CT10964 Controller Board Specification

PCAP Microchip® mxT1664T3 USB

Sustaining Quality,
Exceeding Expectations

DawarTouch®

DAWAR
THINKING BEYOND THE TOUCH
921 Ridge Ave., Pittsburgh, PA 15212
PH: 800-366-1904 | E-mail: sales@dawar.com
dawar.com

January 27, 2020
Rev B

1. General Description

The CT10964 is a controller board programmed to work with 10.1in Dawar sensor DW03081. The unprogrammed board is CT10405. The board uses the Microchip® mxT1664T3 maXTouch® controller. The communications interface is standard USB 2.0 full speed.

For more information on the mxT1664T3x controller refer to the following Microchip® documentation:

▶ mxT1664T3 Datasheet

▶ Interfacing with maXTouch Touchscreen Controllers

Both documents are available on Microchip's website.

2. Functional Description

The CT10964 controller supports the following features:

▶ Up to 16 finger touches

▶ Stylus touches (stylus diameter depends on sensor design)

▶ Glove touches

▶ Thick cover lenses (up to 4mm glass, 2mm plastic)

▶ Greater than 100Hz report rate

▶ Low latency (<10ms for first touch report from idle mode)

▶ Automatic self-calibration

▶ Aggressive noise avoidance and noise cancellation features
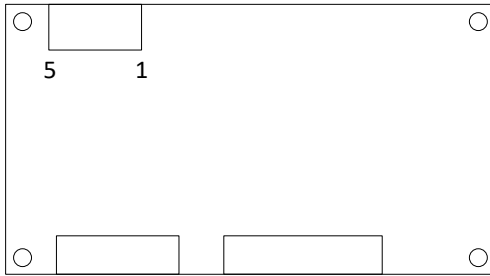
▶ Maximum resolution of 4095 x 4095

Additional tuning support from Dawar is available for specialized applications.

3. Electrical Specifications

Parameter	Min	Typ	Max	Units	Remarks
Digital Power Supply (VDD)	-	5	-	V	USB standard
Active Current	-	36	-	mA	Note 1
Sleep Current	-	3.5	-	mA	
X Electrodes	-	-	30	-	
Y Electrodes	-	-	20	-	

Note 1: Active power depends on configuration settings and number of touches.

4. Connector

Pin	Description
1	GND
2	5V
3	GND
4	D+
5	D-

USB board connector part number is Most Well 2WF2HD-201505T121A01 (compatible with JST S5B-PH-K-S).

Mating cable connector is Most Well 2HG2CT-201105NPA1A01 with crimp contact 2F2CA-PT1701 (compatible with JST PHR-5 and SPH-002T-P0.5L).

5. Environmental Specifications

Parameter	Min	Typ	Max	Units	Remarks
Operating Temperature	-40	-	85	°C	
Storage Temperature	-40	-	90	°C	
Relative Humidity	0	-	95	%RH	Note 1

Note 1: RH is defined at 60°C, non-condensing.

6. Operating System Support

Operating System	Supported	Remarks
Microsoft Windows XP	Yes	Note 1
Microsoft Windows 7	Yes	Note 2
Microsoft Windows 8	Yes	Note 2
Microsoft Windows 10	Yes	Note 2
Linux	Yes	Note 3

Note 1: Requires custom mouse emulation program. Contact Dawar for support.
Note 2: Compatible with Microsoft HID. No driver required.
Note 3: Kernel version 2.6.38 or later. Refer to https://github.com/atmel-maxtouch/linux/wiki/USB. .
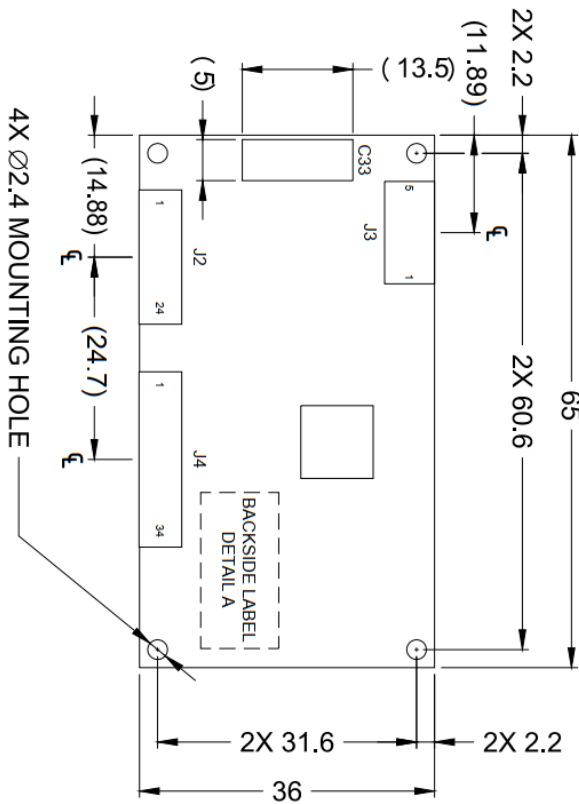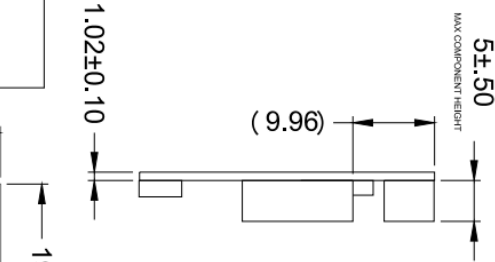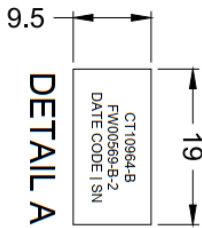
7. Product Life

Dawar Technologies is committed to providing products stability and support to our valued

customers throughout the life of the product. All Dawar Touch products meet the following minimum requirements:

- ▶ 5 year minimum product lifecycle
- ▶ 12 month end of life (EOL) notification
- ▶ Last time buy option with EOL notification
- ▶ 60 day change notification for any change that affects form, fit, or function

NOTES:

1. CONNECTOR FOR J2: MOST WELL MWFPC05PSN-H20-24
2. CONNECTOR FOR J4: MOST WELL MWFPC05PSN-H20-34
3. CONNECTOR FOR J3: MOST WELL 2WF2HD-201505T121A01
   (COMPATIBLE WITH JST S5B-PH-K-S)
4. MATING CONNECTOR FOR J3: MOST WELL HOUSING 2HG2CT-201105NPA1A01
   AND CRIMP CONTACT 2F2CA-PT1701 (COMPATIBLE WITH JST HOUSING PHR-5
   AND CRIMP CONTACT SPH-002T-P0.5L)
5. DIMENSIONS IN PARENTHESIS ARE FOR REFERENCE ONLY.

J3	
PIN	FUNCTION
1	GROUND
2	USB_5V
3	GROUND
4	D+
5	D-

1.02±0.10

5±.50
MAX COMPONENT HEIGHT

(9.96)

9.5

19

CT10964-B
FW00569-B-2
DATE CODE | SN

DETAIL A

2X 2.2
(11.89)
(5)
(13.5)
C33
4X ⌀2.4 MOUNTING HOLE
(14.88)
(24.7)
2X 60.6
65
2X 2.2
36
2X 31.6

J2   1   24
J4   1   34
J3   5   1

BACKSIDE LABEL
DETAIL A

REVISIONS

DWG REV	ITEM REV	ECO	DESCRIPTION	DWN	DATE
A	1	-	INITIAL RELEASE	KPK	8-14-18
B	1	1437	UPDATED CONTROLLER CONFIGURATION.	CPO	5-14-19
B	2	1512	CHANGED THE PART NUMBER FOR J3 CONNECTOR AND MATING CONNECTOR, AND ADDED COMPATIBLE JST	HYC	1-8-20

BASE CONTROLLER	CT10405-B			
DESCRIPTION	ATMEL PCB - 1664T3 USB 24x34 PCAP CONTROLLER			
FIRMWARE NO.	FW00569-B-2			
ITEM/DRAWING NO.	CT10964-B			DWG REV 2
UNIT mm [INCH]	TOLERANCE ±0.25 [0.010] UNLESS SPECIFIED	SHEET 1 OF 1	DRAWN BY KEVIN KOZLOWSKI	DATE 8-14-18

Controlled
ENGINEERING / GRAPHICS
Cassie Ostrowski 2020.01.21
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Revision History

Revision	Date	Content	Author
A	9-6-2019	Initial Release	Tony Gray
B	1-27-2020	Added JST part numbers for USB connector	Tony Gray