IP-DECT
Outdoor cabinet isolated

4080 IP-DECT AP / 8340 Smart IP-DECT AP (all types)

8AL90851USBAed01 - 10/2013

Important

The equipment described in this manual should be installed and maintained only by professional and qualified engineers in accordance with the procedures and instructions described in this manual.

PREFACE

This manual is applicable for the Outdoor Box Isolated for the 4080 IP-DECT AP Integrated antennas, 4080 IP-DECT AP External antennas, the 8340 Smart IP-DECT AP Integrated antennas, and the 8340 Smart IP-DECT AP External antennas. All these Access Points are DECT Transceivers.

Please note that some product models or features described in this manual may not be available in all world regions."

No legal rights can be obtained from information in this manual.

Regulatory information European Union

Declaration of Conformity

This equipment is in compliance with the essential requirements of R&TTE Directive 1999/5/EC.The Declaration of Conformity may be obtained from your installer.

Product disposal information

The symbol depicted here has been affixed to your product in order to inform you that electrical and electronic products should not be disposed of as municipal waste.

Electrical and electronic products including the cables, plugs and accessories should be disposed of separately in order to allow proper treatment, recovery and recycling. These products should be taken to a designated facility where the best available treatment, recovery and recycling techniques are available. Separate disposal has significant advantages: valuable materials can be re-used and it prevents the dispersion of unwanted substances into the municipal waste stream. This contributes to the protection of human health and the environment.

In order to facilitate separate disposal and environmentally sound recycling arrangements have been made for local collection and recycling. In case your electrical and electronic products need to be disposed of please refer to your supplier or the contractual agreements that your company has made upon acquisition of these products.

For countries outside the European Union

Disposal of electrical and electronic products in countries outside the European Union should be done in line with the local regulations. If no arrangement has been made with your supplier, please contact the local authorities for further information.

Regulatory information United States

This device contains functions which are not operational in US territories

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the equipment.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help."

Privacy of communications may not be ensured when using this equipment.

Exposure to Radio Frequency (RF) Signals:

This base station is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the OET Bulletin 65 Supplement C. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on the safety standards previously set by international standards bodies. These standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

This device with internal antennas must provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Regulatory information Canada

Operation of this device is subject to the following two conditions: (1) this device may not cause any interference and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Exposure to Radio Frequency (RF) Signals:

This wireless device is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limit for exposure to radio frequency (RF) energy set by the Ministry of Health (Canada), Safety Code 6. These limits are part of comprehensive guidelines and established permitted levels of RF energy for the general population. These guidelines are based on the safety standards previously set by international standards bodies. These standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

Privacy of communications may not be ensured when using this equipment.

CONTENTS

1. GENERAL

This installation Manual is applicable for installing a DECT transceiver in an Outdoor Cabinet. The Outdoor Cabinet is designed for the following transmitter/receiver (transceiver) types:

- DAP (DECT Access Point) types: 4080 IP-DECT AP Integrated antennas (with internal antennas) and 8340 Smart IP-DECT AP Integrated antennas (with internal antennas)
- DAP types: 4080 IP-DECT AP External antennas (with directional antenna(s)) and and 8340 Smart. IP-DECT AP External antennas (with directional antenna(s)).

Note: *In this manual the term DAP is used for the above mentioned transceivers.*

1.1. TOOLING

The following tools are required for the installation:

- An ordinary set of tools, comprising such things as screwdrivers and pliers.
- A drill for fixing a Cabinet to a wall.
- A drill for drilling a hole in the cabinet for the cable swivel. This drill must be 12 mm.
- A tool for mounting an RJ45 connector to the “Category. 5” Ethernet cable.
- An SMA Torque Wrench for securing the coax connector nuts (only in case of the 4080 IP-DECT AP with external directional antenna(s)).
- A sharp knife for cutting the foam in the Outdoor box (only in case of the 4080 IP-DECT AP with external directional antenna(s)).

The following installation materials are needed:

- Four screws to mount the cabinet to the wall.
- If mounted to a brick wall or plaster wall, make sure you have four correct “plugs” where the screws fit into.
- RJ45 connector plug.

1.2. SITE REQUIREMENTS

Usually the Cabinets will be fixed to existing walls in the positions determined by the Site Survey.

1.3. TEMPERATURE RANGES

The outside temperature range for the DAPs mounted in the Outdoor Cabinet is as follows:

- Minimum outside temperature: -20° C
- Maximum outside temperature: 45° C

1.4. CABLE SPECIFICATIONS FOR DAPs Types

The cabling to the 4080 IP-DECT AP External antennas is "Category 5" Ethernet cabling. However, the cabling (and 4080 IP-DECT AP External antennas) is submitted to the following safety restriction:
The cabling to the DAPs is "Category 5" Ethernet cabling. The interface is defined as an SELV interface according EN60950-1. For this reason the safety restriction as given in the next chapter should be respected:
The power for the DAPs must be supplied via the Ethernet cable, PoE (IEEE 802.3af).
There is no room for a Mains Power adaptor inside the Outdoor Cabinet.

1.5. CABLING SAFETY REQUIREMENTS

Please read the following notes carefully:

Note: *When you are going to install a DAP outdoors, it should always be installed in an Outdoor Box.*

Note: *The cabling and/or the DAPs may never be exposed to over-voltages (e.g. lightning) without proper protection.*

Therefore mind the following notes:

Note: *When an **4080 IP-DECT AP** is installed in the Outdoor Cabinet, and the Outdoor Cabinet is mounted against a wall, lead the cable directly indoors. This avoids that the cable becomes sensitive to over-voltage and lightning. In that case, no lightning protection is needed. However, it is strongly recommended to use shielded Cat 5 cable.*

Note: *When the **8340 Smart IP-DECT AP** is installed in the Outdoors and cabling runs outdoors, the cabling is exposed to lightning and over-voltage. You must use lightning arrestors/protectors which comply with the local regulations and legislation. Furthermore, the cabling outdoors, must be shielded Cat. 5 cabling and the shield must be connected to a proper ground connection at both side (See figure*

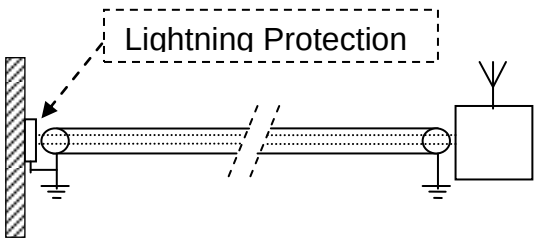

Figure 1. Outdoor Shielded cable.

1.6. VISUAL CHECK

The equipment must be carefully unpacked and examined for any visible sign of damage.

Anything not in order should be reported back to the supplier, as soon as possible, to avoid delays during installing due to missing equipment.

1.7. INSTALLATION PROCEDURES

The installation of an Outdoor Cabinet comprises the installation of:

- Fixing the Cabinet to a wall.
- Installing the DAP in the Cabinet.
- Connecting the Ethernet cable.

2. INSTALLING DAP WITH INTEGRATED ANTENNAS

PROCEDURE: “Installing a DAP with integrated antennas in the Outdoor Box

Actions:

1. Open the Cabinet. To open the cabinet, use a screw driver that fits into the four plastic screws at the front side of the cabinet. Unfasten the screws.

2. Remove the cover from the cabinet. The contents of the cabinet is shown in Figure 2. Contents of the box.

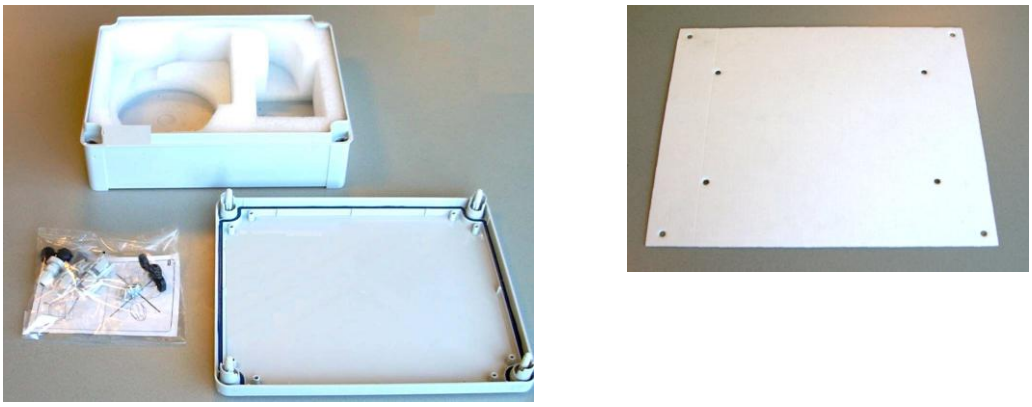

Figure 2. Contents of the box.

3. Remove the foam contents from the cabinet.

4. At the right hand side of the cabinet, you will have to drill a hole for the cable inlet. Mark the hole as follows:

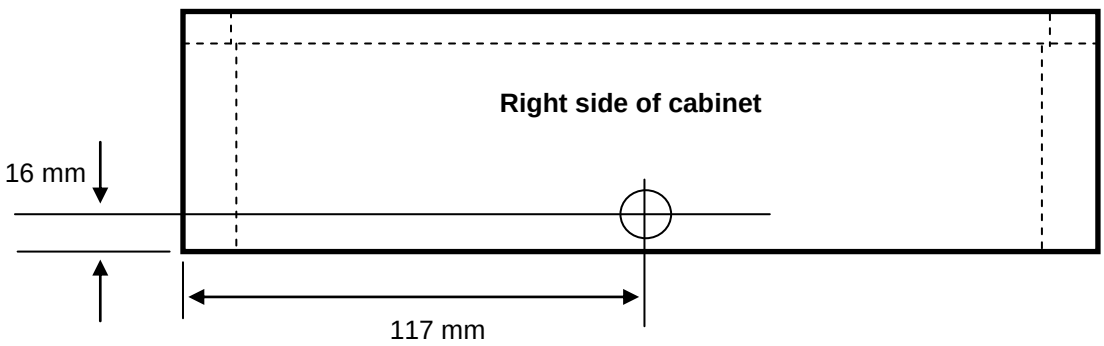

Figure 3. Position of the hole in the cabinet.

5. Drill a hole for the swivel. Use a 10 mm drill or a 12 mm drill, depending on the type of swivel that you use.

Figure 4. Drilling the hole (12 mm)

6. Mount the swivel in the hole that you have drilled. *Do not forget to install the rubber ring to seal the conjunction between the swivel and the cabinet. The conjunction must be waterproof.*

Figure 5. Swivel with black rubber ring.

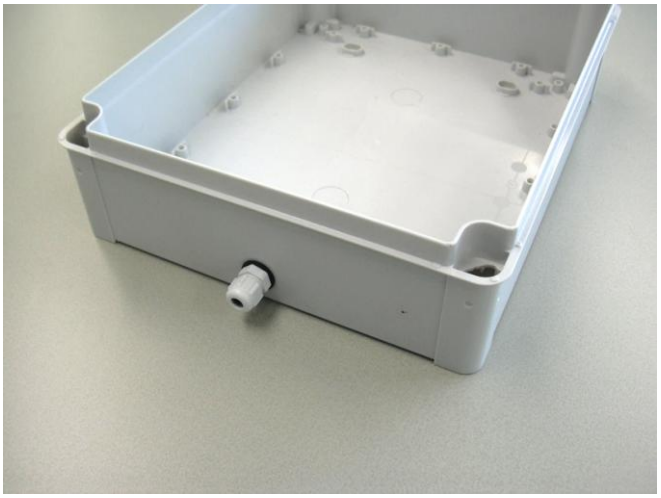

Figure 6. Swivel mounted to the cabinet.

7. Put the foam back into the cabinet.

8. Keep the cabinet in the correct position against the wall and mark the mounting holes in the corners of the cabinet on the wall. If necessary use the template that was delivered with the cabinet.

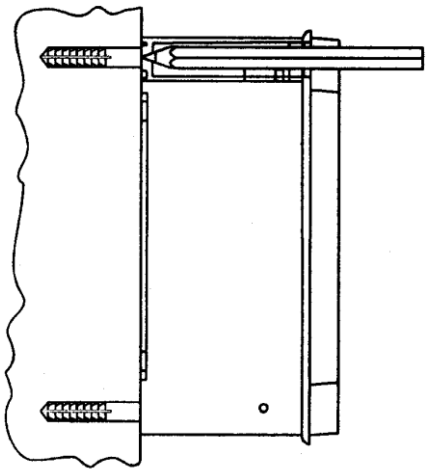

Figure 7. Marking the corner holes on the wall.

9. Drill the holes in the wall using an appropriate drill that is applicable for the wall.

10. Mount the cabinet to the wall. Use appropriate screws and plugs.

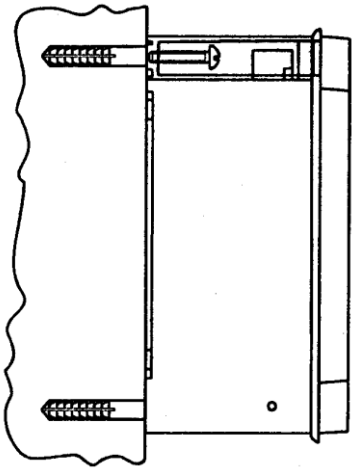

Figure 8. Mounting the cabinet to the wall.

11. Push the special nuts that came with the cabinet into the corner holes of the cabinet.

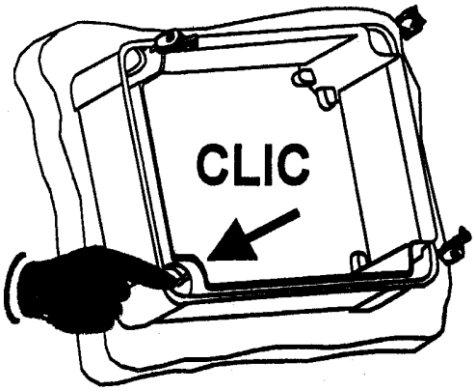

Figure 9. Pushing the special nuts in place in the corners of the cabinet.

12. Lead the cable via the swivel into the cabinet. Note: the cable length in the cabinet must be 20 cm (this includes the RJ45 connector which you have to mount to the cable later on.).

    Note: *At the outside of the box, the cable must be led directly from the cabinet into the building to avoid exposing the cable to lightning.*

13. Tighten the cable inlet on the swivel and make sure that the cable inlet is waterproof.

14. Lead the cable to the DAP and mount the RJ45 connector to it using the tool for mounting an RJ45 connector plug to a Category 5 cable. For standard colour schemes, consult Chapter 4. WIRE COLOUR CODING FOR CATEGORY 5 CABLES.

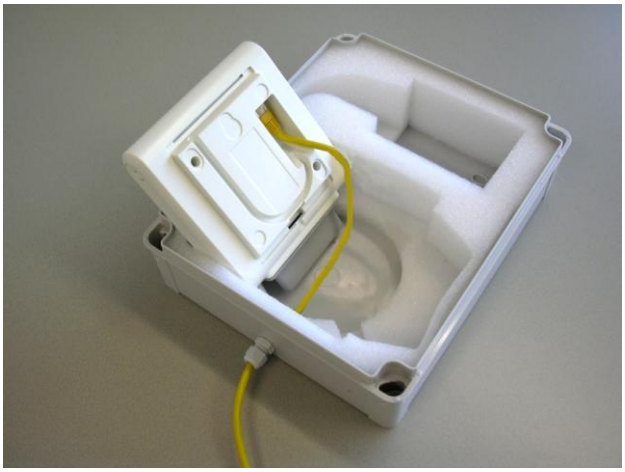

Figure 10. Cable run in the Cabinet.

15. If not yet done, connect the RJ45 connector to the DAP (at the rear side) and push the Category 5 Ethernet cable into the round foam-free area in the rear side of the cabinet.

16. Push the DAP into its position in the foam.

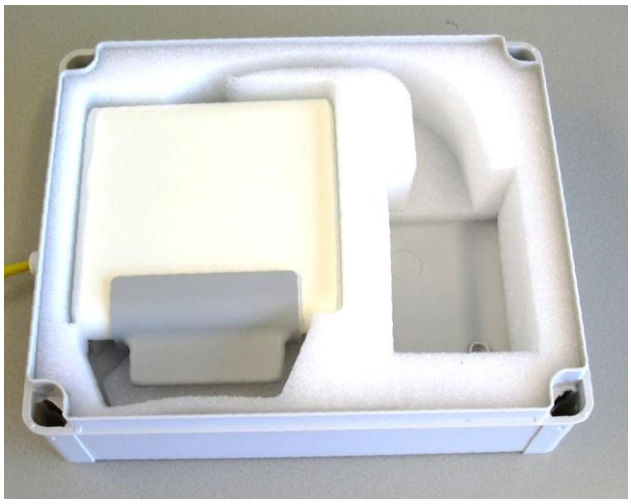

Figure 11. DAP in it's position in the cabinet.

17. Mount the cover of the cabinet onto the cabinet with the four plastic screws in each corner of the cover. The cabinet is now closed.

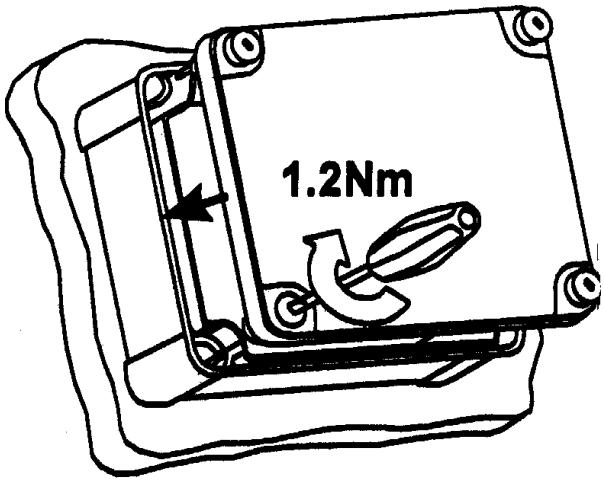

Figure 12. Mounting the cover.

3. INSTALLING A DAP/RFP WITH EXTERNAL ANTENNAS

Before you start installing the cabinet, make sure that you have the installation materials as described in Section 1.1 TOOLING

Also make sure that you have the “4080 IP-DECT AP External antennas / 8340 Smart IP-DECT AP External antennas” version together with the directional antenna(s) and two equal cables for connecting the directional antenna(s) to the “4080 IP-DECT AP External antennas / 8340 Smart IP-DECT AP External antennas”.

PROCEDURE: Installing the Outdoor Box with DAP with directional antenna(s):

Actions:

1. Open the Cabinet. To open the cabinet, use a screw driver that fits into the four plastic screws at the front side of the cabinet. Unfasten the screws.

2. Remove the cover from the cabinet. The contents of the cabinet is shown in Figure 3. Contents of the box.

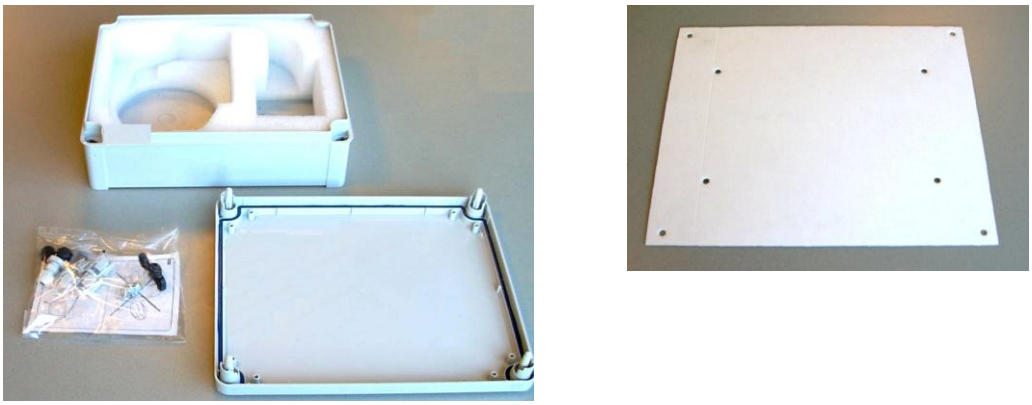

Figure 3. Contents of the box.

3. Remove the foam contents from the cabinet.

4. At the right hand side of the cabinet, you will have to drill a hole for the cable inlet. Mark the hole as follows:

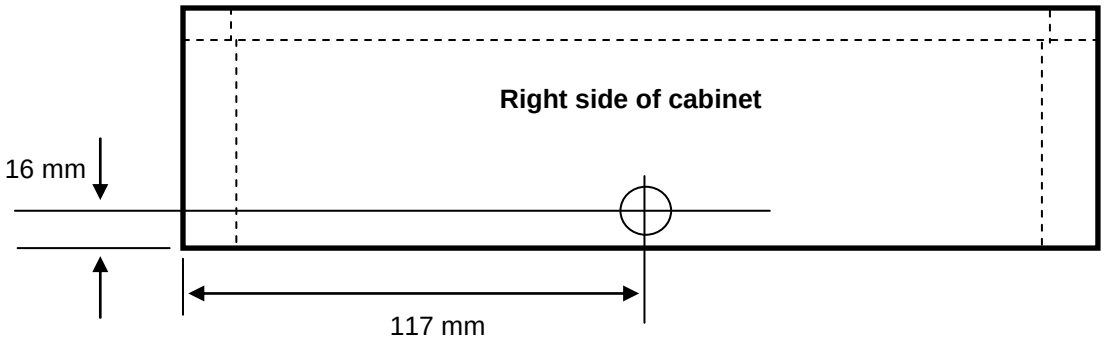

Figure 14. Position of the hole in the cabinet.

5. Drill a hole for the swivel. Use a 12 mm drill.

Figure 15. Drilling the hole (12 mm)

6. Mount the swivel in the hole that you have drilled. *Do not forget to install the rubber ring to seal the conjunction between the swivel and the cabinet. The conjunction must be waterproof.*

Figure 16. Swivel with black rubber ring.

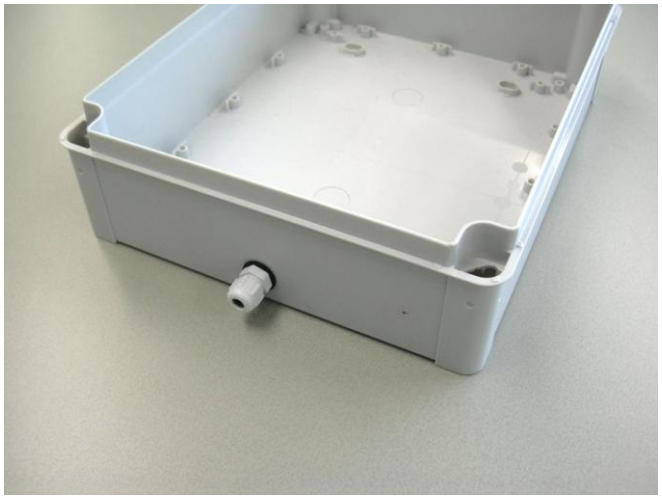

Figure 17. Swivel mounted to the cabinet.

7. Put the foam back into the cabinet.

8. Keep the cabinet in the correct position against the wall and mark the mounting holes in the corners of the cabinet on the wall. If necessary use the template that was delivered with the cabinet..

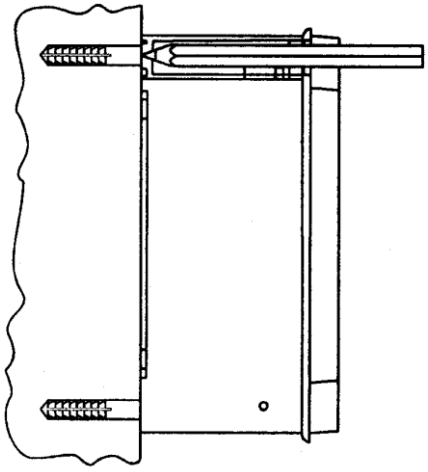

Figure 18. Marking the corner holes on the wall.

9. Drill the holes in the wall using an appropriate drill that is applicable for the wall.

10. Mount the cabinet to the wall. Use appropriate screws and plugs.

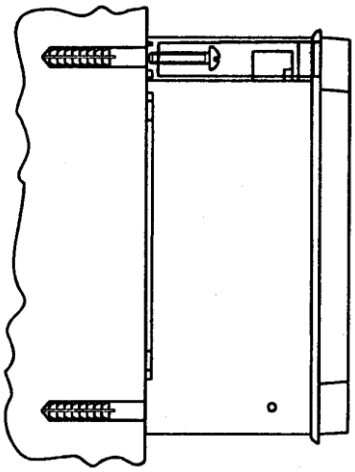

Figure 19. Mounting the cabinet to the wall.

11. Push the special nuts that came with the cabinet into the corner holes of the cabinet.

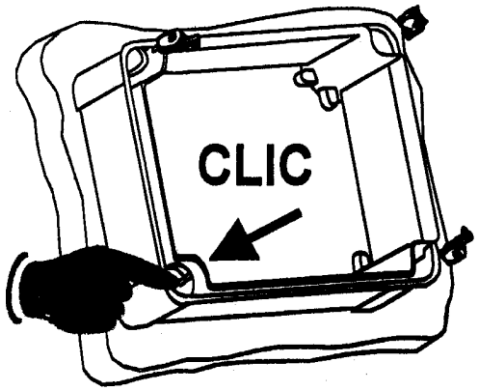

Figure 20. Pushing the special nuts in place in the corners of the cabinet.

12. Lead the cable via the swivel into the cabinet. Note: the cable length in the cabinet must be 20 cm (this includes the RJ45 connector which you have to mount to the cable later on).

    Note: *At the outside of the box, the cable must be led directly from the cabinet into the building to avoid exposing the cable to lightning.*

13. Tighten the cable inlet on the swivel and make sure that the cable inlet is waterproof.

14. Mount the RJ45 connector to the cable using the tool for mounting an RJ45 connector plug to a Category 5 cable. For standard colour schemes, consult Chapter 4. WIRE COLOUR CODING FOR CATEGORY 5 CABLES.

15. Open the “4080 IP-DECT AP External antennas / 8340 Smart IP-DECT AP External antennas” box by means of removing the two screws at the rear side of the “4080 IP-DECT AP External antennas / 8340 Smart IP-DECT AP External antennas” cabinet.

16. Use a small pair of tongs to open the predefined holes in the “4080 IP-DECT AP External antennas / 8340 Smart IP-DECT AP External antennas” cabinet.

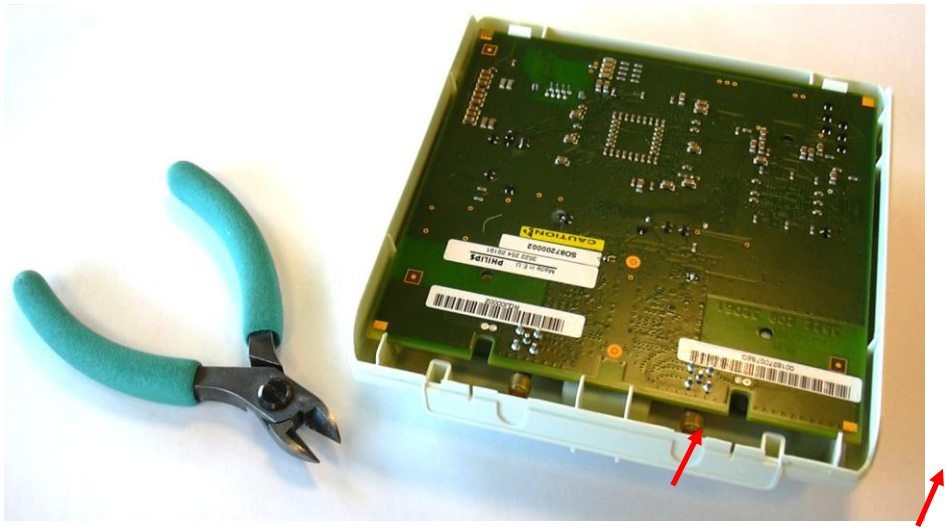

Figure 21. “DAPs with externals antennas” cabinet and pair of pliers.

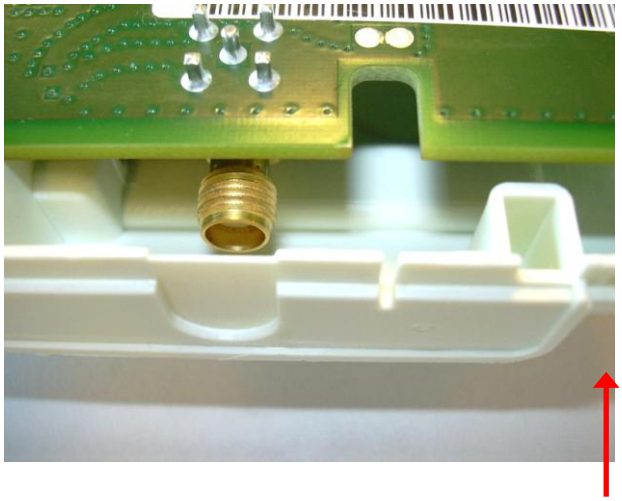

Figure 22. Detail of predefined hole in the DAP cabinet.

17. Connect the RJ45 ethernet plug to the DAP with external antennas and mount the antenna cables to it. Also connect the other end of the cables to the Directional antenna(s).

    Note: *Use the SMA Torque Wrench to fasten the coax nuts on the DAP with external antennas. Otherwise you can easily damage the screw-thread.*

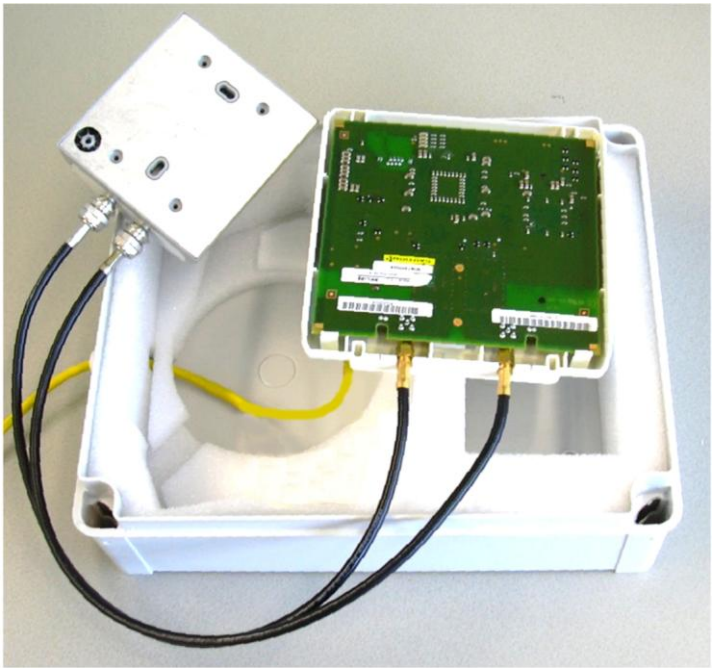

Figure 23. Connecting the cables to the DAP with external antennas

18. Close the DAP box and mount the two screws at the rear side of the DAP box.

19. Connect the RJ45 connector to the 4080 IP-DECT AP (at the rear side).

20. Push the DAP into its position in the foam.

21. Lead the coax antenna cables via the top side of the foam and determine the position of the directional antenna(s). Note that the hole in the foam is not big enough for the antenna(s). This is done on purpose, in order to allow various positions of the direction antenna(s).

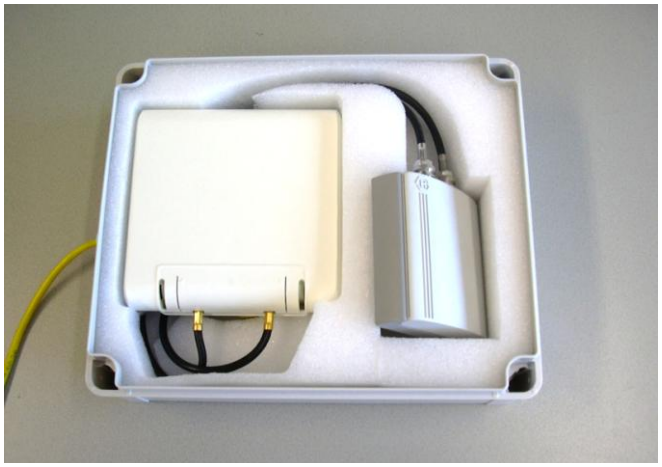

Figure 24. Antenna box does not fit into the hole.

22. Cut the hole for the directional antenna box to the correct size, to be able to push the antenna box in the hole, using figure 25 and 26 as a guide.

Figure 25. Cutting the foam to allow the antenna box to fit into it, in the required position.

Figure 26. Cutting the foam to allow the antenna box to fit into it, in the required position.

23. Lead the coax cables to the antenna box via the groove in the top of the foam and push the antenna box into its final position into the foam.

Note: *You can change the position of the antenna to the required position in the foam, by means of turning the antenna box or giving it some tilt.*

Figure 27. DAP and directional antenna box in their positions.

24. Mount the cover of the cabinet onto the cabinet with the four plastic screws in each corner of the cover. The cabinet is now closed.

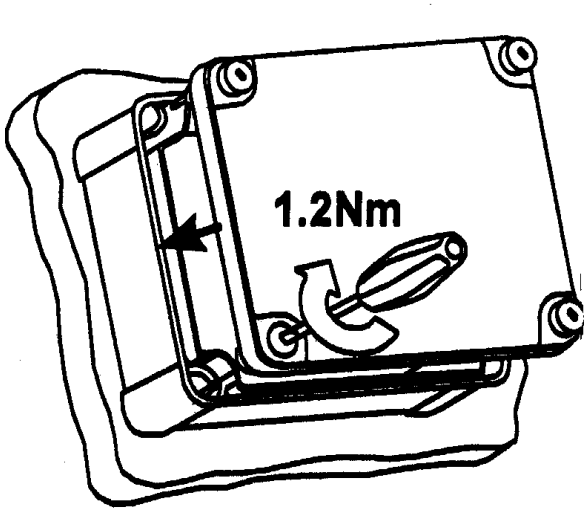

Figure 28. Mounting the cover.

4. WIRE COLOUR CODING FOR CATEGORY 5 CABLES

This chapter shows you the normal colour coding for category 5 cables (4 pair) based on the two standards supported by TIA/EIA: the 568A and 568B standard. These standards apply to the colour code used with a *single* cable run: BOTH ENDS MUST USE THE SAME STANDARD. Which standard to use, is a matter of local decision. However, since they both use the same pin out at the connectors you can mix 568A and 568B cables in any installation.

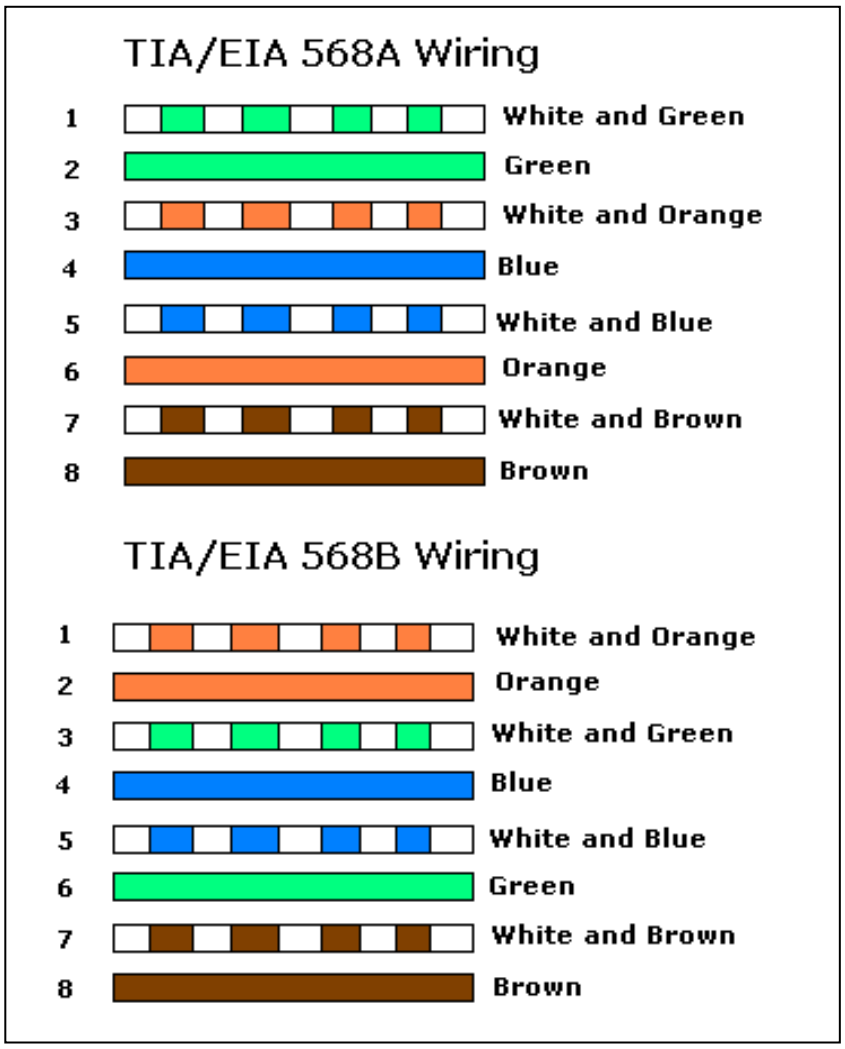

Figure 29 Colour Schemes for Wires in Category 5 Ethernet Cabling.

5. SPECIFICATIONS

Dimensions (W x H x D) ..... : 275 x 225 x 80

Outside temperature range ..... : -20° C . . . 45° C

IP Specification ..... : IP66