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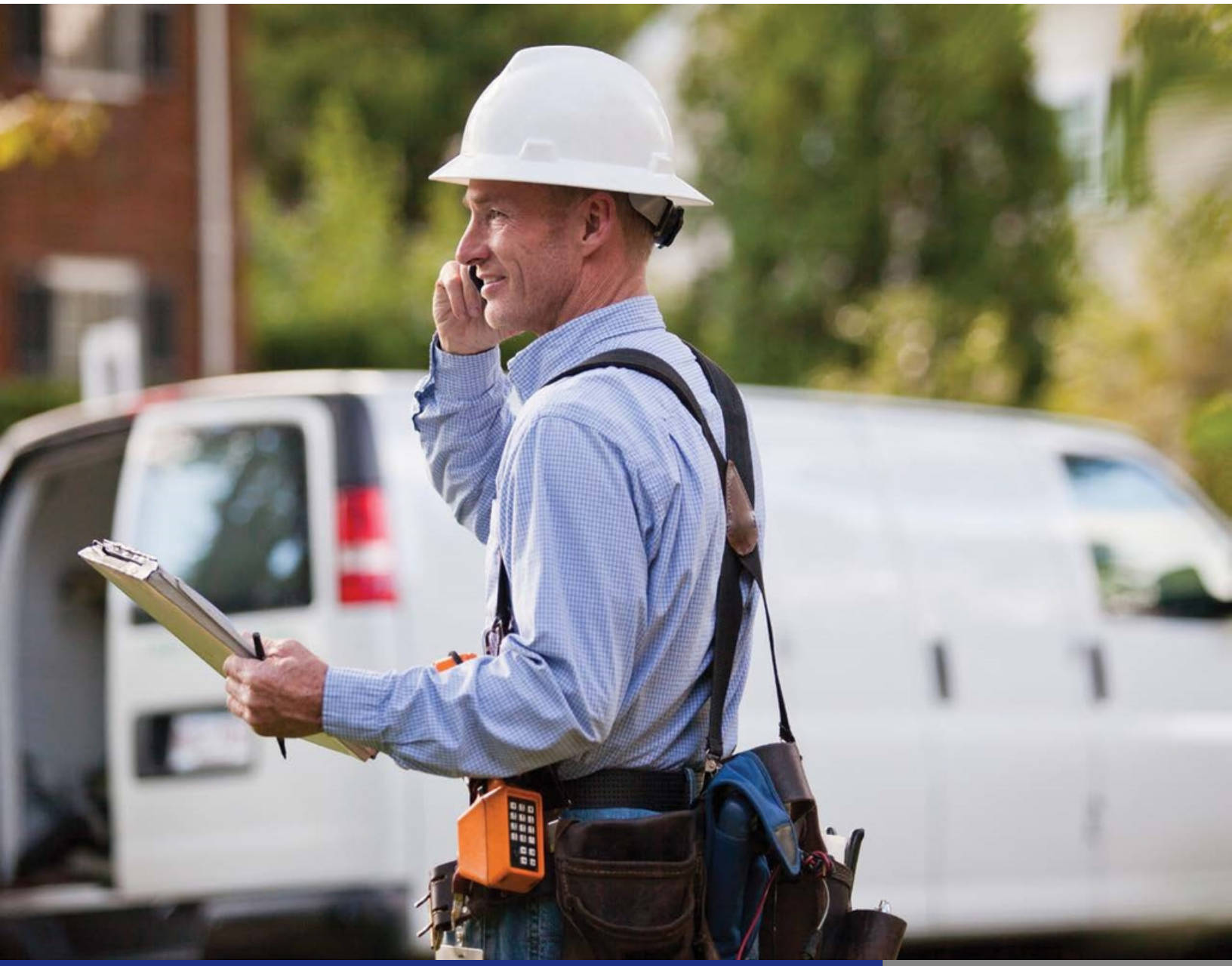
Next-generation OTE® portfolio

Optical termination enclosures for FTTX deployment



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In the past, it's been thought that broadband customers' ability to consume enough network bandwidth to necessitate FTTX deployment would be decades away. But surprisingly, bandwidth consumption in the home has been growing exponentially. Today, an average home uses up to 30 percent more network bandwidth every year compared to the previous year.*

Entertainment technology like internet gaming, virtual reality and video on demand is partially responsible for the growing bandwidth demand as costs for such devices have become more affordable and more commonplace. But "smarter" household appliances that are becoming more mainstream, technology that uses sensor connectivity, data applications, and the Internet of Things (IoT) are also contributing to the hunger for more bandwidth.

*ACG Research, "Forecast of Residential Fixed Broadband and Subscription Video Requirements," 2014

The number of DEVICES CONNECTED to IP NETWORKS will be

>3x

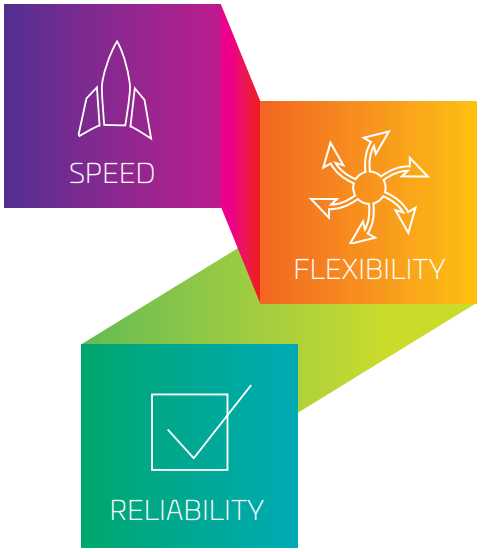
the global population by

2020

Source: Cisco VNI Global IP Traffic Forecast, 2015–2020

Real-world challenges to fiber deployment

In the race to deliver gigabit services and acquire new subscribers, service providers (SP), multiple service operators (MSO) and telcos are faced with a number of challenges in connecting residences, businesses, educational and healthcare facilities to the fiber network. These challenges include the speed of deployment, network design flexibility and reliability in the network's connectivity.



Speed of deployment: Since installing fiber can be labor intensive, deploying fiber solutions that save time can increase a company's ROI.

Design flexibility: Being able to adapt to real-world conditions can be the difference between a smooth installation and a costly one.

Reliability: Choosing components that can withstand the test of time can significantly reduce the number of future truck roll-outs.

Any application. Any configuration. One portfolio.

CommScope's family of optical termination enclosures (OTE) was specifically designed to streamline and speed the deployment of fiber while delivering long-lasting reliability and peace of mind. Composed of four OTE series, this portfolio was designed with an almost limitless choice for sizes, styles and configurations to accommodate nearly every unique deployment need.

These robust enclosures feature pre-connectorized hardened adapter ports and are fully compatible with full size and miniaturized DLX® systems. They provide plug-and-play simplicity for deploying and managing fiber optic connections. They also offer a unique solution for splicing, termination and pass-through cable requirements in FTTx architectures to facilitate deployment.

Next-generation OTE portfolio

	OTE2	Mini-OTE 200	Mini-OTE 300	Mini-OTE 400
				
Recommended application	Highest port count ideal for building wall mount*	Excellent for pole mount with internal system for cable fixation	Versatile configuration; optimal for strand and handhole installation	Highly flexible and easy fit into tight places in handhole and pedestal
Network location	Aerial	Aerial Handhole Pedestal	Aerial Handhole Pedestal	Aerial Handhole Pedestal
Style	Butt & inline	Butt	Butt & inline	Butt
Max # of ports	16 full size	6 full size or 8 DLX miniaturized	12 full size or 12 DLX miniaturized	8 full size or 8 DLX miniaturized
Configuration	No splitter or 1:4 or 1:8 or 1:16 splitter	No splitter or 1:4 or 2x1:4 or 1:8 splitter	No splitter or 1:2 or 1:4 or 1:8 or Optical taps: 2, 4 or 8 drops CCWDM 2 or 4 or 8 channel	No splitter

* Not UL listed for use in USA

Simpler architecture. Faster deployment.

When considering how to save on deployment, revisiting a network's topology may be worthwhile. While the star topology architecture (Figure 1) provides a number of performance benefits, the installation requires a detailed site survey to identify cable lengths and installation obstacles while the deployment requires lots of fiber cables and additional installation labor.

One option that requires less cable is the daisy chain topology (Figure 2). This fiber deployment architecture eliminates the need for site surveys and reduces the amount of fiber needed to complete the last mile. Using the daisy chain topology also helps alleviate the possible confusion and overcrowded conditions that can occur at the fiber hubs.

Whether you choose to use a star topology, daisy chain topology or combination of both, our series of OTEs can provide significant intrinsic savings by reducing optical fiber cable needed and requiring less labor for installations.

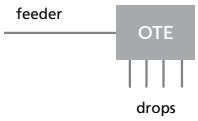
Figure 1:
Star topology

Figure 2:
Daisy chain
topology

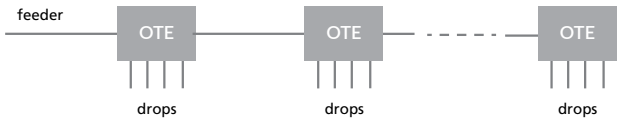
These OTEs also provide installers with the flexibility of splitting signals inline or at a hub. Because they can accommodate higher fiber counts, our OTEs can be used anywhere in the network. In addition to being used in daisy chain topology, OTEs can be used as hubs, feeding multiple stars. Given the higher fiber count, adding additional branches at a later stage is also possible, which represents a strong field advantage.

Ultimate flexibility.

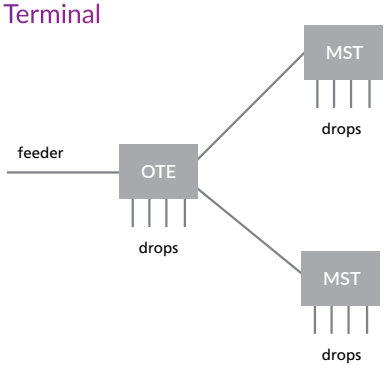
Terminal



Pass-Through Terminal



Branch Terminal



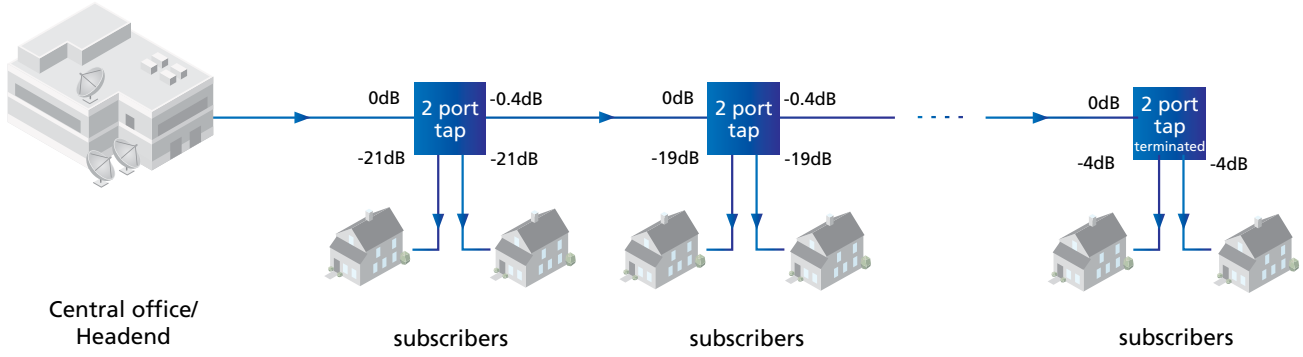
FTTH networks typically use splitters to distribute the optical signal and the OTE portfolio offers passive optical modules (splitters, taps and CCWDMs) to aid in achieving the optimal solution.

A centralized split architecture is the most flexible but also the most expensive. An alternative to this is a cascaded tap architecture (Figure 3). In this case, fiber optic taps are used instead of splitters, and the topology is laid out in a linear, daisy-chain fashion.

Imagine taking a fiber in a fiber optic cable, cutting it, and splicing a tap in between. The optical signal passes through the tap and continues down the fiber, while the tap siphons/drops off a portion of the downstream signal for locally connected subscribers. Multiple taps can be placed down the line until the optical link budget is exhausted or the maximum number of subscribers per OLT port (typically 32, but 64 or more are supported) has been reached.

Optical tap architecture offers a cost-optimized solution for rural or low-density FTTH deployment. When configured with optical taps, the Mini-OTE 300 provides reduced FTTH deployment costs and improved business case—thus helping secure project funding for rural or low-density communities.

Figure 3: Optical tap architecture



More than connectivity. Long-lasting reliability. Peace of mind.

What makes our family of OTEs truly valuable is knowing that they protect every single connection. In the end, they deliver peace of mind.

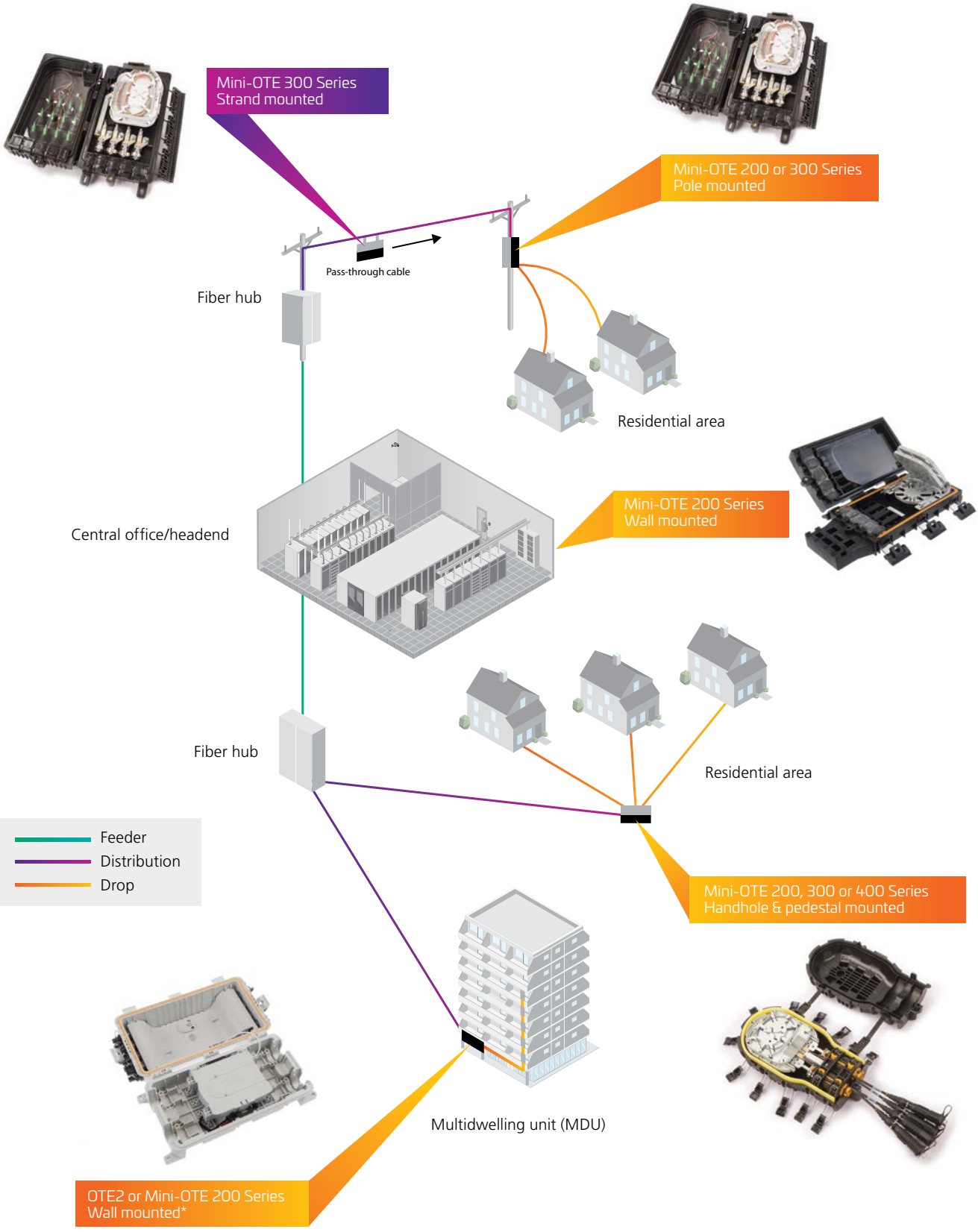
Decades of collaboration between our material scientists, resin suppliers, independent test labs and customers have enabled CommScope to offer a durable outer shell that's optimally designed to withstand any extreme environment condition. High UV stability and resistance to hydrolysis give our closure materials the ability to perform in aerial installations under very hot and humid climates. In addition, we applied our material science know-how to our sealant technology.

Traditional seal methods have evolved over the years. Many traditional sealing methods lose their effectiveness with each re-entry after deployment is complete. Because installers often have a need for re-entry in OTEs for maintenance or adding fiber, our mini-OTEs employ a revolutionary gel technology that's easy to use and requires no special tools.

As an early pioneer in the gel technology, we've formulated a proprietary compressed gel sealant that conforms and maintains a water-tight seal, meeting IP68 standards. IP68 standards require that a closure is dust tight and protected against the effects of permanent submersion in water up to 13 feet (four meters). With our compressed gel, no tools or special handling are required to acquire IP68 qualifications.

By making our mini-OTEs re-enterable and waterproof, installers can use them with confidence in underground handholes, where flooding typically occurs. With the OTE portfolio, reliability is inherent in our design and not an afterthought.

FTTX network integration



*OTE2 and Mini OTE-2 are not UL listed for wall mounting in USA

Ordering Information

OTE2 Series

OTE2 – □□ IH – □□ – □□□ – □

Number of ports

00	No ports
08	8 ports
16	16 ports

Type of splitter

NN	No splitter
14	1:4
18	1:8
16	1:16

Number of trays

0	No tray
1	1 tray
2	2 trays
3	3 trays
4	4 trays
5	5 trays

Type of trays

NT	No tray
S24	Tray for up to 24 heat shrink splice protectors (SMOUV 45 mm)

Mini-OTE 200 Series

OTE200 – □□ M □ – □□ – S12 – □ – □

Number of ports

04	4 ports
06	6 ports
08	8 ports

Type of adapter

H	Full-size
X	DLX miniaturized

Splitter or CCWDM option

NN	No splitter
14	1:4
18	1:8

Mounting

W	Wall
P	Pole or pedestal

Housing color

B	RAL9005 (black)
G	RAL7015 (gray)

Ordering Information *continued*

Mini-OTE 300 Series

OTE – □□ M □ – □□ – □□□ G □□

Number of ports

02	2 ports
04	4 ports
06	6 ports
08	8 ports
12	12 ports

Type of adapter

H	Full-size
X	DLX miniaturized

Passive optical module options

NN	No splitter
12	1:2 splitter (FBT)
14	1:4 splitter (planar)
18	1:8 splitter (planar)
2C	2 channel CCWDM
4C	4 channel CCWDM
8C	8 channel CCWDM

Number of trays

03	3 trays (standard)— 2 fiber splicing trays, 1 fiber storage tray

Optional features

EXT	External mounting
##	Starting CCWDM wavelength, 20nm spacing
##A	Starting CCWDM wavelength, skipped channels

Example: OTE-04MX-14-EXTG03

4 Port Mini-OTE with 1x4 splitter, external mounting, grounding, 3 trays

Ordering Information *continued*

Mini-OTE 300 Series with optical taps

OTE – ☐☐ M ☐ – ☐☐ – ☐☐☐ G ☐☐

Number of ports

04	4 ports
08	8 ports
12	12 ports

Type of adapter

H	Full-size
X	DLX miniaturized

Type of tap

12	2 drops
14	4 drops
18	8 drops

Number of trays

03	3 trays (standard)— 2 fiber splicing trays, 1 fiber storage tray

Tap dB value

	2 Drop	4 Drop	8 Drop
04T	4 terminating		
07T		7 terminating	
11T			11 terminating
050	5		
070	7		
080	8		
090		9	
100	10	10	
110		11	
120	12		12
130		13	
140	14		14
150	15	15	15
170	17	17	17
190	19	19	19
210	21	21	21

Example: OTE-08MH-14-190G03
Eight-port mini-OTE 300, full-size hardened adapters, 1x4 tap, 19dB, ground plug, 3 trays

Mini-OTE 400 Series

OTE400 – ☐☐ M ☐ – NN – EXT02

Number of ports

02	2 ports
04	4 ports
08	8 ports

Hardened connector type

H	Full size
X	DLX miniaturized

Example: OTE400-08MX-NN-EXT02
Eight-port mini-OTE with DLX drops, no splitter, external mounting, 2 trays

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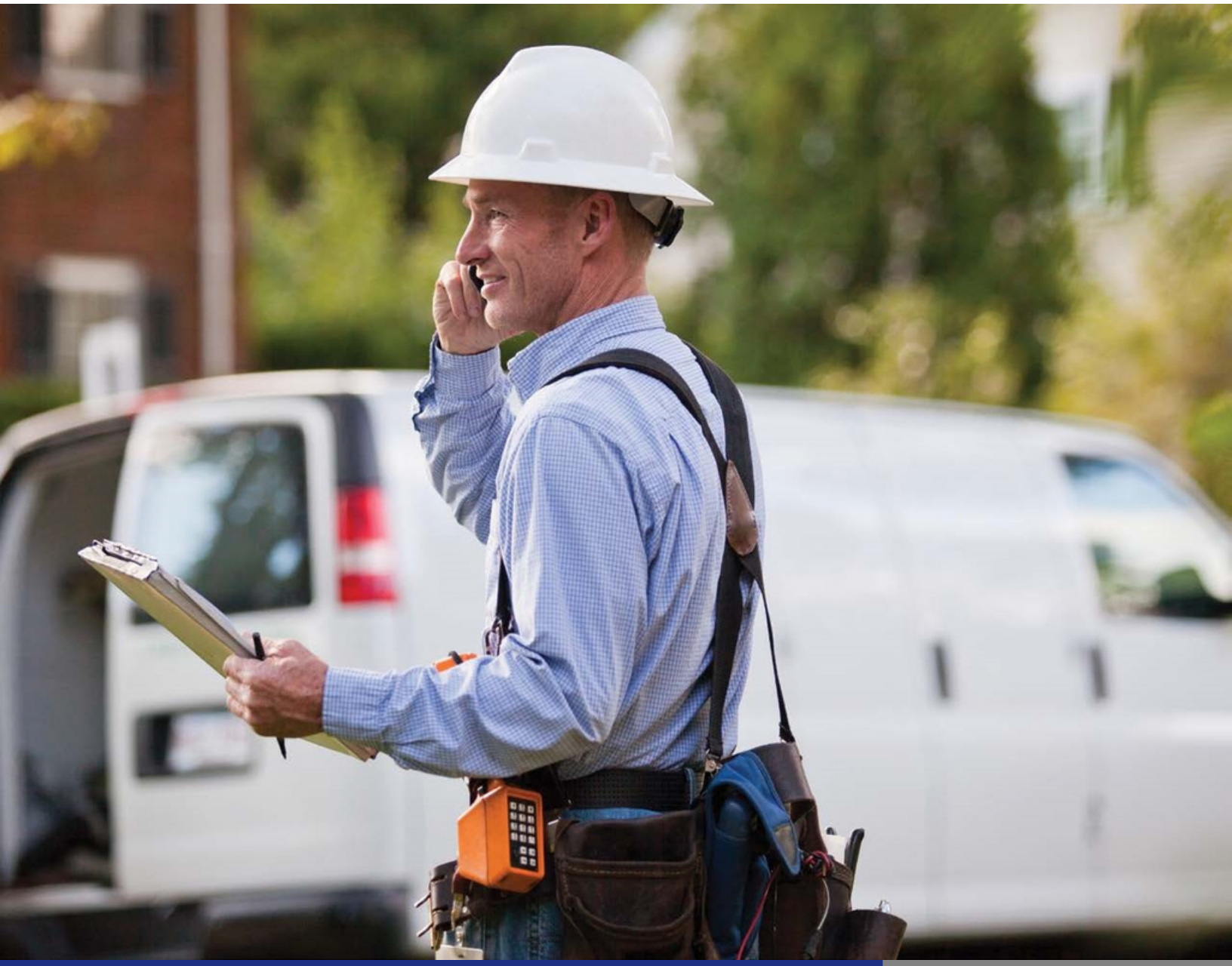

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