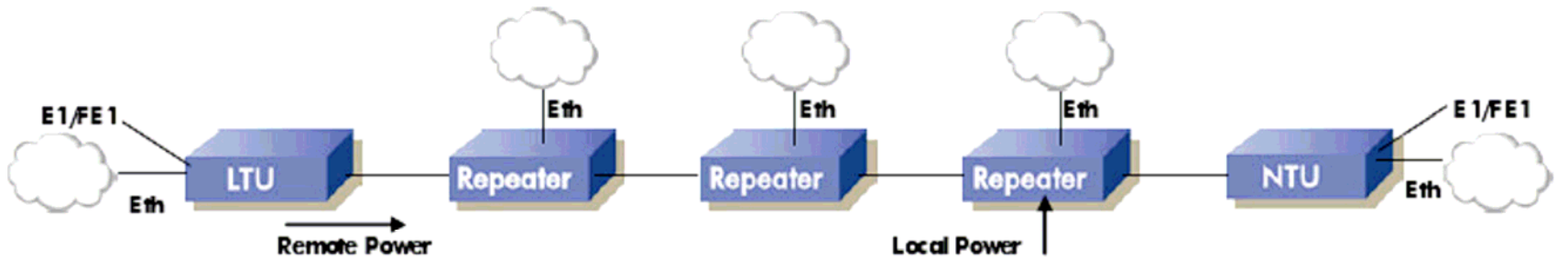# Saratota

G.SHDSL Line Repeaters for when you need to go the extra Mile

Data rates up to 11.4Mbps with Ethernet Add/Drop

Features

• SHDSL and SHDSL.bis (TC-PAM16/32)

• Up to 5.7Mbps over a Single and up to 11.4Mbps over a Dual pair of Copper lines.

• Up to 4 Repeaters in Line

• Add/Drop Ethernet Bridge (10/100BaseT)

• Console Port, Telnet, Web, SNMP Management

• Locally or Remotely Powered

• Low Power Consumption

• Desktop, DIN Rail, and IP67 Housings

• OEM Versions Available

E1/FE1 — LTU — Repeater (Eth) — Repeater (Eth) — Repeater (Eth) — NTU — E1/FE1

Eth

Remote Power

Local Power

Orion 2 G.SHDSL.bis Standalone Repeater

The Orion 2 Repeater extends single pair G.SHDSL (TC-PAM16/32) up to 5.7Mbps. It offers Ethernet add/drop functionality (10/100BT, Bridge) and comes in a plastic desktop housing. The repeater can be powered locally or remotely over the DSL line. Therefore it is configurable as power "end-point" terminating power transmitted over the DSL line, or power "pass-through", passing power on to another repeater or CPE device on the DSL line. The Orion 2 SHDSL.bis Repeater comes in a robust blue (RAL 5003) desktop plastic housing with a dark grey (RAL 7001) LED sticker with black labelling. The housing is stackable and is designed for in-door use.

Model: FG-PAM-RGN-Eth-PL, V51

DSL Version: SHDSL / SHDSL.bis

Modulation: TC-PAM16 / TC-PAM32

Data Rate: 192kbps - 5.7Mbps

Copper Pairs: 1

Modes: Master / Slave

Interface: 1x Ethernet Bridge (10/100BaseT)

Power: -48VDC, accepts local and remote power

Physical Interfaces: RJ48 (E1 not used), RJ45 (Ethernet), RJ48 (SHDSL),

Molex (Power), DB9 (Management)

Management: Console Port, Telnet , HTTP, and SNMP via TCU

Power Supply: Not Included (option FG-PAM-PA48x or FG-SR2-RP)

Dimensions: 220x155x50cm (L x W x H)

Operating temperature: -25 – +80ºC

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When Rail mounting is a requirement the Orion2 Repeater with DIN Rail case is the right choice, extending single pair G.SHDSL (TC-PAM16/32) up to 5.7Mbps. it offers Ethernet add/drop functionality (10/100BT, Bridge) and comes in a blue (RAL 5003) powder coated metal housing with white labelling. The repeater can be powered locally or remotely over the DSL line. Therefore, it is configurable as power "endpoint" terminating power transmitted over the DSL line or power "pass-through" passing power on to another repeater or CPE device on the DSL line.

Model: FG-PAM-RGN-Eth-RL, V51

DSL Version: SHDSL / SHDSL.bis

Modulation: TC-PAM16 / TC-PAM32

Data Rate: 192kbps - 5.7Mbps

Copper Pairs: 1

Modes: Master / Slave

Interface: 1x Ethernet Bridge (10/100BaseT)

Power: -48VDC, accepts local and remote power

Physical Interfaces: RJ48 (E1 not used), RJ45 (Ethernet), RJ48 (SHDSL),

Molex (Power), DB9 (Management)

Management: Console Port, Telnet , HTTP, and SNMP via TCU

Power Supply: Not Included (option FG-PAM-PA48x or FG-SR2-RP)

Dimensions: 220x165x45cm (L x W x H)

Operating temperature: -25 – +80ºC

This Orion 2 Repeater extends single or dual pair SHDSL (TC-PAM16/32). It offers Ethernet add/drop functionality (10/100BT, Bridge) and is protected by an IP-67 plastic housing. The repeater can be powered locally or remotely over the DSL line. Therefore, it is configurable as power "end-point" or "pass-through". The Orion 2 SHDSL.bis Repeater's thermoplastic enclosure is light, easily mountable, and its impact resistance is very high. It is made of polycarbonate, which is suitable for demanding conditions and also for outdoor use. The temperature resistance of polycarbonate ranges from -50 °C to +120 °C. A black print indicates interfaces and LED's. Standard colour is grey RAL 7035, while the cover is transparent; other colours are available on request. Cable entries are achieved by two PG13 cable glands for DSL connection and a PG7 cable gland for local power. Two IP67 protected RJ45 connectors provide access to an Ethernet add/drop port and to the system's local configuration interface.

Model: FG-PAM-RGN-Eth-IPP, V56

FG-PAM-RG2N-Eth-IPP, V58

DSL Version: SHDSL / SHDSL.bis

Modulation: TC-PAM16 / TC-PAM32

Data Rate: 192kbps - 5.7Mbps (FG-PAM-RGN-Eth-IPP, V56)

192kbps - 11.4Mbps (FG-PAM-RG2N-Eth-IPP, V58)

Copper Pairs: 1 (FG-PAM-RGN-Eth-IPP, V56)

2 (FG-PAM-RG2N-Eth-IPP, V58)

Modes: Master / Slave

Interface: 1x Ethernet Bridge (10/100BaseT)

Power: -48VDC, accepts local and remote power

Physical Interfaces: RJ45 (Ethernet), Terminal Block (SHDSL, Power), RJ45 (Management)

Management: Console Port, Telnet , HTTP, and SNMP via TCU

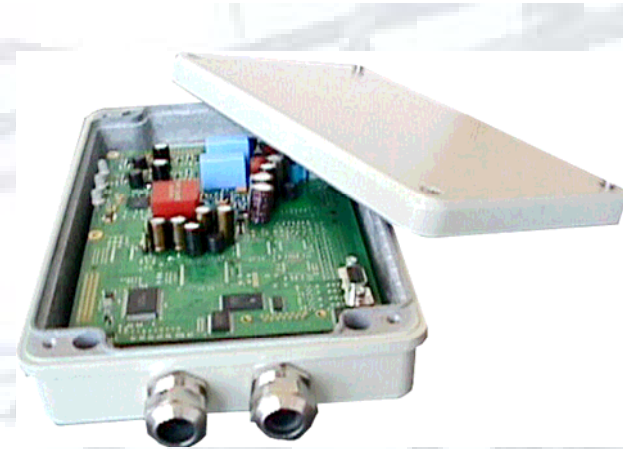Power Supply: Not Included (option FG-PAM-PA48x or FG-SR2-RP)

Dimensions: 280x200x75cm (L x W x H)

Operating temperature: -25 – +80ºC

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For harsh environments and outdoor use Orion 2 Repeaters are also available in cost effective and high profile aluminium enclosures, extending single or dual pair G.SHDSL (TC-PAM16/32). It offers Ethernet add/drop functionality (10/100BT, Bridge) and is protected by an IP-67 aluminium housing. The repeater can be powered locally or remotely over the DSL line. Therefore, it is configurable as power "end-point" or "pass-through". The cost effective grey IP67 housing (RAL 7032) offers two PG13 cable glands for up to four cable entries.

Model: FG-PAM-RGN-Eth-IPL, V56

FG-PAM-RG2N-Eth-IPL, V58

DSL Version: SHDSL / SHDSL.bis

Modulation: TC-PAM16 / TC-PAM32

Data Rate: 192kbps - 5.7Mbps (FG-PAM-RGN-Eth-IPL, V56)

192kbps - 11.4Mbps (FG-PAM-RG2N-Eth-IPL, V58)

Copper Pairs: 1 (FG-PAM-RGN-Eth-IPL, V56)

2 (FG-PAM-RG2N-Eth-IPL, V58)

Modes: Master / Slave

Interface: 1x Ethernet Bridge (10/100BaseT)

Power: -48VDC, accepts local and remote power

Physical Interfaces: RJ45 (Ethernet), Terminal Block (SHDSL, Power), RJ45 (Management)

Management: Console Port, Telnet , HTTP, and SNMP via TCU

Power Supply: Not Included (option FG-PAM-PA48x or FG-SR2-RP)

Dimensions: 290x170x70cm (L x W x H)

Operating temperature: -25 – +80ºC

This Orion 2 SHDSL.bis Repeater's aluminium enclosure is easily mountable, and is the best possible fit when environmental protection is required. It is made of die cast aluminium, which is suitable for rough conditions and outdoor use. The black high end IP67 enclosure offers an external LED indication about the repeater's status as well as additional IP67 protected RJ45 interfaces for Ethernet and console port access, which is moreover indicated by white labels.

Model: FG-PAM-RGN-Eth-IPH, V56

FG-PAM-RG2N-Eth-IPH, V58

DSL Version: SHDSL / SHDSL.bis

Modulation: TC-PAM16 / TC-PAM32

Data Rate: 192kbps - 5.7Mbps (FG-PAM-RGN-Eth-IPH, V56)

192kbps - 11.4Mbps (FG-PAM-RG2N-Eth-IPH, V58)

Copper Pairs: 1 (FG-PAM-RGN-Eth-IPH, V56)

2 (FG-PAM-RG2N-Eth-IPH, V58)

Modes: Master / Slave

Interface: 1x Ethernet Bridge (10/100BaseT)

Power: -48VDC, accepts local and remote power

Physical Interfaces: RJ45 (Ethernet), Terminal Block (SHDSL, Power),

RJ45 (Management)

Management: Console Port, Telnet , HTTP, and SNMP via TCU

Power Supply: Not Included (option FG-PAM-PA48x or FG-SR2-RP)

Dimensions: 310x170x110cm (L x W x H)

Operating temperature: -25 – +80ºC

Remark: external LED Indicator

A Special Repeater for Subsoil and Underground Applications

This IP-68 enclosure is made of the same materials as the cables, meaning wherever a cable is used an IP-68 enclosure can also be used. The high-end polyethylene is particularly resistant to alkaline earths, salt water, fungal and putrefication bacteria. Thanks to the ingenious design and compact construction the IP-68 enclosure is absolutely watertight. Consequently, they are ideal for direct use in subsoil, underground or aerial applications.

Model: FG-PAM-RGN-Eth-IPS, V56

FG-PAM-RG2N-Eth-IPS, V58

DSL Version: SHDSL / SHDSL.bis

Modulation: TC-PAM16 / TC-PAM32

Data Rate: 192kbps - 5.7Mbps (FG-PAM-RGN-Eth-IPS, V56)

192kbps - 11.4Mbps (FG-PAM-RG2N-Eth-IPS, V58)

Copper Pairs: 1 (FG-PAM-RGN-Eth-IPS, V56)

2 (FG-PAM-RG2N-Eth-IPS, V58)

Modes: Master / Slave

Interface: 1x Ethernet Bridge (10/100BaseT)

Interface: 1x Ethernet Bridge (10/100BaseT)

Power: -48VDC, accepts local and remote power

Physical Interfaces: Terminal Block (SHDSL, Power),

RJ45 (Management), internally

Management: Console Port, Telnet , HTTP, and SNMP via TCU

Power Supply: Not Included (option FG-PAM-PA48x or FG-SR2-RP)

Dimensions: 430x178mm (L x D)

Operating temperature: -25 – +80ºC

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FlexDSL Orion 2 Repeater (Functionality)	Standalone	Rail Mounting	Protected Housing	Single Pair	Dual Pair Bonding	Point-to-Point	Ethernet Bridge	Multi-Service	Ethernet Add/Drop	Cross Connect	Remote Power Source	Console Port Management	Telnet Management	Web Management	Optional SNMP Management
FG-PAM-RGN-Eth-PL, V51	■			■		■	■	■	■	■	■	■	■	■	■
FG-PAM-RGN-Eth-RL, V51		■		■		■	■	■	■	■	■	■	■	■	■
FG-PAM-RGN-Eth-IPP, V56			■	■		■	■	■	■	■	■	■	■	■	■
FG-PAM-RG2N-Eth-IPP, V58			■		■	■	■	■	■	■	■	■	■	■	■
FG-PAM-RGN-Eth-IPL, V56			■	■		■	■	■	■	■	■	■	■	■	■
FG-PAM-RG2N-Eth-IPL, V58			■		■	■	■	■	■	■	■	■	■	■	■
FG-PAM-RGN-Eth-IPH, V56			■	■		■	■	■	■	■	■	■	■	■	■
FG-PAM-RG2N-Eth-IPH, V58			■		■	■	■	■	■	■	■	■	■	■	■