PRELIMINARY

Multi-Touch Control Wheel

Features

- Grayhill Instinct™ Gesture Recognition
- Four devices in one:
  + Multi-Touch touchpad
  + 4-256 position rotary encoder
  + 4 position (N, S, E, W) joystick
  + Proximity sensor
- Impervious to cleaning solutions
- Easy to integrate into any device
- Rugged, scratch-resistant surface
- Windows™ 7 compatible HID

Possible applications include:
- Medical devices
- Off-Highway vehicles
- Gaming machines

Let your fingers do the directing

Finger gestures are a popular means of controlling contemporary electronic devices. Instinctive, memorable movements provide a variety of commands... all without the fingers leaving the touchpad. Grayhill's Instinct technology tracks up to five finger touches at a time. The Multi-Touch Control Wheel combines the multi-touch touchpad with a circular groove to offer even more functionality. Touching the North, South, East or West points in the groove can be interpreted as joystick switch inputs. Running your finger around the groove can be interpreted as an encoder input. The number of relative state changes is user configurable from 4 to 256 per revolution. Several multi-touch gestures are shown below.

Move Cursor

Zoom

Rotate

Momentum Scroll

Flick

3D Gesture

Instinct™ Technology. Intuitively Functional.

Grayhill Instinct is a set of multi-touch gesture recognition software tools that, when integrated with Grayhill multi-touch components, creates more intuitive human interface solutions.

A shorter distance from mind to machine

An intuitive, easy to use interface improves operator productivity. Our Instinct technology enables an operator's thoughts to be seamlessly communicated to the device. This allows faster interaction without needing to take eyes off of the screen. For the operator, it makes controlling a machine easier to manage. And unlike touch screens, the display is left clean and unblocked. Plus, ergonomics are improved by consolidating all controls within easy reach.
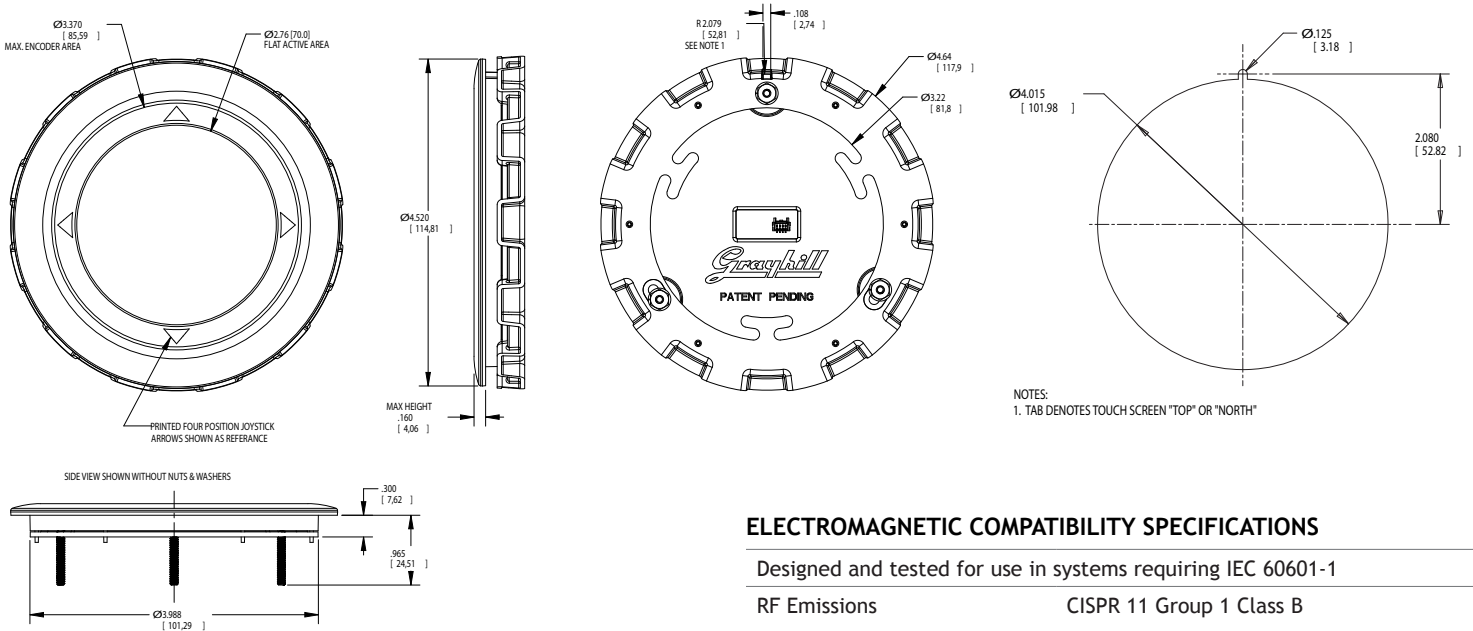
An elegant engineering solution to control electronic equipment

Simplicity in use and device design. The Multi-Touch Control Wheel can replace touchscreens, keypads, trackballs and switches. This makes for clean design and cuts costs of manufacturing. The MTCW increases the engineer's flexibility in building functionality into any product, while reducing front panel size and complexity.

DIMENSIONS

Ø3.370 [85,59] MAX. ENCODER AREA

Ø2.76 [70.0] FLAT ACTIVE AREA

PRINTED FOUR POSITION JOYSTICK ARROWS SHOWN AS REFERANCE

Ø4.520 [114,81]

MAX HEIGHT .160 [4,06]

R 2.079 [52,81] SEE NOTE 1

.108 [2,74]

Ø4.64 [117,9]

Ø3.22 [81,8]

PATENT PENDING

Ø.125 [3.18]

Ø4.015 [101.98]

2.080 [52.82]

NOTES:
1. TAB DENOTES TOUCH SCREEN "TOP" OR "NORTH"

SIDE VIEW SHOWN WITHOUT NUTS & WASHERS

.300 [7,62]

.965 [24,51]

Ø3.988 [101,29]

ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-10˚C to +60˚C
Seal	IP67
Humidity	95% Humidity at 60˚C for 240 hours
Chemical resistance (Resistance to accidental spills and disinfectants)	72 Hr exposure to betadine, Coffee, Water, Cola, NACL, Isopropyl Alcohol, Betadine, Hydrogen Peroxide, "Quats," and Cidex

ELECTRICAL PERFORMANCE SPECIFICATIONS

USB	2.0, 3.0 Compatible, Full speed HID Compliant
Operating Voltage	2.5 to 5.5 Vdc
Input Current	100mA max @5V
Rotational Life	1,000,000 cycles minimum

CONNECTION

Mating Connector: Molex 501939-400

PIN	1	2		3		4
USB	+ Vcc	USB Negative (D-)		USB Positive (D+)		Gnd

ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS

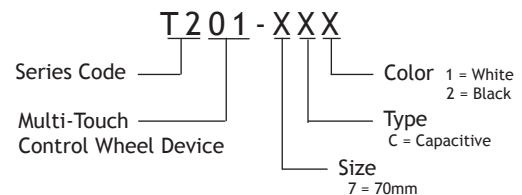|	
Designed and tested for use in systems requiring IEC 60601-1	
RF Emissions	CISPR 11 Group 1 Class B
Electrostatic Discharge	IEC 61000-4-2 ±6kV Contact ±8kV Air
Electrical Fast Transient/ Burst	IEC 6100-4-4 ±1kV Coupling Clamp
Power Frequency (50/60 Hz) Magnetic Field	IEC 6100-4-8 3 A/m
Conducted RF*	IEC 61000-4-6 Level 1 - 120dBuV, 150 kHz to 80 MHz
Radiated RF	IEC 61000-4-3 3 V/M 80 MHz to 2.5 GHz

* see Grayhill application note   specifications subject to change

SOFTWARE DEVELOPMENT KIT   part: T201-DEV1

Grayhill offers an Instinct Software Development Kit that provides the user with a common development platform for prototyping and evaluating different solutions. The Software Development Kit is comprised of a mounted Multi-Touch Control Wheel, a standard USB cable and demo software.

ORDERING INFORMATION

T 2 0 1 - X X X

Series Code

Multi-Touch Control Wheel Device

Size
7 = 70mm

Type
C = Capacitive

Color
1 = White
2 = Black

Grayhill, Inc.