

Endura AZ40

Transmitter



Processor/display board
assembly kit
Kit reference: AZ400 766

Measurement made easy

Endura AZ40
transmitter

1 Introduction

This publication details replacement procedures for the AZ40 processor/display board assembly kit (AZ400-766) fitted to Endura AZ40 transmitters. Before carrying out any procedures, read Section 3. These procedures must be carried out by a suitably-trained technician.

Kit contains:

- Processor/display board assembly
- This publication

Tools required

- Transmitter door key (supplied with transmitter)
- Operating instruction [OI/AZ40-EN](#)*
- Anti-static strap
- T8 Torx screwdriver
- Small flat-bladed screwdriver
- Small crosshead screwdriver

*Operating instruction [OI/AZ40-EN](#) contains mandatory safety information and can be downloaded from the link (above) or by scanning this code:



2 For more information

Further information is available from:

www.abb.com/analytical

or by scanning these codes:



Sales




Service

3 Health & Safety


3.1 Safety precautions

Be sure to read, understand and follow the instructions contained within this document before and during use of the equipment. Failure to do so could result in bodily harm or damage to the equipment.


-  **WARNING – Bodily injury** Installation, operation, maintenance and servicing must be performed:
- by suitably trained personnel only
 - in accordance with the information provided in this document
 - in accordance with relevant local regulations

3.2 Potential safety hazards


3.2.1 Endura AZ40 sensor – fibrous material in probe assembly

-  **WARNING – Serious damage to health**
Fibrous material
- The sensor and probe assemblies (standard and high temperature versions) contain fibrous material that can be a health hazard if airborne.
 - The material, predominantly – aluminosilicate refractory fibres, CAS 142844-00-6. Refractory ceramic fibres (RCF) are classified as:
 - Category 1B carcinogen under regulation (EC) No 1272/2008 – the classification, labelling and packaging regulations.
 - Category 2B carcinogen by inhalation by The International Agency for Research on Cancer (IARC).
 - When removing the sensor cover and subsequent maintenance activities, exposure to the airborne fibres could occur. ABB have conducted air sampling assessments within the breathing zone of the operator and have identified that an exposure limit of 1 fibre / cubic centimetre is unlikely to occur.
 - Exposure to any carcinogen must be kept as low as reasonably practicable.
 - Appropriate PPE defined below, must be worn when working with probe assemblies (all installation, replacement, maintenance procedures):
 - A face fit tested, half mask conforming to EN140 (or equivalent) with a level 3 particulate filter conforming to EN 143 (or equivalent).
 - Disposable protective coveralls in accordance with Type 5 ISO 13982-1:2004 (or equivalent).
 - Goggles and gloves.


3.2.2 Process conditions and requirements

-  **WARNING – Bodily injury**
Environmental conditions
- High air / equipment / structure temperatures, poor air quality and adverse environmental conditions may be present when the process is running.
 - It is recommended that the process is shut down before performing these procedures.
 - The process must be cool enough to enable shutdown, disconnection and removal of the sensor in a safe manner and in accordance with relevant local regulations.
 - Appropriate PPE, including mask and goggles must be worn when preparing the process for these procedures.

3.2.3 Endura AZ40 sensor / probe – installation to pressurized process

-  **DANGER – Serious damage to health / risk to life**
Pressurized equipment – do not install / remove / the sensor / probe if process at positive pressure
- Installation, operation, maintenance and servicing of pressurized equipment must be performed:
- by suitably trained personnel only
 - in accordance with the information provided in this document
 - in accordance with relevant local regulations
 - when process conditions are suitable to allow enough to enable installation / maintenance

3.2.4 Endura AZ40 sensor – high operational temperature on exposed parts

-  **WARNING – Bodily injury**
High temperature on exposed surfaces –see Fig. 3.1
- During operation, exposed sensor surfaces can reach 200 °C (392 °F).
 - Ensure suitable PPE is available and is worn before handling the sensor.
 - Do not touch exposed surfaces until the sensor / probe is cool enough to handle with PPE.

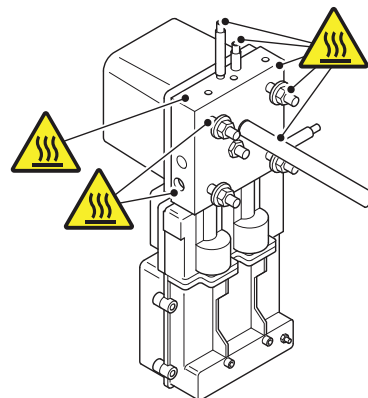


Fig. 3.1 High temperature points on exposed sensor surfaces during operation

3.2.5 Endura AZ40 sensor – weight



WARNING – Bodily injury

- The sensor weighs 9.0 kg (20 lb). When fitted with a probe / filter assembly, the combined sensor / probe weight is dependent on probe length / type plus filter option – refer to Operating instruction OI/AZ40-EN for weight details.
- The sensor / probe assembly must be mounted in accordance with the information supplied in Operating instruction OI/AZ40-EN.
- Suitable lifting equipment must be available when installing / removing the sensor / probe from the process.

3.2.6 Endura AZ40 analyzer – electrical



WARNING – Bodily injury

To ensure safe use when operating this equipment, the following points must be observed:

- up to 240 V AC may be present. Ensure the supply is isolated before removing the terminal cover
- normal safety precautions must be taken to avoid the possibility of an accident occurring when operating in conditions of high pressure and / or temperature

Safety advice concerning the use of the equipment described in this document or any relevant Material Safety Data Sheets (where applicable) can be obtained from the Company, together with servicing and spares information.

Endura AZ40 transmitter – weight



WARNING – Bodily injury

- The transmitter weighs 7.6 kg (17 lb) and must be mounted in accordance with the information supplied in Operating instruction OI/AZ40-EN.
- Suitable lifting equipment must be available when installing / removing the transmitter from the mounting.

3.2.7 End of life battery disposal

The transmitter contains a small lithium battery (located on the processor / display board) that must be removed and disposed of responsibly in accordance with local environmental regulations.

3.2.8 Product disposal / recycling



PRODUCT RECYCLING / DISPOSAL

Dispose / Recycle separately from general waste under the WEEE directive.



PRODUCT RECYCLING / DISPOSAL (Europe only)

Electrical equipment marked with this symbol may not be disposed of in European public disposal systems after 12 August 2005. To conform to European local and national regulations (EU Directive 2002/96/EC), European electrical equipment users should now return old or end-of-life equipment to the manufacturer for disposal at no charge to the user.

ABB is committed to ensuring that the risk of any environmental damage or pollution caused by any of its products is minimized as far as possible.



IMPORTANT NOTE

For return for recycling, please contact the equipment manufacturer or supplier for instructions on how to return end-of-life equipment for proper disposal.

4 Isolating the transmitter

4.1 Isolating the transmitter

Referring to Fig. 4.1.

1. Isolate transmitter (A) from incoming mains power supplies (B).



DANGER – Serious damage to health / risk to life

The transmitter must be isolated from mains power supplies before carrying out this procedure.

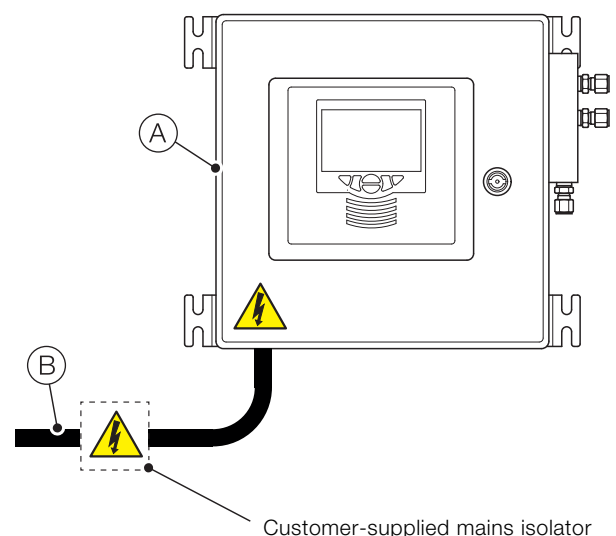


Fig. 4.1 Isolating the transmitter from incoming mains power supplies

5 Replacement procedure

1. Fit an anti-static strap (not supplied).

Referring to Fig. 5.1:

2. Use the transmitter door key to unlock and open transmitter door (A).
3. Use a T8 Torx screwdriver to remove 6 Torx screws (B) and remove processor / display board cover (C). Retain screws.
4. Remove media PCB (D) by pulling it away from processor / display board (E). Retain media PCB.
5. Remove real-time clock PCB (F) by pulling it away from processor / display board (E). Retain real-time clock PCB.
6. Carefully disconnect flexi-cable (G) from processor / display board (E).
7. Pull out 2 x press rivets (H) from processor / display board (E). Retain rivets.
8. Remove processor / display board (E) from display mounting (I) and discard safely – refer to Section 3.2.8, page 3.
9. Locate the new replacement processor / display board in place in display mounting (I) and refit 2 x press rivets (H).



IMPORTANT (NOTE)

Ensure switch extender (J) is seated correctly and depress each switch to check for positive action.

10. Re-connect flexi-cable (G), real-time clock PCB (F) and media board (D) in the reverse order of removal.
11. Re-fit display / processor PCB cover (C) in reverse order of removal and close and lock transmitter door (A).
12. Prepare the transmitter for operation by reversing the isolation procedure – see Section 4, page 3.

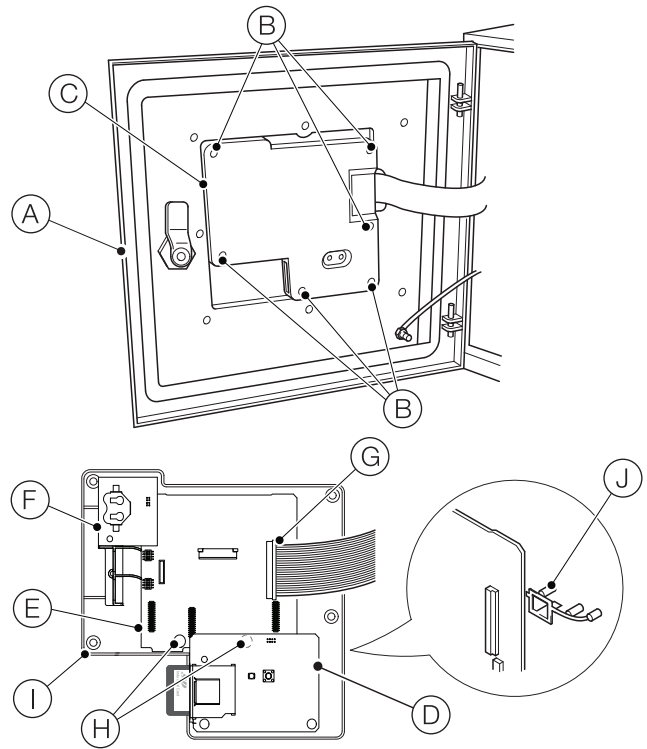


Fig. 5.1 Replacing the processor / display board assembly