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# XGT 10 gigabit modular outdoor taps

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## User manual

**technetix.com**

+1 (720) 931-6480

info-usa@technetix.com

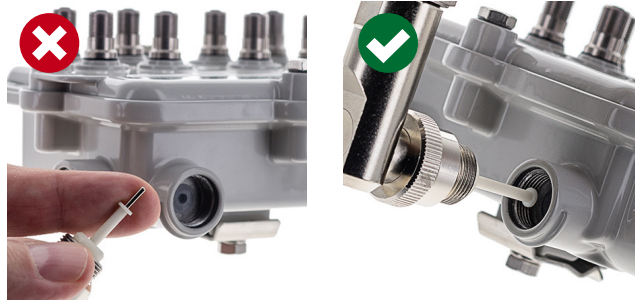
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## SAFETY

**Warning:** The center pin becomes live when the first connector is inserted – don't touch anything else with second connector – this will cause a shock.



The XGT 10 gigabit modular outdoor tap user manual is intended for network engineers and technicians responsible for planning, configuring, installing and testing the Technetix XGT outdoor tap. Installers should have a working knowledge of coaxial cable and line powering systems and cabling practices.

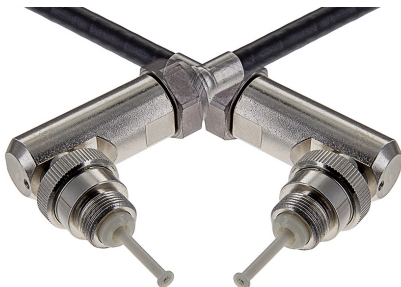
### Tool list

The following tools and supplies are required when installing an XGT outdoor tap:

- 3/8" (10 mm) nut driver for lid bolts
- Torque limiting spanner (wrench) tool 30 in/lbs (3.5 N-m) for F-connectors
- Torque limiting spanner (wrench) tool 40 in/lbs (4.5 N-m) for KS 5/8 connectors
- XGT-MBBT for power passing while removing coupler modules
- XGT-CM-RT for easy removal of coupler modules

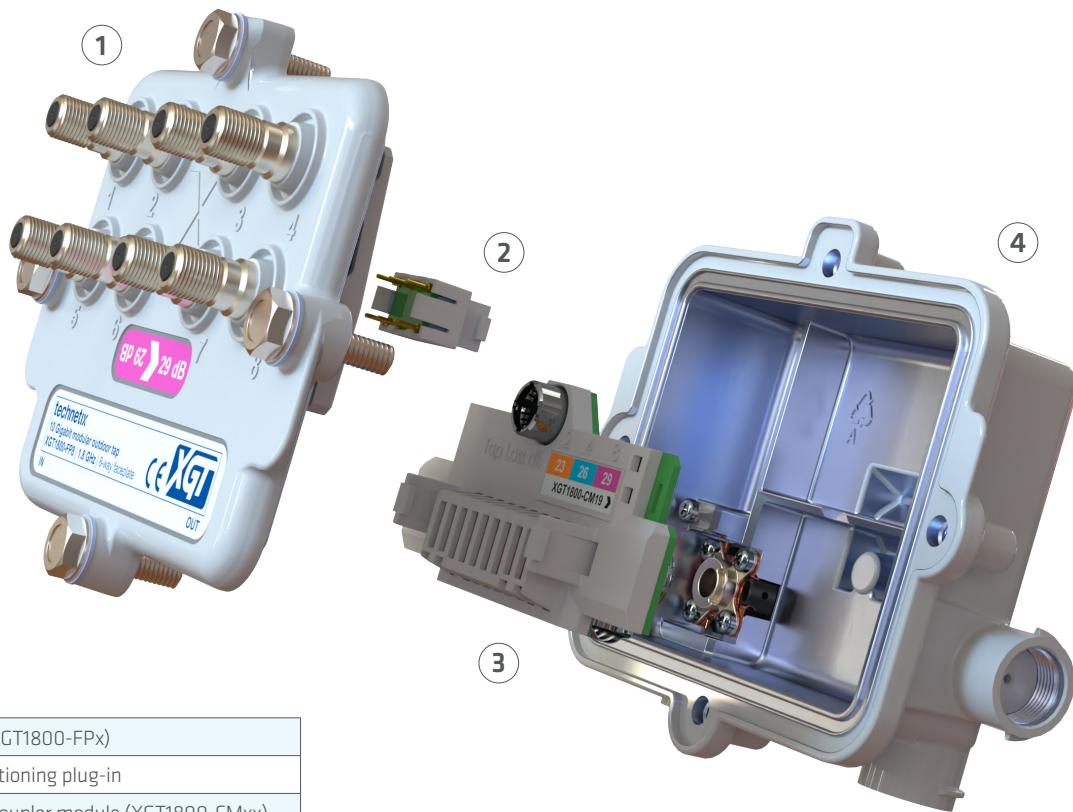


**PRODUCT INFORMATION:** 19013994 XGT-MBBT XGT make before break tool  
19014361 XGT-CM-RT XGT coupler module removal tool



## Overview

- **Modular platform DOCSIS 4.1<sup>1</sup> compatible**
  - 3 GHz housing
  - 1.8 GHz coupler module, also compatible with 1.2 GHz systems
  - 1.8 GHz front plates: 2-way, 4-way and 8-way
  - Low inventory standardised modular solution<sup>2</sup>
    - one housing
    - three front plates
    - 5 or 6 CM tap values
    - 9 or 10 SKUs for a full multitap
- **3 GHz housing with superior seizure-less connector design<sup>3</sup>**
- **Faceplate removable without breaking RFsignals and line power**
- **Install now when upgrading or carrying out routine maintenance:**
  - 1.2 GHz DOCSIS 3.1 ready now
  - 1.8 GHz DOCSIS 4.0 ready now
  - 3.0 GHz DOCSIS 4.1 ready housing



1	Faceplate (XGT1800-FPx)
2	Signal conditioning plug-in
3	Directional coupler module (XGT1800-CMxx)
4	Housing / Backbox (XGT3000-BB)

1. DOCSIS 4.1, the next generation after DOCSIS 4.0, taking bandwidth from 1.8 GHz to 3 GHz 25 Gbps data capacity.
2. With DOCSIS 4.1 all legacy Regal, GI-Moto, SA-Cisco and Magnavox housings become obsolete.
3. The futureproof XGT housing has enables a secure 3GHz connection without screws and excellent protection against common path distortion (CPD).

## Chapter 1 User applications

### 1.1 Mass deployment

While the modularity of the XGT range is ideal for maintenance and small deployments, it is recommended that fully assembled multitaps are used for mass deployments and entire network upgrades where 1 GHz and 1.2 GHz units are all being replaced.

After a mass deployment it is recommended that individual SKUs from the XGT range are used for ongoing maintenance and upgrades to fully benefit from the modular approach and the lower inventory requirements.

Item code	Description
XGTZ-2-4T	10 gigabit taps facilitate the provision of 10 Gbit/s speeds to customers in the future
XGTZ-2-4T	Z is a 1.8 GHz assembly (including the faceplate and CM)
XGTZ-2-4T	2-way faceplate
XGTZ-2-4T	4 dB tap attenuation
XGTZ-2-4T	Terminated housing for end-of-line situations

Fully assembled 2-way 1.8 GHz	Fully assembled 4-way 1.8 GHz	Fully assembled 8-way 1.8 GHz
XGTZ-2-4T		
XGTZ-2-8	XGTZ-4-8T	
XGTZ-2-11	XGTZ-4-11	XGTZ-8-11T
XGTZ-2-14	XGTZ-4-14	XGTZ-8-14
XGTZ-2-17	XGTZ-4-17	XGTZ-8-17
XGTZ-2-20	XGTZ-4-20	XGTZ-8-20
XGTZ-2-23	XGTZ-4-23	XGTZ-8-23
XGTZ-2-26	XGTZ-4-26	XGTZ-8-26
XGTZ-2-29	XGTZ-4-29	XGTZ-8-29

## 1.2 Installing cables to the IN and OUT connectors

The housing is fitted with a spring loaded 5/8 female connector (*Fig. 1*), designed to fit a standard KS 5/8 male connector without the need to secure the pin with a screw contact (unlike legacy multitaps).



*Fig. 1*

1. Cut the 5/8 pin to a length of 1.34" (34 mm) with a tolerance 0.039" (+/- 1 mm) also marked on the back of the housing (*Fig. 2*).

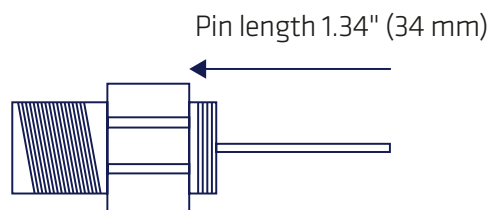


*Fig. 2*

2. The XGT 5/8 female connector takes pins with a diameter of 0.065" - 0.075" (1.65 - 1.91mm).
3. Torque the KS connectors to 40 in/lbs (4.5 N-m).



**IMPORTANT:** The total pin length = pin length and connector thread length (*Fig. 3*).



*Fig. 3*

### 1.3 Base installation of IN and OUT connectors

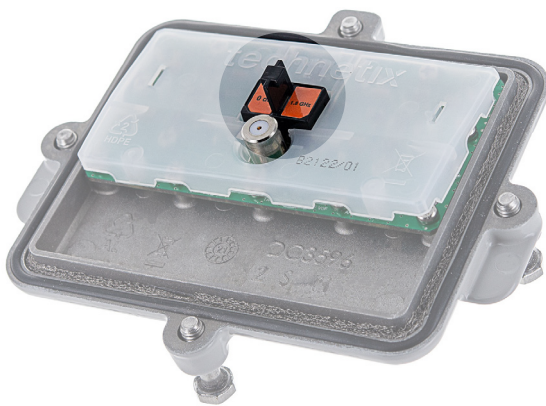
If installing a multitap and both cables come from the same direction, you can relocate the “blind plugs” to the side ports (Fig. 4), making sure they are torqued at 40in/lbs (4.5 N-m), then the shielding effectiveness against 4G/5G signals remains high.



Fig. 4

### 1.4 Signal Conditioning

Signal conditioning is used in certain networks to give a specific amount of tilt to the tap ports enabling them to reach homes with a flat signal. In the XGT platform the signal conditioning plug-ins can be installed in the faceplate, which are all delivered with a 0 dB jumper. When installing a cable equalizer or cable simulator, the 0 dB jumper in the faceplate will be replaced by the signal conditioning plug-in.

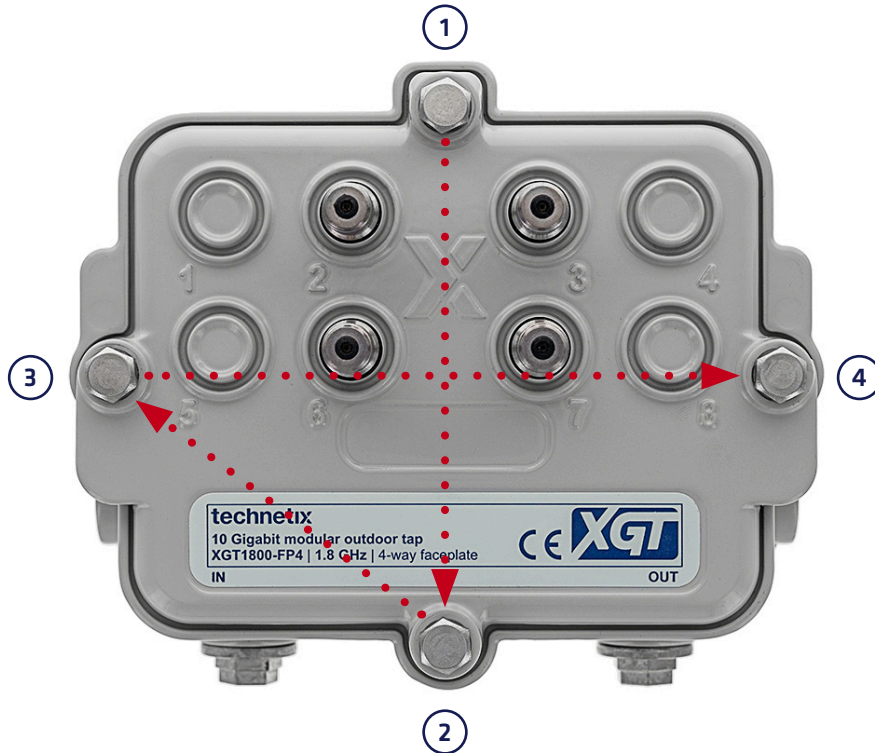


Available plug-ins	Cable simulator	Cable equalizer
1.2 GHz optimized	XGT1200-CSxx 3 dB CS03 1.2 GHz	XGT1200-CExx 3 dB CE03 1.2 GHz
1.8 GHz optimized	XGT1800-CSxx 3 dB CS03 1.8 GHz	XGT1800-CExx 3 dB CE03 1.8 GHz

## 1.5 Tightening sequence of faceplate bolts

Fully tighten to 30 in/lbs (3.5 N-m) in the following sequence:

- ① Top bolt
- ② Bottom bolt
- ③ Left hand bolt
- ④ Right hand bolt



## 1.6 Installing drop cables on the faceplate

Fix the F-male connector to the drop cables while connecting to customer premises at the front F-female ports of the multitap, then tighten the connectors to 30 in/lbs (3.5 N-m) torque. Make sure all F-ports that are not in use are terminated with a 75 Ohm terminator also to 30 in/lbs (3.5 N-m) torque.





## 1.7 Strand mount mechanism

Undo the bolt to secure the stand cable. Tighten the bolt to 30 in/lbs (3.5 N-m) torque.

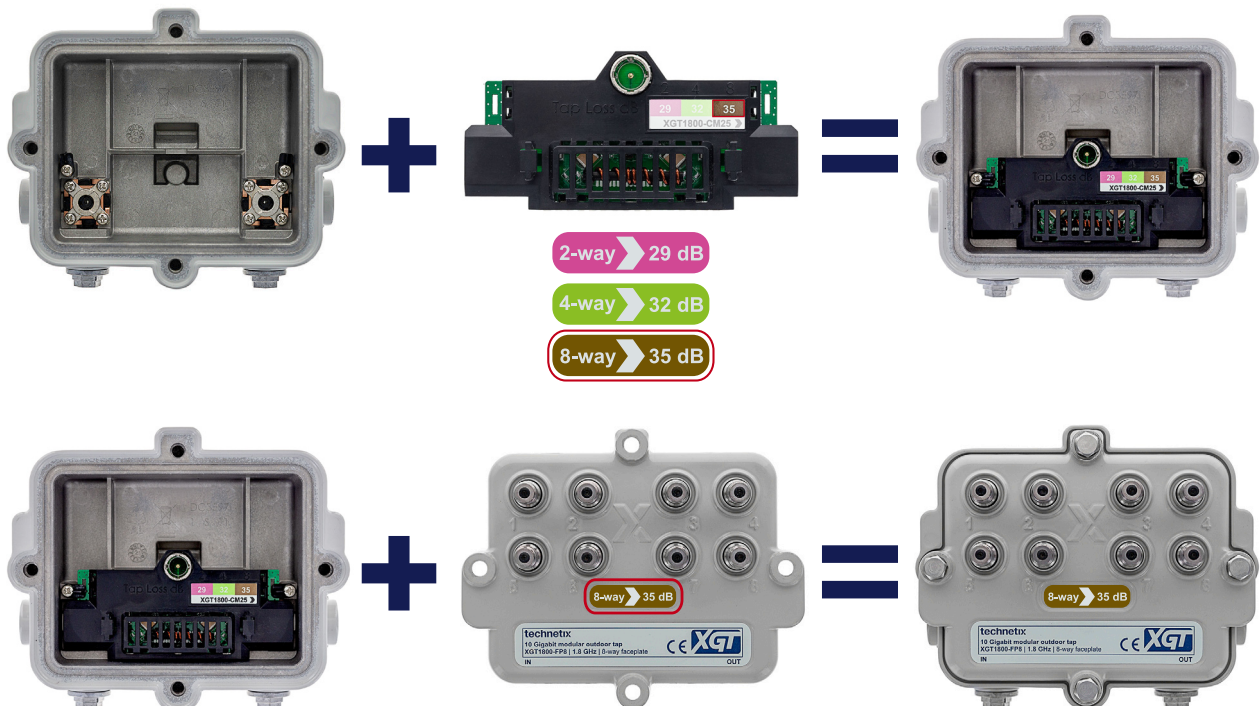


## Chapter 2 New builds and maintenance

The modularity of the XGT range is ideal for maintenance and small deployments, it is recommended that a fully assembled multitap is used for mass deployments and entire network upgrades.

### 2.1 Basic assembly

Housing (backbox) + coupler module + faceplate = full multitap

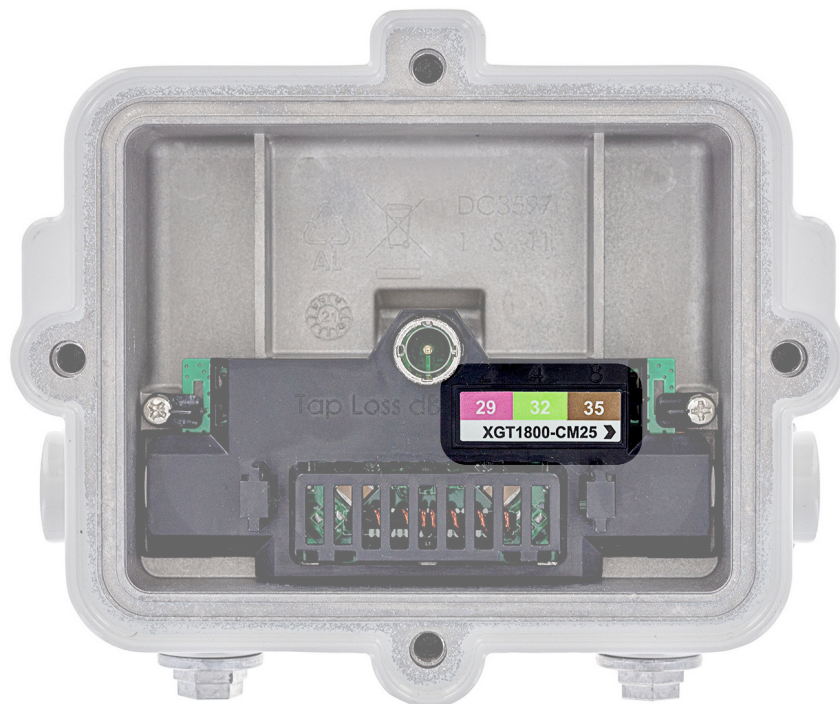


## 2.2 Bill of materials

Cross-reference the table below to determine the CMs required. The module number refers to the attenuation level in dBs (to the faceplate). The faceplate adds the 2, 4 and 8-way splitter loss due to the number of ports on the faceplate. The final values for tap loss are detailed in the table below.

Type	Description	CM / dB value for the complete tap		
		2-way	4-way	8-way
XGT3000-BB	TECHNETIX 10 GIGABIT TAP BACK BOX 3.0 GHZ			
XGT3000-BBT	TECHNETIX 10 GIGABIT TAP BACK BOX 3.0 GHZ TERMINATED			
XGT1800-FP2	TECHNETIX 10 GIGABIT TAP FACEPLATE 2-WAY			
XGT1800-FP4	TECHNETIX 10 GIGABIT TAP FACEPLATE 4-WAY			
XGT1800-FP8	TECHNETIX 10 GIGABIT TAP FACEPLATE 8-WAY			
XGT1800-CM0T	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 0T dB	4T	8T	11T
XGT1800-CM04	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 04 dB	8	11	14
XGT1800-CM07	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 07 dB	11	14	17
XGT1800-CM10	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 10 dB	14	17	20
XGT1800-CM13	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 13 dB	17	20	23
XGT1800-CM16	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 16 dB	20	23	26
XGT1800-CM19	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 19 dB	23	26	29
XGT1800-CM22	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 22 dB	26	29	32
XGT1800-CM25	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 25 dB	29	32	35

A simple way to check that you have the correct couple module is to check the colored label. This will give you the dB values the coupler will provide in combination with a 2, 4 or 8-way faceplate.



## 2.3 Example installations

### 1. Install complete tap 8-way 35 dB

Check the tap value required and select the materials from your vehicle, no detailed materials planning is required for specific tap values and faceplates combinations.

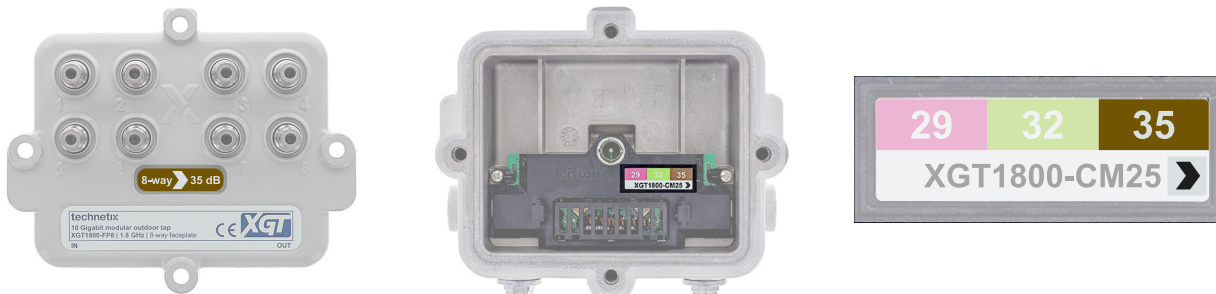
1. Select your parts using the guide on page nine.  
One housing, one 8-way faceplate and one coupler module 25 dB (CM25)  
(delivered with 29, 32 and 35 dB stickers)



2. Place the CM25 inside the housing and secure it by turning the placeholder 90° and tighten the screw.



3. Place the faceplate with dB sticker on the tap space with the arrow pointing in the same direction on the tap as the arrow on the coupler module to indicate the directionality of the tap signal IN to OUT.



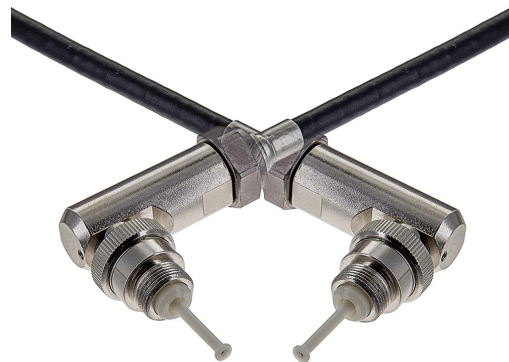
4. Install the drop cables on the F-ports with 30 in/lbs (3.5 N-m) torque and install the hardline cables on the in-and output with 40 in/lbs (4.5 N-m) torque.



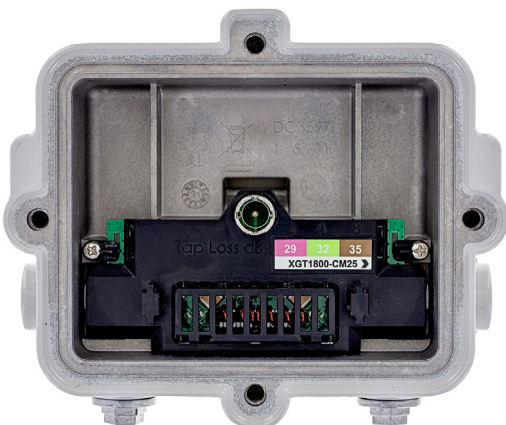
## 2. Replacing the CM without any power loss using the MBBT

If a coupler module is broken, or you need a different directional coupling to be applied – the XGT tap range ensures minimal installation time and extremely short downtime. By using the XGT- MBBT you can bypass the multitap with RF signals and 15A of current while maintenance is being performed on the coupler module.

1. Pick your material – one new CM and one XGT-MBBT.

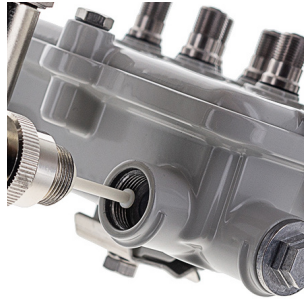


2. Remove the faceplate from the tap (you can keep all the cables attached).





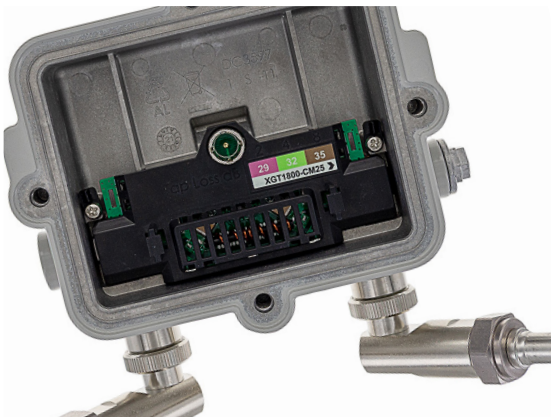
**WARNING:** The center pin becomes live when the first connector is inserted – don't touch anything else with second connector – this will cause a shock.



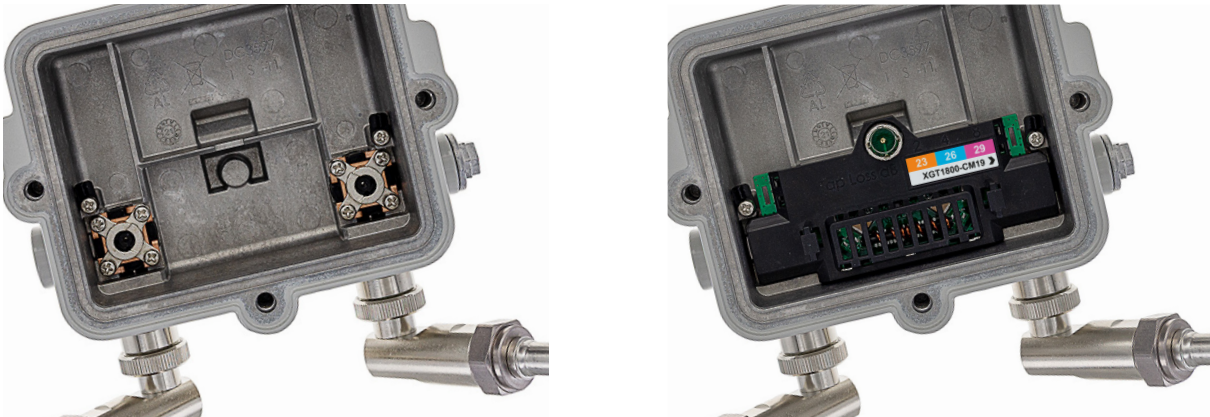
3. Remove the blind plugs from the unused ports and place the MBBT in the two unused ports to bypass the power/RF signals.



4. Undo CM placeholders and remove the old CM from the tap using the CMRT (XGT-CM-RT).



5. Place the new CM in the tap, remove the MBBT from the tap and put the placeholders back in position.



6. Put the faceplate back on the tap. Replace the dB value sticker if necessary. The correct dB value sticker is always delivered with the coupler modules.



## Order Information

### Separate tap components

Order separate components to deploy infrequently used tap values with cost effective post-installation maintenance.

Item number	Item code	Description
19013824	XGT3000-BB	TECHNETIX XGT GIGABIT TAP HOUSING 3.0 GHZ
19013825	XGT3000-BBT	TECHNETIX XGT GIGABIT TAP HOUSING 3.0 GHZ TERM
19013826	XGT1800-FP2	TECHNETIX XGT GIGABIT TAP FACEPLATE 2-WAY
19013827	XGT1800-FP4	TECHNETIX XGT GIGABIT TAP FACEPLATE 4-WAY
19013828	XGT1800-FP8	TECHNETIX XGT GIGABIT TAP FACEPLATE 8-WAY

dB value matrix coupler module and faceplate version

			2-way	4-way	8-way
19013838	XGT1800-CM0T	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 0T dB	4T	8T	11T
19013839	XGT1800-CM04	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 04 dB	8	11	14
19013840	XGT1800-CM07	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 07 dB	11	14	17
19013841	XGT1800-CM10	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 10 dB	14	17	20
19013842	XGT1800-CM13	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 13 dB	17	20	23
19013843	XGT1800-CM16	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 16 dB	20	23	26
19013844	XGT1800-CM19	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 19 dB	23	26	29
19013845	XGT1800-CM22	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 22 dB	26	29	32
19013846	XGT1800-CM25	TECHNETIX XGT DIRECTIONAL COUPLER MODULE 25 dB	29	32	35

### Complete multi tap units

Order complete units for large scale deployments

Item number	Item code	Description
<b>2-way taps</b>		
19013904	XGTZ-2-4T	TECHNETIX 10 GIGABIT TAP 2-WAY 4 dB 1.8 GHZ TERM
19013905	XGTZ-2-8	TECHNETIX 10 GIGABIT TAP 2-WAY 8 dB 1.8 GHZ
19013906	XGTZ-2-11	TECHNETIX 10 GIGABIT TAP 2-WAY 11 dB 1.8 GHZ
19013907	XGTZ-2-14	TECHNETIX 10 GIGABIT TAP 2-WAY 14 dB 1.8 GHZ
19013908	XGTZ-2-17	TECHNETIX 10 GIGABIT TAP 2-WAY 17 dB 1.8 GHZ
19013909	XGTZ-2-20	TECHNETIX 10 GIGABIT TAP 2-WAY 20 dB 1.8 GHZ
19013910	XGTZ-2-23	TECHNETIX 10 GIGABIT TAP 2-WAY 23 dB 1.8 GHZ
19013911	XGTZ-2-26	TECHNETIX 10 GIGABIT TAP 2-WAY 26 dB 1.8 GHZ
19013912	XGTZ-2-29	TECHNETIX 10 GIGABIT TAP 2-WAY 29 dB 1.8 GHZ
<b>4-way taps</b>		
19013913	XGTZ-4-8T	TECHNETIX 10 GIGABIT TAP 4-WAY 8 dB 1.8 GHZ TERM
19013914	XGTZ-4-11	TECHNETIX 10 GIGABIT TAP 4-WAY 11 dB 1.8 GHZ
19013915	XGTZ-4-14	TECHNETIX 10 GIGABIT TAP 4-WAY 14 dB 1.8 GHZ
19013916	XGTZ-4-17	TECHNETIX 10 GIGABIT TAP 4-WAY 17 dB 1.8 GHZ
19013917	XGTZ-4-20	TECHNETIX 10 GIGABIT TAP 4-WAY 20 dB 1.8 GHZ
19013918	XGTZ-4-23	TECHNETIX 10 GIGABIT TAP 4-WAY 23 dB 1.8 GHZ
19013919	XGTZ-4-26	TECHNETIX 10 GIGABIT TAP 4-WAY 26 dB 1.8 GHZ
19013920	XGTZ-4-29	TECHNETIX 10 GIGABIT TAP 4-WAY 29 dB 1.8 GHZ
<b>8-way taps</b>		
19013921	XGTZ-8-11T	TECHNETIX 10 GIGABIT TAP 8-WAY 11 dB 1.8 GHZ TERM
19013922	XGTZ-8-14	TECHNETIX 10 GIGABIT TAP 8-WAY 14 dB 1.8 GHZ
19013923	XGTZ-8-17	TECHNETIX 10 GIGABIT TAP 8-WAY 17 dB 1.8 GHZ
19013924	XGTZ-8-20	TECHNETIX 10 GIGABIT TAP 8-WAY 20 dB 1.8 GHZ
19013925	XGTZ-8-23	TECHNETIX 10 GIGABIT TAP 8-WAY 23 dB 1.8 GHZ
19013926	XGTZ-8-26	TECHNETIX 10 GIGABIT TAP 8-WAY 26 dB 1.8 GHZ
19013927	XGTZ-8-29	TECHNETIX 10 GIGABIT TAP 8-WAY 29 dB 1.8 GHZ

## Order Information

### Signal conditioning plug-ins

Item number	Item code	Description
<b>1.2 GHz cable equalizers</b>		
19013880	XGT1200-CE02	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 02 dB 1.2 GHZ
19013881	XGT1200-CE03	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 03 dB 1.2 GHZ
19013882	XGT1200-CE04	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 04 dB 1.2 GHZ
19013883	XGT1200-CE06	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 06 dB 1.2 GHZ
19013884	XGT1200-CE08	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 08 dB 1.2 GHZ
19013885	XGT1200-CE09	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 09 dB 1.2 GHZ
19013886	XGT1200-CE10	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 10 dB 1.2 GHZ
19013887	XGT1200-CE12	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 12 dB 1.2 GHZ
19013888	XGT1200-CE14	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 14 dB 1.2 GHZ
19013889	XGT1200-CE16	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 16 dB 1.2 GHZ
19013890	XGT1200-CE18	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 18 dB 1.2 GHZ
19013891	XGT1200-CE20	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 20 dB 1.2 GHZ
19013892	XGT1200-CE22	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 22 dB 1.2 GHZ
<b>1.8 GHz cable equalizers</b>		
19013856	XGT1800-CE02	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 02 dB 1.8 GHZ
19013857	XGT1800-CE03	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 03 dB 1.8 GHZ
19013858	XGT1800-CE04	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 04 dB 1.8 GHZ
19013859	XGT1800-CE06	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 06 dB 1.8 GHZ
19013860	XGT1800-CE08	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 08 dB 1.8 GHZ
19013861	XGT1800-CE09	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 09 dB 1.8 GHZ
19013862	XGT1800-CE10	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 10 dB 1.8 GHZ
19013863	XGT1800-CE12	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 12 dB 1.8 GHZ
19013864	XGT1800-CE14	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 14 dB 1.8 GHZ
19013865	XGT1800-CE16	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 16 dB 1.8 GHZ
19013866	XGT1800-CE18	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 18 dB 1.8 GHZ
19013867	XGT1800-CE20	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 20 dB 1.8 GHZ
19013868	XGT1800-CE22	TECHNETIX XGT PLUG-IN CABLE EQUALIZER 22 dB 1.8 GHZ



## Order Information

### Signal conditioning plug-ins

Item number	Item code	Description
<b>1.2 GHz cable simulators</b>		
19013893	XGT1200-CS02	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 02 DB 1.2 GHZ
19013894	XGT1200-CS03	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 03 DB 1.2 GHZ
19013895	XGT1200-CS04	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 04 DB 1.2 GHZ
19013896	XGT1200-CS06	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 06 DB 1.2 GHZ
19013897	XGT1200-CS08	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 08 DB 1.2 GHZ
19013898	XGT1200-CS09	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 09 DB 1.2 GHZ
19013899	XGT1200-CS10	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 10 DB 1.2 GHZ
19013900	XGT1200-CS12	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 12 DB 1.2 GHZ
19013901	XGT1200-CS15	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 15 DB 1.2 GHZ
19013902	XGT1200-CS18	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 18 DB 1.2 GHZ
19013903	XGT1200-CS21	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 21 DB 1.2 GHZ
19013891	XGT1200-CE20	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 20 DB 1.2 GHZ
19013892	XGT1200-CE22	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 22 DB 1.2 GHZ
<b>1.8 GHz cable simulators</b>		
19013869	XGT1800-CS02	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 02 DB 1.8 GHZ
19013870	XGT1800-CS03	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 03 DB 1.8 GHZ
19013871	XGT1800-CS04	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 04 DB 1.8 GHZ
19013872	XGT1800-CS06	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 06 DB 1.8 GHZ
19013873	XGT1800-CS08	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 08 DB 1.8 GHZ
19013874	XGT1800-CS09	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 09 DB 1.8 GHZ
19013875	XGT1800-CS10	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 10 DB 1.8 GHZ
19013876	XGT1800-CS12	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 12 DB 1.8 GHZ
19013877	XGT1800-CS15	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 15 DB 1.8 GHZ
19013878	XGT1800-CS18	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 18 DB 1.8 GHZ
19013879	XGT1800-CS21	TECHNETIX XGT PLUG-IN CABLE SIMULATOR 21 DB 1.8 GHZ

### XGT maintenance tools

Item number	Item code	Description
19014361	XGT-CM-RT	XGT COUPLER MODULE REMOVAL TOOL
19013994	XGT-MBBT	XGT MAKE BEFORE BREAK TOOL

If you would like further information on the content of this user manual, please contact:

Maarten Markhorst  
Director of Connected Home Products  
[maarten.markhorst@technetix.com](mailto:maarten.markhorst@technetix.com)  
**+31 318 58 59 59**

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