



BLACK BOX[®]

NETWORK SERVICES

G.SHDSL Ethernet Modem



Key Features

- ▶ G.SHDSL (TC-PAM)
- ▶ Long distance transmission over single pair
- ▶ Ethernet user interface
- ▶ Bridge functionality IEEE 802.1q
- ▶ Automatic and manual line speed adjustment
- ▶ Over voltage protection
- ▶ VT100 and SNMP management options
- ▶ Easy software upgrade with flash ROM
- ▶ High Quality and High Performance

Faster and Easier Internet Access and LAN-to-LAN Interconnection

Discovery modems equipped with Ethernet interface are targeted to meet IP-world needs. Discovery as CPE equipment is interoperable with many of G.SHDSL DSLAMs. Discovery Ethernet can be also used in a central office; especially effective for small and medium size POPs. Finally, typical campus applications like LAN to-LAN bridging over a few kilometers long copper pair are natural for Discovery with its transparent bridge functionality.

Discovery Ethernet modems use TDM protocol over DSL line. System administrator will be impressed with flexibility of management options. Simple and easy-to-use command menu is accessible via local serial port, Telnet or SNMP (subrack). Password protection guaranties network security. Discovery series can be delivered in two types of mechanics designed to meet CO, campus and SOHO needs. It is subrack plug-in card version for installation into universal 19" 6U subrack and stand alone version for desktop use. Easy and cost-effective Internet Access. LAN-to-LAN interconnection.

Specifications

MDS932AE-10BT

(Table top 1 pair)

Line code — G.SHDSL,
TC-PAM

Reach — (0.4 mm), 2.3 Mbps 4 km

Line rates —

72, 136, 200, 264, 328, 392, 456, 520,
584, 648, 712, 776, 840, 904, 968,
1032, 1096, 1160, 1224, 1288, 1352,
1416, 1480, 1544, 1608, 1672, 1736,
1800, 1864, 1928, 1992, 2056, 2120,
2184, 2248, 2312 kbps

manual or automatic mode of line speed
adjustment

Line Connector — RJ45

Monitor — VT100 RS232 DB9F, Telnet
RJ45

User Interfaces — 1x 10/100BaseT
RJ45 (PC or HUB)

Bridging — IEEE 802.3, IEEE 802.1q,
IEEE-802.1d (Spanning Tree Algorithm)

Management — VT100, Telnet, SNMP

Electrical — AC Adapter: Input
230VAC, 50/60Hz

Output: 12VAC 1A

Safety — UL &CE, EMC/EMI, FCC

Surge — Meet IEC 1000-4-5 class 2

MTBF — >210'240 Hours

Over voltage Protection — ITU-T
Rec. K.20/K.21

Physical dimensions —

220 x 170 x 40 mm / 0.5kg
c. K.20/K.21

Environmental Specifications —

Operating Temp. Range: -30° - + 75°C

Storage Temp. Range: -50° - + 75°C

MDS932C-1

(Rackcard 1 pair)

Line code — G.SHDSL,
TC-PAM

Reach — (0.4 mm), 2.3 Mbps 4 km

Line rates —

72, 136, 200, 264, 328, 392, 456, 520,
584, 648, 712, 776, 840, 904, 968, 1032,
1096, 1160, 1224, 1288, 1352, 1416,
1480, 1544, 1608, 1672, 1736, 1800,
1864, 1928, 1992, 2056, 2120, 2184,
2248, 2312 kbps

manual or automatic mode of line speed
adjustment

Line Connector — RJ45

Monitor — VT100 RS232 DB9F via
Rack, Telnet RJ45

User Interfaces — 1x 10/100BaseT
RJ45 (PC or HUB)

Bridging — IEEE 802.3, IEEE 802.1q,
IEEE-802.1d (Spanning Tree Algorithm)

Management — VT100, Telnet, SNMP

Electrical — 48VDC via Rack, 5W

Safety — UL &CE, EMC/EMI, FCC

Surge — Meet IEC 1000-4-5 class 2

MTBF — >210'240 Hours

Over voltage Protection — ITU-T
Rec. K.20/K.21

Physical dimensions —

235 x 260 x 30 mm / 0.5kg

Environmental Specifications —

Operating Temp. Range: -30° - + 75°C

Storage Temp. Range: -50° - + 75°C

MDS932C-2

(Dual Rackcard 1or2 pair)

Line code — G.SHDSL,
TC-PAM

Reach — (0.4 mm), 2.3 Mbps 1 pair,
4.6 Mbps 2 pair, 4 km

Line rates — 1 pair

72, 136, 200, 264, 328, 392, 456, 520,
584, 648, 712, 776, 840, 904, 968,
1032, 1096, 1160, 1224, 1288, 1352,
1416, 1480, 1544, 1608, 1672, 1736,
1800, 1864, 1928, 1992, 2056, 2120,
2184, 2248, 2312 kbps

manual or automatic mode of line speed
adjustment

Line rates — 2 pair

144, 272, 400, 528, 656, 784, 912,
1040, 1168, 1296, 1424, 1552, 1680,
1808, 1936, 2064, 2192, 2320, 2448,
2576, 2704, 2832, 2960, 3088, 3216,
3344, 3472, 3600, 3728, 3856, 3924,
4112, 4240, 4368, 4496, 4624 kbps

manual or automatic mode of line speed
adjustment

Line Connector — 1 x RJ45

Monitor — VT100 RS232 DB9F via
Rack, Telnet RJ45

User Interfaces — 1x 10/100BaseT
RJ45 (PC or HUB)

Bridging — IEEE 802.3, IEEE 802.1q,
IEEE-802.1d (Spanning Tree Algorithm)

Management — VT100, Telnet, SNMP

Electrical — 48VDC via Rack, 10W

Safety — UL &CE, EMC/EMI, FCC

Surge — Meet IEC 1000-4-5 class 2

MTBF — >210'240 Hours

Over voltage Protection — ITU-T
Rec. K.20/K.21

Physical dimensions —

235 x 260 x 30 mm / 0.5kg

Environmental Specifications —

Operating Temp. Range: -30° - + 75°C

Storage Temp. Range: -50° - + 75°C

MDS933AE-10BT

(Table top 1or2 pair)

Line code — G.SHDSL,
TC-PAM

Reach — (0.4 mm), 2.3 Mbps 1 pair, 4.6
Mbps 2 pair, 4 km

Line rates — 1 pair

72, 136, 200, 264, 328, 392, 456, 520,
584, 648, 712, 776, 840, 904, 968, 1032,
1096, 1160, 1224, 1288, 1352, 1416,
1480, 1544, 1608, 1672, 1736, 1800,
1864, 1928, 1992, 2056, 2120, 2184,
2248, 2312 kbps

manual or automatic mode of line speed
adjustment

Line rates — 2 pair

144, 272, 400, 528, 656, 784, 912, 1040,
1168, 1296, 1424, 1552, 1680, 1808,
1936, 2064, 2192, 2320, 2448, 2576,
2704, 2832, 2960, 3088, 3216, 3344,
3472, 3600, 3728, 3856, 3924, 4112,
4240, 4368, 4496, 4624 kbps

manual or automatic mode of line speed
adjustment

Line Connector — 1 x RJ45

Monitor — VT100 RS232 DB9F, Telnet
RJ45

User Interfaces — 1x 10/100BaseT
RJ45 (PC or HUB)

Bridging — IEEE 802.3, IEEE 802.1q,
IEEE-802.1d (Spanning Tree Algorithm)

Management — VT100, Telnet, SNMP

Electrical — AC Adapter: Input
230VAC, 50/60Hz

Output: 12VAC 1A

Safety — UL &CE, EMC/EMI, FCC

Surge — Meet IEC 1000-4-5 class 2

MTBF — >210'240Hours

Over voltage Protection — ITU-T Rec.
K.20/K.21

Physical dimensions —

235 x 260 x 30 mm / 0.5kg

Environmental Specifications —

Operating Temp. Range: -30° - + 75°C

Storage Temp. Range: -50° - + 75°C

MDS932AE-FXO

(Table top 1 pair)

Line code — G.SHDSL, TC-PAM

Reach — (0.4 mm), 2.3 Mbps 4 km

Line rates —

72, 136, 200, 264, 328, 392, 456, 520, 584, 648, 712, 776, 840, 904, 968, 1032, 1096, 1160, 1224, 1288, 1352, 1416, 1480, 1544, 1608, 1672, 1736, 1800, 1864, 1928, 1992, 2056, 2120, 2184, 2248, 2312 kbps

manual or automatic mode of line speed adjustment

Line Connector — RJ45

Monitor — VT100 RS232 DB9F, Telnet RJ45

User Interfaces — 1x 10/100BaseT RJ45 (PC or HUB)

2 x FXO, RJ11 (PABX side)

Bridging — IEEE 802.3, IEEE 802.1q, IEEE-802.1d (Spanning Tree Algorithm)

Management — VT100, Telnet, SNMP

Electrical — AC Adapter: Input

230VAC, 50/60Hz

Output: 12VAC 1A

Safety — UL & CE, EMC/EMI, FCC

Surge — Meet IEC 1000-4-5 class 2

MTBF — >210'240 Hours

Over voltage Protection — ITU-T Rec. K.20/K.21

Physical dimensions —

220 x 170 x 40 mm / 0.5kg

Environmental Specifications —

Operating Temp. Range: -30° - + 75°C

Storage Temp. Range: -50° - + 75°C

MDS932AE-FXS

(Table top 1 pair)

Line code — G.SHDSL, TC-PAM

Reach — (0.4 mm), 2.3 Mbps 4 km

Line rates —

72, 136, 200, 264, 328, 392, 456, 520, 584, 648, 712, 776, 840, 904, 968, 1032, 1096, 1160, 1224, 1288, 1352, 1416, 1480, 1544, 1608, 1672, 1736, 1800, 1864, 1928, 1992, 2056, 2120, 2184, 2248, 2312 kbps

manual or automatic mode of line speed adjustment

Line Connector — RJ45

Monitor — VT100 RS232 DB9F, Telnet RJ45

User Interfaces — 1x 10/100BaseT RJ45 (PC or HUB)

2 x FXS, RJ11 (telephone side)

Bridging — IEEE 802.3, IEEE 802.1q, IEEE-802.1d (Spanning Tree Algorithm)

Management — VT100, Telnet, SNMP

Electrical — AC Adapter: Input

230VAC, 50/60Hz

Output: 13.5VAC 1A

Safety — UL & CE, EMC/EMI, FCC

Surge — Meet IEC 1000-4-5 class 2

MTBF — >210'240 Hours

Over voltage Protection — ITU-T Rec. K.20/K.21

Physical dimensions —

220 x 170 x 40 mm/0.5kg

Environmental Specifications —

Operating Temp. Range: -30° - + 75°C

Storage Temp. Range: -50° - + 75°C

MDS920AE-RMDC

(19" Rack chassis) 14 Slot Rack chassis

Monitor — VT100 RS232 DB9F, Telnet RJ45

Electrical — Input 2 x 48VDC

Physical dimensions —

19 inch 6U high/ 3.6kg

MDS920AE-RMAC

(19" Rack chassis) 14 Slot Rack chassis

Monitor — VT100 RS232 DB9F, Telnet RJ45

Electrical — Input 1 x 230 VAC + 1 x 48VDC

Physical dimensions —

19 inch 6U high/ 4.6kg

MDS920AE-RMAC2

(19" Rack chassis) 14 Slot Rack chassis

Monitor — VT100 RS232 DB9F, Telnet RJ45

Electrical — Input 2 x 230VAC

Physical dimensions —

19 inch 6U high/ 5.6kg

PSS48VDC-RMS

(19" Rack PS)

Electrical — Input 1 x 85-264VAC, 47-63 Hz

Output: 48VDC/3.8A (max 180W)

Safety —

Underwriters Laboratories:

UL 60950 Third Edition, UL 2601-1 Second Edition, CB Report per IEC 60950(1999), File E137708: Third Edition including all National Deviations

CB Report per IEC 60601-1(1988) Second Edition A1, A2

UL Recognition: Mark For Canada File E137708

CAN/CSA-C22.2 No. 60950-00

CAN/CSA-C22.2 No. 601-1-M90

TUV: EN 60950/2000

EN 60601-1/A2:1995

CE: Low Voltage Directive

Surge — EN 61000-4-5, ±2 kV Line to Earth, ±1 kV Line to Line

Environmental Specifications —

Operating Temperature Range 0° C to +70° C

Storage Temperature Range -40° C to +85° C

MTBF — 100,000 Hours min.

Physical dimensions —

19 inch 1U high

PSS48VDC-RM

(19" Rack, dual PS)

Electrical — Input 1 x 85-264VAC, 47-63 Hz

Output: 2 x 48VDC/3.8A (max 180W)

Safety —

Underwriters Laboratories:

UL 60950 Third Edition, UL 2601-1 Second Edition, CB Report per IEC 60950(1999), File E137708: Third Edition including all National Deviations

CB Report per IEC 60601-1(1988) Second Edition A1, A2

UL Recognition: Mark For Canada File E137708

CAN/CSA-C22.2 No. 60950-00

CAN/CSA-C22.2 No. 601-1-M90

TUV: EN 60950/2000

EN 60601-1/A2:1995

CE: Low Voltage Directive

Surge — EN 61000-4-5, ±2 kV Line to Earth, ±1 kV Line to Line

Environmental Specifications —

Operating Temperature Range 0° C to +70° C

Storage Temperature Range -40° C to +85° C

MTBF — 100,000 Hours min.

Physical dimensions —

19 inch 1U high

Ordering information

ITEM

CODE

G.SHDSL 2.3 - 4.6 Mbps, 2 or 4 wire

2.3Mbps TabletopMDS932AE-10BT

2.3 - 4.6Mbps Tabletop (1 or 2Pair)MDS933AE-10BT

2.3Mbps Rackcard (1 Pair)MDS932C-1

2.3 - 4.6Mbps Dual Rackcard (1 or 2 Pair)MDS932C-2

2.3Mbps and 2 x FXSMDS932AE-FXS

2.3Mbps and 2 x FXOMDS932AE-FXO

Rack-Chassis 19", 14-Slot, 2 x 48VDC inputMDS920AE-RMDC

Rack-Chassis 19", 14-Slot, 1x48VDC +1x230VAC . . .MDS920AE-RMAC

Rack-Chassis 19", 14-Slot, 2 x 230VACMDS920AE-RMAC2

Power Supply 19", 1 x 48VDC/80WPSS48VDC-RMS

Power Supply 19", 2 x 48VDC/80WPSS48VDC-RM

Black Box Network Services - The world's largest network services company

We are, with 25 years of experience, the world leader in network infrastructure services.

On the Phone — no charge, answer calls in less than 20 seconds, find the right product with our technical experts.

On-site — superior design and engineering, Certified installations, end-to-end service.

On-line — receive technical knowledge on-line, including technology overviews, BLACK BOX Explains and the Knowledge Box.

Most comprehensive TECHNICAL SUPPORT — our best Product! Free hotline TECH SUPPORT!

The world's best customer service — Custom design services and products, the best warranties, money-saving discount programs.

BLACK BOX exclusives — Certification Plus. Guaranteed-for-life products and services.