One-Touch Resistive Controller Datasheet

Universal Analog Resistive Touch Screen Sensor Controllers

Key Features

♦ Universal Resistive Touch Screen Controller

♦ 4-wire and 5-wire Sensor Compatibility

♦ USB & RS-232 Operation

♦ USB HID-Mouse

♦ USB Power Option

♦ Screens up to 24"

Benefits

♦ High Performance

♦ Low Cost

♦ Low Power

## Applications

♦ Touch Screen Monitors

♦ Kiosk / POS

♦ Mobile Computing

♦ Healthcare Devices

♦ GPS Devices

♦ Military Devices

♦ Extreme Outdoor All-weather Environments

A D Metro's Resistive Touch Screen Controllers provide feature-rich, high-performance, low-cost, universal analog resistive touch screen control solutions. Based on the Microchip AR1100, A D Metro's one-touch screen controllers can interface over USB2 or full voltage RS-232 and support 4-wire or 5-wire analog resistive touch screens up to 24". 8-wire touch screen support is optional. The controller board is easy to integrate into a wide variety of touch sensing applications supporting the USB's HID-Mouse and HID-Digitizer device types, giving it compatibility with most operating systems.

The controller dynamically adapts to the touch screen's electrical characteristics such as sensitivity, contact resistance, and capacitance. It provides advanced touch response, accuracy and performance with up to 150 touch point reports per second of filtered coordinates, accurately tracking motion for applications such as signature capture.

The A D Metro Resistive Touch Screen Controller Board supports displays for industrial controls, self-service kiosks, and POS terminals, as well as smaller mobile, handheld computer and medical devices. Resistive touch provides the advantages of easy integration, low total system cost, the acceptance of single finger, thick glove or stylus input, full EMC immunity, and the ability to work when dirty, wet or even when immersed in salt water.
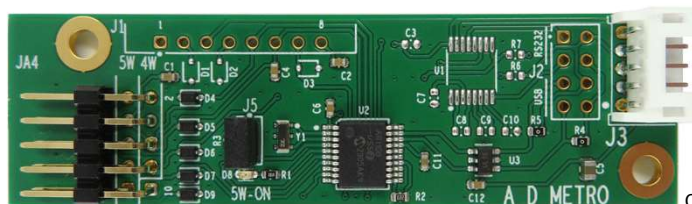
CR1T-02-5WN-01

The controller board's USB2-HID interface is compatible with most operating system's standard drivers. Calibration and configuration tools are freely available through Microchip's website. Selection of USB2 or RS-232, and 5-wire or 4-wire operation, is achieved through jumpers. The board is pre-configured as a fully-functioning touch controller on power-up, automatically defaulting to HID-MOUSE in USB mode.

High Performance - Low Cost - Low Power - USB2-HID

One-Touch Resistive Controller Datasheet

Special Features

Supports any format analog resistive touch screen from 1.5" to 24"
Power-saving sleep mode
Built-in drift compensation

Touch Performance

Input……………………………………………… Single finger or stylus press
Resolution (max) …………………………………………… 10-Bit
Reports per second (typ) …………………………………… 150
Response delay (typ) ………………………………………… 8ms
Orientation …………………………………… Set during sensor calibration
Maximum glove thickness ……………………………………… No limit
Fully functional when sensor covered in sea water and dirt ……….. Yes

Supported Touch Sensors

Analog resistive ……………………………………… 4-wire, 5-wire
Lead-to-lead resistance ………………………………… 50 to 2000 Ω
Layer-to-layer capacitance ……………………………….. 0 to 0.5 uF
A D Metro Ultra Resistive with ultra tough glass outer surface

Interfaces

Sensor interface …………………………………. 4-pin or 5-pin 0.1" header
Processor interface …….. USB 2.0 HID / Full voltage RS-232 9600 baud

Power Requirements

Operating voltage …………………………………………… 3.3V to 5.0V
Standby current (max) …………………………. 10 uA (UART), 500uA (USB)
Operating current (typ) ……………….. 17 mA (no touch), 25 mA (touch)

Controller Environmental Specifications

Operating temperature …………………………………… -40°C to + 85°C
Storage temperature ……………………………………… −40°C to +125°C
Relative humidity ………………………… 95% at 60°C RH non-condensing

Regulatory

CE/FCC Part 15 Class B unintentional radiation ……………… Compliant
UL /MIL RF immunity greater than 10V/m …………………………… Yes
RoHS3 …………………………………………………………… Compliant
REACH …………………………………………………………… Unaffected

Resistive Controller Part Numbers

One-touch, USB2 only ……………………………… CR1T-02-5WN-01
One-touch, USB2 and Full voltage RS-232 ……………… CR1T-06-5WN-01
USB-A controller cable, 2m ………………………………10-CARU-EXT
RS-232 controller cable, 0.45m ……………………………10-CARS-EXT
Two-touch, or 3.3V to 5V RS-232, or 8-wire …….. Available on request

Operating System Compatibility

OS	Version	Interfaces
Windows	Windows 11, 10, 8.1, 8, 7, Vista, XP, 2000, ME, 98 Windows CE (up to 7.0) Windows Embedded Windows XP Tablet PC edition	USB2-HID / RS-232
Windows	Windows NT4, 95	RS-232
Linux	Supports Kernel 2.4.x / 2.6.x / 3.x with XFree86.4.x / xorg (up to X server 1.11.x) Supports most Linux distribution 32/64 bit versions, including: CentOS, Debian, Fedora, Gentoo, Mandrake (Mandriva), Moblin (Meego), Red Hat, Ubuntu, Slackware, SuSE (openSuSE), etc. Android (up to 4.x) and newer	USB2-HID / RS-232
Mac	Mac OS Ventura 13.1 and before, Power PC, Mac OS9	USB2-HID mouse mode
QNX	QNX RTOS v6.3 and newer	USB2-HID / RS-232
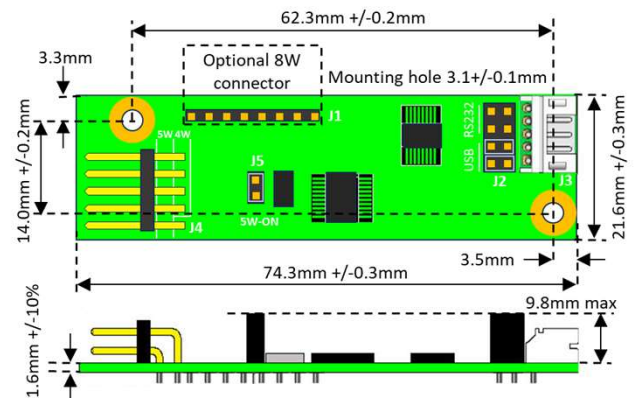
WARNING: This product can expose you to chemicals including Nickel which is known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov.

ADmetro

1390 Star Top Rd.
Ottawa, ON, Canada K1B 4V7

ISO 9001:2015 REGISTERED

ABOUT US:

Established in 1988, A D Metro designs, manufactures and supplies innovative touch screen technology solutions for original equipment manufacturers (OEMs), system integrators and value added resellers. Everyday A D Metro's products are touched by millions of people around the world. Our ULTRA product line is the most durable resistive touch screen sensor available on the market and our projected capacitive (PCAP) touch screen solutions simplify design and accelerate time to market.

Contact us, for more information on our innovative touch screen products, enhancements and custom manufacturing solutions.