CT10974 Controller Board Specification

PCAP Microchip® mxT1664T3 I²C

Sustaining Quality,
Exceeding Expectations

DawarTouch®

1. General Description

The CT10974 is a controller board programmed to work with 12.1in Dawar sensor DW03047. The unprogrammed board is CT10580. The board uses the Microchip® mxT1664T3 maXTouch® controller. The communications interface is standard I²C @ 400kHz.

For more information on the mxT1664T3 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 CT10974 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

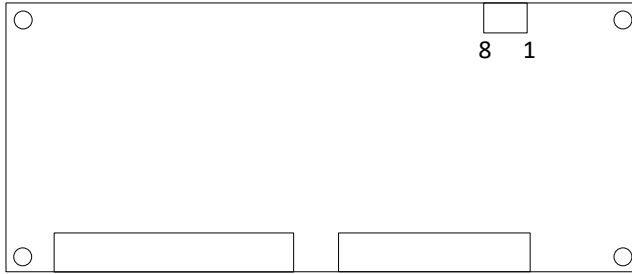Additional tuning support from Dawar is available for specialized applications.

3. Electrical Specifications

Parameter	Min	Typ	Max	Units	Remarks
Digital Power Supply (VDD)	3.0	3.3	3.4	V	
Active Current	-	33	-	mA	Note 1
Sleep Current	-	3.5	-	mA	
X Electrodes	-	-	32	-	
Y Electrodes	-	-	50	-	

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

4. Connector

Pin	Description	Note
1	GPIO1	GPIO – contact Dawar for information
2	GPIO2	GPIO – contact Dawar for information
3	/RESET	Active low reset with 10k pull-up to 3.3V
4	/CHG	Active low interrupt indicating data is available with 3.3k pull-up to 3.3 V
5	SDA	I2C data with 3.3k pull-up to 3.3 V
6	SCL	I2C clock with 3.3k pull-up to 3.3 V
7	GND	
8	3.3V	

Mating connector is Molex 503480-0800.

I^2C address is 0x4B.

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	No	
Microsoft Windows 7	No	
Microsoft Windows 8	No	Note 1
Microsoft Windows 10	No	Note 1
Linux	Yes	Note 2

Note 1: Windows HID over I^2C is supported on custom designs.
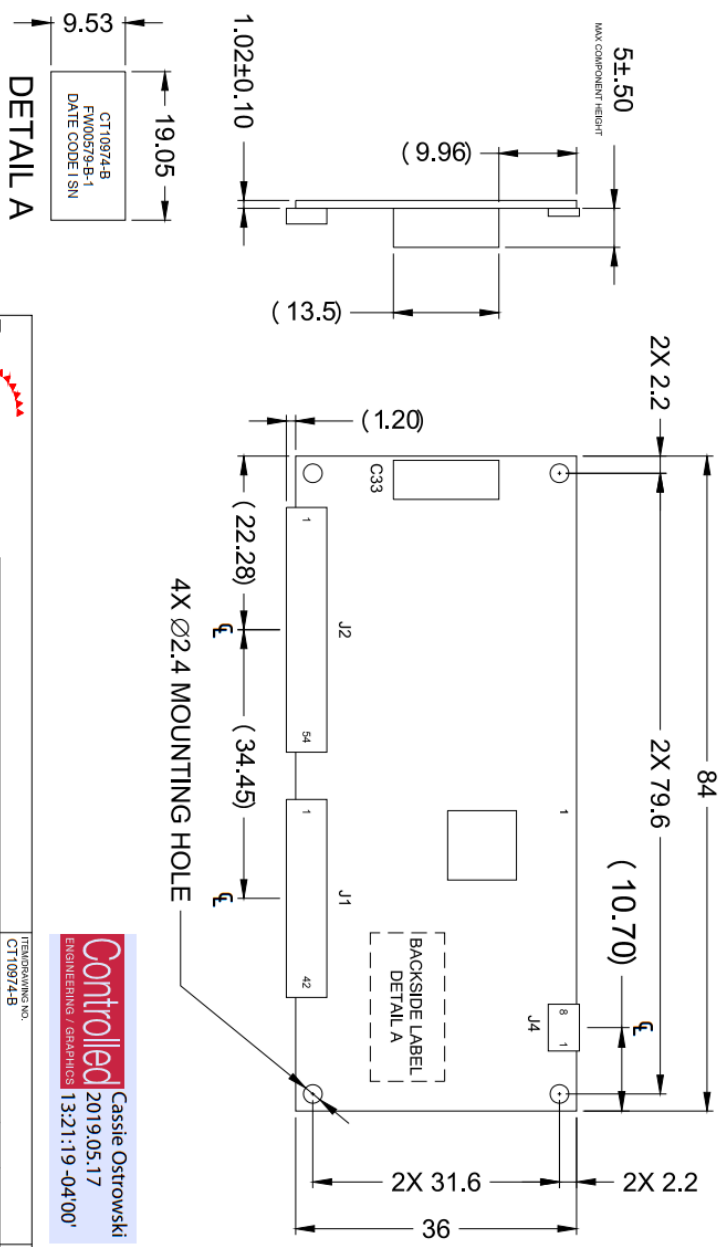*Note 2: For information on Linux drivers refer to https://github.com/atmel-maxtouch/linux/wiki.*

7. Product Life

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

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Rev B

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

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NOTES:
1. CONNECTOR FOR J1: MOST WELL MWFPC05PSN-H20-42
2. CONNECTOR FOR J2: MOST WELL MWFPC05PSN-H20-54
3. CONNECTOR FOR J4: MOST WELL MWFPC05-250868xx4-x

J4

PIN	FUNCTION
1	GPIO1
2	GPIO0
3	/RESET
4	/CHG
5	SDA
6	SCL
7	GROUND
8	I2C_3.3V

DETAIL A

9.53

19.05

1.02±0.10

5±.50

MAX COMPONENT HEIGHT

(9.96)

(13.5)

CT10974-B
FW00579-B-1
DATE CODE I SN

2X 2.2

(1.20)

C33

2X 79.6

84

(10.70)

(22.28)

(34.45)

4X ⌀2.4 MOUNTING HOLE

J2

1   54

J1

1   42

J4

8   1

1

BACKSIDE LABEL
DETAIL A

2X 31.6

2X 2.2

36

BASE BOARD NO.
CT10580-C

DESCRIPTION
ATMEL PCB - 1664T3 I²C 42x54 PCAP CONTROLLER

FIRMWARE NO.
FW00579-B-1

ITEM/DRAWING NO.
CT10974-B

UNIT
MM [INCH]

TOLERANCE
±0.25 [0.010] UNLESS SPECIFIED

SHEET
1 OF 1

DWG REV
1

DRAWN BY
HYC

DATE
10-3-18

REVISIONS

ITEM REV	DWG REV	ECO	DESCRIPTION	DWN	DATE
A	-	-	INITIAL RELEASE	HYC	10-3-18
B	1	1437	UPDATED CONTROLLER CONFIGURATION.	CPO	05-17-19

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Revision History

Revision	Date	Content	Author
A	9-6-2019	Initial Release	Tony Gray
B	1-29-2020	Updated drawing	Tony Gray

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