

POWER & FIBER

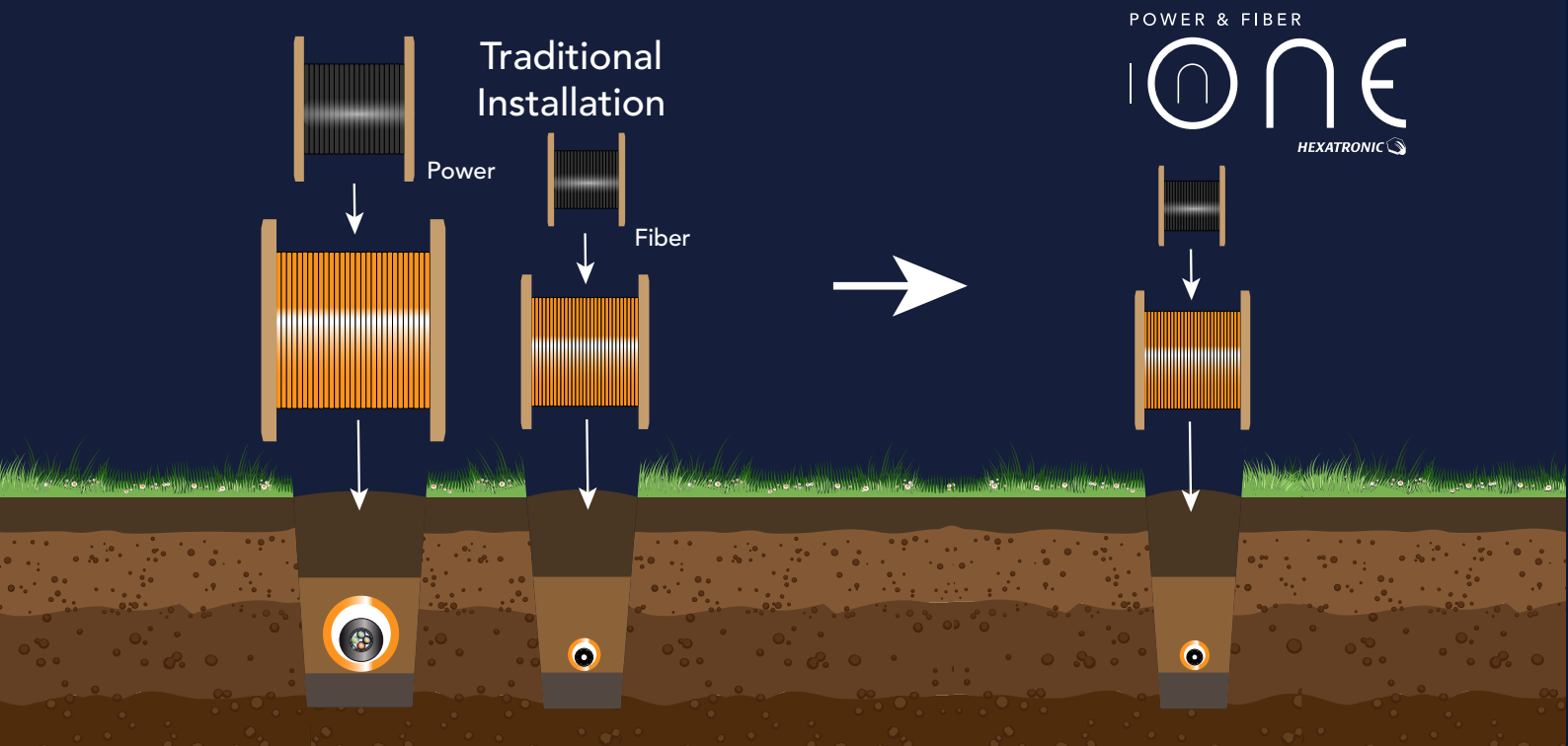
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HEXATRONIC 



## Micro Hybrid Power and Fiber System

For 5G, WiFi, Surveillance and Smart Cities



Forget complicated installations and multiple cables for power and fiber connections. With Hexatronic InOne, devices may be connected to power and fiber networks with a single, ultra slim micro hybrid cable

### Secures Power and Fiber Supply at Lowest Possible Total Cost

Installing InOne slim micro hybrid cables into microducts can reduce your total cost by 50-70% when compared with the installation of two cables for power and fiber separately. In addition, the slim cable design also enables the InOne system to be installed in an existing microduct infrastructure by blowing, reducing total cost even more.

SAVES  
**50-70%**  
TOTAL COST

### High Power - Slim Cable, How Does it Work?

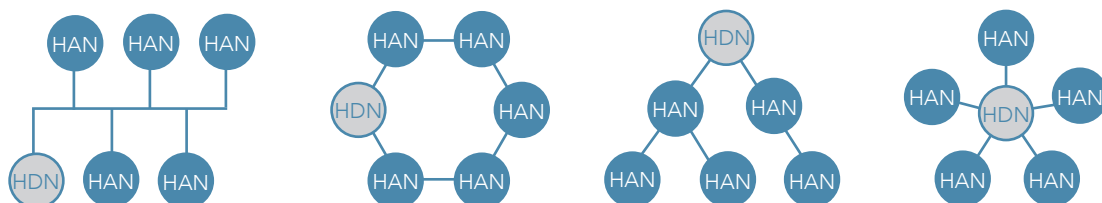
With distances of up to several kilometers and power transmission of up to 400 W or more, the distance and power limitations of existing Power and Fiber transmission systems such as PoE are overridden. Intelligent transformers at each end point converts power into safe 110 VDC to be distributed in the slim cable with minimum loss. At the end point the power is transformed back into common power standards. The InOne system is safety tested and approved in accordance to EN 50288-7

HIGH POWER  
**>400W**

### Support for All Network Topologies

The InOne system can feed multiple devices with power and fiber using a source located at a single point. Centralised UPS protects against local power failure and numerous costly power agreements with local property owners are not required. Bus, ring, tree or star topology is natively supported with InOne. When using ring topology, redundancy against cable cuts for both power and fiber is feasible.

SAFE  
**CE**  
TESTED AND APPROVED



HDN - Hybrid Distribution Node, HAN - Hybrid Access Node, see page 4.

# One System, All Applications



Fixed Wireless  
Acces, FWA

5G/WiFi  
Small Cells

Distributed Antenna  
Systems, DA

IoT and  
Smart Cities

CCTV and  
Security Systems

Fiber to The  
Antenna, FTTA

Radio Links  
Microwave

## Air-blown Micro Hybrid Cables

The ultra slim Hexatronic Inone micro hybrid cables are designed for installation by blowing into microducts. The extremely slim design makes it possible to use microducts with a small diameter that reduces the installation time and cost.

TOL4079028/12	Micro Hybrid 12 G657A1 + 4x0.75 mm <sup>2</sup> Cu, Ø 5.7 mm
TOL4079029/24	Micro Hybrid 24 G657A1 + 4x1.5 mm <sup>2</sup> Cu, Ø 6.7 mm
TOL4079034/24	Micro Hybrid 24 G657A1 + 8x1.5 mm <sup>2</sup> Cu, Ø 9.9 mm

## Flame-retardant Micro Hybrid Cables

The flame retardant Hexatronic Inone micro hybrid cables enables installations indoor environments. These cables are halogen free and flame retardant according to CE CPR Dca.

TOL4079030/12	Micro Hybrid 12 G657A1 + 4x0.75 mm <sup>2</sup> Cu, Ø 8.3 mm, CPR Dca, Green
TOL4079031/24	Micro Hybrid 24 G657A1 + 4x1.5 mm <sup>2</sup> Cu, Ø 10.0 mm, CPR Dca, Green
TOL4079033/24	Micro Hybrid 24 G657A1 + 4x1.5 mm <sup>2</sup> Cu, Ø 10.0 mm, CPR Dca, Black

## Microducts for Cable Installation

Normally an existing infrastructure of microducts can be utilized for the installation of the Hexatronic InOne micro hybrid cables, but for new installations Hexatronic offers a complete range of microducts for all kinds of environments. Super small microducts with a diameter of only 10 to 16 mm is ideal for the ultra slim InOne cables. The small microducts minimizes handling and installation cost and provides space for future expansion.

MPB30218/7M	Microduct Assembly 7x16/12 mm
MPB30218/4M	Microduct Assembly 4x16/12 mm
MPB30218/2M	Microduct Assembly 2x16/12 mm
MPB30218/OG1	Microduct 16/12 mm, Orange
MPB30228/4M	Microduct Assembly, Aerial, 4x12/10 mm
MPB30228/1M	Microduct Assembly, Aerial, 1x12/10 mm
MPB30217/020	Microduct, Armored 12/10 mm

The articles above are examples of cables and microducts. Contact Hexatronic for our complete range of cables, microducts and microduct accessories for outdoor, indoor and submarine applications!

## Hybrid Access Node - HAN



The Hybrid Access Node (HAN) is the Access Node for Devices in the InOne system. It terminates the Fiber and Power wires and contains an industrial solid state DC to DC voltage regulator. It can also be supplied with an Industrial Switch with different port density and PoE levels.

The cast aluminium cabinet is designed to dissipate the heat from the active components, it is watertight according to IP65, and can also be fitted with an optional sun-shield for extremely hot environments.



HAN E10

The HAN E10 is prepared for mounting of industrial Switches. Hexatronic provides a wide range of suitable switches with 1 to 8 ports, managed or unmanaged with PoE and PoE++ support. Contact Hexatronic for full specifications.

HNCD520242/1 Hybrid Access Node E10 ALU-IP65 I50W  
HNCD520242/20 Sun Shield E10



HAN E3

The compact HAN E3 is ideal for devices with their own SFP where the HAN E3 can provide the fiber connections and a regulated DC power for the device. Alternatively it can be supplied with an optional 1 Port Media Converter PoE.

HNCD520252/1 Hybrid Access Node E3 ALU-IP65 I50W

## Hybrid Distribution Node - HDN

The Hybrid Distribution Node (HDN) contains the InOne Power Rectifier that converts the 230VAC to high power, but safe 110VDC transmission.

It also includes the Hybrid ODF that is used to splice the fiber and power towards the InOne hybrid cable.

Both the Rectifier and the H-ODF are DIN rail mountable, but can also be supplied with a 4U 19" rack with a transparent safety cover.

The HDN can also be connected to a 3rd party UPS for protection against power failure. Contact Hexatronic for more information on suitable UPS.

HDN Frame:

HNCD52023 Hybrid Distribution Node Frame for 19" Rack, 4U



Based on the InOne Power Calculation tool you need to fit the HDN with either a 480W or 1000W rectifier. For N+1 redundancy you can fit it with 2 rectifiers, and add the N+1 controller.

Rectifiers and Redundancy Controllers:

HBMR136200/5 Switched rectifier 480W  
HBMR136200/6 Switched rectifier 1000W  
HBMR136202 N+1 Redundancy Controller



The Hybrid Termination Panel is a miniature panel that combines power and fiber termination onto one single unit for easy connection of the hybrid InOne cable. The panels fit into the HDN frame.

Hybrid Termination Panels:

HNCD520226 HODF 1kw 6xLCD Hybrid DIN with Circuit Breaker  
HNCD520225/11 HODF 1kw 6xLCD Hybrid DIN



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