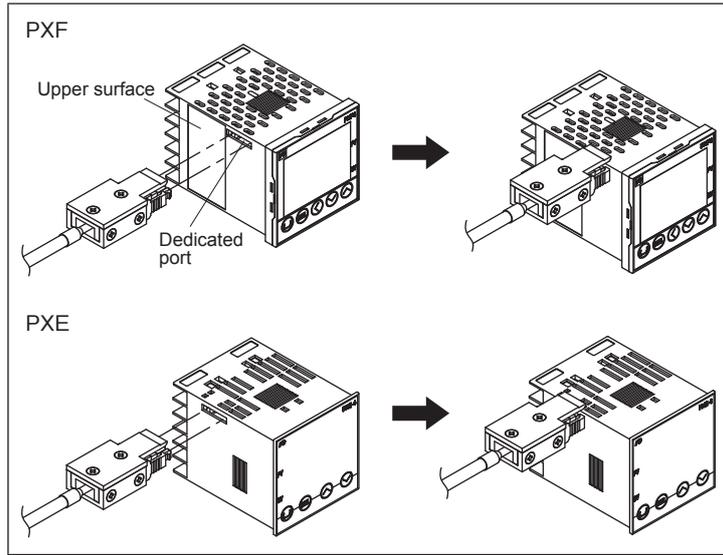
[Visit our website]

[http://www.fujielectric.com/products/instruments/products/z\\_series/top.html](http://www.fujielectric.com/products/instruments/products/z_series/top.html)

- 2) Unzip the downloaded folder. Software installer "PXF Loader-Installer-English" or "PXE Loader-Installer-English" will be automatically created.
- 3) Run the installer to install "PXF loader.exe" or "PXE loader.exe". The USB driver will be created and stored in the following folder:  
 [Windows 32bit edition]  
 C:\Program Files\Fuji Electric\PXFLoader\USB Driver  
 [Windows 64bit edition]  
 C:\Program Files(x86)\Fuji Electric\PXFLoader\USB Driver  
 Note: The USB driver is not installed yet at this stage.

## 5.2 Connection

- 1) Insert the PXF/PXE-side connector of the cable into the dedicated port on the top side the PXF/PXE.



### Note

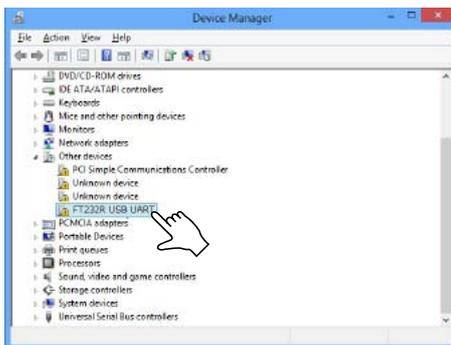
The USB driver may not be installed properly if the cable is connected to PC before installation of the driver. This will result in abnormal communication. Be sure to follow the instruction of "5.3 Installation of the driver" to complete the installation.

## 5.3 Installation of the driver

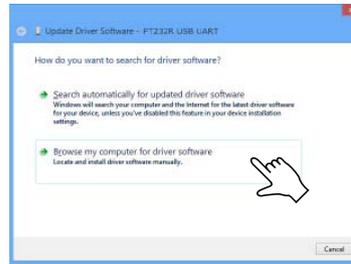
Install the USB driver properly according to the instruction below. When the driver is installed, you can start loader communication using loader software.

### Using Windows 8

- 1) Insert the PC-side connector of the cable into the USB port of your PC.
- 2) Open Device Manager by clicking Control Panel - System and Security - System- Device Manager.
- 3) Right click FT232R USEB UART, and then click "Update Driver Software".



- 4) Click "Browse my computer for driver software".



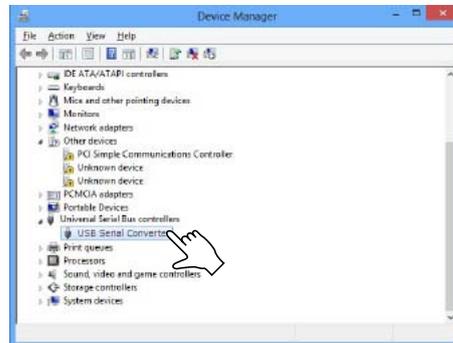
- 5) Click the "Browse" button and select the folder that the driver software is stored, and then click the "Next" button.



- 6) When the message "Windows has successfully updated your driver software" is displayed, click the "Close" button.



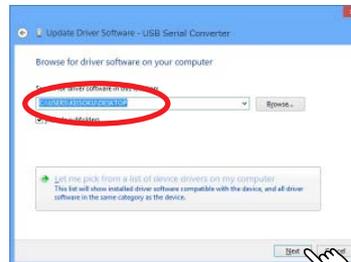
- 7) Open Device Manager again (Refer to step 2).
- 8) Right-click "USB Serial Converter", and then click "Update Driver Software".



- 9) Click "Browse my computer for driver software".



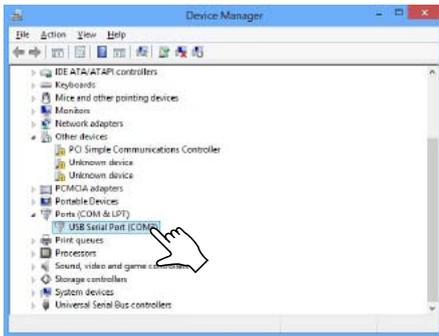
- 10) Click the "Browse" button and select the folder that the driver software is stored, and then click the "Next" button.



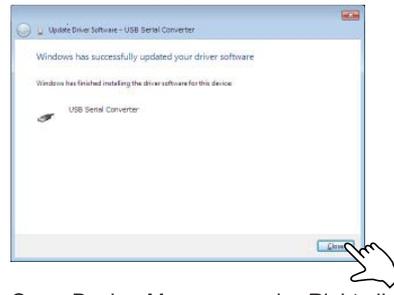
- 11) When the message "Windows has successfully updated your driver software" is displayed, click the "Close" button.



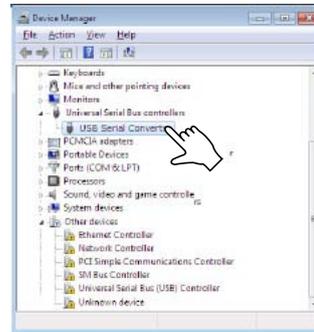
- 12) Check the port number of "USB Serial Port" under "Ports (COM & LPT)" in Device Manager. The figure below shows an example that the port number is three (COM3).



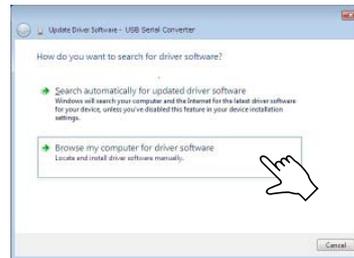
- 6) When the message "Windows has successfully updated your driver software" is displayed, click the "Close" button.



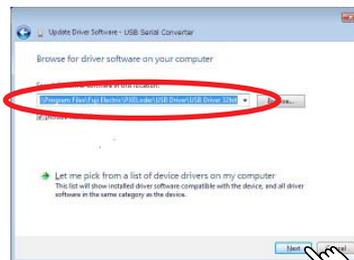
- 7) Open Device Manager again. Right-click "USB Serial Converter", and then click "Update Driver Software".



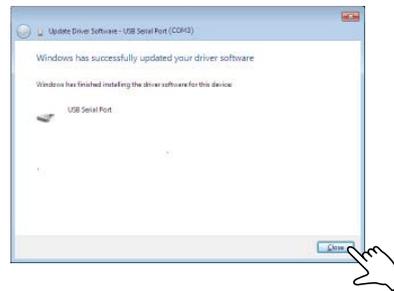
- 8) Click "Browse my computer for driver software".



- 9) Click the "Browse" button and select the folder that the driver software is stored, and then click the "Next" button.

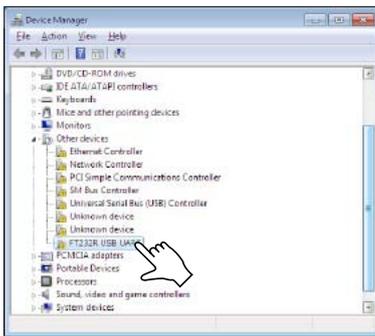


- 10) When the message "Windows has successfully updated your driver software" is displayed, click the "Close" button.



## Using Windows 7

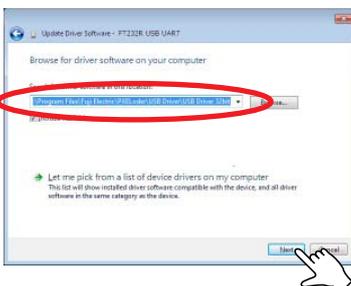
- 1) Insert the PC-side connector of the cable into the USB port of your PC.
- 2) Select Start - "Control Panel" - "System and Security" - "Device Manager".
- 3) Right-click "FT232R USB UART" and select "Update Driver Software".



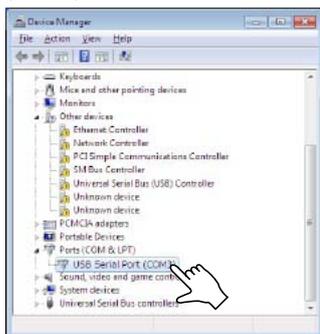
- 4) Click "Browse my computer for driver software".



- 5) Click the "Browse" button and select the folder that the driver software is stored, and then click the "Next" button.



- 11) Check the port number of "USB Serial Port" under "Ports (COM & LPT)" in Device Manager.  
The figure below shows an example that the port number is three (COM3).

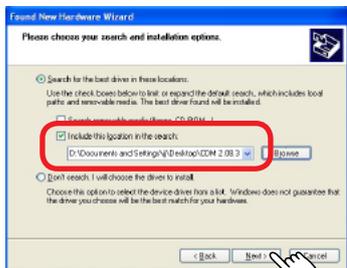


## Using Windows XP

- 1) Insert the PC-side connector of the cable into the USB port of your PC.
- 2) "Found New Hardware Wizard" will start.
- 3) "Select Install from a list or specific location" and click the "Next" button.



- 4) Select "Search for the best driver in these locations" radio button and "Include this location in the search" checkbox, and then click the "Browse" button.  
Select the folder that the driver software is stored, and click the "Next" button.



- 5) When the message "Completing the Found New Hardware Wizard" is displayed, click the "Finish" button.



- 6) "Found New Hardware Wizard" will restart.  
"Select Install from a list or specific location" and click the "Next" button.



- 7) Select "Search for the best driver in these locations" radio button and "Include this location in the search" checkbox, and then click the "Browse" button.  
Select the folder that the driver software is stored, and then click the "Next" button.

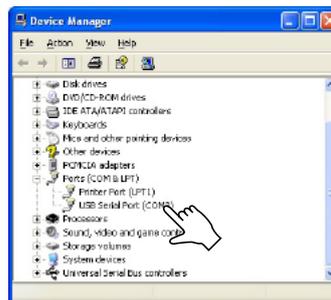


- 8) When the message "Completing the Found New Hardware Wizard" is displayed, click the "Finish" button.



- 9) Click "My Computer" - "View System Information" to see "System Properties". Then click the "Hardware" tab to access "Device Manager". Check the port number in "USB Serial Port" displayed under "Ports (COM & LPT)".

The figure below shows an example that the port number is three (COM3).



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