

**12.1in Open Frame
DW03177 Specification**

**Sustaining Quality,
Exceeding Expectations**

DawarTouch®

1. General Description

The DW03177 is an open frame 12.1" *touch* and LCD sub-assembly. It includes a projected capacitive (PCAP) touch sensor, a touch controller board using the Microchip® mxT1664T3 maXTouch® controller with USB interface, an optically bonded 12.1" Tianma LCD, a custom LCD driver board, a DC power supply, and cables.

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 DW03177 includes the following items:

- ▶ Dawar 12.1" touch sensor and cover lens
- ▶ Dawar 12.1" touch controller
 - Up to 16 finger touches
 - Glove touches (may require custom tuning)
 - 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
- ▶ Tianma 12.1" LCD part number NL12880AC20-20D
 - Native resolution: 1280 x 800
 - Contrast ratio: 1000
 - Brightness: 400 nits
- ▶ Dawar LCD driver board
 - HDMI input
 - VGA input
- ▶ Dawar AC/DC wall mount power supply with US style plug
 - Input: 100 to 240 VAC @ 0.5A, 50Hz or 60Hz
 - Output: 12.0V @ 2A
- ▶ Dawar custom USB cable for touch controller
- ▶ Dawar HDMI cable

Additional touch tuning support from Dawar is available for specialized applications.

3. Electrical Specifications

3.1. Display driver board

Parameter	Min	Typ	Max	Units	Remarks
Power Supply	11.0	12.0	13.0	V	
Active Current	-	0.675	2.0	A	

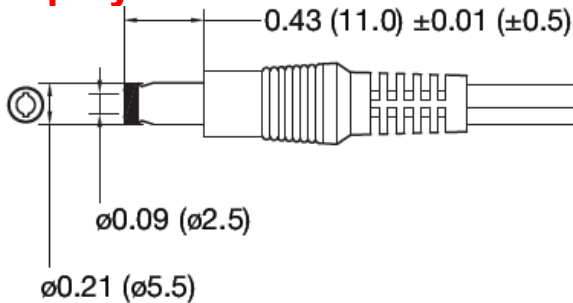
3.2. Touch Controller

Parameter	Min	Typ	Max	Units	Remarks
Digital Power Supply (VDD)	-	5.0	-	V	USB standard
Active Current	-	36.0	-	mA	Note 1
Sleep Current	-	3.5	-	mA	

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

4. Connector

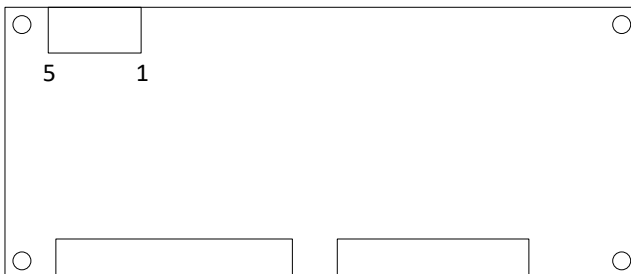
4.1. Display Driver Board



Mating female barrel plug is 5.5mm outer diameter, 2.5mm inner diameter, center positive.

4.2. Touch Controller

Connector part number is Most Well W2000-R2051221.



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

Mating connector is Most Well H2000-105111.

5. Environmental Specifications

Parameter	Min	Typ	Max	Units	Remarks
Operating Temperature	-10	-	60	°C	
Storage Temperature	-20	-	70	°C	
Relative Humidity	0	-	50	%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.

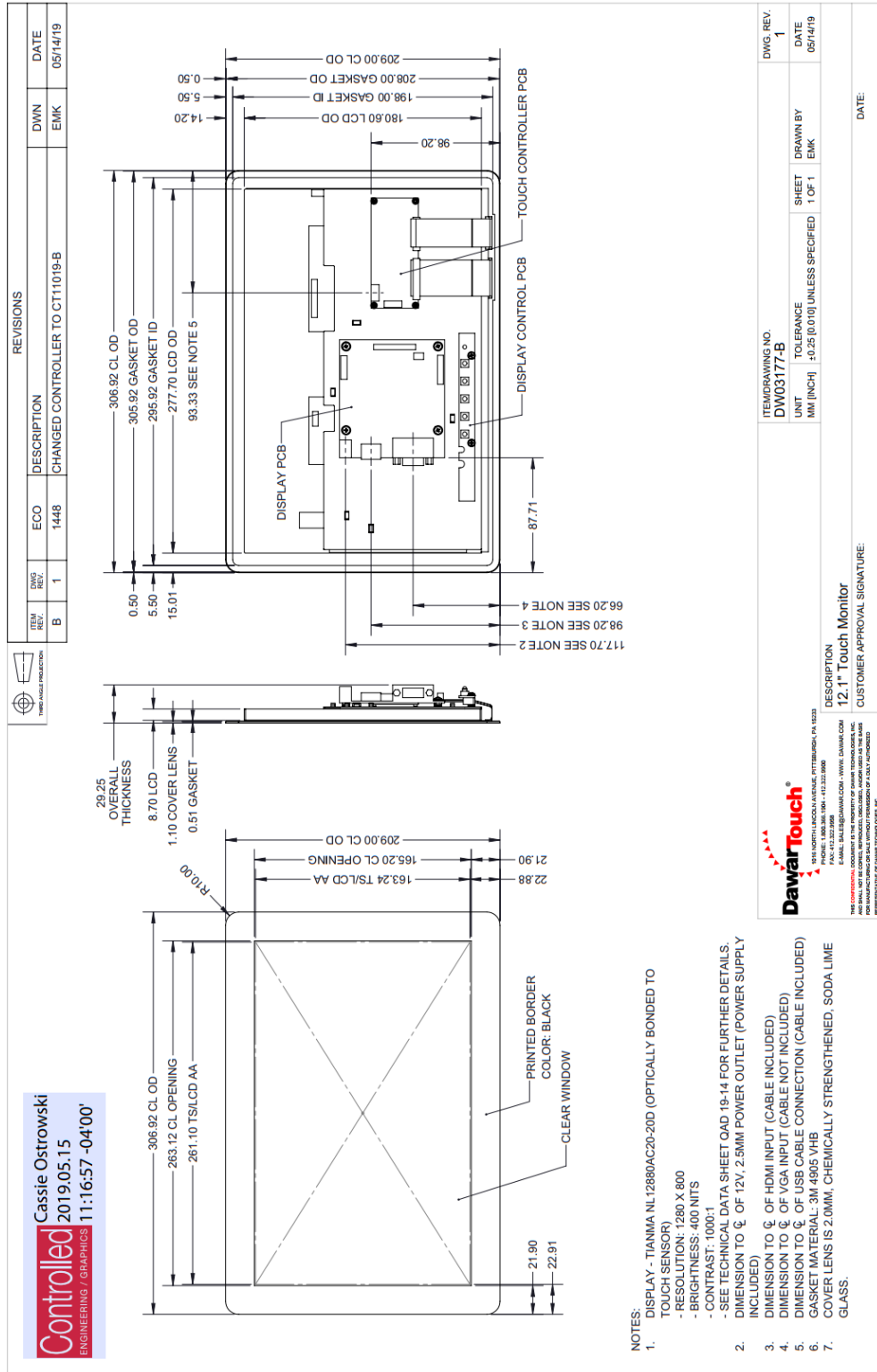
Note 3: Kernel version 2.6.38 or later. Refer to <https://github.com/atmel-maxtouch/linux/wiki/USB>.

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

8. Mechanical Drawing



Revision History

Revision	Date	Content	Author
A	9-14-2019	Initial Release	Tony Gray
B	10-7-2020	Updated cover page	Tony Gray
C	3-21-2021	Added mechanical drawing Updated street address	Tony Gray