

# CTTdp Unit (4 ports)

Designed to provide a fast and cost-effective alternative to cable deployment all the way to the premises, the NetComm Wireless Cable to the Distribution Point (CTTdp) Unit (NDD-4200) takes a coaxial cable connection, and redistributes it to the home using existing copper lines. Developed to link up to 4 copper lines to a single NDD-4200 Cable DPU, the unit offers an innovative and economical approach to enhance broadband speeds and capacity.



# NetComm Wireless CTTdp Unit (NDD-4200) Overview

Cable operators and broadband network providers must balance the need to quickly introduce ultra-fast services with the high cost of installing end-to-end HFC networks. The innovative NetComm Wireless Cable DPU (NDD-4200) has been engineered to minimise the time and expense involved in rolling out a cable network directly to the premises. The robust NDD-4200 provides up to 4 cable to copper extensions to deliver superfast broadband to premises already serviced by copper lines. Specifically designed to be installed in sunken distribution point (DPs) pits, or wall or pole mounted, the NDD-4200 enables world class broadband speeds and performance over mixed cable/copper access networks.

## PERFECT FOR:

- Wholesale network providers and cable operators wanting to roll out fast and cost-effective cable deployments, leveraging HFC network installations and existing copper infrastructure
- Wholesale network providers and cable operators with ownership and/or access to both HFC network and copper infrastructure
- Cable operators willing to extend the customer base within their HFC network footprint
- An alternative approach to deployments of HFC networks all the way to the premises, cutting installation costs with improved time to market. No need to enter the premises – the installation is done outside of the premises
- CTTdp deployments ranging from 1 to 4 copper extensions, and linked to a single NDD-4200 Cable DPU.

## KEY FEATURES:

- HFC Coaxial lead-in via Coaxial F connector (DOCSIS 3.0 and DOCSIS 3.1)
- 4 x VDSL2 (ITU G.993.2) interfaces
- Smart POTS pass-through solution, supporting smooth migration from existing voice and DSL services
- Robust - specifically designed for underground pit and pole mount as well as wall installations
- Ultra-compact design- 170x 225x 66 mm
- Passive cooling design with a wide temperature range of -20°C to +70°C
- IP68 rated, industrial grade product that can be submerged in a pit (up to 1 metre) for one month
- Installation tool and accessories for an easy, quick and reliable installation.

## WHAT IS CTTdp?

CTTdp, or Cable to the Distribution Point, is ideal for deployments where customer premises with existing copper lead-in cables are located within 100m of the cable distribution point. Broadband access is converted from a cable QAM/OFDM signal to VDSL2 signals using the NetComm Wireless NDD-4200, and relayed to the house using the existing copper infrastructure.



### QUICK AND COST EFFECTIVE ROLLOUT

Requiring less civil work than rolling out a coaxial cable straight to the premises, the NetComm Wireless NDD-4200 allows cable operators and wholesale network providers to speed up the rollout project and gain a competitive edge in a market with an ever increasing bandwidth demand.



### DOCSIS 3.1

Using the new generation of cable technology, DOCSIS 3.1, the NDD-4200 DPU will significantly enhance broadband services for cable operators. With an extreme speed increase on the HFC network (up to 10Gbps/1GBps downstream/upstream), improved QoS, and increased network capacity, the NDD-4200 can be rolled out with no modification of the existing HFC network, using existing spectrum; or can utilise wider DOCSIS 3.1 spectrum on updated HFC networks.



### REVERSE POWERED

The NetComm Wireless CTTdp Unit does not require the installation of a dedicated power supply at the distribution point. The solution is designed to be reverse powered by the Reverse Power Feed Unit (RPF) installed at the end-user premises, thereby lowering the cost of the network rollout even further.



### BROADBAND SERVICE FLEXIBILITY - POTS PASS-THROUGH

Automatic migration of existing legacy data and voice services to the operator services through the simple connection of the Reverse Power Feed Unit (NDD-0100) in the premise. Automatically revert to legacy services and restore the connection to the exchange by simply disconnecting it, so there is no need for a technician visit.

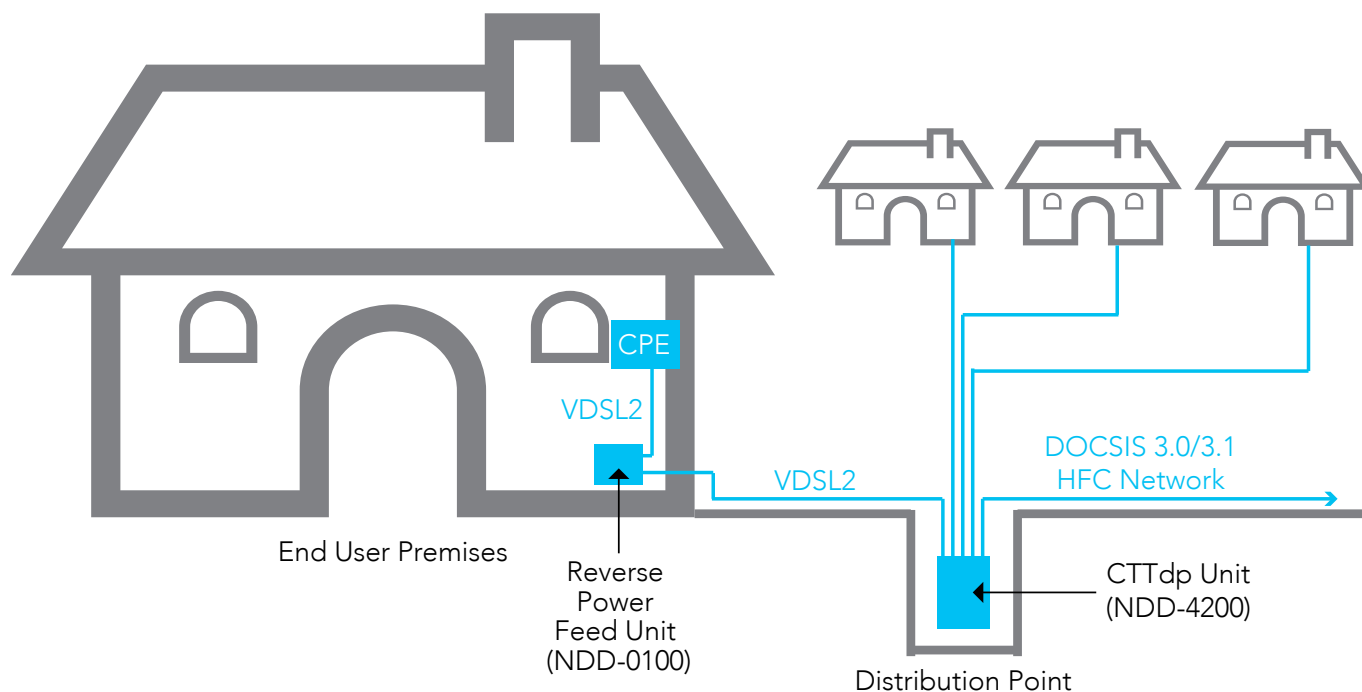


### ADVANCED REMOTE MANAGEMENT

The NDD-4200 offers full remote device management employing international protocol standards to enable network operations to configure, monitor and troubleshoot the device at any time using existing element management systems.

# Application Example

## Cable to the Distribution Point



## Device Features

### At a glance



- 1 x HFC Coax In (F Connector)
- 4 x VDSL2 (G.993.2) Interfaces

## Accessories



Pole / wall mount kit



Scotch lock connectors



Copper cable joint enclosure



Patch cables

# Technical Specifications

## CONNECTIVITY

- 1 x HFC Coaxial lead-in via F connector
- 4 x VDSL2 ports via copper lead-in cables

## SUPPORTED STANDARDS

- IEEE 802.1Q VLANs.
- IEEE 802.1Q Class of Service ("802.1p").
- IEEE 802.1ad (Stacked VLANs).
- IEEE 802.3ag (Connectivity Fault Management).
- ITU Y.1731 (Fault Management and Performance Monitoring).
- ITU G.9700 & G.9701
- SNMPv3 (Remote Management)
- Broadband Forum TR-156
- Broadband Forum WT-301
- ETSI TS 101 548

## DOCSIS STANDARDS

- DOCSIS 3.0 & DOCSIS 3.1 Physical Layer Specification
- DOCSIS 3.1 Media Access Control and Upper Layer Protocols Specification
- Cable Modem Operations Support System Interface Specification
- DOCSIS 3.1 Security Specification
- Business Services Over DOCSIS Layer 2 Virtual Private Networks
- DOCSIS Cable Modem CPE Interface Specification
- CableLabs' DHCP Options Registry

## EuroDOCSIS STANDARDS

- ETSI TS 102 639-1
- ETSI TS 102 639-2
- ETSI TS 102 639-3
- ETSI TS 102 639-4
- ETSI TS 102 639-5

## ITU-T Recommendation support (VDSL2 only)

- G.997.1 2012: Physical Layer Management Protocol For ADSL Systems
- G.994.1 2012: Handshake Procedures For Digital Subscriber Line Transceivers
- G.993.2 2011: ('G.VDSL2') Very High Speed Digital Subscriber Line transceivers 2
- G.998.4 2010: ('G.inp') Improved Impulse Noise Protection For DSL Transceivers
- G.992.5 2009: ('G.DMT.bis+') Asymmetric Digital Subscriber Line Transceivers 2+
- G.992.3 2004: ('G.DMT.bis') Asymmetric Digital Subscriber Line transceivers 2
- G.992.1 1999: ('G.DMT') Asymmetric Digital Subscriber Line transceivers
- G.993.2 VDSL2 Table 6-1 17a and 30a VDSL2 profile support

## PROTOCOL SUPPORT

- IPoEoDSL
- PPPoEoDSL
- EoDSL

## ENVIRONMENTAL PERFORMANCE

- Operating temperature range: -20°C to +70°C
- Passively cooled
- Maintenance free design

## POWER SUPPLY

- Reverse power feeding via NDD-0100
- AC power supply to NDD-0100

## DIMENSIONS

- 170mm x 225mm x 66mm (approx.)



## NetComm Wireless Reverse Power Feed Unit (NDD-0100)

- Installed at the customer premises
- Powers the Cable DPU NDD-4200
- Avoids power supply installation at the distribution point
- Employing industry standards

NDD-4200\_R1