Aztec AWT440 Transmitter

1 Introduction

This publication details spares replacement procedures for the AWT440 transmitter. The procedures must be carried out by a trained technician.

Tools required

- Anti-static strap
- Flat-bladed screwdriver
- T8 x 40 Torx screwdriver
- No. 2 Pozidriv screwdriver
- Small nylon-headed hammer
- 2.5 mm diameter drift

2 For more information

Further information is available from: www.abb.com/analytical

or by scanning these codes:

Sales

Service
3 Safety

WARNING. The procedures must be carried out by a trained technician.
Electrical
– Isolate all high voltage supplies to the transmitter before performing replacement procedures.
– Transmitter boards and modules are vulnerable to electrostatic damage. Wear an anti-static strap at all times during these replacement procedures.
– Ensure all electrical connections are kept dry at all times.
General
– Dispose of the old components in accordance with the guidelines contained in the Operating instructions (OI/AWT440-EN).

4 Replacement procedures

IMPORTANT (NOTE) These procedures are best performed on a clean flat surface.

Fig. 4.1 Aztec AWT440 transmitter – replacement procedures
4.1 Replacing the main board
AC main board (spares kit number AWT440721) or DC main board (spares kit number AWT440722).
Referring to Fig. 4.1:
1. Using a suitable screwdriver, release door retaining screw A and open the transmitter door.

Referring to Fig. 4.2:
2. Release cover plate retaining screw B and remove cover plate C.
3. Remove communications board D (if fitted) by pulling it away from main board E.
4. Remove any module boards F, G, H (if fitted) by disconnecting board wiring to the terminal blocks on each board and unscrewing the board-retaining screw(s) I.
5. Disconnect all connections to main board terminals J, loosen the 3 screws and associated clamp washers K and any connections to these 3 screws.
6. Unscrew the 5 Torx screws L securing the main board to the transmitter case and lift the main board E out.
7. Disconnect the 50-way the media card M cable from the underside of the main board.
8. Fit the new replacement board, refit the communication and module board(s), all connections and the terminal cover in the reverse order of removal / disconnection.

4.2 Replacing the processor / display board
Processor / display board (spares kit number AWT440720).
Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw A and open the transmitter door.

Referring to Fig. 4.3:
2. Remove the 6 Torx screws B securing display cover and remove processor / display board cover C.
3. Disconnect the 50-way Flexi-cable D from processor / display board E.
4. Remove software key board-mount F and any software keys fitted.
5. Remove media board G if fitted.
6. Remove the 2 snap rivets H and lift processor / display board E out of the door.
7. Fit the new replacement processor / display board in the reverse order of removal, using new snap rivets (supplied).
4.3 Replacing the dual channel digital sensor input board
Dual channel digital sensor input board (spares kit number AWT440727)
Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw A and open the transmitter door.

Referring to Fig. 4.2, page 2:
2. Release cover plate retaining screw B and remove cover plate C.
3. Remove the input board F (or G if fitted) by disconnecting board wiring to the terminal block and unscrewing the board retaining screw I.
4. Fit the replacement input board, all connections and refit terminal cover C in the reverse order of removal / disconnection.

4.4 Replacing the analog O/P board
Analog O/P module board (spares kit number AWT440723)
Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw A and open the transmitter door.

Referring to Fig. 4.2, page 2:
2. Release cover plate retaining screw B and remove cover plate C.
3. Remove the analog O/P module board H by disconnecting board wiring to the terminal block and unscrewing the right board retaining screw I.
4. Fit the replacement analog O/P module board, all connections and the refit terminal cover C in the reverse order of removal / disconnection.

4.5 Replacing the media board
SD media board (spares kit number AWT440728),
USB media board (spares kit number AWT440729)
Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw A and open the transmitter door.

Referring to Fig. 4.3, page 3:
2. Remove the 6 Torx screws B securing the display cover and remove processor / display board cover C.
3. Remove media board G by pulling it away from the main board.
4. Fit the replacement media board and refit processor / display board cover C in the reverse order of removal.

4.6 Replacing / Upgrading the Profibus communications board
Profibus communications board (spares kit number AWT440725)
Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw A and open the transmitter door.

Referring to Fig. 4.2, page 3:
2. Un螺丝 terminal cover screw B using the Pozidriv screwdriver and remove terminal cover C.
3. Remove the communications board D (if fitted) by pulling the board away from the main board E.
4. Fit the replacement / upgrade Profibus communications board and refit the terminal cover C in the reverse order of removal.

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4.7 Replacing / Upgrading the Ethernet communications board

Ethernet communications board (spares kit number AWT440726)

Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw A and open the transmitter door.

Referring to Fig. 4.2, page 3:
2. Unscrew terminal cover screw B using the Pozidriv screwdriver and remove terminal cover C.
3. Remove the communications board D (if fitted) by pulling the board away from the main board E.
4. Fit the replacement / upgrade Ethernet communications board and refit the terminal cover C in the reverse order of removal.
5. If upgrading, fit the special cable gland provided into the bottom left hand M20 gland entry hole N.

4.8 Replacing / Upgrading the MODBUS communications board

MODBUS communications board (spares kit number AWT440730)

Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw A and open the transmitter door.

Referring to Fig. 4.2, page 3:
2. Unscrew terminal cover screw B using the Pozidriv screwdriver and remove terminal cover C.
3. Remove the communications board D (if fitted) by pulling the board away from the main board E.
4. Fit the replacement / upgrade MODBUS communications board and refit the terminal cover C in the reverse order of removal.

4.9 Replacing the bulkhead connector

Bulkhead connector (spares kit number AWT440707)

Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw A and open the transmitter door.

Referring to Fig. 4.2, page 3:
2. Unscrew terminal cover screw B using the Pozidriv screwdriver and remove terminal cover C.
3. Disconnect wires from RS485 PCB F or G.
4. Remove bulkhead connector by unscrewing the backnut.
   Ensure the anti-rotation washer is retained.
5. Fit new bulkhead connector O in the reverse order of removal.

4.10 Upgrading the RS485 dual input

RS485 dual input (spares kit numbers AWT440727 and AWT440707)

Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw A and open the transmitter door.

Referring to Fig. 4.2, page 3:
2. Unscrew terminal cover screw B using the Pozidriv screwdriver and remove terminal cover C.
3. Fit the new RS485 interface module board into position G.
4. Remove blanking plug(s) P.
5. Fit new bulkhead connector/s ensuring that the anti-rotation tab fits into the recess in the gland plate.
6. Make electrical connections to the RS485 dual input interface module board terminals (as existing board).
4.11 Replacing the cover plate
Cover plate (spares kit number AWT440708)
Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw \( \text{(A)} \) and open the transmitter door.

Referring to Fig. 4.2, page 3:
2. Unscrew terminal cover screw \( \text{(B)} \) using the Pozidriv screwdriver and remove terminal cover \( \text{(C)} \).
3. Fit new cover plate in reverse order of removal.

4.12 Replacing / Upgrading the option board labels
Option board labels (spares kit number AWT440709)
Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw \( \text{(A)} \) and open the transmitter door.
2. Unscrew the terminal cover plate screw using the Pozidriv screwdriver and remove terminal cover.
3. Remove old label associated with the option board(s) being replaced / upgraded.
4. Fit new label(s) in the correct position on the cover plate.
5. Re-fit cover plate in reverse order of removal.

4.13 Replacing the door assembly
Door assembly (spares kit number AWT440710)
Referring to Fig. 4.1, page 2:
1. Using a suitable screwdriver, release door retaining screw \( \text{(A)} \) and open the transmitter door.

Referring to Fig. 4.4:
2. Remove the 6 Torx screws \( \text{(B)} \) securing the display cover and remove processor / display board cover \( \text{(C)} \).
3. Disconnect the 50-way Flexi-cable \( \text{(D)} \) from processor / display board \( \text{(E)} \).
4. Remove software key board-mount \( \text{(F)} \) and any software keys by pulling them away from processor / display board \( \text{(E)} \).
5. Remove media board \( \text{(G)} \) (if fitted) by pulling it away from processor / display board \( \text{(E)} \).
6. Remove the 2 snap rivets \( \text{(H)} \) and lift processor / display board \( \text{(E)} \) out of door \( \text{(I)} \).
7. Using the small nylon-headed hammer and 2.5 mm diameter drift, remove (and discard) the 2 coiled spring pins \( \text{(J)} \) from the door hinges and remove door \( \text{(I)} \).
8. Fit the replacement door, existing processor / display board, media card (if fitted), software key board mount / software keys and the display cover in the reverse order of removal / disconnection using the new spring pins and snap rivets (supplied).

Fig. 4.4 Replacing the door assembly