Contents in this document may change without prior notice.
Please obtain the delivery specification for the latest design.

Seedsware

InfoSOSA™ Series

Touchscreen Display

IS731 Series

Product Specification

Seedsware Corporation
http://www.seedsware.co.jp/global/

17A4A2-00003E-3

Table of Contents

1. Summary

This document describes the specifications of the IS731 Series touchscreen displays.
You can operate your device easily and get LCDs with various expressions by interactive operations of the touchscreen, made possible by communicating with the host device.

2. IS731 Series Products

2-1 General Specifications

Model	Specification Distinction*				
IS731-4WQ-D05	4.3”	WQVGA(480 x 272)	65,536 color	Open Frame	1 language
IS731-5V-D05	5.7”	VGA(640 x 480)	65,536 colors	Open Frame	1 language

* Product specification listed items:

“Display size/Resolutions/Displayed colors/Chassis type/ Maximum support language”

・1 language (Maximum of 1 system font language can be used.)

Specification varies according to the model.
This specification provides information according to each distinctive model.

3. Packaged Contents

3-1 Standard Specification

■ **4.3” / 5.7”**

Packaged Content	IS731-4WQ-D05 IS731-5V-D05
・Main Unit	10 units/box

4. Unit Specifications

4-1 Performance

■ 4.3”

Items		Specifications
		IS731-4WQ-D05
Display	Type	4.3”TFTLCD
	Resolution	480(W) x 272(H)
	Color	65,536 Colors
	Backlight	LED Backlight (Brightness can be adjusted by 8 levels) On/Off function, automatic Off function
	Language	System Font*1 Select 1 from below languages: Japanese Korean English and European language
		Image Font*2
Memory Capacity	User Flash Memory	20MB*3
Touch Screen	Type	Analog Resistive
	Resolution	480 x 272
	Input Method	Finger or R0.8 Polyacetal pen
	Touch Sound	Yes
Serial I/F	SIO1	RS232(TXD,RXD,RTS,CTS)Nylon Connector
	SIO2	RS422/485(TXD,RXD)Nylon Connector
Sheet Key I/F	Switch	Maximum 24 points (Matrix Key 4 x 6) (FFC Connector)
	LED	Maximum 8 points (FFC Connector)
Battery I/F		Nylon Connector
Other I/O	Buzzer	Variable Frequency
	RTC*4	±65 seconds/month (Error at room temperature, no power flow.)

*1. English (alphabet) is included in all languages.

*2. Fonts installed in the computer can be displayed as bitmaps.

*3. This area contains font data.When using multiple font data, the area that can be used as screen data is reduced.

*4. External battery needs to be connected to Battery I/F in order to back up the RTC.
Set to correct time on a regular basis when using on systems where time error is a problem,

■ **5.7”**

Items		Specifications
		IS731-5V-D05
Display	Type	5.7”TFTLCD
	Resolution	640(W) x 480(H)
	Color	65,536 Colors
	Backlight	LED Backlight (Brightness can be adjusted by 8 levels) On/Off function, automatic Off function
	Language	System Font*1 Select 1 from below languages: Japanese Korean English and European language
		Image Font*2
Memory Capacity	User Flash Memory	20MB*3
Touch Screen	Type	Analog Resistive
	Resolution	640 x 480
	Input Method	Finger or R0.8 Polyacetal pen
	Touch Sound	Yes
Serial I/F	SIO1	RS232(TXD,RXD,RTS,CTS)Nylon Connector
	SIO2	RS422/485(TXD,RXD)Nylon Connector
Sheet Key I/F	Switch	Maximum 24 points (Matrix Key 4 x 6) (FFC Connector)
	LED	Maximum 8 points (FFC Connector)
Battery I/F		Nylon Connector
Other I/O	Buzzer	Variable Frequency
	RTC*4	±65 seconds/month (Error at room temperature, no power flow.)

*1. English (alphabet) is included in all languages.

*2. Fonts installed in the computer can be displayed as bitmaps.

*3. This area contains font data.When using multiple font data, the area that can be used as screen data is reduced.

*4. External battery needs to be connected to Battery I/F in order to back up the RTC.
Set to correct time on a regular basis when using on systems where time error is a problem,

4-2 Electrical Specification

■ **4.3”**

Items	Specifications
	4.3”
	IS731-4WQ-D05
Absolute Maximum Rated Voltage	0-6V DC
Rated Power Voltage Range	5V DC±5%
Power Consumption	TYP. 250mA *1
	MAX. 450mA
Backup Current (RTC)*2	TYP. 60μA
	MAX. 80μA
GND Frame Connection	GND (Signal GND) and Frame (Sheet metal) are connected inside the unit.

■ **5.7”**

Items	Specifications
	5.7”
	IS731-5V-D05
Absolute Maximum Rated Voltage	0-6VDC
Rated Power Voltage Range	5VDC±5%
Power Consumption	TYP. 320mA *1
	MAX. 600mA
Backup Current (RTC)*2	TYP. 60μA
	MAX. 80μA
GND Frame Connection	GND (Signal GND) and Frame (Sheet metal) are connected inside the unit.

*1 LCD display set at brightness level 4 in 25 degrees Celsius.

*2 External battery needs to be connected to Battery I/F in order to back up the RTC.

Note: When gentle power source is used for rising and falling of power, it may not operate properly. Also, when rebooting, leave it off for a while after turning off; do not turn the power back on immediately. It may not boot up accurately.

4-3 Appearance Specification

■ **4.3”**

Items	Specifications
	IS731-4WQ-D05
External Dimension (Does not include projections)	139(W)×73(H)×20.9(D)mm *1
Weight	Approximately 220g

■ **5.7”**

Items	Specifications
	IS731-5V-D05
External Dimension (Does not include projections)	164(W)×107.7(H)×25.5(D)mm *1
Weight	Approximately 370g

*1 Error margin not included. Please refer to each outline diagram for details

4-4 Environment Specification

■ **4.3”/ 5.7”**

Items	Specifications
Ambient Operating Temperature	0 to 55 degrees Celsius
Ambient Storage Temperature	-20 to 80 degrees Celsius
Ambient Operating Humidity	10 to 90%RH (Non-condensing, Wet bulb temperature is 39 degrees Celsius or less)
Ambient Storage Humidity	10 to 90%RH (Non-condensing, Wet bulb temperature is 39 degrees Celsius or less)
Dust	0.1mg/m^2 or less (conductive dust prohibited.)
Corrosive Gas	Prohibited
Vibration Resistance	5 to 9Hz Half amplitude 3.5mm 9 to 150Hz Fixed acceleration 9.8m/s^2 X,Y,Z each direction 10 times (for 100 minutes) (JIS B 3502, IEC61131-2 Compliant)

4-5 Compliance

1) RoHS Directives

■ **4.3”/ 5.7”**

Complies with the RoHS Directives of EU.

4-6 External Interfaces

1) Power Connector

■ **4.3”/ 5.7”**

Interface:5VDC IN

Connector: Nylon Connector

Model: BM02B-PASS-1-TFT (JST) equivalent

Pin No.	Signal
1	+5V
2	GND*1

*1 GND (Signal Ground) and frame (Sheet metal) are connected inside the unit.

2) USB Device Interface

■ **4.3”/ 5.7”**

Interface: USB 2.0

Connector:USB Mini-B

3) Serial Ports (SIO1 / SIO2)

Set the communication specification with the InfoSOSA builder.

SIO1

■ **4.3”/ 5.7”**

SIO1 can be used at Host Communication and at download.

Interface:RS232C

Connector:Nylon Connector

Model: B5B-PH-K-S (JST) equivalent

Pin No.	Signal	Direction
1	RXD	InfoSOSA <- Host
2	TXD	InfoSOSA -> Host
3	GND	-
4	RTS	InfoSOSA -> Host
5	CTS	InfoSOSA <- Host

Communication

Items	Specification
Baud Rate	4800/9600/19200/38400/57600/115200bps
Data Length	8 Bit
Parity	None/Odd/Even
Stop Bit	1 Bit
Flow Control	None/Hardware flow control (RTS/CTS control)

Default Setting

Communication specification at factory state:

Items	Specification
Baud Rate	115200bps
Data Length	8 Bit
Parity	None
Stop Bit	1 Bit
Flow Control	Hardware flow control (RTS/CTS control)

SIO2

■ **4.3”/ 5.7”**

SIO2 can be used at Host Communication.

Interface:RS422/485

RS422/485 setting enable to change by SW1

Connector:Nylon Connector

Model:B6B-PH-K-S (JST) equivalent

Pin No.	RS422		RS485	
	Signal	Direction	Signal	Direction
1	TXD+	InfoSOSA -> Host	DATA+	InfoSOSA <-> Host
2	TXD-	InfoSOSA -> Host	DATA-	InfoSOSA <-> Host
3	GND	-	GND	-
4	RXD+	InfoSOSA <- Host	(DATA+)	Internally connected to pin 1
5	RXD-	InfoSOSA <- Host	(DATA-)	Internally connected to pin 2
6	GND	-	GND	-

Communication

Items	Specification
Baud Rate	4800/9600/19200/38400/57600/115200bps
Data Length	8 Bit
Parity	None/Odd/Even
Stop Bit	1 Bit

SW1 Communication mode setting

Pin No.	RS422	RS485	Detail
1	ON/OFF		ON: Terminating enable / OFF: disable
2	OFF	ON	RS422/485 setting
3	OFF	ON	
4	OFF	ON	

Default Setting

Communication specification at factory state:

Items	Specification
Baud Rate	115200bps
Data Length	8 Bit
Parity	None
Stop Bit	1 Bit
Communication mode	RS422
Terminating	enable

4）Sheet Key Interface (for Switch)

■ **4.3"/ 5.7"**

Connector: FFC Connector (1mm Pitch bottom contact)

Model: 00-6200-107-032-800+ (KYOCERA Connector Products Corporation)

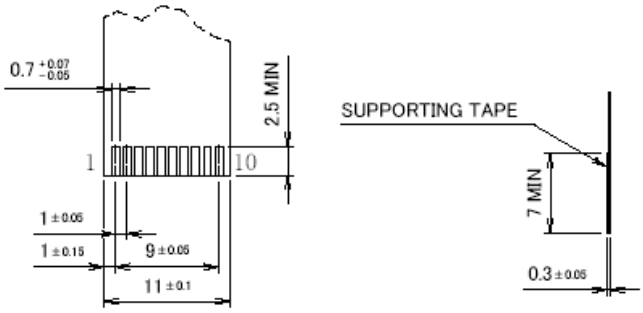
Pin No.	Signal
1	SCAN4
2	SCAN3
3	SCAN2
4	SCAN1
5	RETURN6
6	RETURN5
7	RETURN4
8	RETURN3
9	RETURN2
10	RETURN1

Maximum 24 switch input is possible with the key matrix.
(Scan 4 x Return 6)

Switch of the matrix circuit as shown in the below diagram can be connected.
Switch input is recognized with the numbers shown below with the InfoSOSA.

* Do not press multiple switches simultaneously. It may result in incorrect input.

Specification of compatible cable



5) Sheet Key Interface (for LED)

■ **4.3"/ 5.7"**

Connector : FFC Connector (1mm Pitch bottom contact)

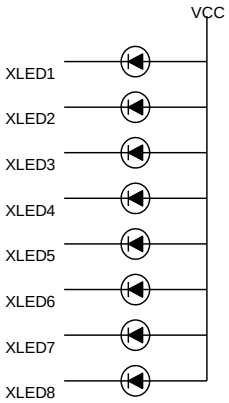
Model : 00-6200-097-032-800+(KYOCERA Connector Products Corporation)

Pin No.	Signal
1	LED_VCC
2	XLED1
3	XLED2
4	XLED3
5	XLED4
6	XLED5
7	XLED6
8	XLED7
9	XLED8

Maximum of 8 points

LED of the LED circuit of below diagram can be connected.

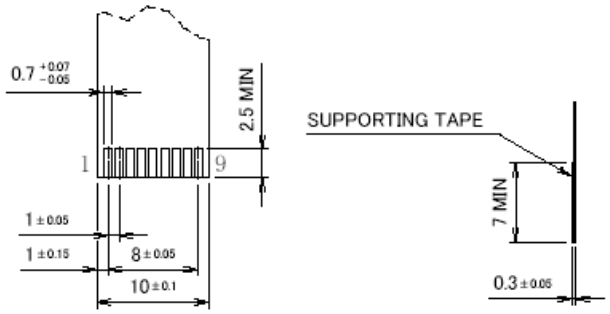
By outputting to the LED number shown below with the InfoSOSA, the LED will can be turned ON or OFF.



VCC : 5V

Limiting Resistor : 1KΩ(Built in to Substrate)

Specification of compatible cable



6) Battery Interface

■ **4.3”/ 5.7”**

Connector

Model: DF13C-2P-1.25V(21)　(Hirose electric)

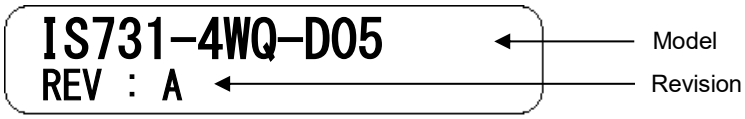
Pin No.	Signal
1	+
2	-

*　RTC can be backed up by connecting a battery with a cable.

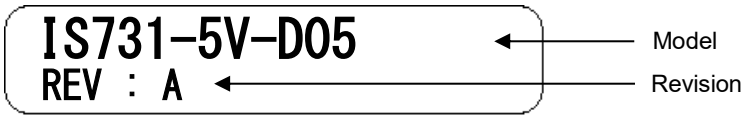
*　Battery must be of nominal voltage of 3 to 3.6VDC

4-7 Product Label

■ **4.3”**



■ **5.7”**



5. Battery Specifications

■ **4.3”/ 5.7”**

RTC can be backed up by connecting a battery.

5-1 Specifications

Items	Specifications
Model	CR2032WK11 (Maxell)
Nominal Voltage	3VDC
Nominal Capacity	240mAh
External Dimension	ϕ20 x 3.2mm
Weight	5g or less
Standard	RoHS Directives compliant

6. Developing Environment

Editing Screens of InfoSOSA is possible by using our development tool that we provide.

6-1 Development Tool

■ 4.3”/ 5.7”

InfoSOSA Screen Editor Software: InfoSOSA Builder (IS-BUILDER)

Screen data can be registered to the FlashROM equipped in the InfoSOSA Builder.
The maximum number of screens that can be registered to the parts that structure the screen change.

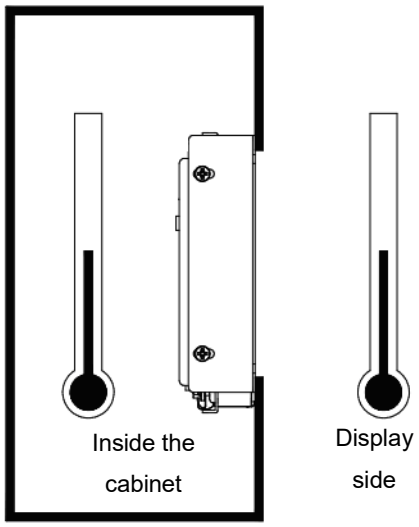
* When using image files, please use ones that were created by individual users.
  Using and distributing, without permission, files protected by the copyright is strictly prohibited by law.
  Please note some free materials might have using restrictions
  Seedsware will not be held responsible for any troubles that may have occurred due to the copy right of the image files.
* Please refer to the “InfoSOSA Builder Operation Manual” for more details.

7. Mounting the Unit

7-1 Mounting Conditions

■ 4.3”/ 5.7”

- When mounting, be sure to have enough room between the unit, structure and part and also consider the operation temperature.
- Be sure that the ambient operating temperature and the ambient humidity are within their designated ranges.
  (Ambient operating temperature indicates the temperature of both the display side and inside the cabinet.)



7-2 Mounting

■ 4.3”/ 5.7”

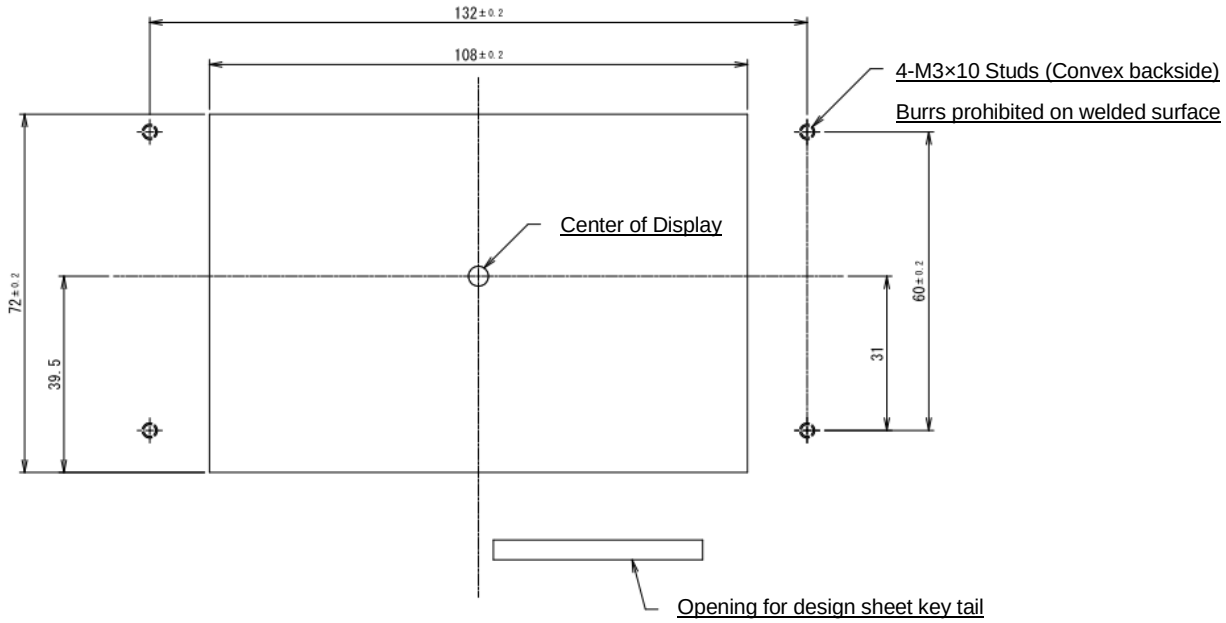
- When mounting the unit, design the chassis referring to the panel opening examples and the attached outline diagrams.
- Design the chassis so that there is no distortion or twisting.
- If using the design sheet key, you will need an opening for the tail matching the design sheet.

7-3 Panel Opening Example

■ 4.3”

Below is the panel opening dimension example for when applying sheets and etc. to the surface by opening the entire touch screen surface.
Design the chassis accordingly to the actual installing method.

*Diagram from the front side of panel (panel thickness: 1.6mm or less).



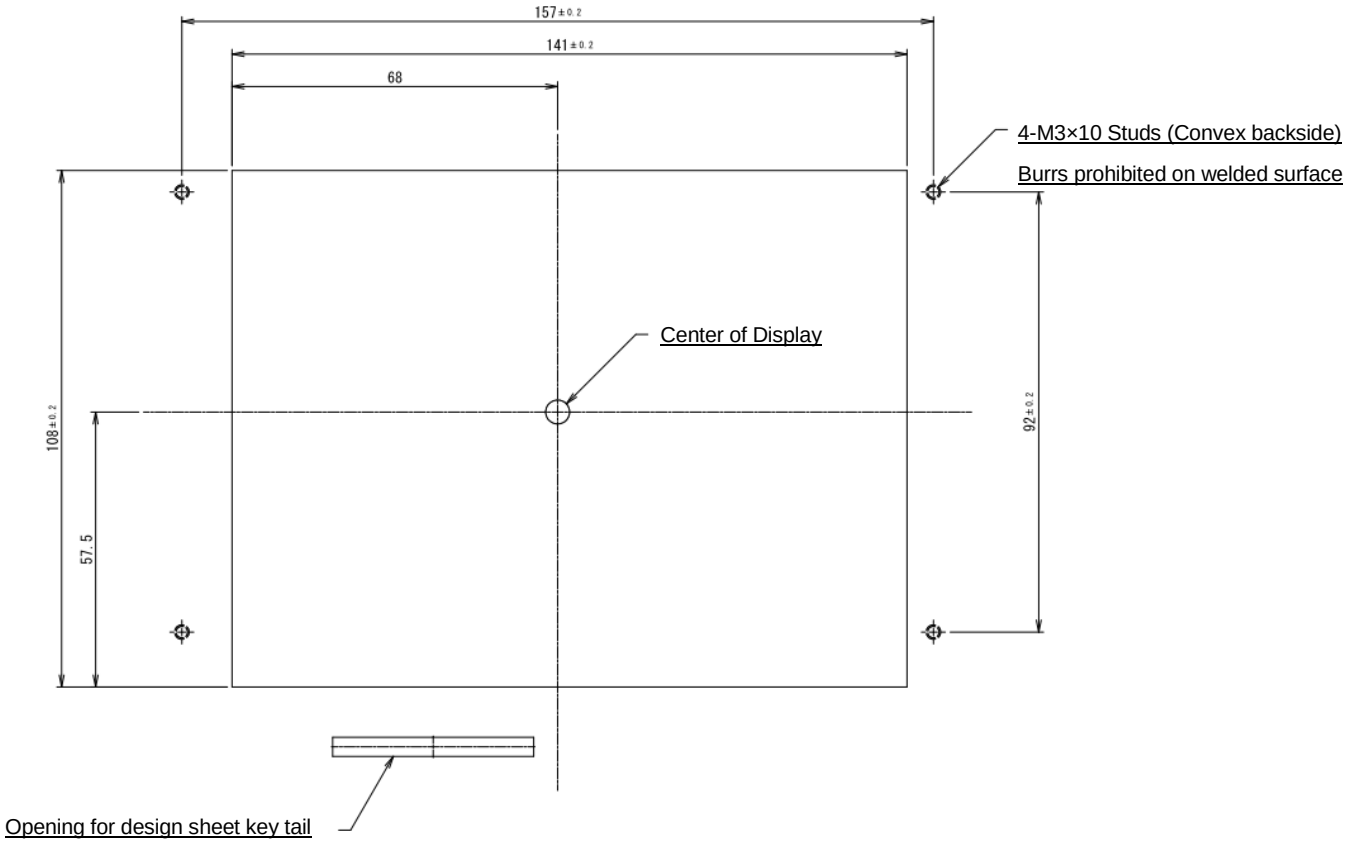
* To avoid damage to the design sheet key tail, do not directly come in contact with the edge of the panel opening. If damaged, it may cause a switch or the LED performance defect.

■ **5.7”**

Below is the panel opening dimension example for when applying sheets and etc. to the surface by opening the entire touch screen surface.

Design the chassis accordingly to the actual installing method.

*Diagram from the front side of panel (panel thickness: 1.6mm or less).



* To avoid damage to the design sheet key tail, do not directly come in contact with the edge of the panel opening. If damaged, it may cause a switch or the LED performance defect.

8. Warranty

8-1 Warranty Period

■ 4.3”/ 5.7”

The warranty period is limited to12 months (1 year) from the date of shipment. Warranty for any repair needed to the same repaired part of the same product is three months. Any defects that occur upon normal use under conditions specified herein will be repaired (factory repair) free of charge.

Any defected parts under proper use will be examined by the supplier and replaced by the new parts if the defect is considered to be caused by the supplier.

The replacement is subject to be included in the next lot.

8-2 Warranty Exceptions

■ 4.3”/ 5.7”

You will be liable for all repair fees even within the warranty period for any conditions listed below:

(1) Any malfunctions, defects, and/or damages that occurred during transport, transfer, or mishandling by the user after delivery

(2) Any malfunctions, defects, and/or damages caused by natural or man-made disaster.

(3) Any malfunctions and damages caused by static electricity.

(4) If the product is used under any condition, in any environment, or by any method other than those specified in the specifications, catalogs, manuals, notes, and/or other documents.

(5) Any replacement of consumables.

(6) Any malfunctions, defects, and/or damages caused by associated equipment and/or usage of inappropriate consumables and media.

(7) If the product is repaired, remodeled, modified, or disassembled by a party other than Seedsware

(8) If the product cannot be identified by a serial number.

(9) Any malfunctions, defects, and/or damages that are to have been caused on your behalf.

This warranty covers only the product itself. Any damages, on-site repairs and replacement driven by the failure of the product will be decided upon discussion by both parties as necessary.

This product is structurally not repairable. All damaged parts are subject for replacement and freight will be charged.

9. Production Discontinuance

■ 4.3”/ 5.7”

In the event of production discontinuance, an announcement will be made on our website six months prior to the last possible order reception date.

10. Others

For comments or inquiries, feel free to contact us via e-mail or phone.

*Product, specification and/or anything noted are subject to change for improvement without prior notice.

By Phone

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By E-mail

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FAQ

www.seedsware.co.jp/global/support/faq/

3rd Edition March, 2019

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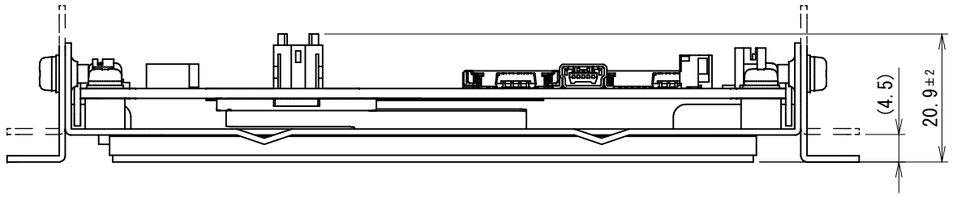
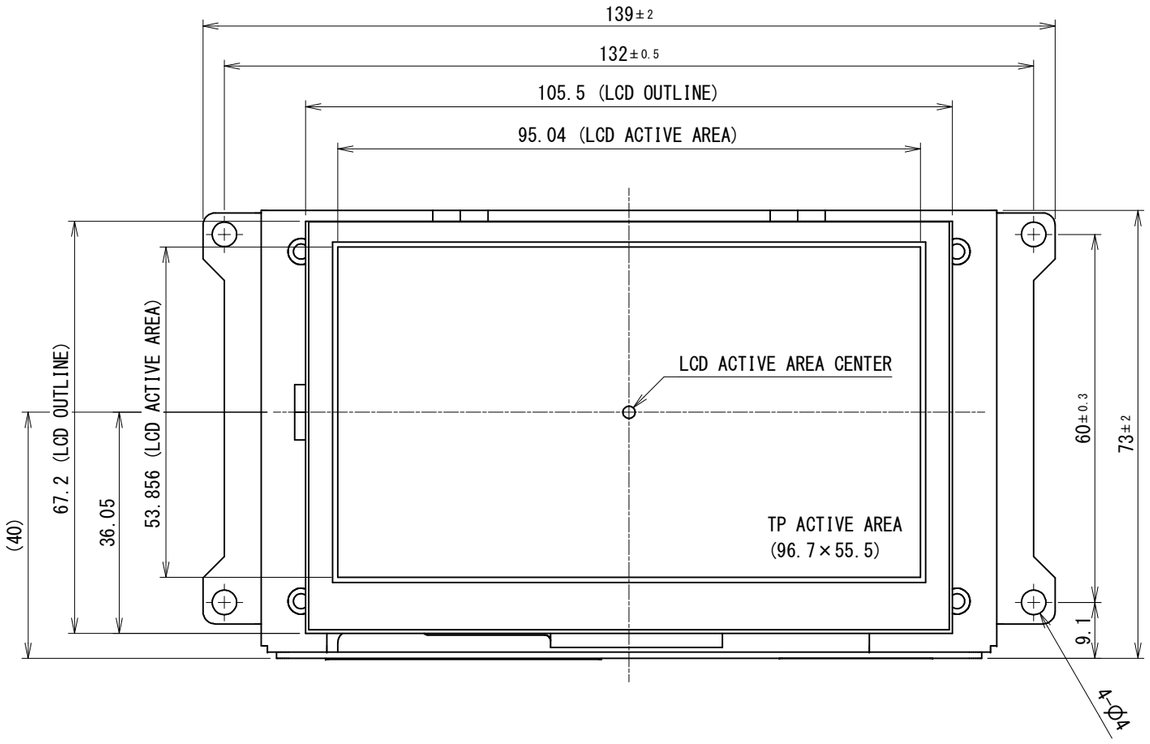
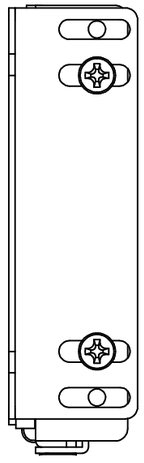
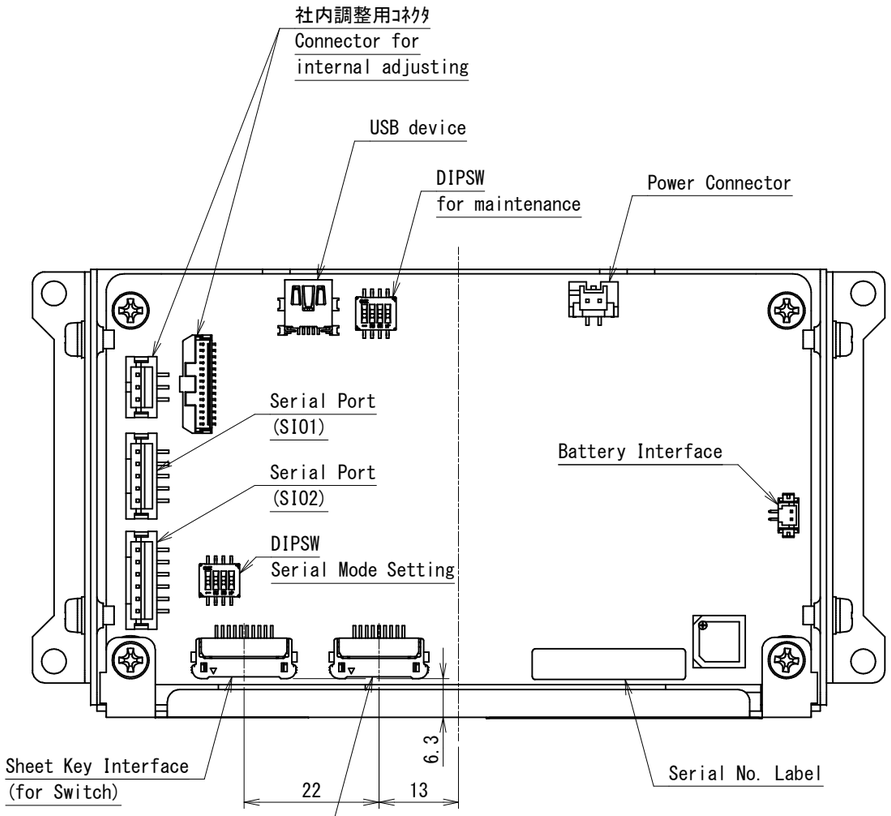
寸法許容差 TOLERANCE	
呼び寸法	
L≦3	±0.4
3<L≦6	±0.48
6<L≦10	±0.58
10<L≦18	±0.7
18<L≦30	±0.84
30<L≦50	±1.0
50<L≦80	±1.2
80<L≦120	±1.4
120<L≦180	±1.6
180<L≦250	±1.85
250<L≦315	±2.1
315<L≦400	±2.3
400<L≦500	±2.5

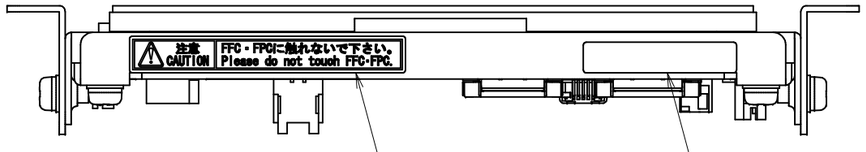
SYM	改訂日 DATE	改 訂 内 容 DESCRIPTION	ページ PAGE	担当 DESIGNED
	2017.07.04	新規図面登録	—	S.Yoshimoto











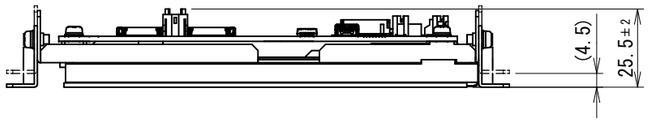
NOTES

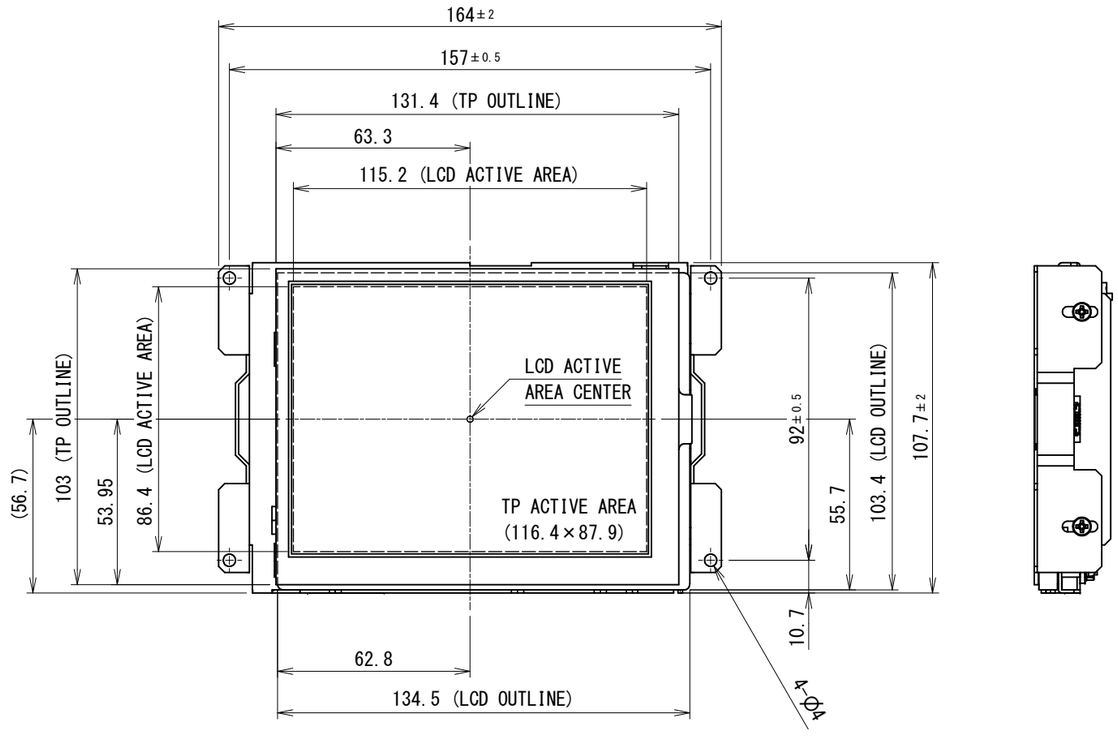
1. 指示なき寸法公差は一般寸法公差とする。
   Tolerance shall be of general dimensional tolerance unless specified otherwise.
2. 社内調整用ｺﾈｸﾀは、お客様での使用はございません。
   Connector for internal adjustment; cannot be used by customer.

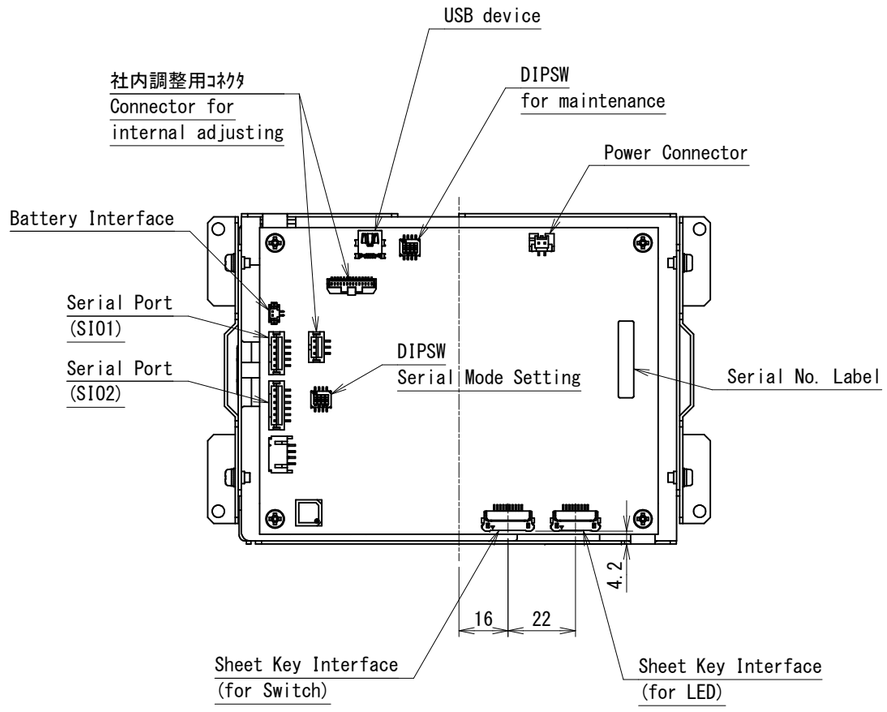
製図日 ISSUED	2017.07.04	部署 SECTION	技術部	尺度 SCALE	CAD登録名 CAD FILE NAME	16K001-2_IS731-4_OUTLINE	RoHS対応品 RoHS compliant
承認 APPROVED	検図 CHECKED	製図 DRAWN	設計 DESIGNED	1:1	製品名 MODEL	IS731-4WQ-D05	
				単位 UNIT			
H.Tsuji	T.Okada	S.Yoshimoto	S.Yoshimoto	mm	図名 TITLE	OUTLINE	ページ PAGE 1/1
Seedsware 株式会社 シーズウェア			A3		図番 DWG No.	SM3-001980-10	

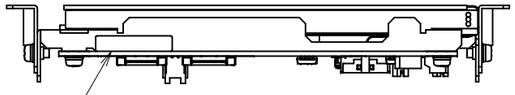
寸法許容差 TOLERANCE	
呼び寸法	
L≦3	±0.4
3<L≦6	±0.48
6<L≦10	±0.58
10<L≦18	±0.7
18<L≦30	±0.84
30<L≦50	±1.0
50<L≦80	±1.2
80<L≦120	±1.4
120<L≦180	±1.6
180<L≦250	±1.85
250<L≦315	±2.1
315<L≦400	±2.3
400<L≦500	±2.5

SYM	改訂日 DATE	改 訂 内 容 DESCRIPTION	ページ PAGE	担当 DESIGNED
	2018.05.21	新規図面登録	—	S.Yoshimoto









NOTES

1. 指示なき寸法公差は一般寸法公差とする。
   Tolerance shall be of general dimensional tolerance unless specified otherwise.
2. 社内調整用ｺﾈｸﾀは、お客様での使用はございません。
   Connector for internal adjustment; cannot be used by customer.

製図日 ISSUED	2018.05.21	部署 SECTION	技術部	尺度 SCALE	CAD登録名 CAD FILE NAME	17K001-1_IS731-5_OUTLINE	RoHS対応品 RoHS compliant
承認 APPROVED	検図 CHECKED	製図 DRAWN	設計 DESIGNED	1:2	製品名 MODEL	IS731-5V-D05	
				単位 UNIT			
T.Okada	M.Mitani	S.Yoshimoto	S.Yoshimoto	mm	図名 TITLE	OUTLINE	ﾍﾟｰｼﾞ PAGE 1 /1
Seedsware 株式会社 シーズウェア			A3		図番 DWG No.	SM3-001981-10	