

Application Note - P Series Power Optimizers Installation Using Renusol Metasole Mounting System

Introduction

The Metasole mounting system, manufactured by Renusol (Renusol part numbers 420076 / 420077 / 420132 and 400019), is used for installing framed PV modules (with thicknesses of 30 to 50 mm) on pitched metal sheet roofs with the following characteristics:

- Steel and aluminum trapezoidal metal sheet roof
- Steel sheet thickness ≥ 0.4 mm
- Aluminum sheet thickness ≥ 0.5 mm
- Min. width of raised beads 20 mm
- Roof pitch $5^\circ - 45^\circ$

This application note describes how to mount the SolarEdge P Series power optimizers on metal sheet roofs. Figure 1 illustrates an installation on a metal sheet roof using the Metasole mounting system. In this figure, A and B represent the bracket types used for installation, depending on module frame location (A-top and bottom frames, B internal frames). a, b and c represent screw types.

For PV modules installation, refer to the *Metasole User Manual*.

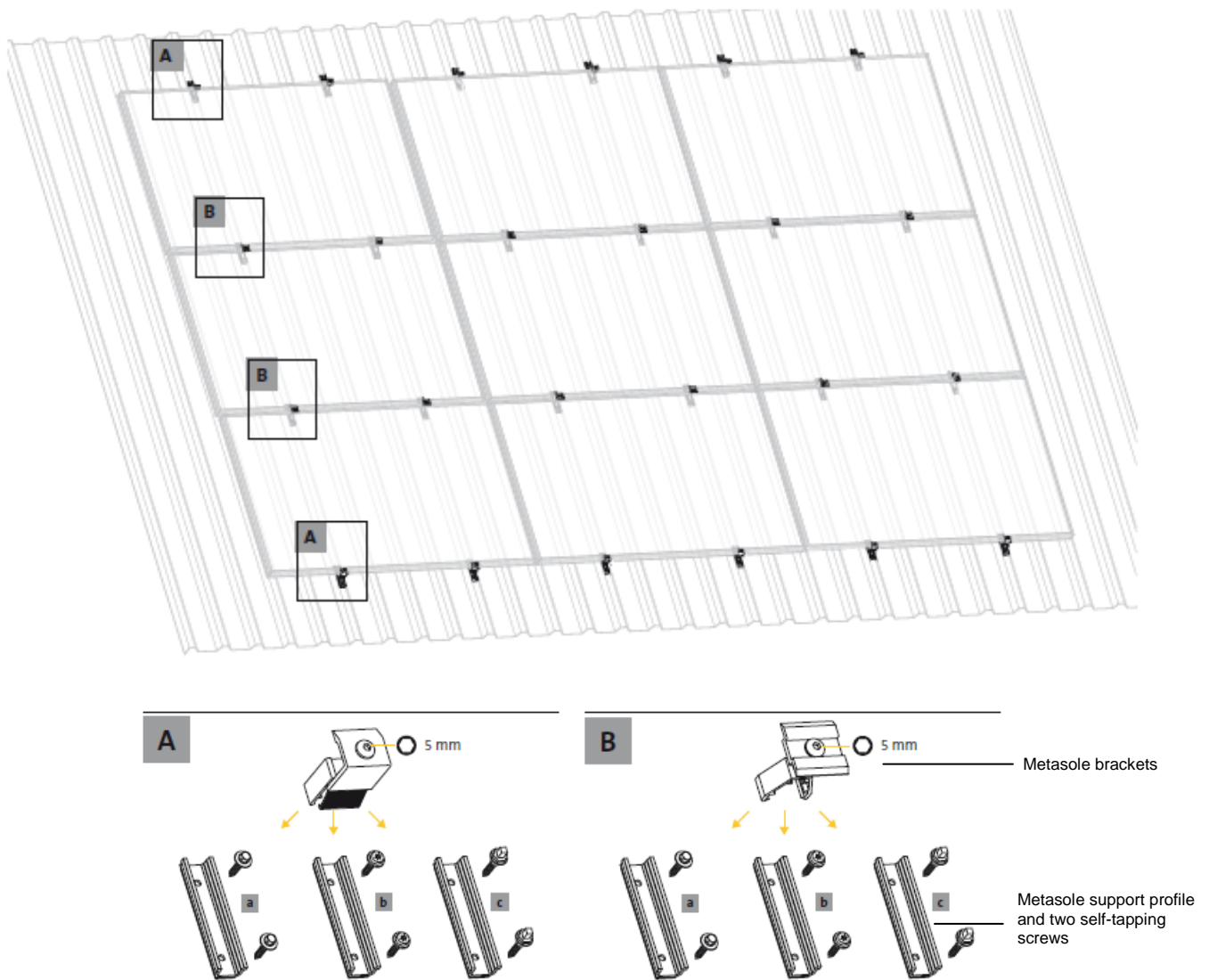


Figure 1 - Installation on metal sheet roof with Metasole mounting system

Equipment list

For each SolarEdge power optimizer (see also Figure 1):

- 1 Metasole support profile with 2 self-tapping screws (Renusol part numbers 420076 / 420077 / 420132 – depending on the roof type. Refer to the *Metasole User Manual*)
- 1 Metasole bracket (Renusol part number 400019)
- 1 M8x40 Hex bolt, stainless steel, DIN 931
- 1 M8 stainless steel flat washer, DIN125

Installation procedure



NOTE:

As the power optimizers are installed under the PV module, they should be mounted and wired before the PV module is installed.

- 1 Determine the power optimizers' locations on the roof (see Figure 2). Make sure that the power optimizer will not interfere with the junction box or the PV module frame after the installation.

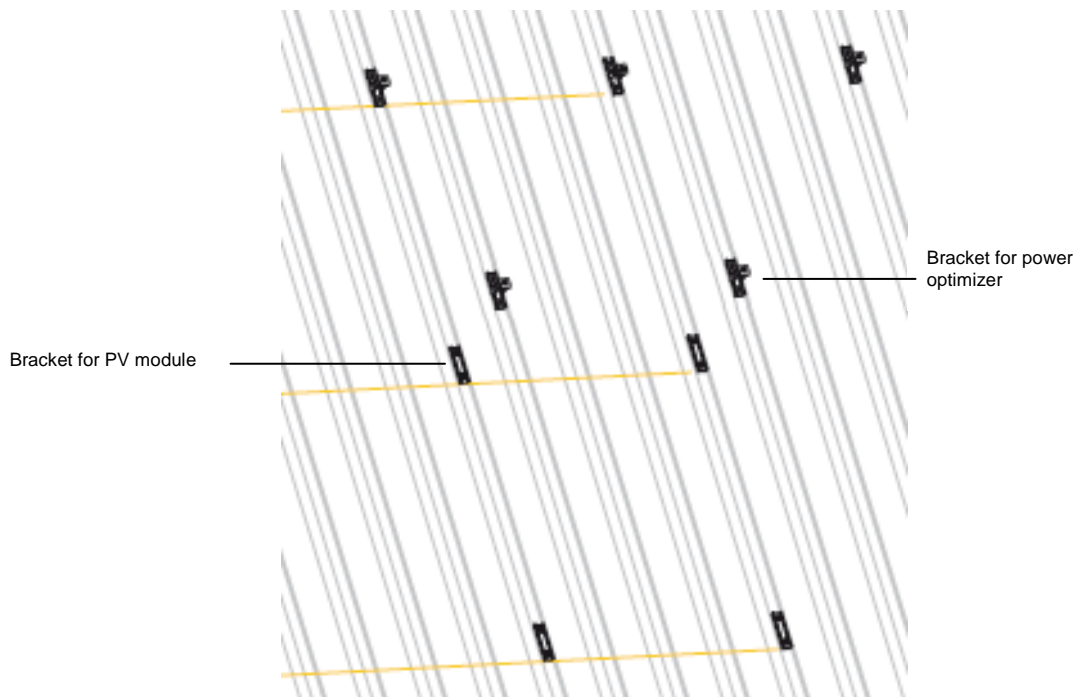


Figure 2 – Metasole support profiles for PV modules and for power optimizers

- 2 Attach the Metasole support profile to the roof using the two self-tapping screws as usually installed for PV modules (refer to the *Metasole User Manual* for more details).
- 3 Disassemble the Metasole bracket (Renusol part number 400019) and install only the bottom part of this bracket on the support profile, as shown in Figure 3.

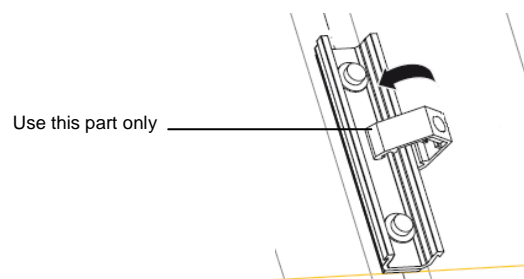


Figure 3 - Attaching the mounting bracket

- 4** Mount the power optimizer on the bracket using the M8x40 stainless steel Hex bolt and washer (see Figure 4). Make sure that the bolt is firmly secured until it applies pressure against the profile (see Figure 5). Power optimizers are double insulated and, therefore, do not require grounding.

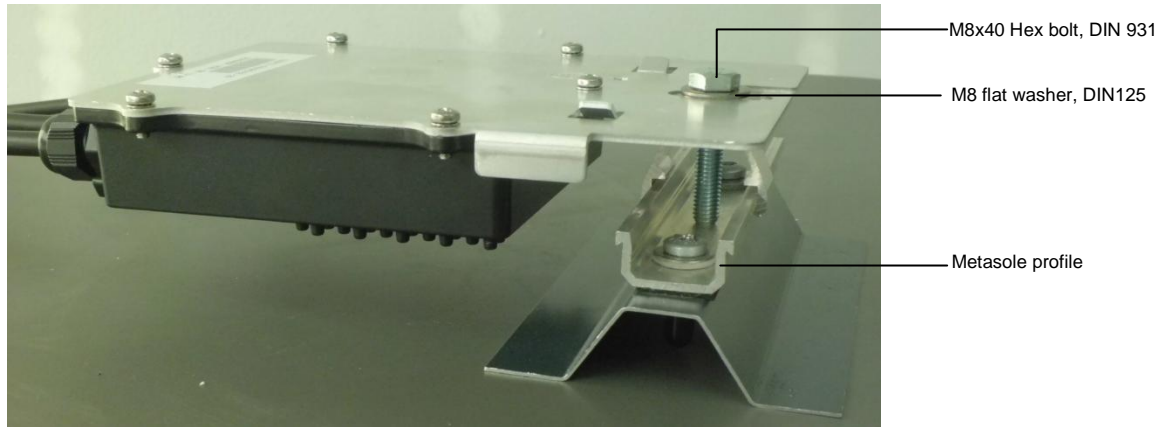


Figure 4 - Power optimizer mounted on the Metasole bracket

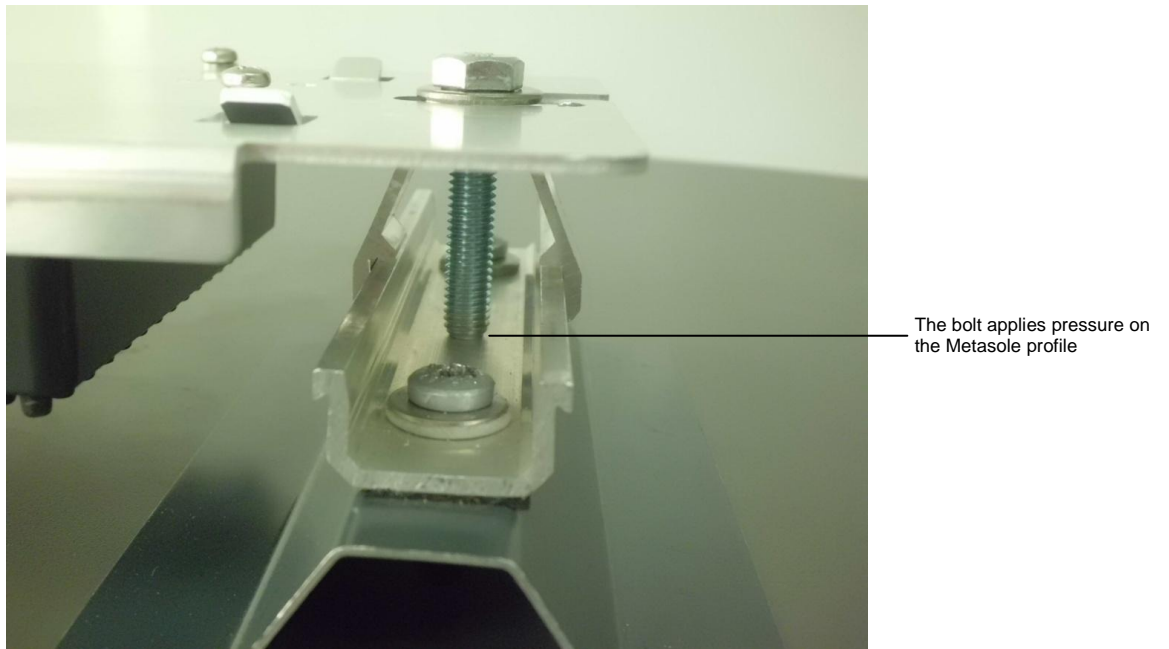


Figure 5 – The bolt applies pressure on the profile