



Fibre to the Home Solutions

Better Technology through Innovation



Introduction

HellermannTyton, in collaboration with m2fx, provide a complete end to end range of Fibre to the Home (FTTH) solutions, delivering fibre from the Point of Presence (PoP) to the building and through to the customer termination point.

HellermannTyton have designed a range of outlets, distribution boxes, customer connection points and connectorised wall boxes that, combined with the fibre splice closures, provides full end to end FTTH solutions for both new developments and existing buildings. Depending on the size of the building, be it a large or small Multi Dwelling Unit (MDU) or a Single Dwelling Unit (SDU), this range of products offers a number of options in fibre connectivity and distribution.

m2fx offers a range of fibre cabling solutions that complement the HellermannTyton range. The Miniflex fibre cable is a tough, flexible and pushable cable, providing excellent protection to the fibre optics inside. The Miniflex fibre cable range offers the ideal attributes for customer fibre drops in Fibre to the Home (FTTH) implementations. m2fx also provide cabling solutions for aerial and direct buried deployments

Building types can be defined as:

- **Large Multiple Dwelling Unit (MDU):**
A high-rise building with many vertical levels and multiple horizontal distribution points.
- **Small Multiple Dwelling Unit (MDU):**
A low-rise building with only a few levels and a small amount of horizontal distribution.
- **Single Dwelling Unit (SDU):**
An individual building or property with a single fibre connection point.



About HellermannTyton

HellermannTyton

HellermannTyton is an established leader in the design and manufacture of innovative network infrastructure solutions serving both the broadband and data centre markets.

In addition to FTTH connectivity solutions, HellermannTyton offers a complete range of fibre optic closures for Trunk and Access/FTTH applications incorporating the market leading patented Cablelok mechanical seal. HellermannTyton is also a leader in pre-terminated fibre and copper connectivity with the patented RapidNet solution, used in both telecoms and data centre environments.

HellermannTyton's network connectivity activities are part of the global HellermannTyton Group serving the communications, construction, electrical, automotive and aerospace markets with operations in 34 countries.

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About m2fx

m2fx

miniflex

m2fx is a fibre optic cable manufacturer providing protected fibre solutions across multiple markets, from automotive and aerospace to data centres and telecoms with the primary aim of reducing the cost of fibre optic deployment.

m2fx invented the pushable fibre cable and has developed a range of other quality products to help overcome the challenges encountered by installers and network operators working within FTTH applications.

The Miniflex range offers a combination of excellent fibre protection and rapid deployment. Miniflex Quikpush cable, when used with m2fx Microduct, represents a fast and efficient fibre solution for FTTH installations.

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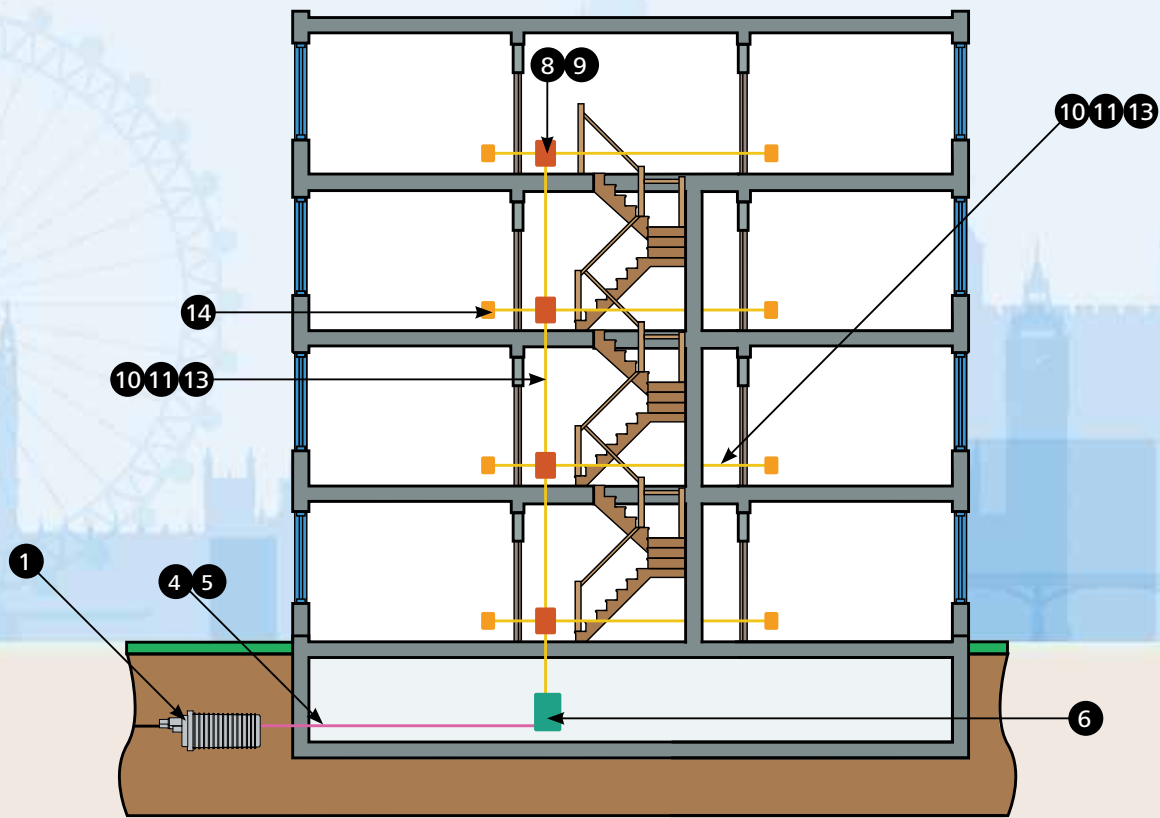
MDU - Large



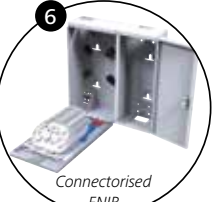
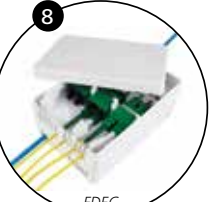
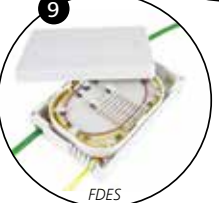
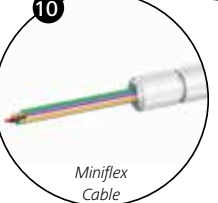

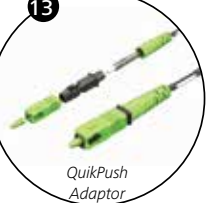
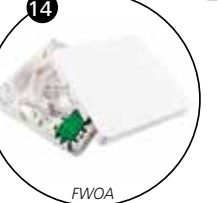
The large Multi-Dwelling Unit (MDU) is typically a high rise apartment complex with a large number of living units over multiple floors within the building.

A common MDU FTTH application will be designed with a single Building Entry Point (BEP), Fibre In The Home (FITH) riser cabling,

a connectorised or splice Floor Distributor (FD) and more FITH drop cabling connecting the FD to the Optical Termination Outlet (OTO) at each apartment or room.

The drop cables may be pre-terminated to the OTO or at both ends for connection into the FD.

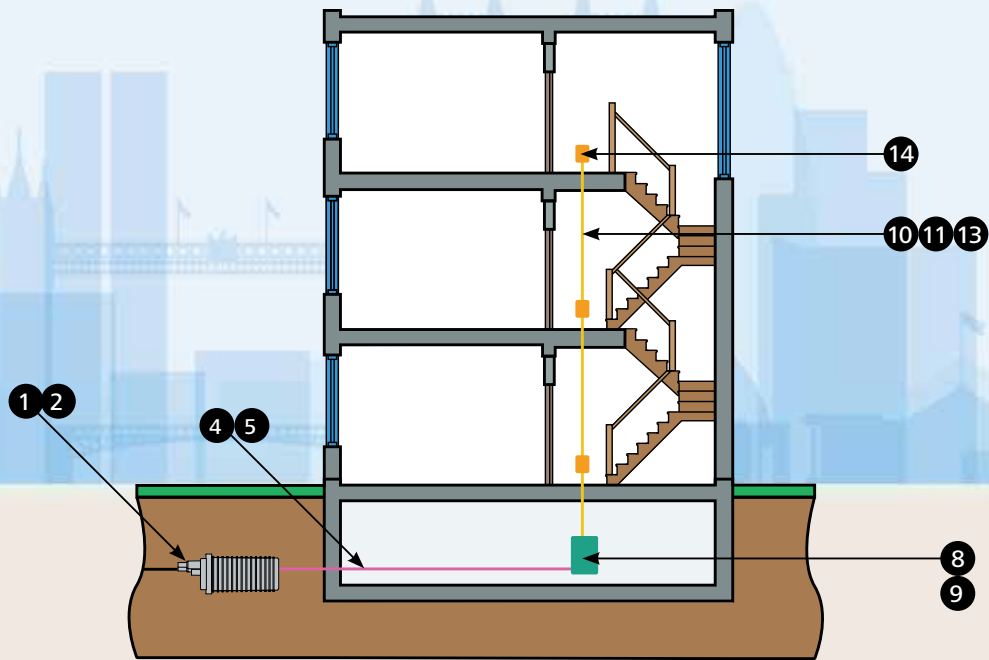


FIBRE CONCENTRATION POINT (FCP)	DIRECT BURIAL CABLING		BUILDING ENTRY POINT (BEP)	FLOOR DISTRIBUTORS (FD)
 <p>1 Fibre Splice Closure</p>	 <p>4 MASS Cable</p>	<p>OR</p>  <p>5 ADSS QuikDrop Cable</p>	 <p>6 Connectorised ENIR</p>	 <p>8 FDEC</p>
 <p>9 FDES</p>	 <p>10 Miniflex Cable</p>	 <p>11 Miniflex Microduct</p>	 <p>13 QuikPush Adaptor</p>	 <p>14 FWOA</p>
FD (continued)	FIBRE IN THE HOME CABLING (FITH)		OPTICAL TELECOMMUNICATIONS OUTLET (OTO)	

MDU - Small

A small Multi Dwelling Unit (MDU) applies to a smaller residential complex with a low number of apartments typically over 2 or 3 floors. A small MDU would use a lower capacity BEP than the

large MDU, directly connected to the OTO with no separate floor distribution. With less living units to service, the FITH cabling would be a smaller fibre count cable and may be pre-terminated.

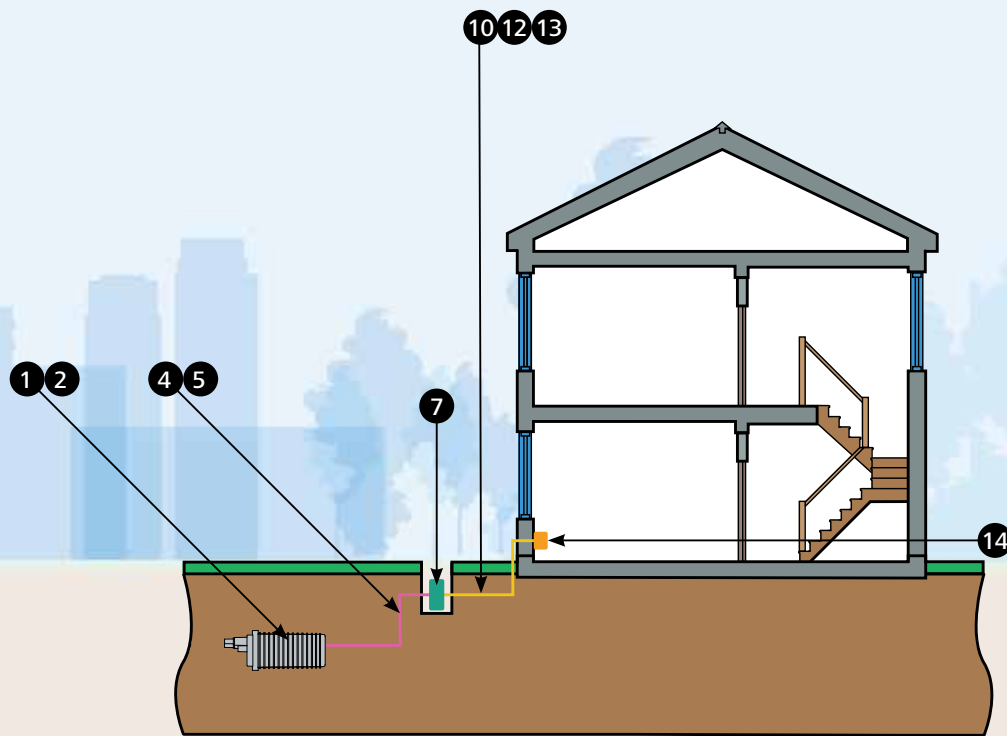


FIBRE CONCENTRATION POINT (FCP)		DIRECT BURIAL CABLING		BUILDING ENTRY POINT (BEP)
1 Fibre Splice Closure	OR 2 ENIR Street Cab	4 MASS Cable	OR 5 ADSS QuikDrop Cable	8 FDEC
9 FDES	10 Miniflex Cable	11 Miniflex Microduct	13 QuikPush Adaptor	14 FWOA
BEP (continued)	FIBRE IN THE HOME CABLING (FITH)		OPTICAL TELECOMMUNICATIONS OUTLET (OTO)	

SDU - Subterranean


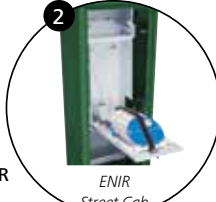
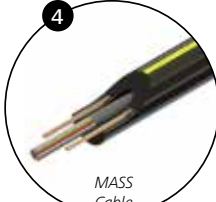
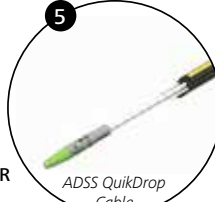

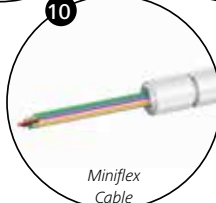


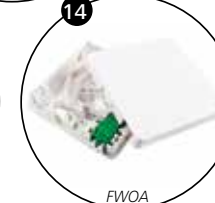
A Single Dwelling Unit (SDU) refers to a single house or standalone property. In this FTTH scenario, the Building Entry Point (BEP) will take the form of a small unit such as the HellermannTyton Customer Connection Point (CCP). The CCP will take a drop cable from the

Fibre Concentration Point (FCP) and distribute fibre directly into the property to a fibre wall outlet (OTO). The final drop to the customer premises may be subterranean or aerial and can be pre-terminated.



FIBRE CONCENTRATION POINT (FCP)

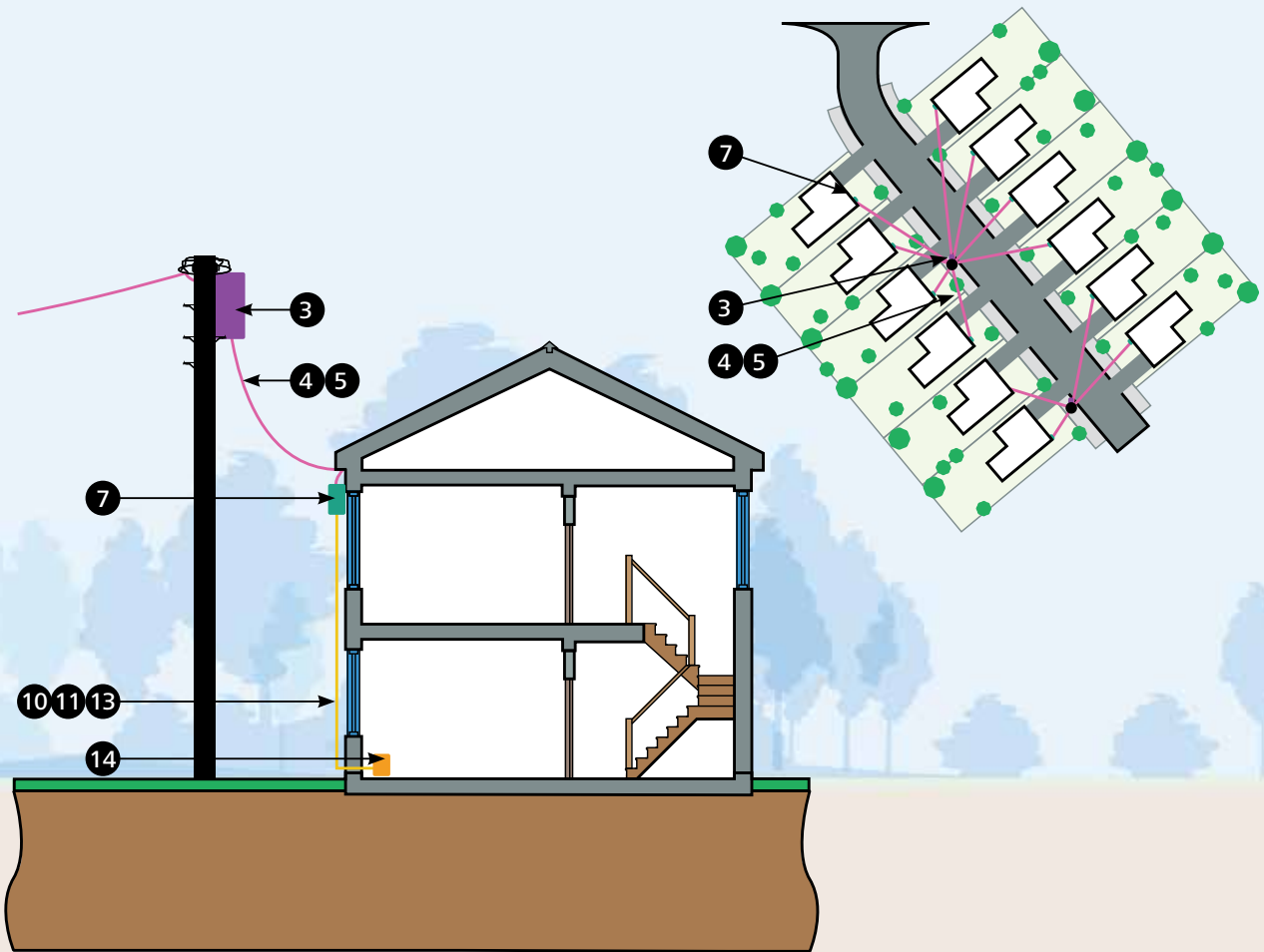
DIRECT BURIAL CABLING

 1 Fibre Splice Closure	OR	 2 ENIR Street Cab	 4 MASS Cable	OR	 5 ADSS QuikDrop Cable
 7 CCP	 10 Miniflex Cable	 12 Miniflex TuffDuct	 13 QuikPush Adaptor	 14 FWOA	
BUILDING ENTRY POINT (BEP)	FIBRE IN THE HOME CABLING (FITH)			OPTICAL TELECOMMUNICATIONS OUTLET (OTO)	

SDU - Aerial

The aerial application is an alternative and often more cost effective method to delivering fibre to the premises. The cable meets the building at a raised level and will either be routed directly into

the premises via a façade box or back down to ground floor level and into the BEP. The drop cable may be pre-connectorised for connection into the drop closure (FCP).



FIBRE CONCENTRATION POINT (FCP)		AERIAL CABLING		BUILDING ENTRY POINT (BEP)				
3	Connectorised Closure	4	MASS Cable	OR	5	ADSS QuikDrop Cable	7	CCP
10	Miniflex Cable	11	Miniflex Microduct	13	QuikPush Adaptor	14	FWOA	
FIBRE IN THE HOME CABLING (FITH)				OPTICAL TELECOMMUNICATIONS OUTLET (OTO)				

Product Information

FIBRE CONCENTRATION POINT (FCP)

1 Fibre Splice Closure - FDN



The FDN fibre splice closure or fibre concentration point (FCP) takes fibre from the POP and distributes the fibre to individual buildings or properties. HellermannTyton manufacture a wide range of different sized fibre splice closures, each designed for different FTTH scenarios.

Part No.	Description
FDNIR-ABBCXW	FDN 59 Port Integrated Routing Closure
FDNTB-ABBCD31	FDN 59 Port Tubed Closure

2 ENIR Street Cabinet



The ENIR is a fibre enclosure for installation in a street cabinet. The enclosure can act as the FCP, distributing fibre from the street to individual properties. The ENIR is available with several fibre splice tray options determined by the number of fibres required in the network.

Part No.	Description
ENIR-AXX-12SE WH	Integrated Routing Fibre Enclosure, 12 SE-IR Tray Capacity
ENIR-AXX-24SC WH	Integrated Routing Fibre Enclosure, 24 SC-IR Tray Capacity

3 Connectorised Closure - FST



The FST connectorised closure is available configured with a selection of fibre connector options and allows for the quick connection or disconnection of circuits using pre-configured fibre pigtailed or field terminated connectors used in an SDU network.

Part No.	Description
FSTCT-AXXTA11-TE	FST A length 1 Hellapon Small Tray, 2 3A inserts (12 splice single stacked) 8 SC APC Simplex Adaptors
FSTCT-AXXTA11-SE	FST A length 1 Hellapon Small Tray, 2 3A inserts (12 splice single stacked) 8 SC PC Simplex Adaptors

DIRECT BURIAL CABLING / AERIAL CABLING

4 Miniflex MASS Cable



The Miniflex Metallic Aerial Self Support (MASS) cable is used to connect an SDU or MDU from a main cable and is ideal for the "Last Drop" scenario in an FTTH network.

MASS Cable is reinforced to allow aerial suspension from overhead poles.

Part No.	Description
MASS-026-PE-BLK	2 Fibre m2fx MASS Cable
MASS-046-PE-BLK	4 Fibre m2fx MASS Cable
MASS-126-PE-BLK	12 Fibre m2fx MASS Cable
MASS-247-PE-BLK	24 Fibre m2fx MASS Cable
MASS-487-PE-BLK	48 Fibre m2fx MASS Cable

5 Miniflex ADSS QuikDrop Cable



The Miniflex All Dielectric Self Support (ADSS) QuikDrop Cable has an all dielectric construction that is lighter than traditional aerial fibre cables. Its light weight allows existing poles to be used without the need for surveys or planning thereby facilitating rapid and cost-effective aerial deployment.

The all dielectric construction means the cable can be safely located near high voltage overhead power lines.

Part No.	Description
ADSS-026-PE-BLK	2 Fibre m2fx ADSS Cable
ADSS-046-PE-BLK	4 Fibre m2fx ADSS Cable
ADSS-126-PE-BLK	12 Fibre m2fx ADSS Cable
ADSS-247-PE-BLK	24 Fibre m2fx ADSS Cable
ADSS-487-PE-BLK	48 Fibre m2fx ADSS Cable

BUILDING ENTRY POINT (BEP)

6 Connectorised ENIR



Designed as a BEP for a large or small MDU, the connectorised fibre enclosure from HellermannTyton incorporates two separate compartments for the network operator and the user. Incoming fibres are spliced onto trays in the operator compartment. The spliced fibres exit the trays on fibre pigtailed into the user compartment to service each end user apartment/room.

Part No.	Description
ENIR-BCT-12SE	IR Connectorised Fibre Enclosure, 12 SE-IR Tray Capacity
ENIR-BCT-24SC	IR Connectorised Fibre Enclosure, 24 SC-IR Tray Capacity

7 Customer Connection Point (CCP)



The Customer Connection Point (CCP) is used as a Building Entry Point (BEP) to provide a fibre termination and network demarcation point external to the connected premise in an SDU FTTH network. It also presents a network test point outside of the customer location.

Part No.	Description
CCPAM-BK0	External Customer Connection Point, Bottom Cable Entry, Breather Membrane, Unloaded in Black

FLOOR DISTRIBUTORS (FD)

8 Connectorised Fibre Distribution Enclosure (FDEC)



The Internal Fibre Distribution Enclosure is used to break out, splice and connect optical fibre cables at the point of entry into a building or to distribute individual fibre circuits to the accommodation/business units on a specific floor or zone within an MDU or MBU. In a small MDU application, this fibre distribution enclosure would be used as a BEP, with capacity to service up to 18 properties.

Part No.	Description
FDEC-9VP/WH	Internal FDEC 9 SC APC Duplex Adaptors and Pigtailed
FDEC-9WP/WH	Internal FDEC 9 SC APC Quad Adaptors and Pigtailed

*Part numbers shown are examples of common products within the range. Other variants and configurations are available. See datasheets on www.htdata.co.uk and www.m2fx.com.

Further product information continued overleaf →

Product Information (continued)

FLOOR DISTRIBUTORS (FD) (continued)

9 Splice Fibre Distribution Enclosure (FDES)



The Internal Fibre Distribution Enclosure is used to break out and splice optical fibre cables, typically housed within a building riser or floor area, to distribute the circuits to the accommodation/business units on a specific floor or zone of an MDU or MBU. As with the FDEC above, in a small MDU application, this fibre distribution enclosure would be used as a BEP, with capacity to service up to 18 properties.

Part No.	Description
FDES-XXXWH	Internal Fibre Distribution Splice Enclosure

FIBRE IN THE HOME CABLING (FITH)

10 Miniflex Fibre Cable



Miniflex Fibre Cable is ideal for deployment across FTTX networks. Its combination of toughness, flexibility and small, lightweight size makes it suitable for many FTTX applications. The Miniflex cable is available in a range of diameter sizes each with a different fibre capacity; 2mm – 4 fibres, 3mm – 12 fibres and 4mm – 24 fibres.

Part No.	Description
MC-022-PA-WHT	2mm 2 Fibre White
MC-042-PA-WHT	2mm 4 Fibre White
MC-123-PA-WHT	3mm 12 Fibre White
MC-244-PA-WHT	4mm 24 Fibre White

11 Miniflex Microduct



Miniflex Indoor Microduct is ideal for MDU FTTP deployments where the routing of cables and optical fibres within buildings is central to the project. Miniflex Indoor Microduct is made from a flame retardant LSOH polymer. Its low friction & low static lining assists in pulling, blowing and pushing when used with Miniflex Cable. The microduct is available in a range of diameter sizes; 6mm, 8mm and 10mm.

Part No.	Description
MM-10-6.0-PE-WHT	10mm Indoor White
MM-10-6.0-PE-BLK	10mm Outdoor Black

12 Miniflex TuffDuct



TuffDuct Direct Buried Microduct is a 10mm microduct for the routing of cables and optical fibres underground. TuffDuct is extremely robust and is available with a tone-wire if required for locating purposes. TuffDuct microduct has a low friction and low-static lining to assist in pulling, blowing and pushing of the fibre or cable.

Part No.	Description
TD-10-6.0-PE-ORG	10mm Without Trace Wire
TD8-10-6.0-PE-ORG	10mm With Trace Wire

13 Miniflex Fibre Cable - QuikPush



Miniflex Fibre Cable - QuikPush allows pre-terminated cable to be routed in the field without the need for a splice. QuikPush cables use a slimline, pushable pre-terminated ferrule with a self-assembly SC Connector.

Part No.	Description
QP-013-PA-BC/A-WHT-XXX-XXM	1 Fibre Balistix / APC

OPTICAL TELECOMMUNICATIONS OUTLET (OTO)

14 Fibre Wall Outlet (FWOA)



The wall mounted fibre optic outlet allows a fibre optic cable to be connected directly in the end user apartment.

Part No.	Description
FWOA-XXAP/WH	Fibre Wall Outlet, LC DX APC Adaptor and Pigtail, Right
FWOA-XXVP/WH	Fibre Wall Outlet, LC SX APC Adaptor and Pigtail, Right

*Part numbers shown are examples of common products within the range. Other variants and configurations are available. See datasheets on www.htdata.co.uk and www.m2fx.com.

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