



## Projected Capacitive USB/RS232 1+2+2 Touch Sensor Controller Board

Supports sizes 18.5W – 24”

\*Size range supported may vary depending on custom requirements\*



DawarTouch®

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Document Revision History

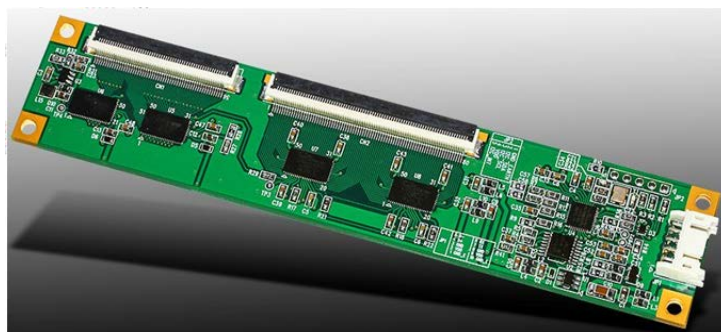
| <b>Revision</b> | <b>Date</b> | <b>Content</b> | <b>Author</b> |
|-----------------|-------------|----------------|---------------|
| A               | 12-1-14     | Released Spec  | Lizzy Stoltz  |

## Introduction:

### USB/RS232 Touch Panel Controller Board

- 136 channels of interface capability
- Supports USB/RS232 Interface
- Meets the latest Restriction of Hazardous Substances (RoHS) directive
- Offers superior sensitivity, accuracy and overall excellent operation
- Provides 10 point touch capability
- Gloved hand operation
- Supports through glass touch
- Excellent accuracy with no linearity calibration required
- Emulates mouse left and right button function and supports the following operating systems:

| OS      | Version  | Interfaces |
|---------|--|------------|
| Windows | Windows 8 (Need logo submission)   | USB/RS232  |
|         | Windows 7<br>Windows Vista, XP/2000<br>Windows CE.net/5.0/6.0/7.0<br>Windows Embedded<br>Windows XP Tablet PC edition                                    |            |
| Linux   | Distribution based on Kernel 2.6.24 and later.<br>(Ubuntu/Linux Mint)<br>Debian<br>Fedora<br>Red Hat/CentOS<br>Magaie/Mandriva/Mandrake<br>SUSE/openSUSE | USB/RS232  |
|         | Android 2.3 ~ 4.4  | USB/RS232  |
| Mac     | Mac OS, Mac OS X (PowerPC, Intel CPU)  | USB        |
| QNX     | QNX RTOS v6.3  | USB/RS232  |

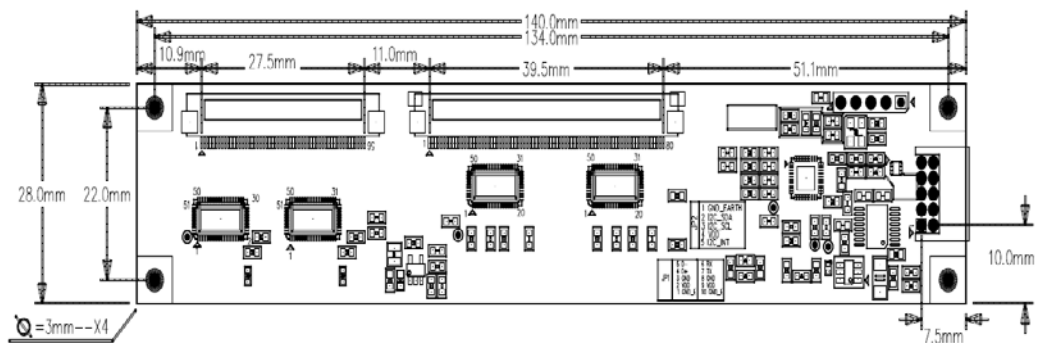
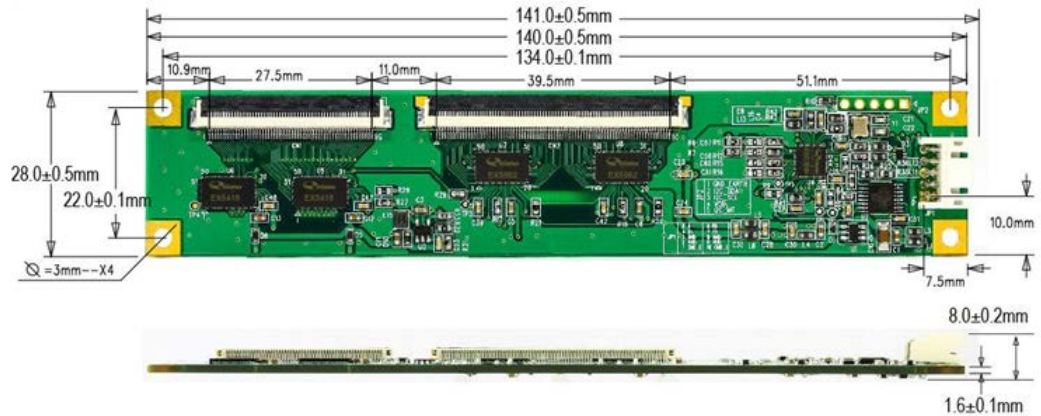


## Specification:

| USB/RS232 Type Controller                      |  |
|--|--|
| Circuit Board Dimension                        | 28mm x 141mm   |
| Channels of Panel                              | Max. Rx:78 Tx:54 channels (excludes shielding)<br>(2 shield pins used each for Rx and Tx circuits)                             |
| Input Voltage                                  | 3.5V~5.5V. Typical 5V.   |
| Operating Temperature                          | -40 to 85 °C   |
| Storage Temperature                            | -40 to 90 °C   |
| Relative Humidity                              | 95% at 60 °C, RH Non-condensing  |
| Linearity                                      | Line drawing accuracy : 1pt +/- 1mm offset /10mm<br>Touch (point) accuracy : 1pt +/- 1mm<br>Refer to Windows 8 Logo regulation |
| Interface                                      | USB: 1.1 Full Speed<br>RS232: No parity, 8 data bits, 1 stop bit, baud rate 19200bps   |
| Resolution                                     | 4096x4096 resolution   |
| Power Consumption(mA)                          | Active Mode: <90mA<br>Idle Mode : <40mA<br>Sleep Mode : < 5mA<br>(Operation Mode: Active Mode only)                            |
| Report Rate (points/sec)<br>(See Note 1 below) | > 100 Hz   |
| Response time                                  | Average < 25 ms  |

Note 1: Report rate will vary by channel number, cover lens thickness and other parameters.

## Controller Board Dimensions:



### Thickness:

Total thickness:  $8.0 \text{ mm} \pm 0.2 \text{ mm}$

(PCB:  $1.6 \text{ mm} \pm 0.1 \text{ mm}$ . USB/RS232 connector:  $5.1 \text{ mm}$ . Soldering pin:  $1.3 \text{ mm}$ )

## Label Format:

### *Label 1 – Prototype*

Label 1 product labeling is provided with low volume orders less than 50 pieces. The first line is the Dawar item number and revision. The second line is the firmware ID and Job number that was used to load the FW. The firmware ID is the controller tuning firmware. The third line is the date code and serial number. Item numbers are assigned from Dawar by product and are customer specific in some cases.

|  |
|--|
| CTXXXXX-X<br>FWXXXXX-X Job# XXXXXX<br>YYMMDDhhmmss S/N |
|--|

### *Label 2 – Production*

Label 2 product labeling is provided with production orders greater than 50 pieces. There are two labels on the back side of the controller, one that includes the part number and firmware ID information and a second that includes a serialized barcode.

|                                   |
|-----------------------------------|
| EXC325680CKG<br>0268<br>CTXXXXX-X |
|-----------------------------------|

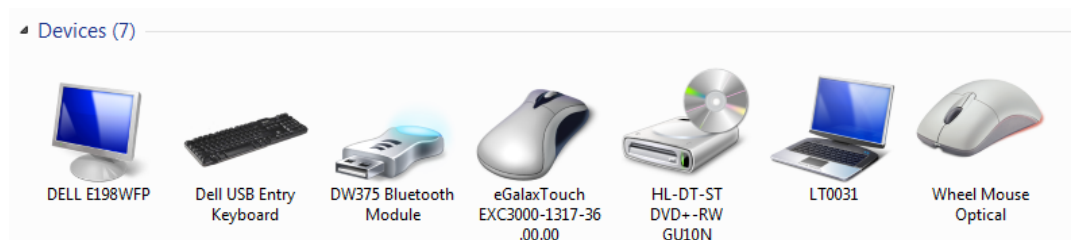
On the label that includes the part number information, the first line EXC325680CKG is the marketing part number. The second line is the firmware ID of the controller, i.e., 0272). The firmware ID is a 4 digit/character identifying the tuning of the controller. In some cases the firmware ID will be standard. The firmware ID will be provided as standard until the customer's specific tuning requirements have been completed.

Once the controller is tuned to the customer specific requirements, the firmware ID number will change to a discrete customer specific 4 digit/character. The third line is the Dawar item number and revision. This is the ordering part number for the product and customer specific in some cases.



The serial number label format is shown above. This includes a 10-digit number which allows Dawar to track the shipping record.

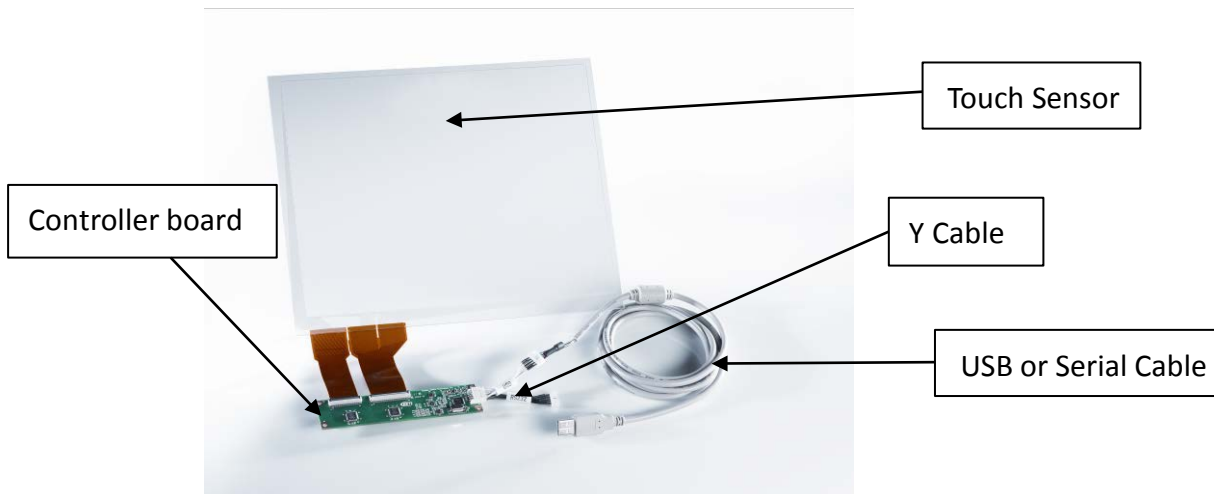
To check the version of FID in windows go to the Devices and Printers menu and the image below will appear:



Find device named started with eGalaxTouch EXC3000. For this example, 1317 is the firmware ID.

## Complete Product Package:

- (1) PCAP Touch Sensor
- (2) PCAP Controller Board
- (3) Y-Cable (CT10050)
- (4) USB cable (CT10051) or RS232 cable (CT10052)





## Cables:

### *Optional USB and Serial (RS-232) interface cable*

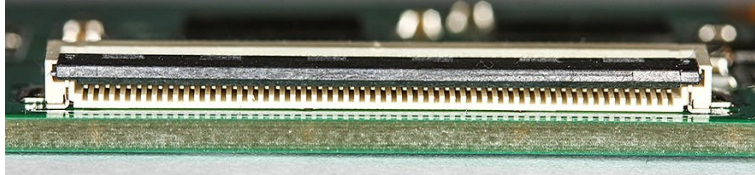
| TYPE            | Tail Length | Connector   | P/N     | Picture   |
|-----------------|-------------|---|---------|---|
| USB             | 183cm       | Pitch 2.0mm 5pin housing to USB A Male  | CT10051 |    |
| Serial (RS-232) | 183cm       | Pitch 2.0mm housing to DB9 Female. PS/2 interface for 5V power input provided     | CT10052 |    |
| Serial (RS-232) | 50cm        | Pitch 2.0mm housing to DB9 Female. Black and red wire for 5V power input provided | CT10085 |   |
| Y Cable         | 6.5cm       | Pitch 2.0mm 10pin housing to 2 individual 5 pin 2.0mm housing for USB and serial  | CT10050 |  |

Note: The external power from mainboard or PS/2 interface is necessary when using Serial interface only.

## Touch Panel Connections:

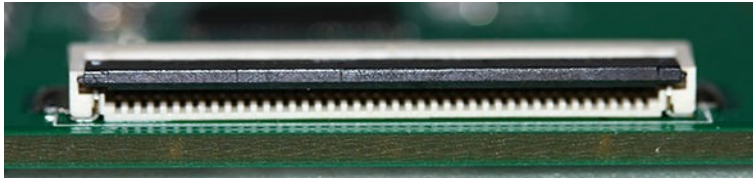
**FPC Connector Pin Assignment:**

**CN1 Connector:**



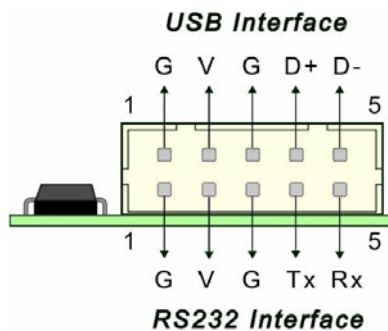
| CN1 |               |      |      |      |      |      |      |      |      |      |      |      |      |      |      |               |      |      |      |      |
|-----|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|------|------|------|------|
| PIN | 1             | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16            | 17   | 18   | 19   | 20   |
|     | SHIELDING_TX1 | TX53 | TX52 | TX51 | TX50 | TX49 | TX48 | TX47 | TX46 | TX45 | TX44 | TX43 | TX42 | TX41 | TC40 | TX39          | TX38 | TX37 | TX36 | TX35 |
| PIN | 21            | 22   | 23   | 24   | 25   | 26   | 27   | 28   | 29   | 30   | 31   | 32   | 33   | 34   | 35   | 36            | 37   | 38   | 39   | 40   |
|     | TX34          | TX33 | TX32 | TX31 | TX30 | TX29 | TX28 | TX27 | TX26 | TX25 | TX24 | TX23 | TX22 | TX21 | TX20 | TX19          | TX18 | TX17 | TX16 | TX15 |
| PIN | 41            | 42   | 43   | 44   | 45   | 46   | 47   | 48   | 49   | 50   | 51   | 52   | 53   | 54   | 55   | 56            |      |      |      |      |
|     | TX14          | TX13 | TX12 | TX11 | TX10 | TX9  | TX8  | TX7  | TX6  | TX5  | TX4  | TX3  | TX2  | TX1  | TX0  | SHIELDING_TX0 |      |      |      |      |

### CN2 Connector



| CN2 |               |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |               |
|-----|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|
| PIN | 1             | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20            |
|     | SHIELDING_RX0 | RX0  | RX1  | RX2  | RX3  | RX4  | RX5  | RX6  | RX7  | RX8  | RX9  | RX10 | RX11 | RX12 | RX13 | RX14 | RX15 | RX16 | RX17 | RX18          |
| PIN | 21            | 22   | 23   | 24   | 25   | 26   | 27   | 28   | 29   | 30   | 31   | 32   | 33   | 34   | 35   | 36   | 37   | 38   | 39   | 40            |
|     | RX19          | RX20 | RX21 | RX22 | RX23 | RX24 | RX25 | RX26 | RX27 | RX28 | RX29 | RX30 | RX31 | RX32 | RX33 | RX34 | RX35 | RX36 | RX37 | RX38          |
| PIN | 41            | 42   | 43   | 44   | 45   | 46   | 47   | 48   | 49   | 50   | 51   | 52   | 53   | 54   | 55   | 56   | 57   | 58   | 59   | 60            |
|     | RX39          | RX40 | RX41 | RX42 | RX43 | RX44 | RX45 | RX46 | RX47 | RX48 | RX49 | RX50 | RX51 | RX52 | RX53 | RX54 | RX55 | RX56 | RX57 | RX58          |
| PIN | 61            | 62   | 63   | 64   | 65   | 66   | 67   | 68   | 69   | 70   | 71   | 72   | 73   | 74   | 75   | 76   | 77   | 78   | 79   | 80            |
|     | RX59          | RX60 | RX61 | RX62 | RX63 | RX64 | RX65 | RX66 | RX67 | RX68 | RX69 | RX70 | RX71 | RX72 | RX73 | RX74 | RX75 | RX76 | RX77 | SHIELDING_RX1 |

### USB/RS232 Combo Connector Pin Assignment:

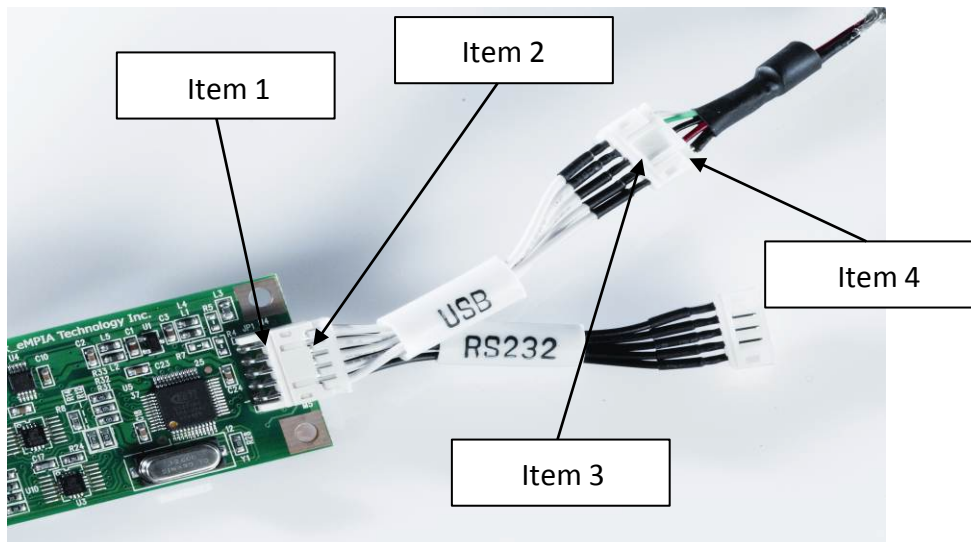


### Y-Cable Pin Assignment:



This cable has a total of 3 connectors: one connection to the controller board and two connections to either USB or Serial cable.

### Cable Connectors:



| Item         | Description                 | Part Number                          | Manufacturer                |
|--------------|-----------------------------|--------------------------------------|-----------------------------|
| 1            | Main Board, Male            | CP-HD20R-2x5                         | Cherng Weei                 |
| 2            | YY Cable, Female            | A2004H-2x5P<br>(used for SXC00)      | CJT or selected manufacture |
| 2a Alternate | Y Cable, Female             | JST-PHDR-10VS                        | JST                         |
| 3            | Y Cable, Male               | A2001WV-XP-5P<br>(used for SXC00)    | CJT or selected manufacture |
| 4            | USB or Serial Cable, Female | A2001H-5P (used with SXU00 or SXR00) | CJT or selected manufacture |
| 4a Alternate | USB or Serial Cable, Female | JST-PHR-5                            | JST                         |



## **Product Life:**

- 5 year product lifecycle
  - o 2-3 years “active promotion”
  - o 2-3 years “continued availability”
- 12 month end-of-life (EOL) Notification
  - o Last time buy option available with EOL notification
- 60 day change notification on anything that affects fit, form or function of the part.

## **Warranty:**

Dawar warrants the products produced to this specification from date of shipment for (1) year.

Please reference Dawar’s standard terms and conditions for more information.