CA742 CAST Loop Resistance Tester

Installer's Guide

Read these instructions before installation and operation

THIS EQUIPMENT MUST BE INSTALLED AND MAINTAINED BY A SUITABLY SKILLED AND TECHNICALLY COMPETENT PERSON. ENSURE ALL POWER IS REMOVED BEFORE INSTALLATION.

Important Note: Refer to Application Note APN0000803 for a method of calculating the CA742's resistance trigger setting and how to configure the CAST ZFP panel to work with the CA742.

Compatibility with CAST ZFP Systems

The CA742 CAST Loop Resistance Tester is only compatible with the following CAST ZFP panel firmware and programming tools:

- CAST ZFP Main Module 10A25 or above.
- CAST ZFP Loop Module 15A30 or above.
- ZFP Programming Tools V 3.7.8.1 or above.

Please contact C-TEC Technical Support for panels with lower firmware versions.



CA742

Product Description

The CA742 (shown above right) performs enhanced loop integrity checks (in accordance with EN 54-13:2005) in addition to the checks performed by the CIE.

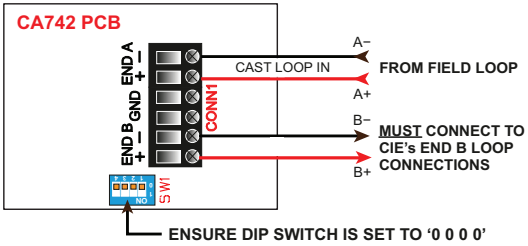
The CA742 is fitted at END B of the CAST loop and can measure the series resistance of the field loop. This loop resistance includes the loop wiring resistance, resistance of the field devices and any 'fault' resistance that may occur on the field wiring. An increase in the loop resistance may cause greater voltage drops at the extremes of the loop, which may affect the correct operation of field devices. **Note:** Spurs are not monitored for any resistance faults or problems.
The CA742's resistance trigger setting is user configurable (5–75 ohm, set in 5 ohm steps) and is set using the ZFP programming tools. The module sends a loop resistance fault message to the CIE.

Features

- Compatible with the requirements of EN 54-13:2005 (NTN-179L).
- Compatible with C-TEC's CAST ZFP CIE.
- CA742 takes one address on the loop.
- CA742 generated loop resistance fault reported to the CIE.
- Resistance trigger setting range 5–75Ω (set using the ZFP programming tools).

Connections

Fig.1 – CA742 Loop Connections



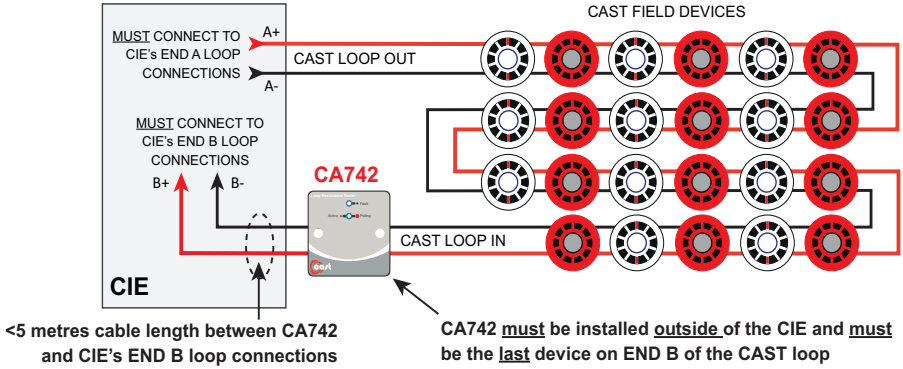
CONN1 Connector	Function
END A–	From Field Loop A–
END A+	From Field Loop A+
END B–	To CIE Loop Driver B–
END B+	To CIE Loop Driver B+

- Correct polarity must be observed.
- Connector can accept 0.25mm² to 2.5mm² wiring.

Installation

This product must be installed in accordance with applicable local and national regulations.
The CA742 **must** be installed **outside** of the CIE and **must** be the **last** device on END B of the CAST loop. It must be connected (and located no more than 5 metre cable length) to the CIE's B loop connections (see Fig.2, below).
The CA742 is designed for indoor use only and may be flush or surface mounted. Two mounting holes are provided on the CA742, which can be fitted to a back box.

Fig.2 –Typical CIE Loop with the CA742 connected



Technical Specification

Order Code:	CA742		
Description:	EN 54-13 Loop Resistance Tester		
System Standard:	EN 54-13:2005		
Certified Standard:	EN 54-18:2005		
BOSEC Certificate Number:	B-9359-FD-1108		
CPR Certificate Number:	1134-CPR-265		
Declaration of Performance:	DOP0000094		
Operating Voltage:	22-40V (CAST loop powered)		
Quiescent Current:	<2.0mA		
Active Current:	7.3mA (Fault LED lit)		
Monitoring:	Loop series resistance		
Loop Input:	A side - Variable trigger threshold; B side - Fixed at 2.5 ohms.		
Compatible CIE:	C-TEC CAST ZFP		
Communication Protocol:	CAST (C-TEC)		
LED Indicators:	Active (Steady Green) - Unit activated. Polling (Flashing Green) - Comms check with the CIE. Fault (Yellow) - Over resistance fault detected on CAST loop.		
Weight:	80g	**Operating Temperature:**	-10°C to +55°C
IP Rating (EN 60529):	IP40	**Dimensions (mm):**	87W x 87H x 25D (without a back box)
Body Material:	PVC	**Humidity:**	Max. 95% RH (non-condensing)

Manufacturer: Computionics Limited (C-TEC), Challenge Way, Martland Park, Wigan, Lancashire WN5 0LD. www.c-tec.com
E&OE. No responsibility can be accepted by the manufacturer or distributors of these devices for any misinterpretation of this instruction or the compliance of the system as a whole. The manufacturer's policy is one of continuous improvement, and we reserve the right to make changes to product specifications at our discretion and without prior notice.