Description

This C Target is designed to work with a 35mm Type 6.3 Rotary Sensor, which determines the relative angle of the C Target without contact between the two.

The C Target has a resonant circuit inside, comprising two wound ferrite rods connected with a capacitor. These form a high Q resonant circuit that is inductively coupled to the sensor.

Features

- Twin ferrite rods for misalignment immunity
- C shape can mount to a shaft from the side
- Encapsulated for moisture and shock resistance

Applications

- Azimuth and tilt sensing for surveillance cameras
- Motion control
- Actuator position feedback
- Valve position sensing
- Absolute Optical Encoder replacement

Product identification	
Part no.	**Description**
013-1011	C Target, 180.5kHz

Figure 1 C Target viewed from Sensor Side

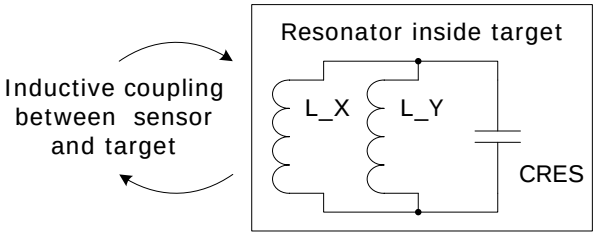

Figure 2 Equivalent circuit

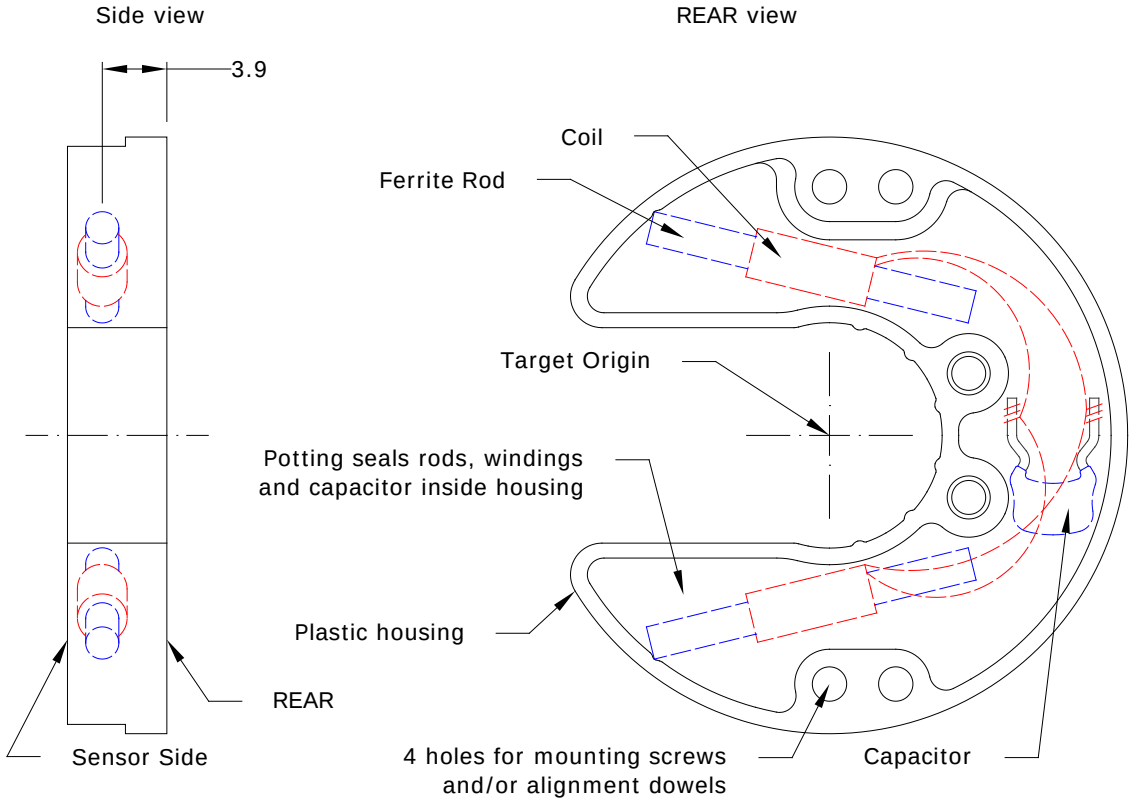

Figure 3 Parts inside C Target

1 Mechanical

Figure 4 illustrates the C Target, and includes key dimensions and tolerances.

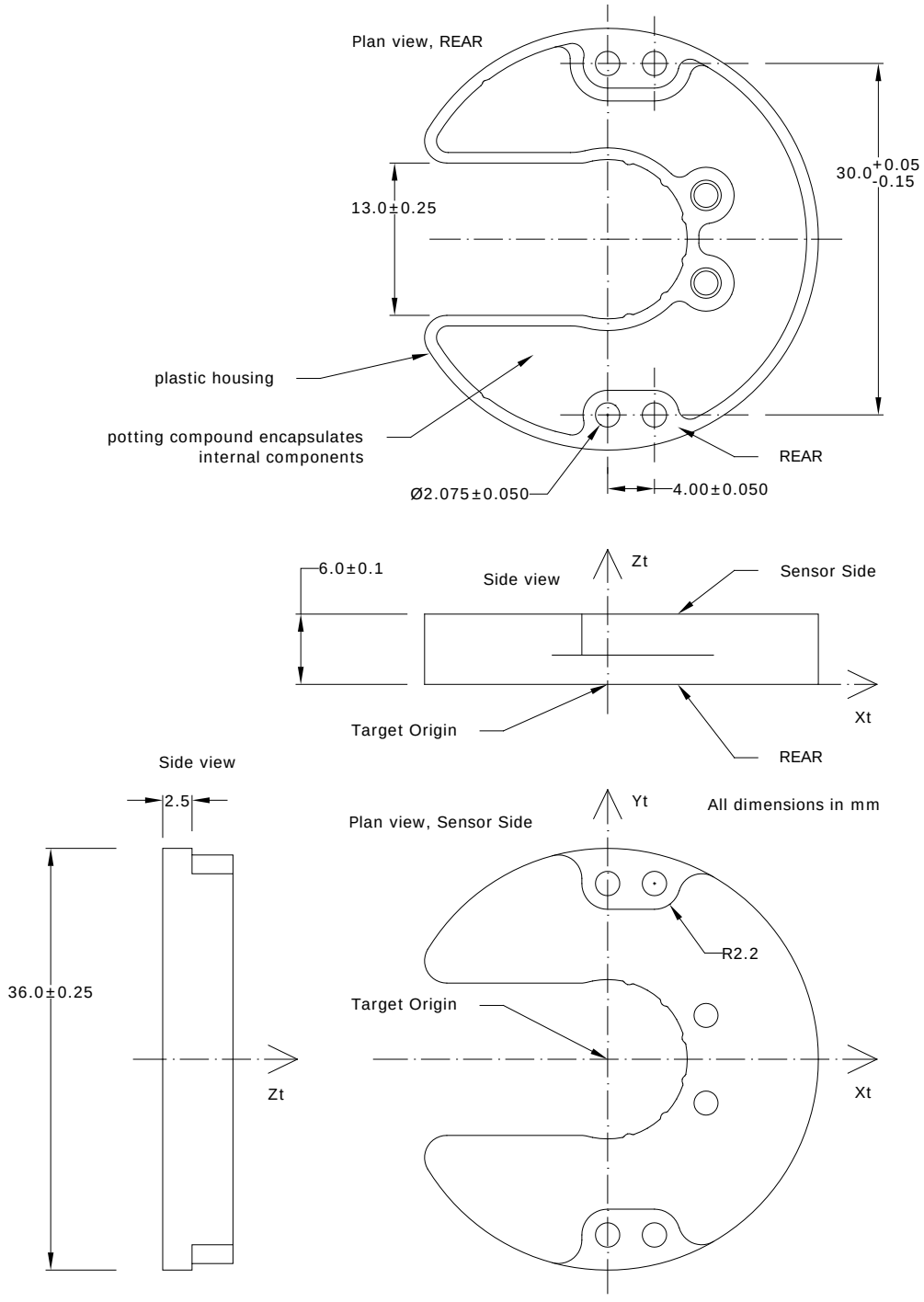

Figure 4 Mechanical drawing of C Target

2 Specifications

2.1 Electrical

Table 1 Electrical specifications

Part No	013-1011
Item	**Value**
Resonator frequency	180.6kHz
Tolerance at 20°C	±2.5%
Max change in resonant frequency across Operating Temperature Range relative to value at 20°C	±1.5%

2.2 Functional

Table 2 Functional specifications

Item	Value
Offset Error associated with Target (1)	±0.5°

Note (1): Position reported by CAM204 or CAM502 IC connected to sensor 013-0024 with Type 6 Grade A circuitry shown in its datasheet, when target's Xt axis of Figure 4 is aligned with the sensor's Reference Direction at 1mm gap. Reflects the rotational accuracy with which the wound ferrite rods of Figure 3 are aligned within the housing relative to mounting/alignment holes.

2.3 Environmental

Table 3 Environmental Specifications

Item	Value
Maximum Operating Temperature	+85°C
Minimum Operating Temperature	-40°C
Maximum Storage Temperature	+85°C

2.4 Physical

Table 4 Physical specifications

Item	Value
Mass, typical	6g

3 Document History

Revision	Date	Description
0001	23 June 2014	First draft, basic information
0002	8 July 2014	Added Offset Error specification

4 Contact Information

Cambridge Integrated Circuits Ltd
21 Sedley Taylor Road
Cambridge
CB2 8PW
UK

Tel: +44 (0) 1223 413500

info@cambridgeic.com

5 Legal

The part described in this datasheet together with a matching sensor is subject to the following patents: US8570028, GB2461448 and GB2488389. Other patents are pending.