

Node B Installation Guide



Precautions

The following precautions and checks are applicable to all mounting types:-

1. Leave blanking plugs over all connectors until they have been connected to the appropriate cabling. These plugs are specially fitted to keep moisture and contaminants out of the unit.
2. Connectors have been manufactured to fit their specific cables. Do not modify or force connectors.
3. Check Site Plans for engineering approval.
4. Ensure that good ground resistance is available at the installation site ($<2\Omega$)
5. Do not attempt to install in rain.
6. In adverse weather conditions care should be taken before work commences.
7. Where the Node B is mounted in an outdoor application the fixings sourced locally should be stainless steel A2-304 or equivalent.

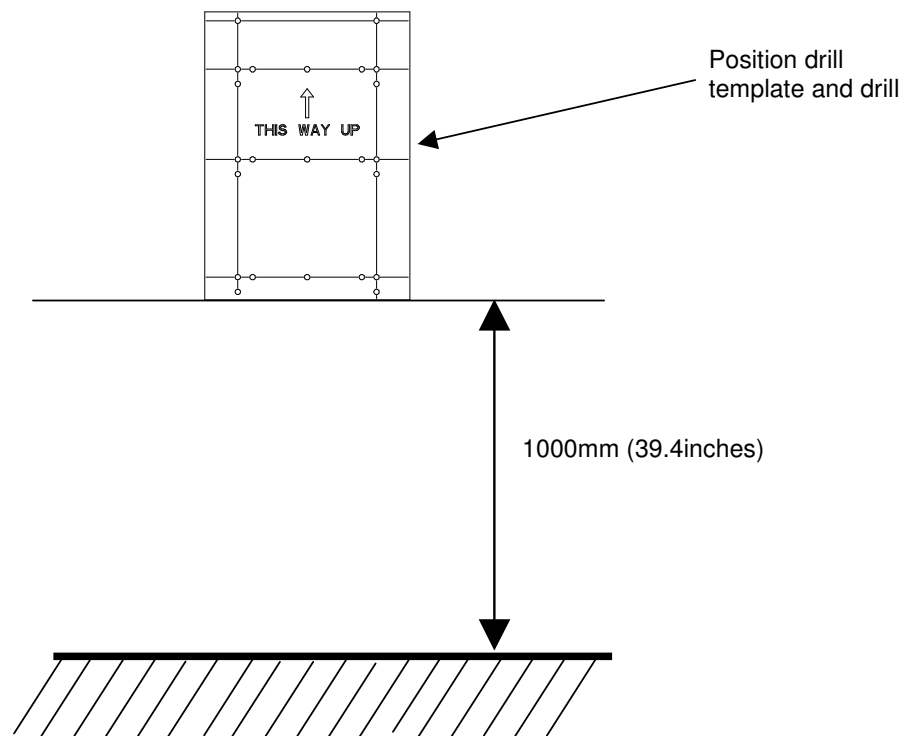
Direct Wall Mounting

Direct wall mounting requires the following materials:-

1. Drill template - supplied with Node B
2. 4off M8x55L Rawlok Loose bolt or equivalent eg. Hilti anchor bolts - locally supplied
3. Drill & Masonary Drill Bit

Position template and drill holes through template at appropriate positions as marked. Ensure that the drill template position is vertical.

Figure 6-4: Drill template

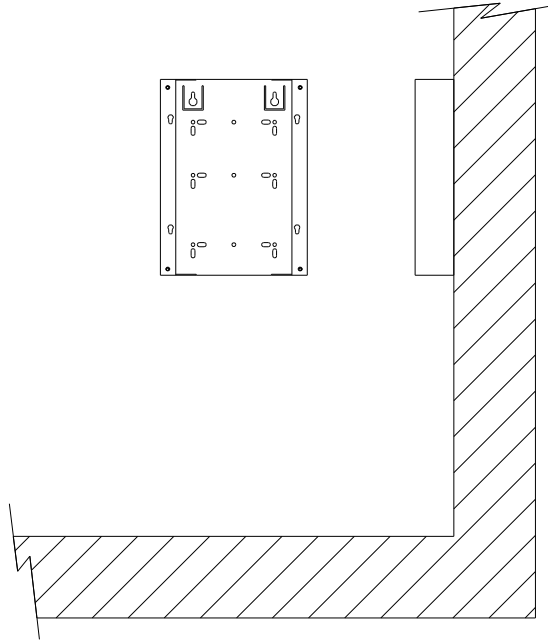


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Securing Bracket to Wall – Flat Wall

Secure the bracket to the wall with 4 off wall bolts (M8x55L Rawlok Loose bolt or equivalent).

Figure 6-5 : Bracket Fixing to Wall - Wall



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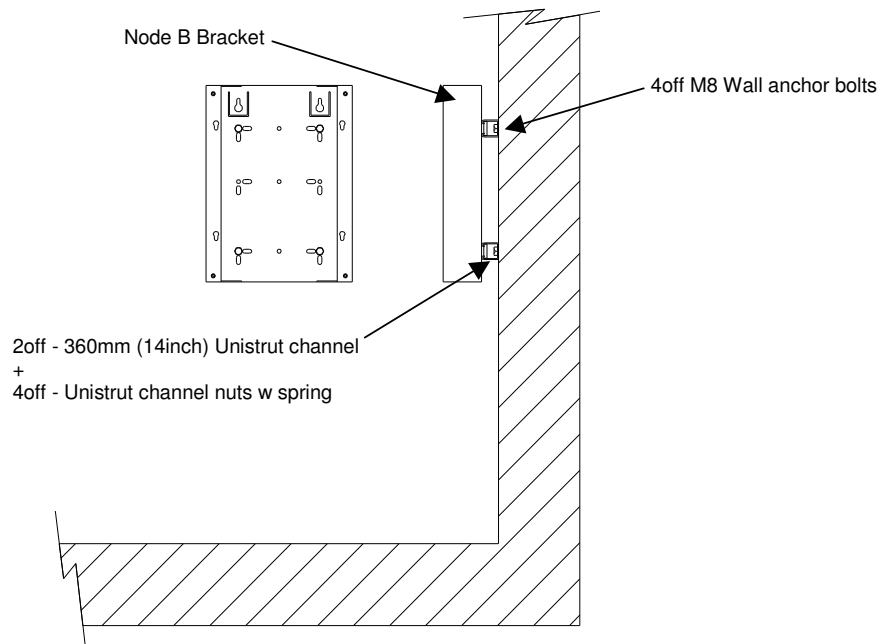
Securing Bracket to Wall - Uneven Wall

To mount the bracket for an uneven wall the following materials are required:-

1. 2 pieces of P1000 HS x 14" Stainless Steel Unistrut™ Channel- locally supplied
2. 4off P1007 - 5/16"-18 UNC channel nuts with springs from Unistrut™ - locally supplied
3. 4off 5/16" x 1" – Hex Head Cap Screw Stainless Steel - Unistrut™ PN: HSHS031100EG or equivalent - locally supplied
4. 4off 5/16" – Plain washer Stainless Steel - Unistrut™ PN: HFLW031EG or equivalent - locally supplied
5. 4off 5/16" - Lock washer Stainless Steel - Unistrut™ PN: HFKW031EG or equivalent - locally supplied
6. 4off M8x55L Rawlok Loose bolt or equivalent (eg. Hilti anchor bolts) - locally supplied
7. Drill & Masonary Drill Bit

The following diagram illustrates the installation using the Unistrut method:- the drill template can be used to position the drill holes

Figure 6-6: Node B Securing to Uneven Wall



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Pole Mounting

This section specifies a suggested pole mount scheme using Unistrut components, and equivalent system can be used where available more readily locally.

The Unistrut system can as standard cater for pole diameters up to 10inch (250mm).

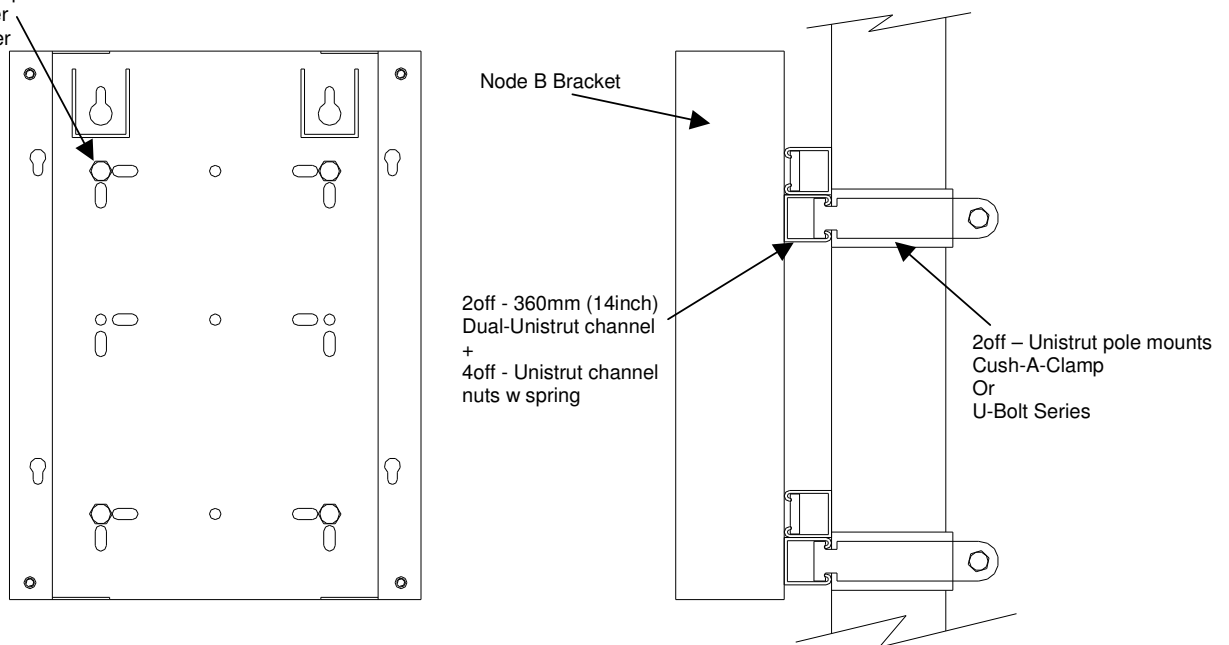
To mount the bracket for a pole the following materials are required:-

1. 2 pieces of P1001Bx14" A2-304 Stainless Steel Unistrut™
2. 4off P1007 - 5/16"-18 UNC channel nuts with springs from Unistrut™ - locally supplied
3. 4off 5/16" x 1" UNC – Hex Head Cap Screw - Unistrut™ PN: HSHS031100EG or equivalent - locally supplied
4. 4off 5/16" – Plain washer Stainless Steel - Unistrut™ PN: HFLW031EG or equivalent - locally supplied
5. 4off 5/16" - Lock washer Stainless Steel - Unistrut™ PN: HFKW031EG or equivalent - locally supplied
6. 2off Cush-A-Clamp Sets (2-6inch) or U-Bolt Series (< 12inch)– see Unistrut™ catalogue

The following diagram illustrates the installation using the Unistrut method:-

5/16" x 1" UNC –
- Hex Head Cap Screw
- Lock Washer
- Plain Washer

Figure 6-7 : Pole Mounting using Unistrut systems



Note: Where a Node B is required to be mounted to a pole greater than 10inch or to an irregular shaped mast eg. Hexagonal, banding may required to be used. In this situation contact your IPWireless field support for guidance.

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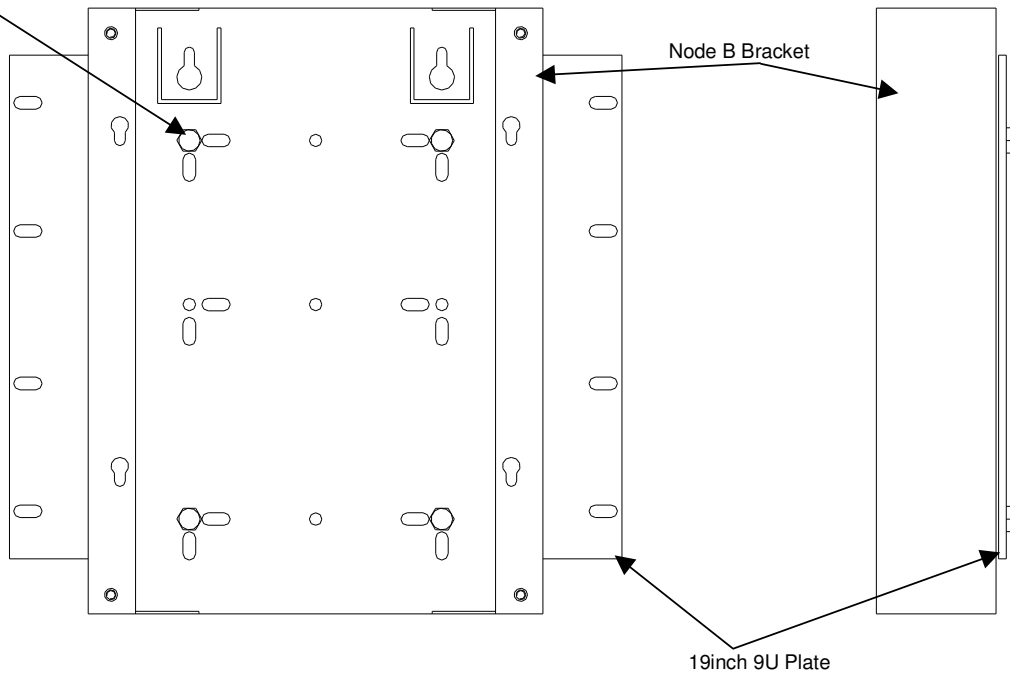
Rack Mount

This section describes the mounting of the Node B bracket into a rack. The following mounting materials are required to secure the bracket into a rack. The figure below illustrates a typical installation, rack not shown.

1. Plate (9U x 19inch shown) or U-channels to mount the bracket onto standard 19" or 23"
2. 4off M8x20 Hex Head Cap Screw + 8off M8 Plain washer + 8off M8 Lock Washer + 4off M8 Nuts
3. 8 off Cage nuts + Screws – note these are required to secure the plate to the rack (not shown)

M8 Fixings –
- Hex Head Cap Screw
- Lock Washer
- Plain Washer 2off
- Nut

Figure 6-8 : Node B - Rack Mounted



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Physical Installation of the Node B

This section describes the installation of the Node into the mounting bracket and the connection of the power and interface cables.

Step 5 Conduit Installation & Cabling

Where the Node B is installed into an outdoor installation all power and IUB cable must be routed to/from the Node B via conduit.

Where the Node B has to be connected to an outdoor installation of an INC conduit is required between the INC and power source. (Refer to the INC Installation Guide)

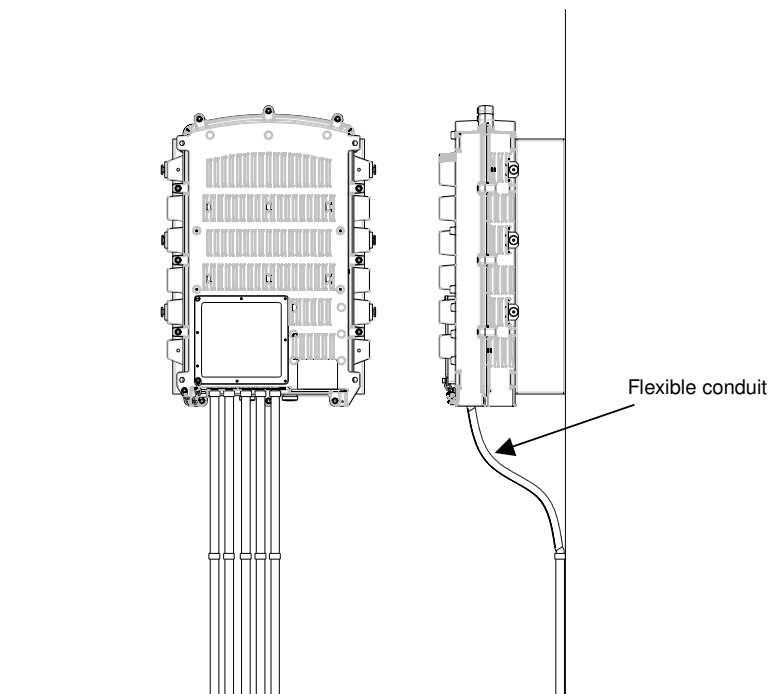
Power and Ethernet cables are to be pulled through the conduit, one power cable and one Ethernet (or E3, T3, E1, or T1) cable(s) for each Node B.

Where external alarms are to be utilized conduit shall also be necessary between the external alarm device and the Node B for monitoring the alarm.

The cables need to be fed through the conduit and into the Node B via the cable glands (supplied) excess cable left for termination. Leave a sufficient loop of cables to enable them to be prepared back to the appropriate length.

The figure below illustrates a typical conduit installation.

Figure 6-9: Flexible Conduit



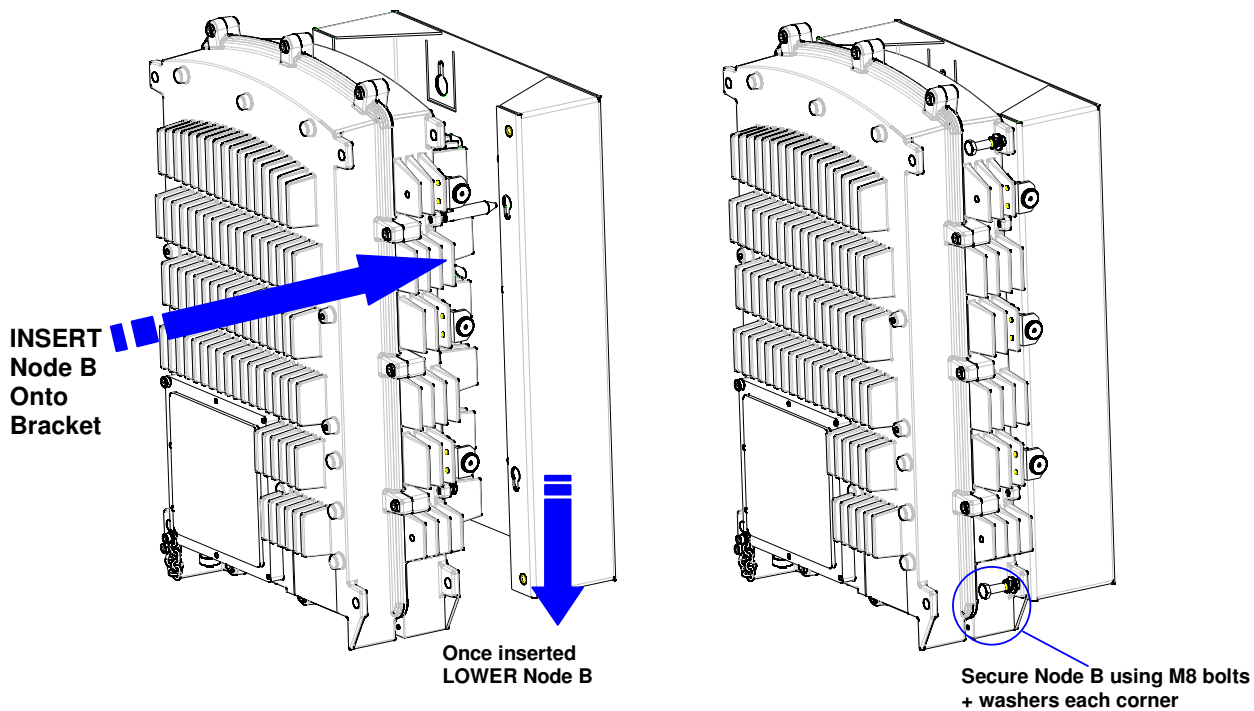
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Step 6 Node B Installation onto Mounting Bracket

This section describes how to mount and secure the Node B to the mounting bracket. The figure below illustrates the following steps

1. Align the top long dowel pins with top holes in bracket.
2. Insert Node B into the bracket
3. Ensure all dowels are inserted, if not repeat 1 & 2
4. Lower Node B into the keyslots
5. Secure Node B to bracket using 4 x M8 bolts & washers provided.

Figure 6-10: Node B onto Mounting Bracket



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Step 7 Ground Installation

The main Node B ground cable shall use a minimum #2 AWG (Diameter 6.6mm or CSA 33mm²) stranded wire or equivalent earth braid.

The ground cable is terminated on the Node B using terminal that shall fit the M10 (7/16") bolt provided. The ground bolt can be position on either side and/or rear of the Node B.

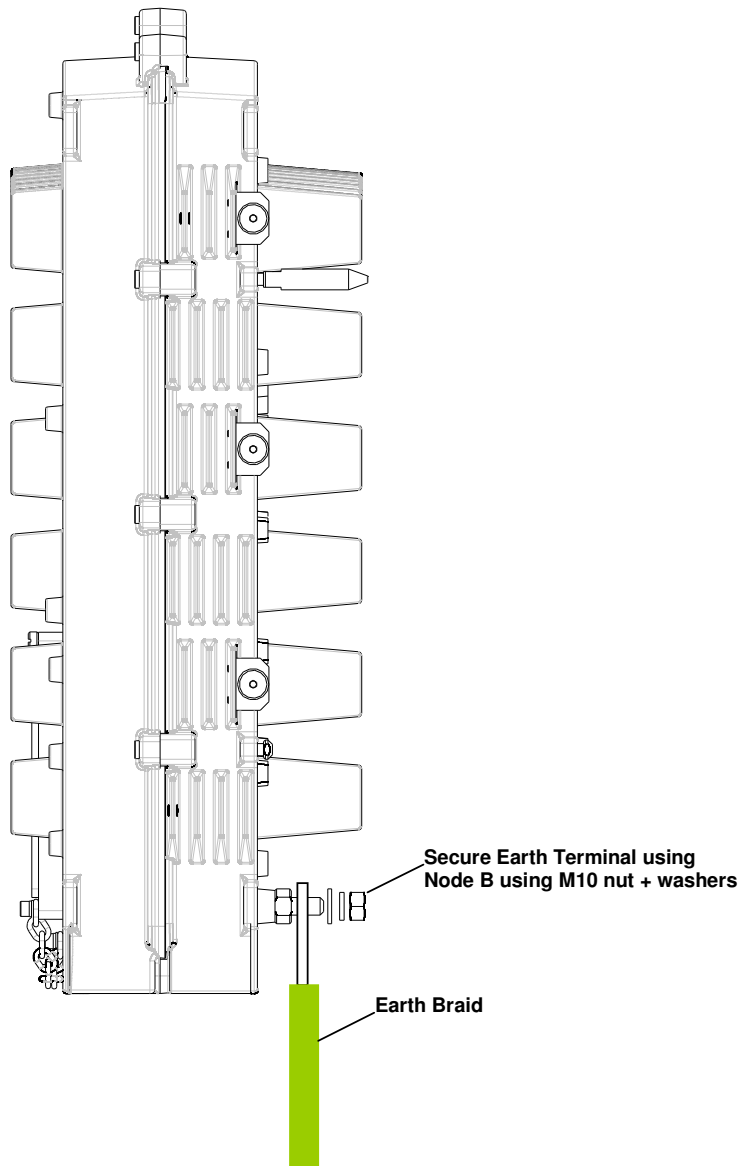
The grounding wire is terminated onto the site grounding ring.

It should be noted that each site shall be designed for specific site, country or local installation requirements.



CAUTION: Ensure that the earth braid or cable is bonded to a common earth with equipment that is co-located with the Node B.

Figure 6-11 : Earth Connection



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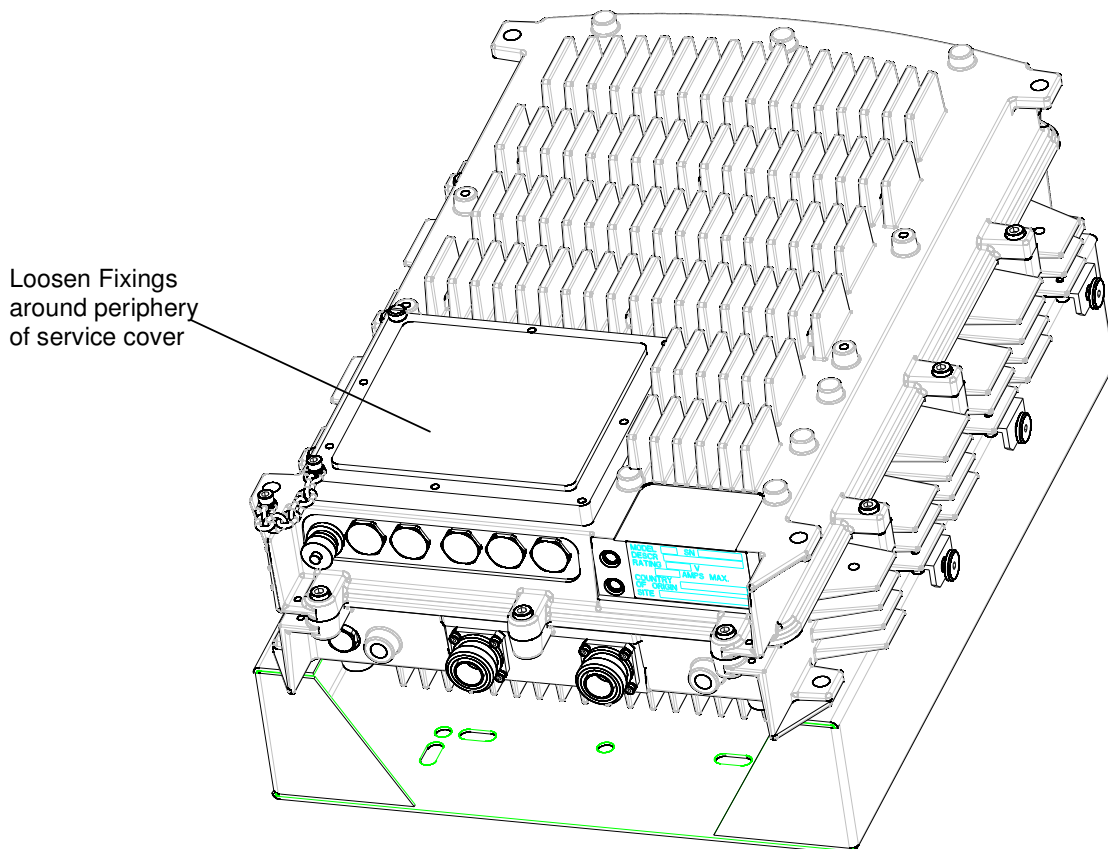
Step 8 Service Cover Access

The service cover permits access to power, backhaul, alarm and debug interfaces of the Node B as listed below.

- Mains DC supply
- IUB Interfaces – Ethernet, E1, T1, E3 or T3
- Alarm Interfaces – input & output
- Status - 7 Segment Display
- Status – LEDs
- Debug port
- Switches

To gain access loosen the peripheral fixings as illustrated in the figure below using the special tool provided. Once the cover has been loosened the access cover can be left to hang by the chain while installation proceeds.

Figure 6-12 : Service Access



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The figure below illustrates the service cover removed and highlights the interfaces.

Figure 6-13 : Service Area Description

