NETIMPRESS avant

ACX500
Hardware Manual

Revision History

Edition	Date of Issue	Modification
1st Edition	2023.03.15	Initial publication
2nd Edition	2023.06.15	Added power connection and power-on procedures and precautions
3rd Edition	2023.08.30	Corrected consumed power error
4th Edition	2023.10.23	Added description of how to install PHX400, USB connector board and bracket. Added description of optional items.

Note

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Introduction

ACX500 Hardware Manual (hereinafter "manual") describes specification of Re-timer IC writing device of NETIMPRESS avant series products, and the precautions.

✓ The wording Programming in this manual means writing data into a target IC flash memory.

For Your Safety

In order to ensure the proper and safety use of NETIMPRESS avant, please be sure to follow the safety precaution mentioned below as operating NETIMPRESS avant. DTS INSIGHT CORPORATION has no responsibility or guarantee for any injuries which occur as a result of the violation of these safety caution and warnings.

■ **This manual uses the icons as below to use NETIMPRESS avant safety.**

⚠	It indicates not only that there is a danger to human as well as to the equipment, but also that it is necessary to refer to the instruction manual.
⏚	It indicates a safety ground terminal. As this terminal is on the main unit, please be sure to connect this terminal to the ground before operating.
Warning	In order to avoid the risk of death or serious injury which may occur as a result of an incorrect use.
Note	In order to avoid the risk of minor or material damage which may occur as a result of an incorrect use.

■ **To avoid the risk of death or serious injury to users, such as electrocution or any other accidents, as well as the risk of damage to NETIMPRESS avant, please follow the warnings mentioned below.**

⚠ **Warning**

Use in Chemical Gases

Do not use NETIMPRESS avant in an environment where are combustible or explosive gases or steam.

Using NETIMPRESS avant in such environment is extremely dangerous.

Usage environment

This programmer is only for indoor use. Use it at an altitude of 2000 meters or less.

We are assuming ACX500 will be used under Overvoltage category II and Pollution Degree 2.

Power

Confirm that the supply-side voltage matches to the rated power supply voltage for a power supply pack of NETIMPRESS avant.

Action to be taken if abnormality is found

If any failure is found, such as smoke or burnt odor, disconnect   and the target. And then turn off the power of main unit. Contact the support center of DTS INSIGHT Corporation.

NETIMPRESS avant is an electronic device which consists of high-precision electronic components. Please be sure to understand and follow the caution listed below in order to avoid any accidents and as well as to make the most of your NETIMPRESS avant.

Note

・**Power On Sequence**

Make sure to the following sequence the switch ON/OFF a host computer, AFX series main unit, and ACX500.

            <Power On Sequence>

            ① Host computer

            ② AFX series main unit

            ③ ACX500

            <Power Down Sequence>

            ① ACX500

            ② AFX series main unit

            ③ Host computer

Connecting the Probe and Connector

All probes and cables are designed to prevent an incorrect connection. Never force them to plug in nor unplug. Confirm the position and direction.

Insertion and removal of the Cable

Be sure NOT to insert and remove the cable while NETIMPRESS avant is powered on. (Pay special attention to the insertion and removal of the M12 cable between NETIMPRESS avant and the adaptor.) Otherwise, it may cause a serious damage to NETIMPRESS avant and a target system.

Disassembling NETIMPRESS avant

Since NETIMPRESS avant contains printed circuit boards with minute patterns, never remove screws or disassemble NETIMPRESS avant.

If the product is disassembled or modified by the user, it will not be covered under the warranty or support services Neutralization

Make sure to neutralize the charge before operating NETIMPRESS avant.

IMPORTANT

Thank you for your purchasing "NETIMPRESS avant" series.

To make the most of NETIMPRESS avant series, please read and understand this manual and other operation manual before use. After reading this manual, please keep it for the further reference whenever required. Please ensure that ACX500 should be used only by persons who have read and understood the manuals. We strongly recommend that the first-time users receive a proper instruction from those who have a good knowledge of ACX500.

NETIMPRESS avant refers to Re-timer IC writing products of NETIMPRESS avant series manufactured by DTS INSIGHT Corporation. A target system and the host computer are strictly excluded.

NETIMPRESS avant is an electronic device which consists of high-precision electronic components. In order to make the most of NETIMPRESS avant and also to prevent any accidents, please follow the caution listed below.

A certain repair fee is required regarding the equipment damages resulted from an incorrect use or connection, etc. Please aware that it may require a few months for repairs.

Regarding software products and manuals, DTS INSIGHT Corporation guarantees only if there are any damages of media provided by DTS INSIGHT Corporation or manual defects.

If proved that there are failures or that there are problems apart from those listed above, the action will be taken based on the maintenance agreement.

⚠ **Warning**

Before Switching ON the power supply, be sure to confirm whether the direction of Pin 1 in the probe tip matches to Pin 1 Socket in a target system.

An incorrect connection may result in an explosion or ignition of NETIMPRESS avant or a target system.

Be sure to power off NETIMPRESS avant and a target system when inserting and removing the probe and various cables. In case of inserting and removing during in power-on status, it may result in the damage and an explosion or ignition of NETIMPRESS avant or a target system.

CAUTION

As particular parts of electronic circuits in the probe and cable tip are exposed, NETIMPRESS avant should be used only in environments where are protected from a static electricity.

Using NETIMPRESS avant in such environment as without static electric protection may result in destroying NETIMPRESS avant or a target system.

Be sure to power on NETIMPRESS avant first. Be sure to power on or off a target system while NETIMPRESS avant is powered on. An incorrect order may result in destroying the circuit of NETIMPRESS avant and a target system.

Packing Contents

If you purchased ACX500, please find the following items in the packing box.

ACX500× 1   One end MIL Connector D-Sub harness (OCX501)

×8 pieces

After unpacking, keep the package box contained the NETIMPRESS avant because it will be used at the time of maintenance service for the equipment.

Although we give our full attention to the products, if you find anything wrong with the items in the box, do not operate the product and contact with your dealer or the sales department of DTS INSIGHT Corporation.

Contents

1. Overview and Feature

1.1. Product description

The ACX500 is a programming device that supports up to 8 simultaneous writes to the Re-timer IC mounted inside the USB4 cable.

For programming, AFX series main unit (AFX100 or AFX200/AFX210), PHX400 and peripheral accessories must be purchased separately.

Please purchase the appropriate accessories for your use environment.

! If there is anything we can help you, please do not hesitate to contact your dealer or the sales department of DTS INSIGHT Corporation.

2. General Precautions

(1) Do not use NETIMPRESS avant in dusty areas, where there is direct sunlight or corrosive
   gas is generated.

(2) Use NETIMPRESS avant in environments with temperature between 5 and 40℃ and
   humidity between 20% and 80% (no condensation).

(3) In case there is noise in the AC power line, use a noise filter to eliminate the noise.

(4) To turn the power on, turn on the power of AFX series main unit first and then ACX 500.
   To turn off the power, follow the reverse order.

(5) Be sure to check main power switch of ACX500 is OFF, when connecting the power.

(6) Be sure to power off before installing or removing the PHX400.

(7) Be sure to power off before connecting by cable or removing the PHX400 internal ACX500 and
   the AFX series.

Visit our Web site for information about how to use NETIMPRESS avant and related products,

and for the latest information. Please use it as reference.

3. Name and Function of the Components

3.1. Name of Components

⑤Main Power switch   ⑥Terminal Block

430

430

88

①Front power switch

③ LED   ② USB Type-C

④Bracket

(Optional)
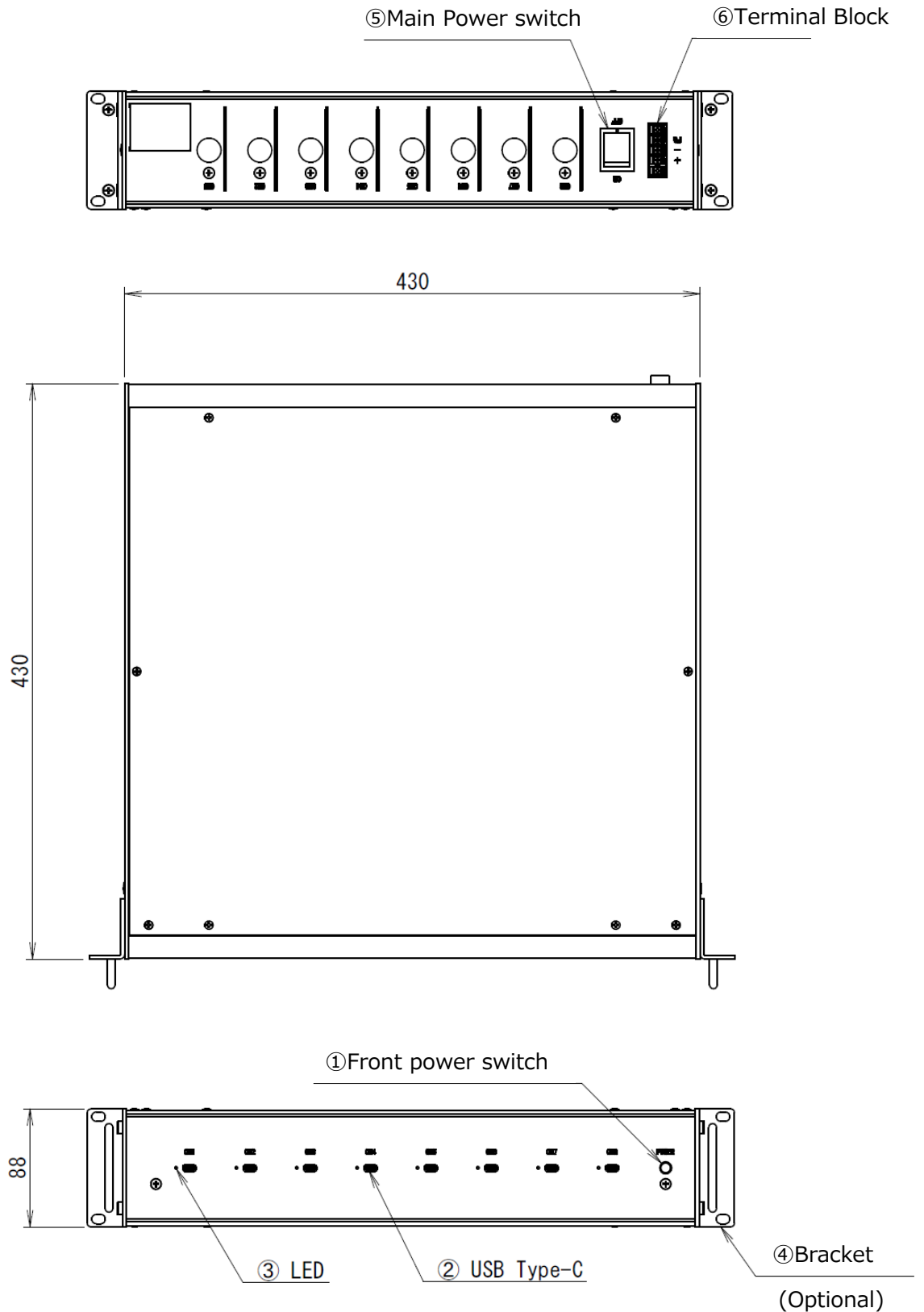
【Front】

① Front power switch (with indicator light)

When this switch is pressed while the main power switch is on, the ACX500 turns on and lights up.
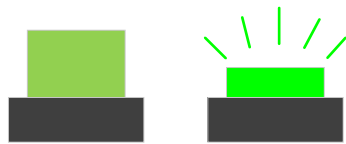
OFF（Lights out）　ON (Lights up)

② USB TYPE-C Connector

Connect the USB4 cable to the write target.

③ LED

Lights up when the USB4 cable is properly connected.

However, it will not light up if the PHX400 is not integrated in the target slot.

④ Bracket (Optional)

Brackets for fixing to 19-inch racks.

Select from two types, EIA standard or JIS standard, depending on the rack side specifications.

【Back】

⑤ Main Power Switch

Turns the power of the unit on and off.

ON　　　　　OFF
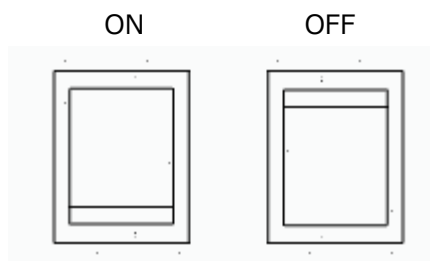
⑥ Terminal Block

These terminals supply power to the unit. ＋Connect 5.5V to the ＋ terminal and GND to the - terminal.

The FG terminal is the frame GND of the device, so connect it to the reference potential of the writing jig system.
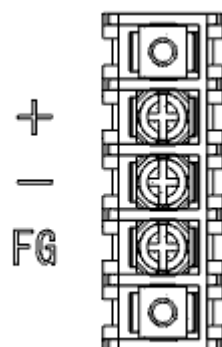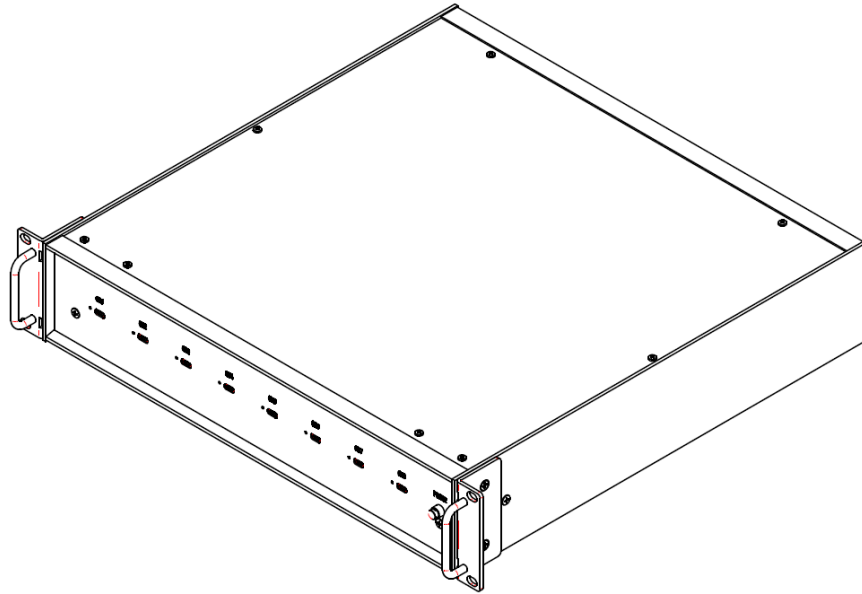
⑧PHX Connection Connector
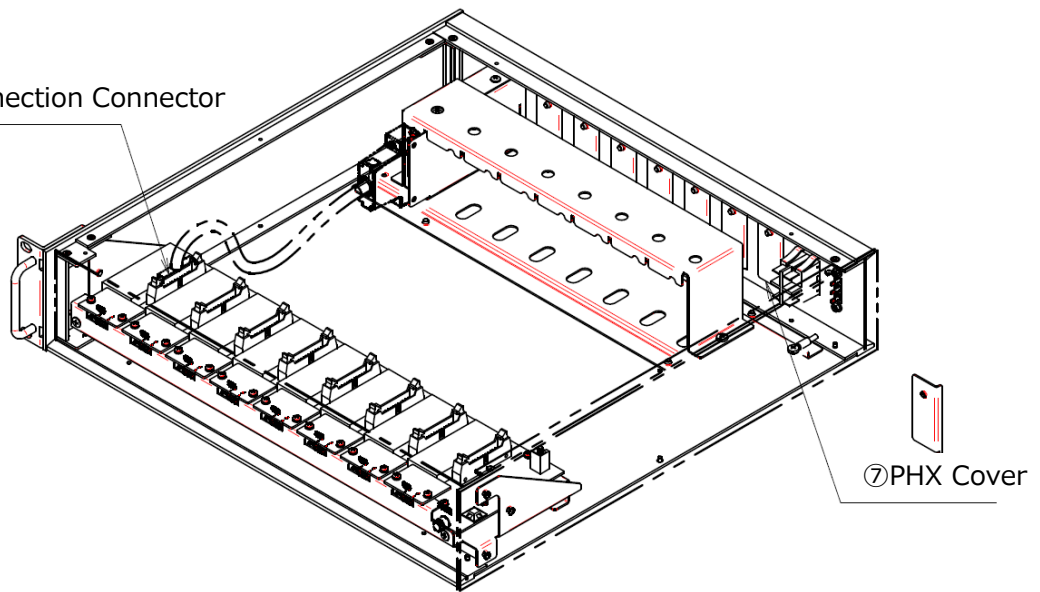
⑦PHX Cover

【Inside】

⑦ PHX Cover

This cover is for empty slots that do not incorporate PHX400.

⑧ PHX Connection Connector

This connector is used to disengage the PHX400 D-Sub harness.

⚠ **Note**

When attaching or detaching other units (AFX series main unit/PHX400) to or from this unit (ACX500), turn off the power to this unit and each unit. Do not use probes other than the PHX400 with this unit.

Be sure to install the supplied PHX cover on the slot to which the PHX400 is not connected.

Be sure to secure the PHX400 with the restraining bracket and screws provided with the ACX500.

4. Specifications

4.1. General Specifications

Item	Specifications	
Storage environment	Ambient temperature	-5～50℃
	Ambient humidity	20 to 80% RH, no condensation
Operation environment	Ambient temperature	5～40℃
	Ambient humidity	20 to 80% RH, no condensation
Power Supply	Input voltage range	DC 5.5V(For supplying power to equipment and USB4 cable)
	Consumed power	Less than 11W(2A)（Except for supplying power to USB4 cable)
External dimensions	430(L)×430(W) ×88(H)mm	
Weight	5.2kg	
Installation	Lay down horizontally	

4.2. Interface

4.2.1. PHX Connector

Item	Specification	
PHX Connector	Type	PS-26PE-D4T2-M1E(JAE)
	Male/Female	Male
	Number of ports	26

● **Pin arrangement**
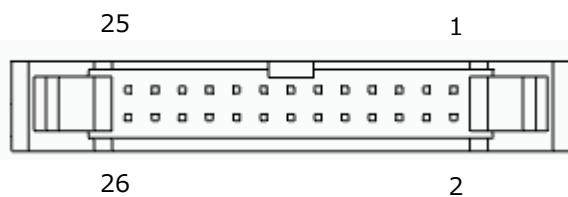
Connector pin layout signal table viewed from the mating surface

Table 1: AFX100 Probe Connector Signal List

Pin No	I/O	Signal Name	Pin No	I/O	Signal Name
1	I	TCK	14	-	GND
2	I/O	TTXD	15	-	GND
3	I/O	TRXD	16	-	GND
4	I/O	TBUSY	17	-	GND
5	I/O	TAUX	18	-	GND
6	I/O	TAUX2	19	-	GND
7	I/O	TAUX3	20	-	GND
8	I/O	TAUX4	21	I/O	TMODE
9	I	VCC	22	-	GND
10	I/O	/TICS	23	I	/TRES
11	-	GND	24	I	WDT
12	-	GND	25	O	TVccd
13	O	PROBE SELECT	26	-	N.C

5. Accessory (Optional)

5.1. Bracket

Type	Overview
ACX505	Bracket (JIS) (2 pieces)
ACX506	Bracket (EIA) (2pieces)

× 2   × 2

ACX505   ACX506

5.2. Maintenance Parts

Type	Overview
ACX501	Replacement USB connector board（8 pieces）
OCX501	One end MIL Connector D-Sub harness（1piece）
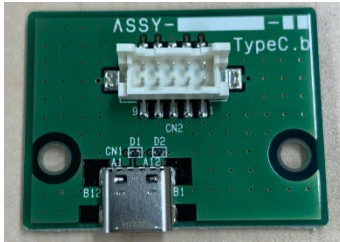
× 8

ACX501
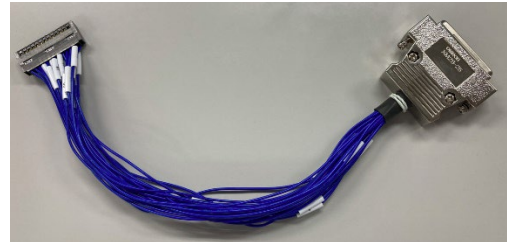
× 1

OCX501

6. Power Supply Operation

6.1. External Power Supply Connection Procedure

① Make sure the main power switch on the back of the equipment is in the OFF state.

ON   OFF
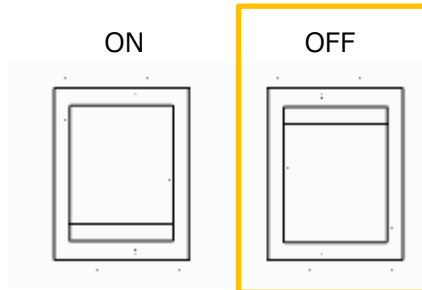
② Make sure that the front power switch on the front of the equipment is in the OFF state.

OFF(Lights out)   ON(Lighting)
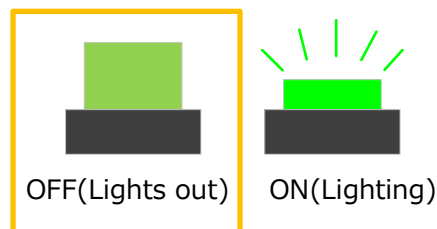
③ Connect the FG terminal of the terminal block on the back of the device to the reference potential of the entire writing fixture system.

   (e.g.: In the case of a grounding system where ground is the quasi-potential, connect to ground.

④ Connect GND of the external power supply to the "-" terminal on the terminal block.

⑤ Connect VCC of the external power supply to the "+" terminal on the terminal block.

6.2. Power On Sequence

① Connect the power supply according to "5.1 External Power Supply Connection Procedure" and be sure to check each power switch is in the OFF state.

② Turn ON the main power switch.

③ Turn ON the external power supply output.

④ Turn ON the front power switch.

6.3. Power OFF Sequence

① Turn OFF the front power switch.

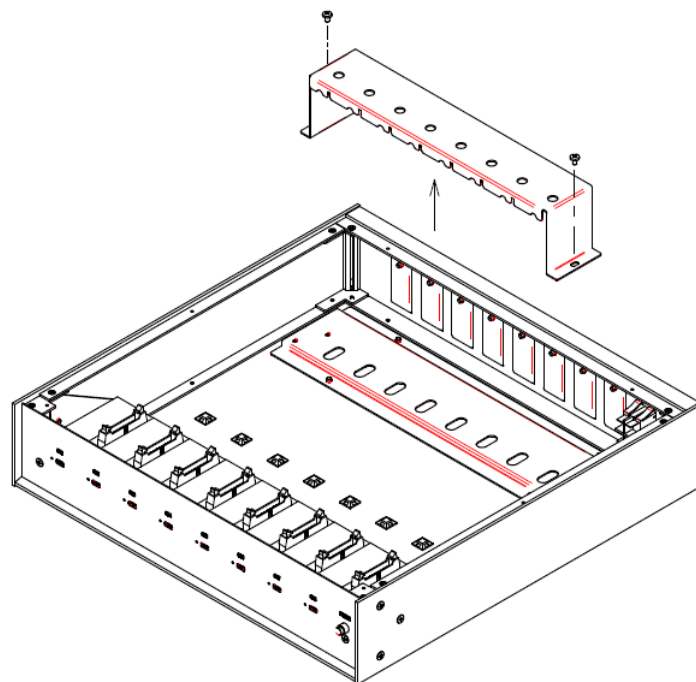② Turn OFF the external power supply output.

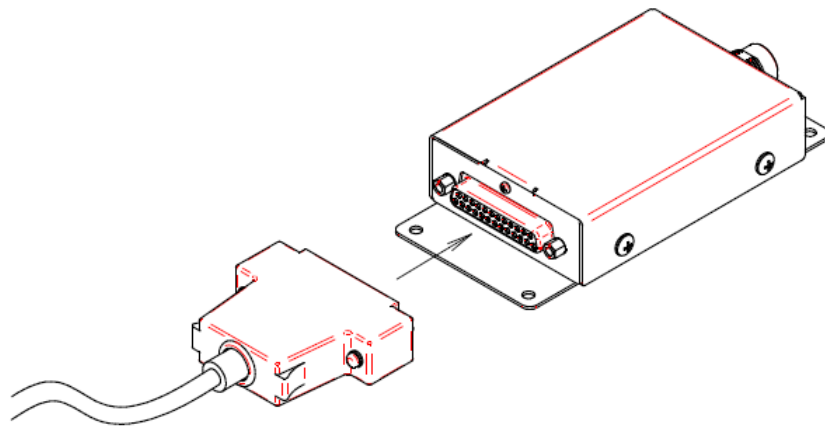③ Turn OFF the main power switch.

7. PHX400 Installation

7.1. How to Install

① Remove the six silver screws on the top surface and open the top panel.
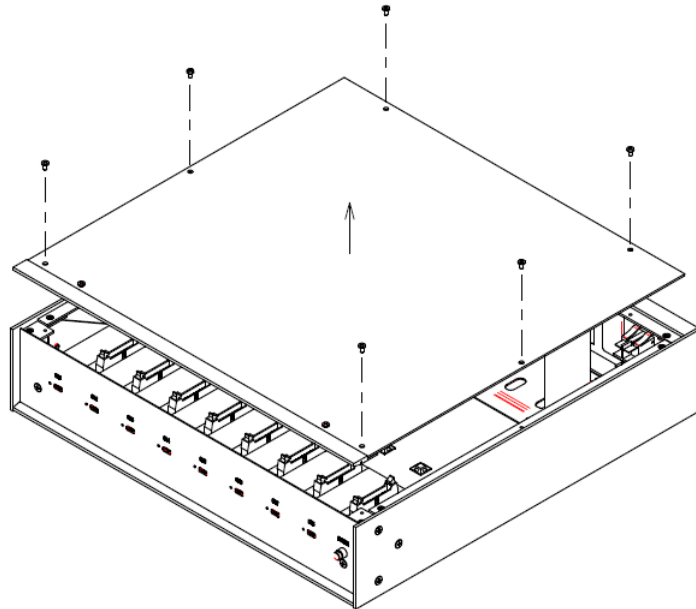
② Remove the hold-down bracket.

③ Connect the D-Sub harness to the PHX400.

④ Remove the screws on the back of the device, remove the PHX cover, install the PHX400, and secure it with the screws.
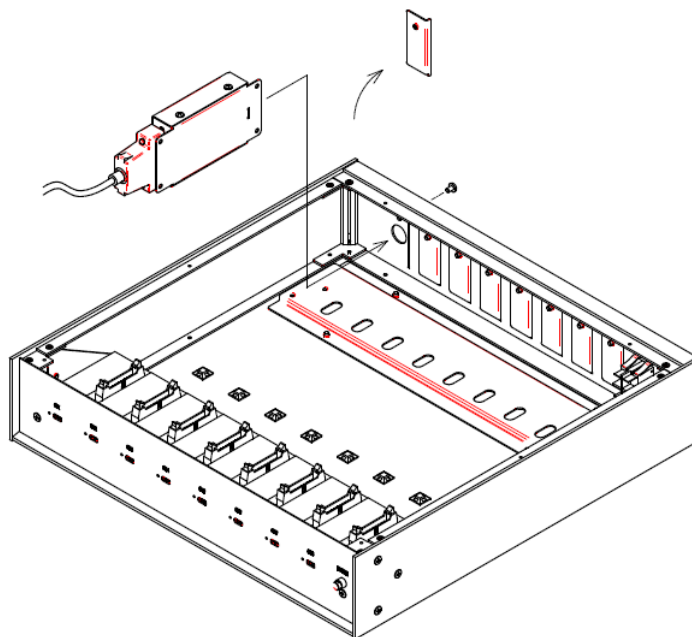
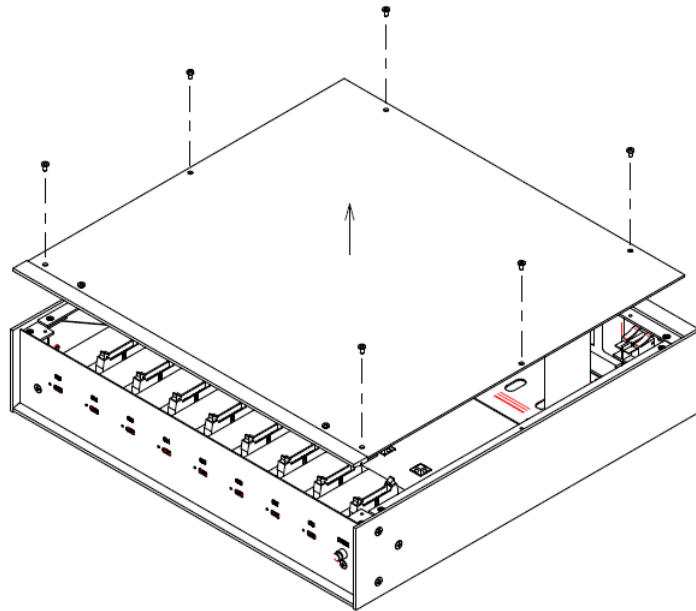⑤ Connect the D-Sub harness to the main board and attach the hold-down bracket.
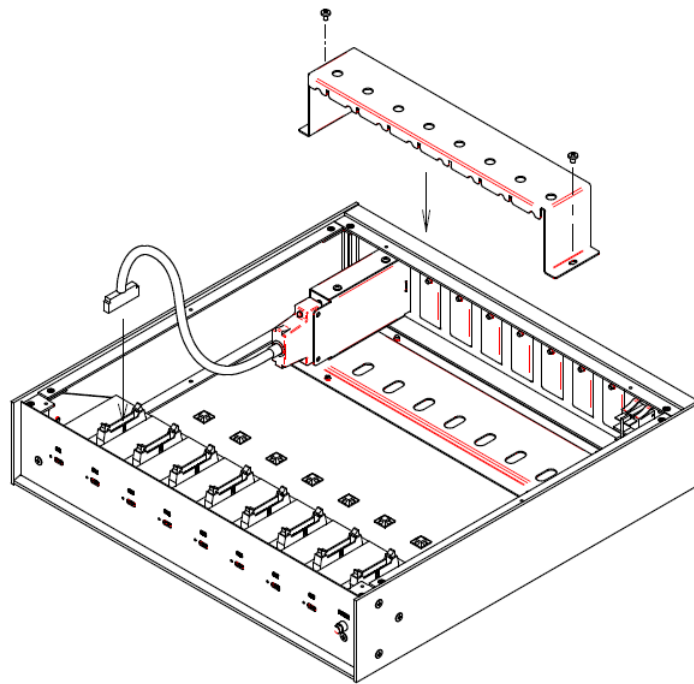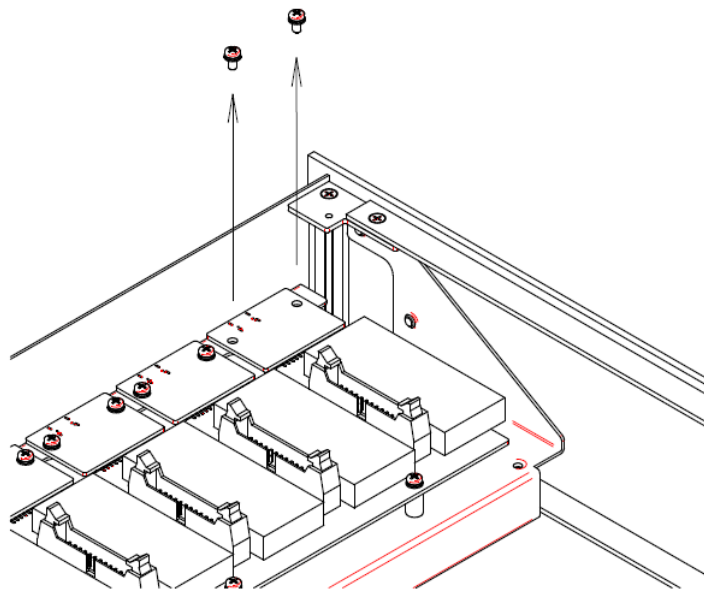
⑥ Attach the top panel and secure with screws.

8. Replace USB connector board

8.1. How to replace
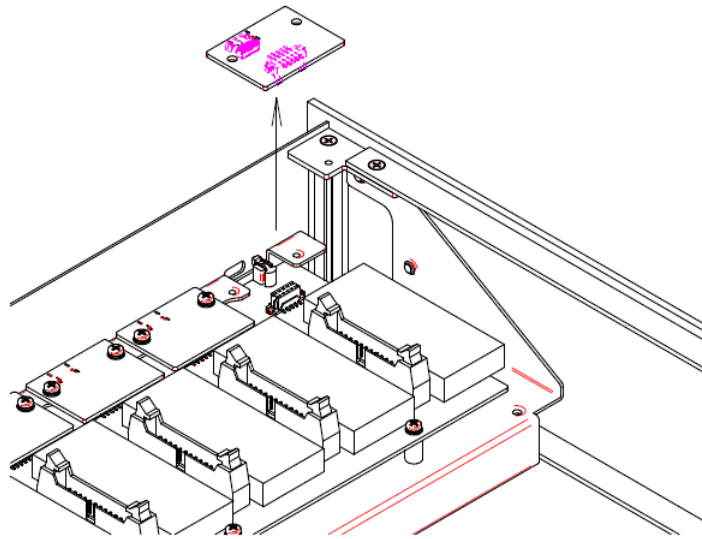
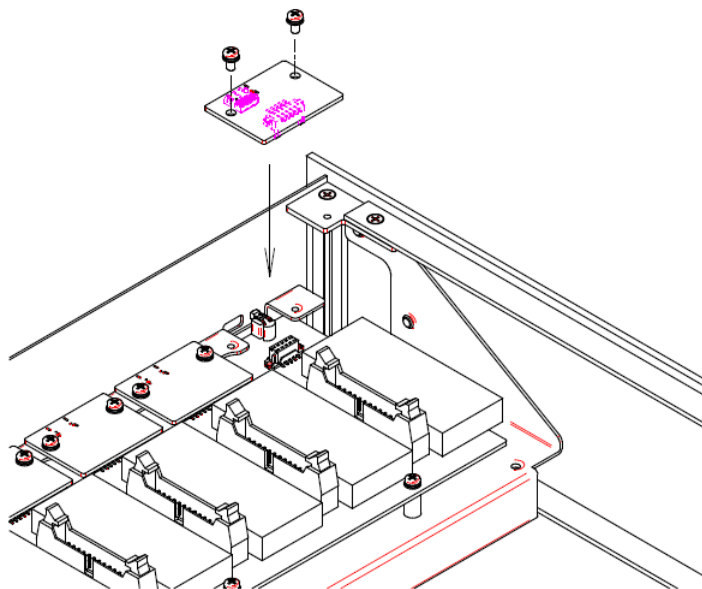① Remove the six silver screws on the top surface and open the top panel.

② Remove the two fixing screws from the USB connector board.

③ Pull the USB connector board straight up.

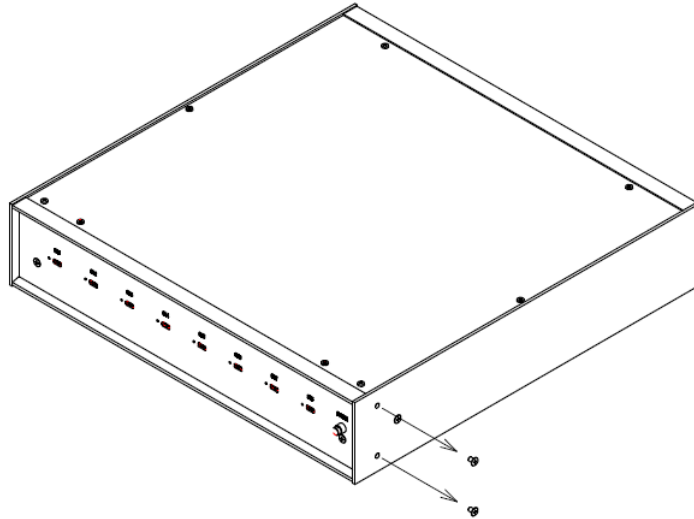④ Install the new USB connector board and secure it with screws.
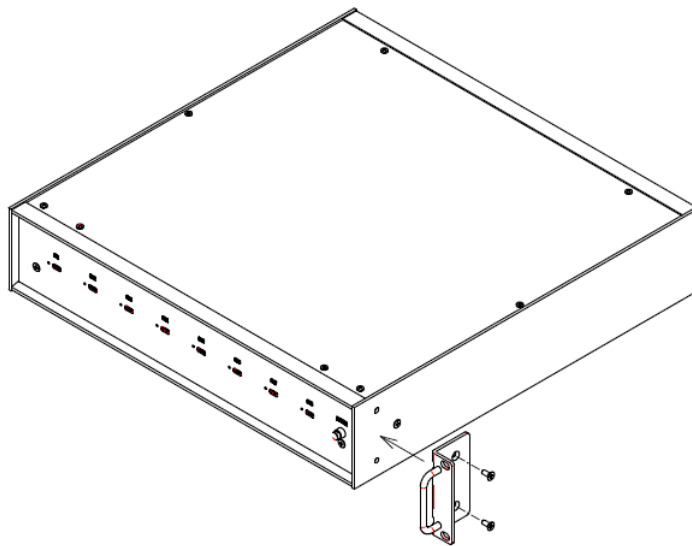
⑤ Install the top panel and tighten it with screws.

9. Install Bracket

9.1. How to Install Bracket

① Remove the two screws on the front side of the device.

② Install the bracket and tighten it with the provided countersunk head screws.

③ Install the bracket on the opposite side in the same way.

10. FAQ

LED does not light up when USB4 cable is connected

■ Check the PHX400

If there is no PHX400 connected to that slot, the LED will not light up even if the USB4 cable is connected. If this is the case, open the ACX500 housing and check to see if the PHX400 is properly connected to the slot.

11. Contact

For inquiry about the specification of NETIMPRESS avant, please contact our support center. For inquiry about the price information or lead time, please contact our sales or your local distributors.

Contact

NETIMPRESS Support Center

E-mail : support-impress@dts-insight.co.jp

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DTS INSIGHT CORPORATION

URL https://www.dts-insight.co.jp/en/support/support_netimpress_avac

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