B-2456(0)

INSTRUCTION SHEET

Original Instructions

HT4P Series

▲ Chinese

Confirm that the delivered product is what you have ordered. Read this instruction sheet to make sure of correct operation. Make sure that the instruction sheet is kept by the end user.

Safety Precautions

In this instruction sheet, safety precautions are categorized in order of importance from Warning and Caution:

⚠ WARNING

Warning notices are used to emphasize that improper operation may cause severe personal injury or death.

⚠ CAUTION

Caution notices are used where inattention might cause personal injury or damage to equipment.

⚠ WARNING

- HT4P is not designed for use in applications requiring a high degree of reliability and safety, such as applications for medical devices, nuclear power, railroads, aerospace, and automotive devices.
- Turn off the power to HT4P before installation, removal, wiring, maintenance, and inspection of HT4P.Failure to turn power off may cause electrical shock or fire hazard.
- Special expertise is required to install and wire operate HT4P. People without such expertise must not use HT4P.
- When configuring an emergency stop circuit, configure it externally using the emergency stop switch of HT4P.
- Take appropriate safety measures according to the safety requirements of the machine or system used and the results of the risk assessment.
  The control system for the emergency stop function and the enabling function should be configured the circuit to satisfy the required performance level (PLr) / control category / Safety Integrity Level (SIL) required by the requirements of the application standard and the risk assessment result.
  The emergency stop pushbutton switch mounted on HT4P should be configured the circuit according to the stop category 0 or 1 based on the applicable standard IEC60204-1.
- If HT4P and the machine are removable, be sure to install one or more emergency stop devices on the machine.
  If you remove HT4P, store it properly so that the user does not accidentally operate the disabled emergency stop pushbutton switch.
- Do not, under any circumstances, hold the enabling switch on HT4P in position 2 with tape, string, or deform the rubber cover. The intrinsic function of the enabling switch will be lost, and the enabling switch may not work in an emergency.
- When using HT4P, place your finger firmly on the enabling switch.
- Perform regular checks to confirm that the emergency stop switch and enabling switch work properly. It is extremely dangerous if the enabling switch no longer returns to position 1 due to a foreign object becoming lodged in the switch because position 2 will be maintained even when you remove your hand.
- Make sure that the enabling switch function works while connecting the device or robot to be used.
- Stop using HT4P if it is accidentally dropped or exposed to significant shocks, check HT4P for damage, and confirm that its various functions work safely and correctly.
- Otherwise malfunction may result due to noise. Follow the instructions below.
  - Set the FE terminals to class D grounding (Class 3 grounding : Grounding resistance : 100Ω or less).
  - Do not connect the grounding conductor to the grounding conductor of the power unit.
- Never supply power to the USB with foreign matter or water droplets on it.
- Do not place a load on the cable of the product, the USB cable used, and the connector. It could be a risk of fire or malfunction.
- Use a special option for the shoulder strap. Be careful not to catch or catch the shoulder strap during operation.

⚠ CAUTION

- HT4P is designed for indoor use only. (Not for outdoor use)
- Do not give a strong impact such as dropping HT4P. It may cause damage or malfunction.
- Use of the product in hightemperature or high-humidity environments, or in locations where it is exposed to condensation, corrosive gas or large shock loads can create the risk of electrocution, fire and malfunction.
- HT4P is "pollution degree 3". Use in an environment of pollution degree 3. (Based on standard IEC60664-1)
- Prevent metal fragments or wire chips from dropping inside HT4P housing. Ingress of such fragments and chips may cause fire hazard, damage, and malfunction.
- Use a power supply of the rated value. Using a wrong power supply or wiring in reverse polarity may cause fire hazard and damage.
- Make sure of safety before starting and stopping HT4P. Incorrect operation of HT4P may cause mechanical damage or accidents.
- Do not attempt to disassemble, repair or modify HT4P. This can create the risk of fire, electrocution and malfunction.
- Install HT4P according to the instructions. Improper installation may result in, failure, electrical shock, fire hazard, or malfunction of HT4P.
- If it is used in a way incompatible with HT4P original use purpose, the function provided by HT4P may be impaired.
- Note that some tablets may interfere with the installing of the power or volume buttons and camera.
- Depending on the tablet, the power button, volume button, and camera may interfere with HT4P when installed. If buttons etc. interfere with HT4P, refer to 8 Changing the spacer position.
- Use within the range of use of the tablet and HT4P.

1 Packing Content

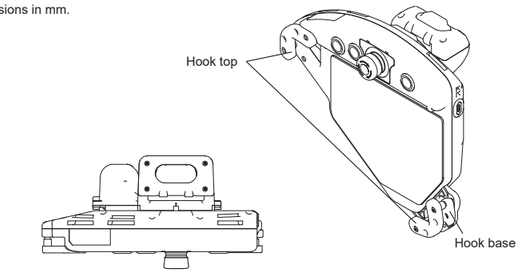
Name	Pcs.
HT4P Unit	1
Hand strap	1
Key	2
Instruction Sheet (Japanese/English/German)	1

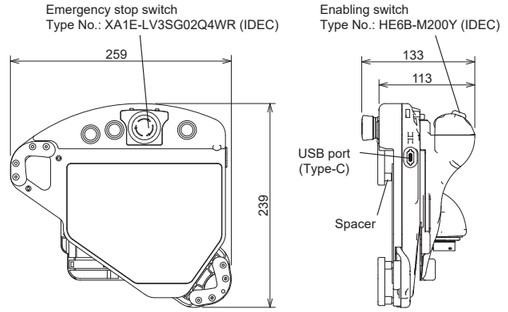
2 Type Number

Type Number	HT4P-SLNPL-W
	HT4P-SLSPL-W-R****

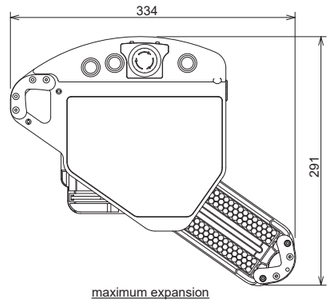
3 Part Names / Dimensions

All dimensions in mm.

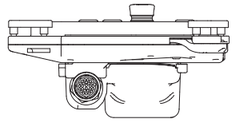


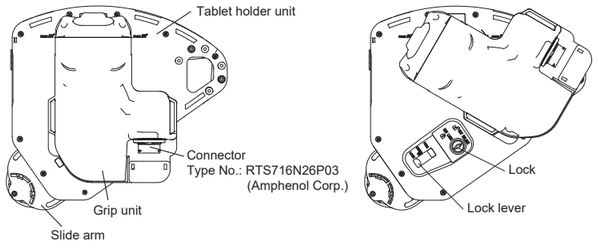


minimum expansion



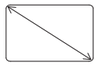
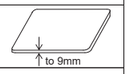
maximum expansion



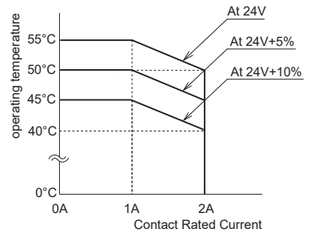


*1 Use the cable recommended by the tablet for USB power supply/communication to the tablet, and select the cable length considering the position of the USB connector of the tablet. Never connect the USB cable when there are foreign objects or water droplets on it.
*2 Telescopic lock is not for anti-theft.
*3 Remove the protective sheet before use.

4 Specifications

Applicable Standards		IEC/EN 60947-5-1 IEC/EN 60947-5-5 (XA1E-LV3SG02Q4WR) IEC/EN 60947-5-8 (HE6B-M200Y) UL 508 UL 60947-1 UL 60947-5-1 UL 60947-5-5 CSA C22.2 No.14	
	Safety Standards	IEC 61010-1, EN 61010-1 IEC 61010-2-201, EN 61010-2-201	
	Applicable Standards for Use	ISO 12100 IEC 60204-1 ISO 10218-1 ISO 10218-2	
	EMC Standards	IEC 61131-2, EN 61131-2	
UL Certification standards		UL 508 UL 60947-5-5 CSA C22.2 No.14	
Environmental Specifications	Operating Temperature	-10 to +55°C *13	unconnected USB/ non-holding HT4P
		-10 to +40°C	connected USB/ non-holding HT4P
		-10 to +35°C *4	holding HT4P
	Operating Humidity	30 to 85%RH (no condensation)	
	Storage Temperature	-20 to +55°C	
	Storage Humidity	30 to 85%RH (no condensation)	
	Pollution Degree	3	
Electrical Specifications *5 *6 *7	Rated Insulation Voltage	50V	
	Overvoltage category	Ⅱ	
	Operating Voltage	Power supply 24V DC (20.4 to 28.8V DC)	
		Emergency stop switch LED unit 24V DC (21.6V to 26.4V DC)	
	Current consumption	Power supply max. 2.0A	
		Emergency stop switch LED unit 10mA	
	Allowable cutting off time	1ms	
	Withstand voltage	Power supply 24V DC+/-terminals and FE terminal: 500V AC 1minute	
	Insulation resistance	Power supply 24V DC+/-terminals and FE terminal: 100MΩ minimum (500V DC megger)	
	Contact Ratings	Emergency stop switch (Type No.: XA1E-LV3SG02Q4WR) 2A/30V DC (resistive)(DC-12) 1A/30V DC (inductive)(DC-13)	
		Enabling switch (Type No.: HE6B-M200Y) 1A/30V DC (resistive)(DC-12) 0.7A/30V DC (inductive)(DC-13)	
EMC Specifications	Immunity Zone	Zone A (IEC 61131-2, EN 61131-2)	
Construction Specifications	Vibration	5 to 8.4Hz half amplitude 3.5mm 8.4 to 150Hz acceleration 9.8m/s² 2 hours on each of 3 directions	
	Shock	147m/s² 11ms 5 times on each of 6 directions	
Other Structural Specifications	Degree of protection	IP54 *8	
	Compatible tablet *9	Compatible tablet size Tablet diagonal length: 290 to 380mm (When it is shrinked: 270 mm to) *10 Screen size: 10 to 13 inch	
		Compatible tablet thickness Standard: up to 9mm *11	
		Supported OS *12	
		Compatible tablet weight max. 1.1kg (reference)	
	Weight (excluding hand straps and other accessories)	880g (Approx.) 2210g (Approx.)(including opptional cable (D-Sub type))	
	Rotation angle	120° (Approx.)	
	Case color	Black	
USB Specifications	Communication	USB 2.0 device High speed (480Mbps)	
	Power feeding	USB PD Source Output: 30W, 5V-3A, 9V-3A, 15V-2A, 20V-1.5A	
	Cable	USB Type C connector Cable length: less than 0.5m	
Ethernet Specifications	communication	IEEE802.3i 10BASE-T, 100BASE-TX	
	Insulation from internal circuits	Pulse transformer	

*4 The grip unit generates heat after a long power supply. Do not supply power while holding the grip unit for an extended period of time, as this may cause a low temperature burn.
*5 Safety Standard Certification UL Certification Rated Class 2 Type 1 Ta max.: 55°C
Enable/E-STOP: 30V DC/1A max. (Res)
30V DC/0.7A max. (Pilot Duty)
Other SW: 30V DC/0.1A max. (Res)
USB Power Supply Input: 24V DC/2A
USB Output: 5V/3A, 9V/3A, 15V/2A, 20V/1.5A
*6 If there is a risk of USB power supply and tablet malfunction or destruction due to noise from the connected power supply, use a dedicated USB power supply that is independent of other power supplies.Use a class 2 or SELV power supply.This product does not support hot swapping. Be sure to turn off the power before wiring or disconnecting from the main power supply.
*7 The emergency stop switch LED unit has a current limiting resistor and a rectifier circuit built in.
*8 Except when connecting a USB cable.
*9 Some tablets may not apply depending on the shape.
In addition, we do not guarantee the tablet weight.
*10 Refer to 8 Changing the spacer position for the shrinking method.
*11 The tablet thickness adjustment set (optional) can be installed up to 23mm.
HT9Z-3PHB08 for tablet thickness of 9mm to 17mm, and HT9Z-3PHB14 for tablet thickness of 17mm to 23mm. For thickness adjustment, refer to 13 Options/Maintenance Parts.
*12 Refer to "USB-Ethernet conversion function" in 12 .
*13 When using at an operating temperature of 40°C or higher, adjust the contact rated current of the emergency stop switch and the voltage applied to the LED unit according to the diagram below.

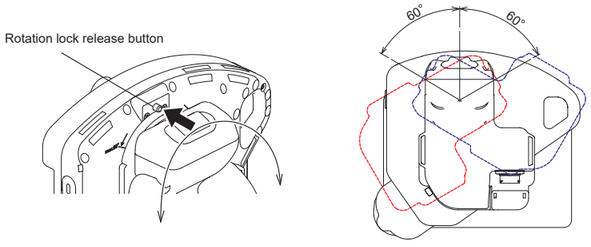


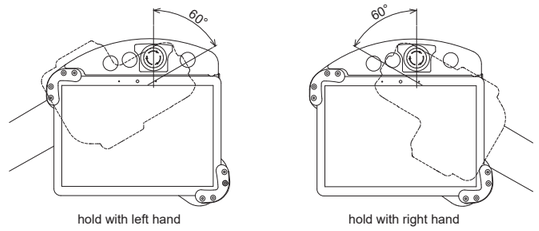
5 Operating

Operating Environment
- For designed performance and safety of HT4P, do not install HT4P in the following environments:
  - Where dust, briny air, or iron particles exist.
  - Where oil or chemical splashes for long time.
  - Where oil mist is filled.
  - Where direct sunlight falls on HT4P.
  - Where strong ultraviolet rays fall on HT4P.
  - Where corrosive or combustible gasses exist.
  - Where vibrations and shocks are transmitted.
  - Where condensation occurs due to rapid temperature change.
  - Where high-voltage or arc-generating equipment (electromagnetic contactors or circuit protectors) exists in the vicinity.
  - Near devices that generate a lot of heat. Such as a boiler.
  - Where that exceed specifications of HT4P and a tablet.

6 Grip unit rotation mechanism

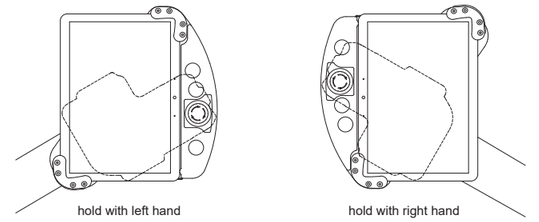
- Be sure to press the rotation lock release button when rotating the grip unit. After adjusting the angle, check that the rotation lock button is protruding (returning).





hold with left hand hold with right hand

Use the tablet horizontally



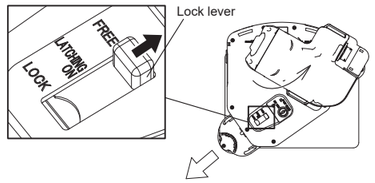
hold with left hand hold with right hand

Use the tablet vertically

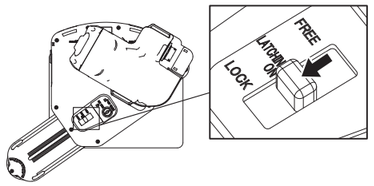
*14 Do not force the grip unit to rotate. It will be the cause of the failure.

7 Installing and removing the tablet

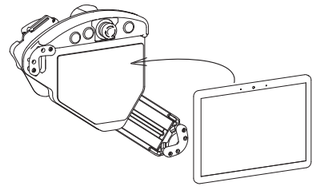
7-1. Installing



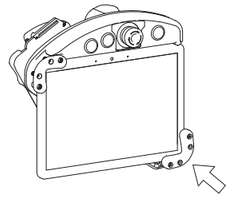
(1) Rotate the grip unit. Slide the gray lock lever on the tablet holder in the FREE direction and loosen the slide arm.



(2) Slide the gray lock lever in the LATCHING ON direction.

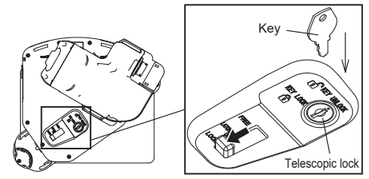


(3) Install the tablet on the tablet holder.



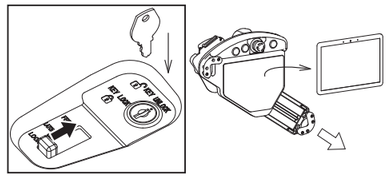
(4) Slide the slide arm so that the four spacers touch the tablet. to hold the tablet securely.
Insufficient holding may cause the tablet to fall.

* If the tablet buttons, etc. interfere, the spacer position can be changed. Hold the tablet securely by referring to 8 Changing the spacer position.
* Depending on the tablet model, the hook top overlaps the touch panel operation range, so please be careful of the drawing range.



(5) Slide the gray lock lever on the tablet holder in the LOCK direction. If necessary, lock the telescopic lock at the LOCK position and remove the key. The lock lever is fixed at the LOCK position. Do not operate the telescopic lock in the FREE position. It will be the cause of the failure.

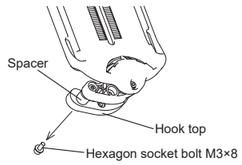
7-2. Removing



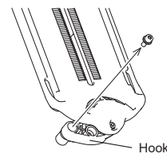
(1) If the key is locked, open it with the key, and then slide the gray lock lever to the FREE position. The weight of the tablet may cause the slide arm to open and the tablet to fall at that time.
(2) When removing the tablet by opening the slide arm, support the tablet and be careful not to drop it.

8 Changing the spacer position

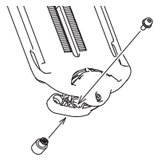
● If the tablet buttons, etc. interfere with the spacer, change the mounting position.
* The spacer position on the tablet holder unit side can also be changed by the same procedure.



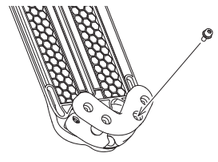
(1) Remove the hexagon socket bolt (hex wrench size: 2.5) on the front side of the hook.



(2) Remove the hexagon socket bolt (hex wrench size: 2.5) on the back side of the hook base of the spacer you want to change.

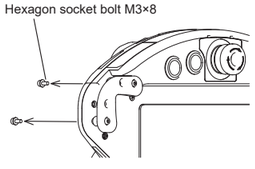


(3) Check the anti-rotation of the spacer and mount it in the appropriate position.
(Recommended tightening torque 0.5 to 0.6N-m)

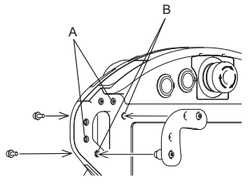


(4) Attach the hook top.
(Recommended tightening torque 0.2 to 0.3 N-m)

• If the center of gravity balance is poor due to the tablet shape, weight, or orientation, offset the hook.



(1) Remove the two hexagon socket head bolts on the back of the main unit.

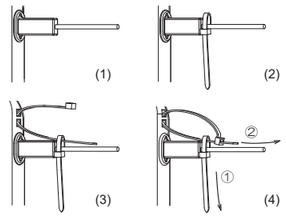


(2) Install the hook top and spacers by changing the location from A to B. Check the rotation stop position and install the hexagon socket head bolt.
(Recommended tightening torque 0.5 to 0.6N-m)

9 Using the hole to prevent the USB from being pulled out

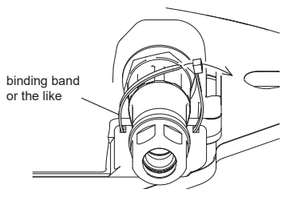
If necessary, follow the steps (1) to (4) to prevent the USB connector from being pulled out.

(1) Plug in the USB connector.
(2) Attach the cable tie to the handle of the USB connector.
(3) Pass the cable tie through the two holes next to the USB port, pass it through the holes in the cable tie attached in (2), and tighten.
(4) Tighten the cable ties in (2) to the thickness of the cable in order of ① and ② to prevent it from being pulled out. Tightening too much will lead to bending or damage to the connector, so adjust with some clearance.



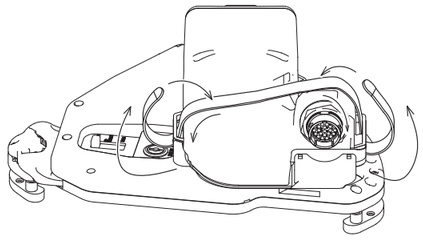
10 Fixing the connector

● Excessive load or shock may damage the connector. In order to protect the connector from load and impact, use the hole in the grip unit and secure the connector with a binding band or the like.



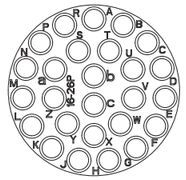
11 Attaching the hand strap

Rotate the grip unit to the position shown in the figure below, then pass the hand strap through the holes on both sides of the grip unit and fasten it with Velcro.



12 External Interfaces

Manufacturer:
Amphenol Corp.
Type No.:
RTS716N26P03



Connector on the HT4P main body side

If you purchase the HT4P-SLSPL-W-R0001 to R0010, Mechanical switch mount model access the QR code below and refer to connectors H to S.

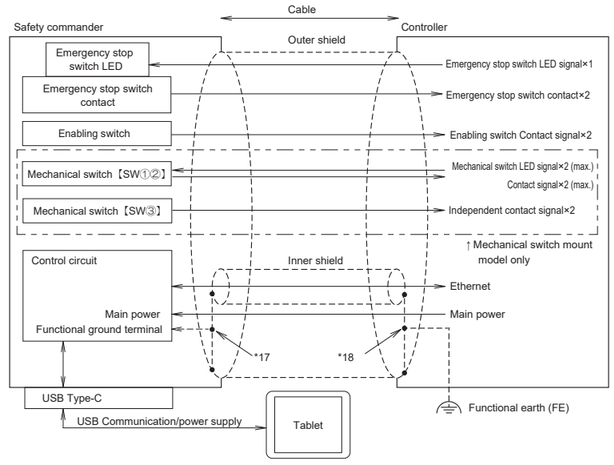
The following table shows HT4P-SLSPL-W-R0005 as a typical example.

← Mechanical switch mount model Additional instruction sheet

Connector symbol on the HT4P main body side	Cable Color *15	D-sub37p Pin Number *16	Function	HT4P-SLNPL-W	Ex.) HT4P-SLSPL-W-R0005 Mechanical switch mount model
A	Black	1	Main power	24V DC+	24V DC+
B	White	2		24V DC-	24V DC-
C	Shield (Inner/Outer)	21		Functional earth terminal	Functional earth terminal
D	Blue	5	Ethernet	TPO+ (Ethernet Send data+)	TPO+ (Ethernet Send data+)
E	White/Blue	6		TPO- (Ethernet Send data-)	TPO- (Ethernet Send data-)
F	Orange	7		TPI+ (Ethernet Received data+)	TPI+ (Ethernet Received data+)
G	White/Orange	8		TPI- (Ethernet Received data-)	TPI- (Ethernet Received data-)
H	Blue	11	Mechanical switches	Unused	Switch③ (NO1)
J	Gray	12			Switch③ (COM1)
K	Orange	13			Switch③ (NO2)
L	Purple	14			Switch③ (COM2)
M	Pink	15			Switch② (NO1)
N	Bright green	16			Switch① (NO1)
P	White/Red	17			For Switch LED② (24V DC)
R	White/Green	18			For Switch LED① (24V DC)
S	White/Yellow	19			Switch/LED Common①②COM
T	White/Brown	27	Emergency stop switch	LED (X1)	LED (X1)
U	White/Blue	28		LED (X2)	LED (X2)
V	White/Gray	29		Contact 1 (NC)	Contact 1 (NC)
W	White/Orange	30		Contact 1 (NC)	Contact 1 (NC)
X	White/Purple	31		Contact 2 (NC)	Contact 2 (NC)
Y	White/Pink	32		Contact 2 (NC)	Contact 2 (NC)
Z	Red	33	Enabling switch	Contact 1 (COM)	Contact 1 (COM)
a	Green	34		Contact 1 (NO)	Contact 1 (NO)
b	Yellow	35		Contact 2 (COM)	Contact 2 (COM)
c	Brown	36		Contact2 (NO)	Contact 2 (NO)

*15 Refers to the core cable color of the optional cable "HT9Z-4PC1*M".
*16 Refers to the pin number of the D-Sub37p connector of the option cable "HT9Z-4PC1*MC".
No wiring on PIN numbers 3, 4, 9, 10, 20, 22-26, 37.

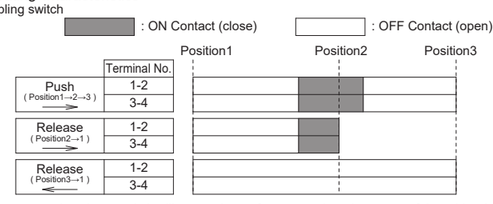
● System configuration



*17 Both the inner and outer shields should be connected to the functional ground terminal.
*18 Both the inner and outer shields should be functional ground.

● Operating Characteristics

Enabling switch



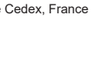
The above operating characteristics illustrate the performance when the center of the rubber boot is pressed. Pressing the edge activates one of the two 3-position switches inside earlier than the other, and may cause a delay in the operation of the grip switch.

● Precautions when preparing the cable by the customer
(1) Cables less than AWG20 cannot be used for connecting to the main power supply. Use a cable of AWG20 or higher.
(2) Use cables with transmission characteristics equivalent to LAN cables of category 5e or higher for wiring Ethernet cables, and shield the entire Ethernet cable with a shield. (Inner shield)
(3) In addition to the main power supply, the emergency stop switch, and enable switch cables, shield the entire shielded Ethernet cable with a shield. (Outer shield)

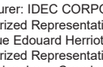
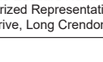
● USB-Ethernet conversion function
The USB-Ethernet conversion function can be used by installing a dedicated software driver on a Windows tablet. This function is realized by MAXLINEAR's dedicated IC (model number: XR22801). The dedicated software driver is available on the MAXLINEAR website below. Please download from the website and use it according to the terms of use described on the website.
Check the following website for compatible OS types and versions.
https://www.maxlinear.com/support/design-tools/software-drivers
Before using the software, check the errata information from the following website and handle it according to the information.
https://www.maxlinear.com/product/interface/bridges/usb-ethernet-bridges/xr22801#documentation

13 Options / Maintenance Parts

● Options

Name	Type No.	Remarks
Wall mounted holder	HT9Z-4PF1	-
Tablet thickness adjustment kit A *19	HT9Z-3PHB08	4 rubber tubes and 4 spacers (If the tablet is 9 to 17mm thick, add it to the standard parts.)
Tablet thickness adjustment kit B *19	HT9Z-3PHB14	4 rubber tubes and 4 spacers (If the tablet is 17 to 23mm thick, add it to the standard parts.)
Shoulder strap	HT9Z-4PS2	-
Cable	HT9Z-4PC1*M	Loose wires type
	HT9Z-4PC1*MC	D-Sub type
Emergency stop switch guard	HT9Z-4PG1	-
Rubber tube *20	HT9Z-3PHC10	100mm (Approx.) Inner diameter Ø6mm, outer diameter Ø9mm
Hook *21 	HT9Z-4PHZ	Hook top, Hook base, Spacer (14mm) 2pc, Rubber tube (8mm) 2pc, Rivet *22
Hook top *21 	HT9Z-4PHZ-F	Hook top 2pc

● Maintenance Parts

Name	Type No.	Remarks
Hand strap	HT9Z-4PS1	-
Key	HT9Z-4PK01	2pc/pack
Hook (Attached shape) 	HT9Z-4PHZ1	Hook top, Hook base, Spacer (14mm) 2pc, Rubber tube (8mm) 2pc, Rivet *22
Hook top (Attached shape) 	HT9Z-4PHZ1-F	Hook top 2pc

*19 If you want to change the thickness to the optimum thickness for your tablet, purchase the following spacers and use them. [(Spacer length) - 5 [mm]] is the thickness that can be attached it.
Manufacturer: Hirosugi-Keiki Co., Ltd .ARL-3△△SE △△: Spacer length (mm)
*20 If you need a rubber tube with the optimum length, purchase the option: rubber tube and cut it to the length suitable for the thickness of the tablet.
*21 If you are worried about holding a tablet, you can also use these. This can fix the tablet more firmly than the attached hook, but it is installed so as to cover the screen deeply. Depending on the tablet you are using, part of the screen may be covered by the hook. Check the outline drawing on our website for the actual size.
*22 If the hook base rivet is damaged, purchase the following rivet and use it.
Manufacturer: Hirosugi-Keiki Co., Ltd. Type No. N-4060

14 Precaution for Disposal

● Observe the laws and regulations set by each country concerning refuse disposal.

DECLARATION OF CONFORMITY
We, IDEC CORPORATION declare under our sole responsibility that the product:
Safety Commander HT4P Series
Applied Union harmonized legislation and references to the relevant harmonization standards used or references to the other technical specifications in relation to which conformity is declared.

Manufacturer: IDEC CORP.
2-6-64 Nishimiyahara Yodogawa-ku, Osaka 532-0004, Japan

EU Authorized Representative: APEM SAS
55, Avenue Edouard Herriot BP1, 82303 Caussade Cedex, France

Applicable EU Directive :
Electromagnetic Compatibility Directive (2014/30/EU)
Machinery Directive (2006/42/EC),
RoHS Directive (2011/65/EU and(EU)2015/863)
Applicable Standard(s): EN 61131-2 / EN 60947-5-5 / EN IEC 63000

UK Authorized Representative:
APEM COMPONENTS LIMITED
Drakes Drive, Long Crendon, Buckinghamshire, HP18 9BA, UK

Applicable UK legislation:
Electromagnetic Compatibility Regulations 2016
Supply of Machinery (Safety) Regulations 2008
Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
Applicable Standard(s): EN 61131-2 / EN 60947-5-5 / EN IEC 63000

IDEC CORPORATION http://www.idec.com
Manufacturer: IDEC CORPORATION, 2-6-64 Nishimiyahara, Yodogawa-Ku, Osaka 532-0004, Japan
EU Authorized Representative: APEM SAS
55, Avenue Edouard Herriot BP1, 82303 Caussade Cedex, France
UK Authorized Representative: APEM COMPONENTS LIMITED
Drakes Drive, Long Crendon, Buckinghamshire, HP18 9BA, UK
2024.03