

# 1421 SHDSL ROUTER



> THE TELINDUS 1421 SHDSL ROUTER IS A PROFESSIONAL STATE-OF-THE-ART ROUTER WITH BUILT-IN SHDSL LINE INTERFACE OFFERING SYMMETRIC FULL-DUPLEX TRANSMISSION UP TO 2.3 MBPS OVER A SINGLE TWO-WIRE (4.6 MBPS ON 2 PAIR) UNCONDITIONED UNSHIELDED TWISTED-PAIR CABLE. THE UNIT FEATURES ONE DSL INTERFACE AND ONE 10/100 BASE-T ETHERNET INTERFACE.

The Telindus 1421 SHDSL Router can be used as CPE in combination with any Telindus or third-party DSLAM (Digital Subscriber Line Access Multiplexer), in combination with a Frame Relay or PPP based access network or in a point-to-point set-up. The Telindus 1421 SHDSL Router is the ideal access device for connecting business users, offering managed IP services at the highest possible speeds.

The line speed can be automatically adapted to optimise the throughput as a function of the characteristics of the local loop. To achieve even higher speeds (up to 4.6Mbps) or a longer reach, a 2-line pair version is also available.

Fully supported by the TDRE (Telindus Dynamic Routing Engine), the unit supports advanced features such as IP Quality of Service, IP Virtual Private Networks and support for VLANs. With a routing performance of approximately

## FEATURES & BENEFITS

- > FEATURE-RICH ROUTER WITH BUILT-IN SHDSL LINE INTERFACE
- > DELIVERY OF ADVANCED IP SERVICES OVER BROADBAND OR LEGACY ACCESS NETWORKS
- > STANDARD ATM, FRAME-RELAY, PPP AND HDLC LINE ENCAPSULATION PROTOCOLS
- > SUPPORT FOR ADVANCED SERVICES BASED ON VPN AND VLANS
- > ADVANCED QOS MECHANISMS FOR SUPPORTING VOIP TRAFFIC
- > STANDARD 10/100 AUTO-SENSE ETHERNET INTERFACE
- > ALSO AVAILABLE WITH 2 LINE PAIRS FOR LONGER REACH OR HIGHER SPEED (UP TO 4.6MBPS)
- > FULLY MANAGEABLE WITH A VARIETY OF TOOLS
- > HARDENED OUTDOOR VERSION AVAILABLE

### LINE INTERFACE

- > Applicable standards: ITU-T G.991.2, G.994
- > Single pair or two pair line access
- > Connector: RJ12
- > Impedance: 135 ohm
- > Coding: TC PAM, compliant ITU-T G.991.2 Annex A&B (G.SHDSL), ETSI TS 101524
- > Line speeds:
  - > Single pair: N x 64 kbps (N = 1 ... 36)
  - > Two pair: N x 128 kbps (N = 1 ... 36)
- > Handshaking: compliant G.994.1 (automatic speed negotiation) or fixed speed
- > Performance monitoring: compliant G.826 (errored seconds, severely errored seconds, unavailability seconds)
- > Plesiochronous and synchronous modes

### IDEAL MAXIMUM DISTANCE (NOISE-FREE) ON A SINGLE PAIR

1p line speed (kbps)	2p line speed (kbps)	0.4mm 26AWG (km)	0.5mm 24AWG (km)	0.6mm (km)	0.8mm 20AWG (km)	1.0mm (km)	1.2mm 18AWG (km)
64	128	11.0	15.1	21.5	27.2	38.2	42.4
128	256	8.0	11.0	15.6	19.8	27.8	30.8
256	512	8.2	11.3	16.0	20.3	28.5	31.6
512	1024	7.2	9.9	14.0	17.8	25.0	27.7
1024	2048	5.5	7.6	10.7	13.6	19.1	21.2
1536	3072	4.0	5.5	7.8	9.9	13.9	15.4
2048	4096	4.2	5.8	8.2	10.4	14.6	16.2
2304	4608	4.0	5.5	7.8	9.9	13.9	15.4

### LAN INTERFACE

- > Compliant with IEEE 802.3 10Mbps HDX/FDX Ethernet
- > Compliant with IEEE 802.3u 100Mbps HDX Ethernet
- > 10/100Mbps auto-sense
- > RJ45 Unshielded Twisted Pair (UTP)

### CONTROL INTERFACE

- > Applicable standards: ITU-T V.24, V.28, EIA/TIA 574
- > DCE signals: RXD, TXD, SGND
- > Connector: female DB9

### SUPPORTED DSL ENCAPSULATION PROTOCOLS

- > ATM
- > Frame-Relay
- > PPP
- > HDLC

### IP ROUTING & BRIDGING

- > Conform TDRE (Telindus Dynamic Routing Engine)

### ROUTING AND BRIDGING PERFORMANCE

- > Routing performance: 40,000 pps
- > Bridging performance: 30,000 pps
- > Supported number of Frame-Relay DLCIs: 200
- > Supported number of ATM PVCs: 31
- > Supported number of VPN tunnels: 10
- > Supported number of VLANs: 200
- > Supported number of bridge-groups: 13

### MEMORY

- > 8 MByte DRAM
- > 8 MByte Flash

### MAINTENANCE AND MANAGEMENT SUPPORT

- > Conform TDRE (Telindus Dynamic Routing Engine)

### FRONT PANEL INDICATIONS

- > PWR: Power
- > LINE / LNK1: first line pair status
- > LINE / LNK2: second line pair status (on 2 pair versions only)
- > LINE / ACT: DSL encapsulation protocol status
- > LAN / ACT: LAN status

### MECHANICAL DATA (H X W X D)

- > 45 x 220 x 235 mm, Weight: 700 g

### POWER REQUIREMENTS

- > 7.5Vdc, 0.75A (1 pair models), 9 Vdc, 1A (2 pair models)
- > External power adapters available for 24/48Vdc, 115Vac and 230 Vac

### SALES CODES

- > 177446 1421 SHDSL 230VAC
- > 177452 1421 SHDSL-2P 230VAC (2 pair)
- > 177638 1421 SHDSL 3DES 230VAC

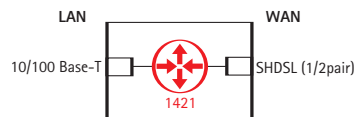
Units without external power module and separate power-adapters can be found in the sales codes quick reference

40.000 pps, the 1421 SHDSL Router is capable to handle any type of multimedia or delay-sensitive traffic. A specific model offering a hardware-based encryption accelerator is also available.

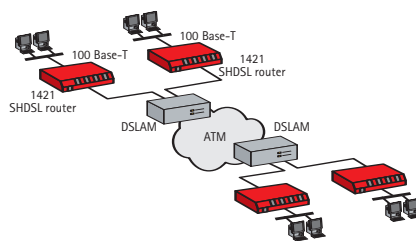
The equipment supports different management interfaces on different levels of the network. At the local level it is possible to manage the equipment over a management console interface by means of a PC maintenance tool, a command line interface or a menu driven interface.

On IP level the equipment supports Telnet, SNMP, HTTP or TFTP/FTP. In this way it is possible to integrate the unit in any existing network management environment.

V 1421 SHDSL ROUTER MODEL

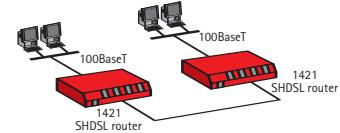


V IN COMBINATION WITH DSLAM

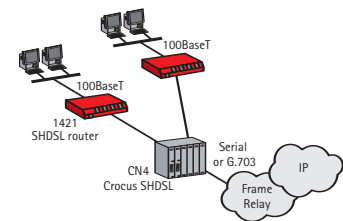


At the network level it is possible to manage the access network with a stand-alone element manager or with an element manager integrated into HP OpenView.

V POINT-TO-POINT CONNECTION



V IN COMBINATION WITH CROCUS SHDSL



The Telindus 1421 SHDSL Router supports auto-install features over the WAN network. This makes it ideally suited for plug-and-play installation at customer premises while the configuration is prepared at a central site.

# 1421 SHDSL OUTDOOR ROUTER



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It offers the same functionality as the 1421 SHDSL (Indoor) Router. Offered in a hardened IP67 housing, it is particularly suitable for signalling and telemetry applications for transportation and utility companies.

The outdoor versions of the Telindus 1421 SHDSL Router have the following additional or deviating technical specifications compared to the indoor versions:

## FEATURES & BENEFITS

- > FEATURE-RICH OUTDOOR ROUTER WITH BUILT-IN SHDSL LINE INTERFACE
- > SAME FUNCTIONALITY AS TELINDUS 1421 SHDSL ROUTER
- > IP67 HOUSING
- > WALL MOUNTABLE
- > SEALABLE

### MECHANICAL DATA

- > H x W x D with mounting feet: 130 x 252 x 400 mm
- > H x W x D without mounting feet: 128 x 240 x 360 mm
- > Weight: 6,6 kg
- > Metal housing
- > Wall mountable
- > Can be sealed (1 sealing delivered with equipment)
- > LEDs are not visible

### CONNECTORS

- > Separate power and signal IP67 connectors
- > Screw connections for easy on-site connecting
- > Delivered with high temperature silicone joint for 100% humidity protection at cable entrance

### ENVIRONMENTAL

- > Ambient operational temperature: -10 - +50°C
- > Operational relative humidity: 5 - 100%
- > Compliant to ETSI ETS 300019-1-3 Class 3.2 for stationary use at weather protected locations
- > Compliant to ETSI ETS 300019-1-1 Class 1.1 for storage
- > Mechanical protection: EN 60529 IP67
- > Fire protection: UL94HB

### SALES CODES

- > 190429 Telindus 1421 SHDSL router 230VAC IP67 housing
- > 190430 Telindus 1421 SHDSL router 2p 230VAC IP67 housing
- > 190431 Telindus 1421 SHDSL router 48/24VDC IP67 housing
- > 190432 Telindus 1421 SHDSL router 2p 48/24VDC IP67 housing

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