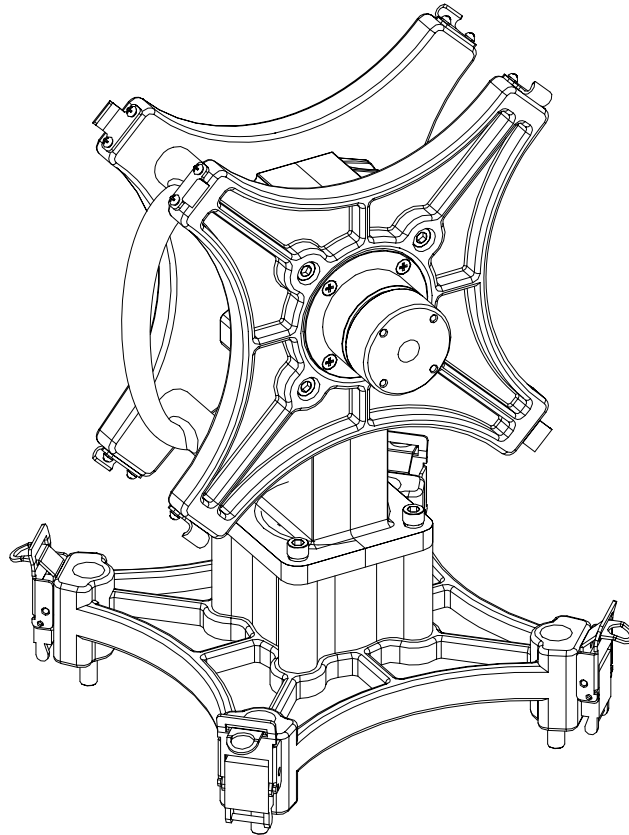


# Installation Instructions

For SMC-XX-X-HP-T2 Standard Microwave Combiner (7-38 GHz)



**Remarks: Before Installation, please read the instructions carefully.**

◆ This instruction booklet is for the installation of the SMC type combiner for 7-38 GHz onto a Microwave Antenna. SMC type combiners utilize only one polarization of the antenna (H or V) for both ODUs.

◆ Installation, maintenance and removal of the combiner should be carried out by qualified experienced personnel.

◆ To guarantee performance, the combiner should be inspected at least once a year by qualified personnel.

# CONTENTS

<b>1. Installation Requirements.....</b>	<b>1</b>
1.1 Tools Required for Installation .....	1
1.2 Fastener Torque .....	1
<b>2. Open the Package and Identify Parts .....</b>	<b>1</b>
<b>3. Mount to Antenna .....</b>	<b>2</b>
<b>4. Mount ODU.....</b>	<b>2</b>
<b>5. Polarization Adjustment.....</b>	<b>2</b>
<b>6. Part Numbers .....</b>	<b>4</b>

# 1. Installation Requirements

## 1.1 Tools Required for Installation

6mm L-spanners (*Used for bolt M8*)

Torque Spanner (*Recommended*)

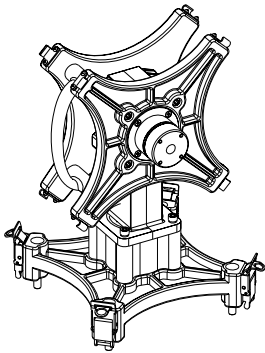
## 1.2 Fastener Torque

Customer can use these torque parameters as reference to assembly the antenna.

### Recommended Torque

NO.	Fastener Size	Torque (N·m)
1	M3	0.6
2	M4	1.3
3	M5	3
4	M6	5
5	M8	13
6	M10	28

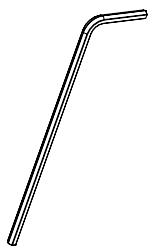
# 2. Open the Package and Identify Parts



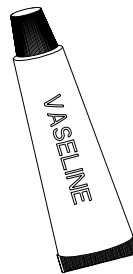
Combiner Assembly (1 set)



2.5mm T-spanner (1 pc)



6mm L-spanner (1 pc)



Silicone grease (1pc)



Finger Cot (2 pcs)

**Fig 2.1 Parts List**

### 3. Mount to Antenna

Ensure Polarization is correct per step 5 below before installing combiner. Apply silicone grease around the O-ring of the antenna. Bring the Coupler Assembly towards the antenna, press the coupler slowly but firmly onto the antenna adaptor and attach the latches to the antenna. Close all four draw latches and secure with cable ties (not shown). Secure the 4 bolts to the antenna.

### 4. Mount ODU

Apply a very small amount of silicone grease (supplied) to the coupler adaptor o-ring (2 positions), and then mount ODU to the coupler adaptor interface (not shown). ODUs always are mounted on the combiner the same way regardless of the polarization setup (detailed below). For 3 dB combiners, the loss between the ODU and antenna will be equal and about 3.5 dB each. For 6 dB combiners, the loss on the standby ODU will be 6.5 dB and the main ODU will only be 1.5 dB, so make sure the correct ODU is mounted in the low loss (main port), such that it is linked with the far end mounted in the same position.

### 5. Polarization Adjustment

This combiner is **vertical polarization by default**, meaning that both ODUs will use the vertical polarization of the antenna. Follow the steps below to switch to horizontal polarization if necessary.

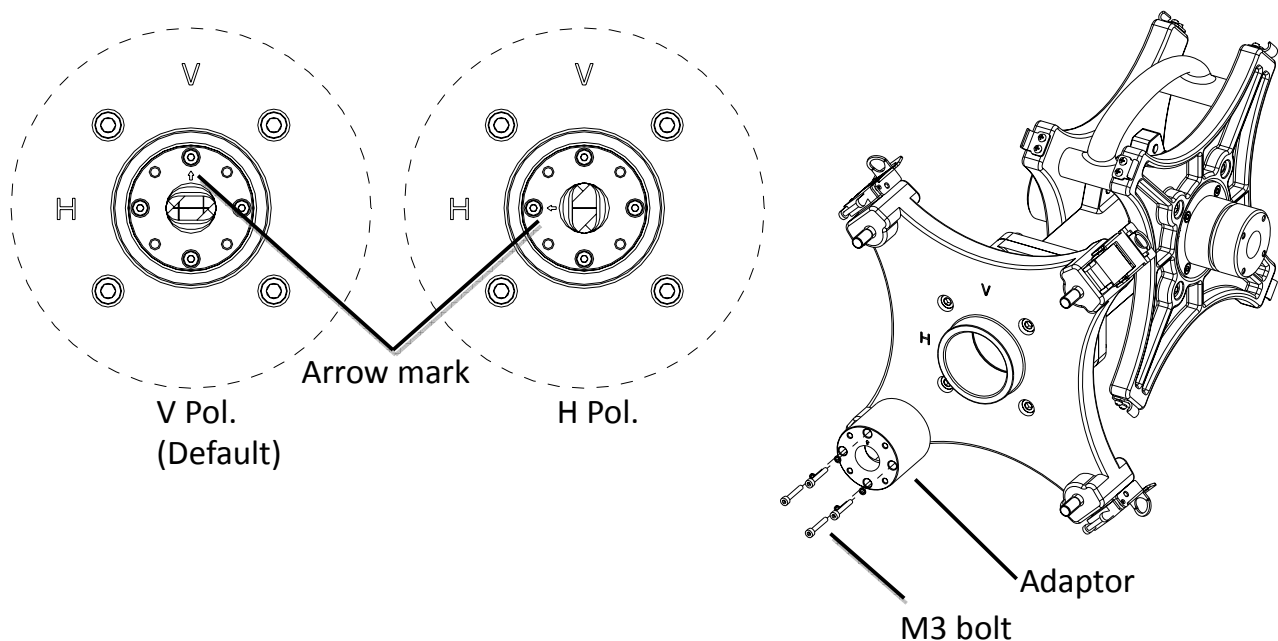


Fig 5.1

Step 1: Carefully remove combiner from antenna if required.

Step 2: Remove Adaptor from combiner Assembly (Fig 5.1)

- Step 3: Rotate the adaptor 90° such that the arrow points to the “H” mark on the combiner. The arrow should point to the left as shown in Figure 5.1.
- Step 4: Tighten all the fasteners.
- Step 5: Mount combiner to the antenna using latches, and tighten the 4 bolts to secure the combiner to the antenna.
- Step 7: Mount ODUs – Align the arrow on the combiner with the V on the ODU. The ODUs will be oriented the same way on the combiner when using H or V polarization on the antenna port. Always use silicone grease when attaching ODUs to prevent tearing of the O-ring and water intrusion.

## 6. Part Numbers

Below are the Part Numbers, Frequency Ranges and ODUs for the combiners.

<b>Trango Part Number - 3 dB Standard Combiner</b>	<b>Frequency Range (GHz)</b>	<b>ODU Type</b>
SMC-8-3-HP-T2	7.125-8.75	HP, HP1, HP2, HP3
SMC-11-3-HP-T2	10.7-11.7	HP, HP1, HP2, HP3
SMC-13-3-HP-T2	12.75-13.25	HP, HP1, HP2, HP3
SMC-15-3-HP-T2	14.4-15.35	HP, HP1, HP2, HP3
SMC-18-3-HP-T2	17.7-19.7	HP, HP1, HP2, HP3
SMC-23-3-HP-T2	21.2-23.6	HP, HP1, HP2, HP3
SMC-26-3-HP-T2	24.25-26.5	HP, HP1, HP2
SMC-28-3-HP-T2	27.5-29.5	HP, HP1, HP2
SMC-32-3-HP-T2	31.8-33.4	HP, HP1, HP2
SMC-38-3-HP-T2	37-40	HP, HP1, HP2

<b>Trango Part Number - 6 dB Standard Combiner</b>	<b>Frequency Range (GHz)</b>	<b>ODU Type</b>
SMC-8-6-HP-T2	7.125-8.75	HP, HP1, HP2
SMC-11-6-HP-T2	10.7-11.7	HP, HP1, HP2, HP3
SMC-13-6-HP-T2	12.75-13.25	HP, HP1, HP2, HP3
SMC-15-6-HP-T2	14.4-15.35	HP, HP1, HP2, HP3
SMC-18-6-HP-T2	17.7-19.7	HP, HP1, HP2, HP3
SMC-23-6-HP-T2	21.2-23.6	HP, HP1, HP2, HP3
SMC-26-6-HP-T2	24.25-26.5	HP, HP1, HP2
SMC-28-6-HP-T2	27.5-29.5	HP, HP1, HP2
SMC-32-6-HP-T2	31.8-33.4	HP, HP1, HP2
SMC-38-6-HP-T2	37-40	HP, HP1, HP2