Description

CambridgeIC's CAM204 inductive processor IC connects to two Type 6 Through-Hole Rotary Sensors and measures the angle of their matching targets without contact.

The Type 6 Rotary Development Kit includes a set of parts for product evaluation. It connects to a PC over a USB interface, so that angle measurements can be displayed on-screen using CambridgeIC CTU Software.

Type 6 Rotary Technology Benefits

- Truly non-contacting, big gaps possible
- Hole in targets and sensors for through shaft
- Tolerant of gap change and radial misalignment
- Robust against mechanical shock
- Stable across temperature
- Customers can build sensors and targets themselves for cost effective embedded solution

Kit Features

- Type 6 CTU Development Board (CAM204 chip)
- 35mm Type 6.3 Rotary Sensor Assembly
- 55mm Type 6.5 Rotary Sensor Assembly
- Matching targets for sensors
- Plastic holders for ease of operation
- CTU Adapter for SPI to USB conversion
- PC software for Windows XP, Vista, 7, 8 or 10
- Ready to work inside the box

Applications

- Demonstration
- Evaluation
- Development
- One-off position sensing solutions

Product identification	
Part no.	**Description**
013-7004	Type 6 Rotary Development Kit

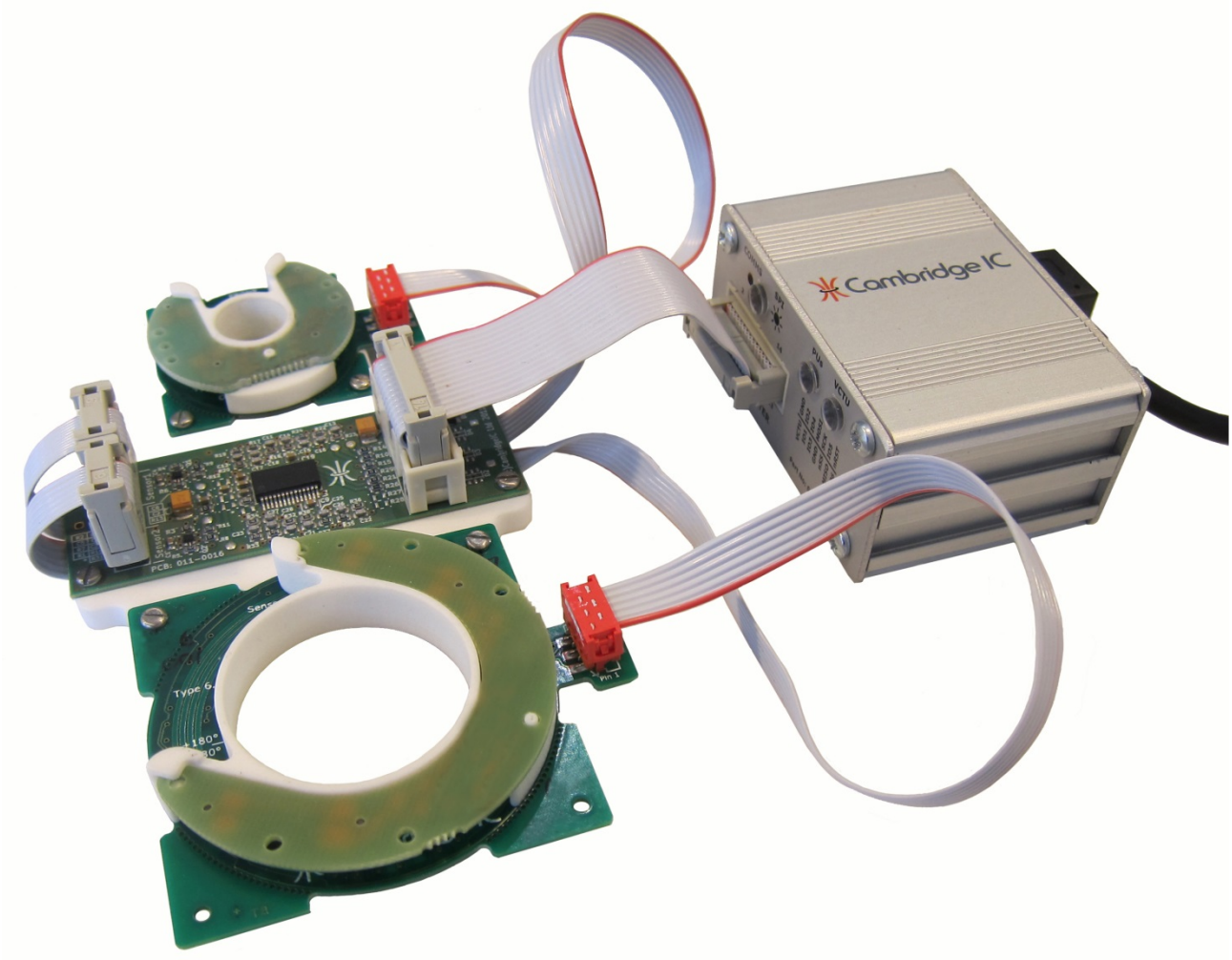

Figure 1 Type 6 Rotary Development Kit

1 Quick Start Guide

1.1 Fit Targets to Holders and Sensors

The C shaped targets for the two sensors are supplied in plastic bags for transit, together with their matching holders. Remove from the packaging and assemble each target to its holder and sensor as shown in Figure 2.

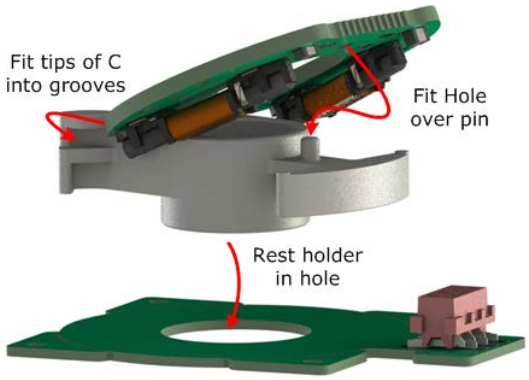

Figure 2 Fitting Targets to Holders and Sensors

At this point the parts should be assembled as shown in Figure 1, with targets fitted to holders placed on sensors, and the Type 6 CAM204 Development Board and CTU Adapter connected together with the 60mm 14-way ribbon cable.

1.2 Plug the USB Cable into a PC

The software provided is for Windows XP, Vista, Windows 7, 8 or 10. Turn the PC on and plug the USB cable into a convenient port.

CambridgeIC's CTU Adapter is supported by Microsoft Update. It should install automatically when a CTU Adapter is plugged into a Windows 7 upwards PC that is connected to the internet. Installation may take a few minutes the first time. The Windows task bar advises when installation is complete.

With Windows XP PCs, the *Windows Found New Hardware Wizard* should launch and ask **Can Windows Update connect to Windows Update to search for software?** If the PC is connected to the internet, select **Yes**.

Please refer to the CambridgeIC CTU Software User Guide for detailed installation instructions, including installation from disk and troubleshooting.

1.3 Install the CambridgeIC CTU Software

CambridgeIC CTU Software may be downloaded from www.cambridgeic.com. Create an account, log in, navigate to **Products → Tools & Accessories**, click on the appropriate link under **Software Downloads** in the right hand column. Save the zip file to an appropriate directory on the target PC and extract its contents.

It is recommended to shut all other programs before installation. Locate and launch the **setup.exe** program from the directory containing the installer. Follow the on-screen prompts to complete the installation. Once completed, the applications require a restart of the PC for correct operation.

1.4 Launch and Configure CTU Demo

From the PC's **start** menu, select **All Programs → CambridgeIC CTU Software → CtuDemo**. Change **Sensor Type** to 6 as illustrated in Figure 3.

Then click on the **run** button. This will start measurements, and launch the **Display Type 6 Results** window illustrated in Figure 4.

Sensor Subtypes must be changed as show in Figure 4. Change sensor 1's Subtype to 3 (for 35mm Type 6.3 sensor) and change sensor 2's Subtype to 5 (for 55mm Type 6.5 sensor).

Rotate targets relative to their sensors, and the dials inside the Display Type 6 Results window will follow (Figure 5).

For full details of using CTU Demo and the other applications provided please refer to the CTU Development Applications User Guide. This also includes a troubleshooting guide in case of difficulties.

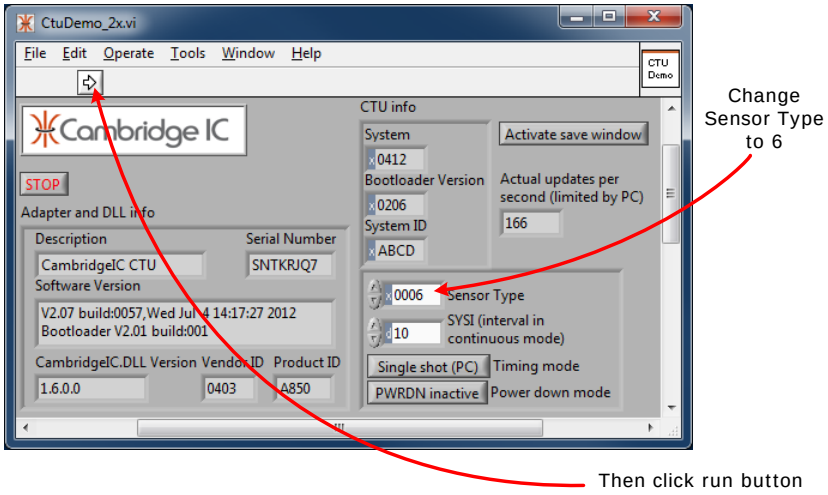

Figure 3 Configure CTU Demo and Run

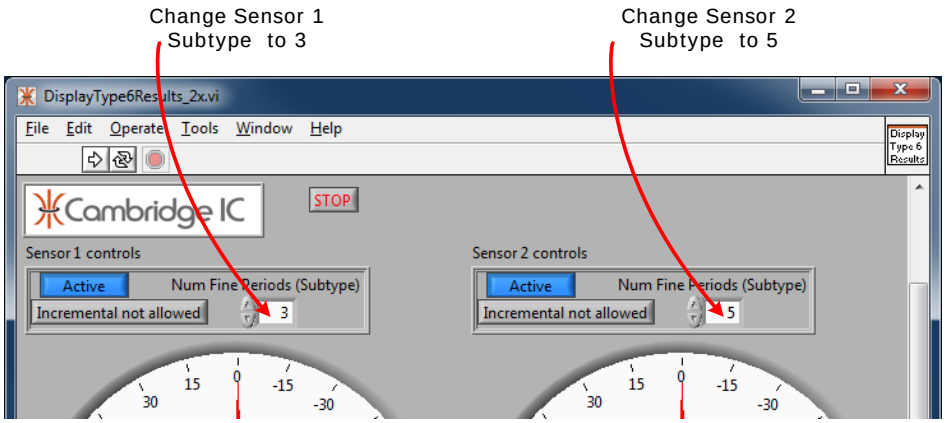

Figure 4 Configure Display for Type 6 Results with Sensor Subtype numbers

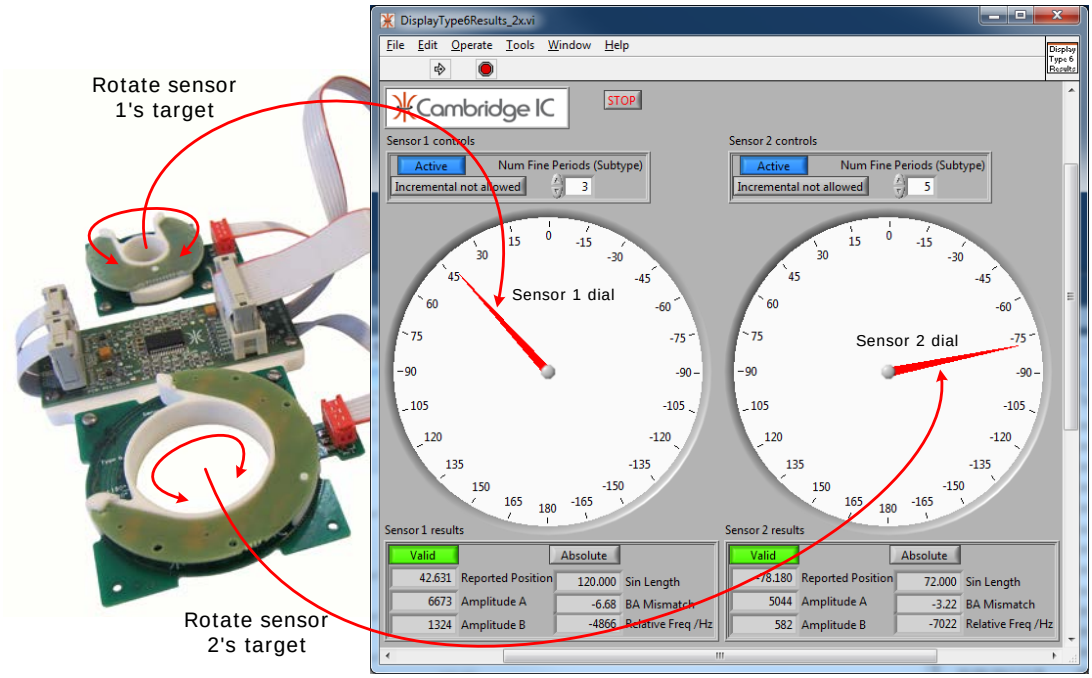

Figure 5 Rotate targets, observe dials indicating their angles

2 Document History

Revision	Date	Reason
0001	15 April 2016	First draft

3 Contact Information

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4 Legal

The parts described in this datasheet are subject to the following patents: US8570028, GB2461448, GB2488389 and GB2500522. Other patents are pending.