Etherlink_V AccessMini

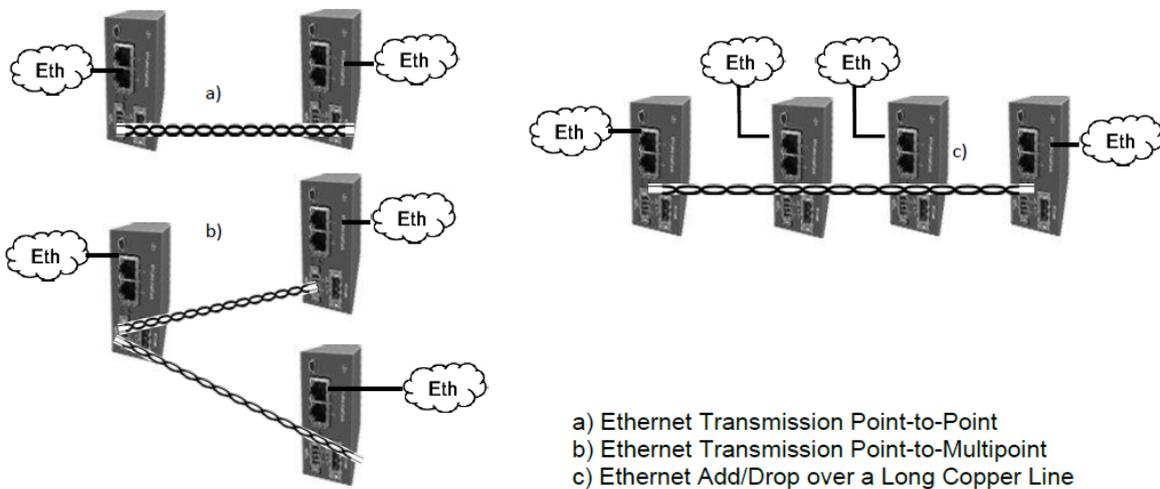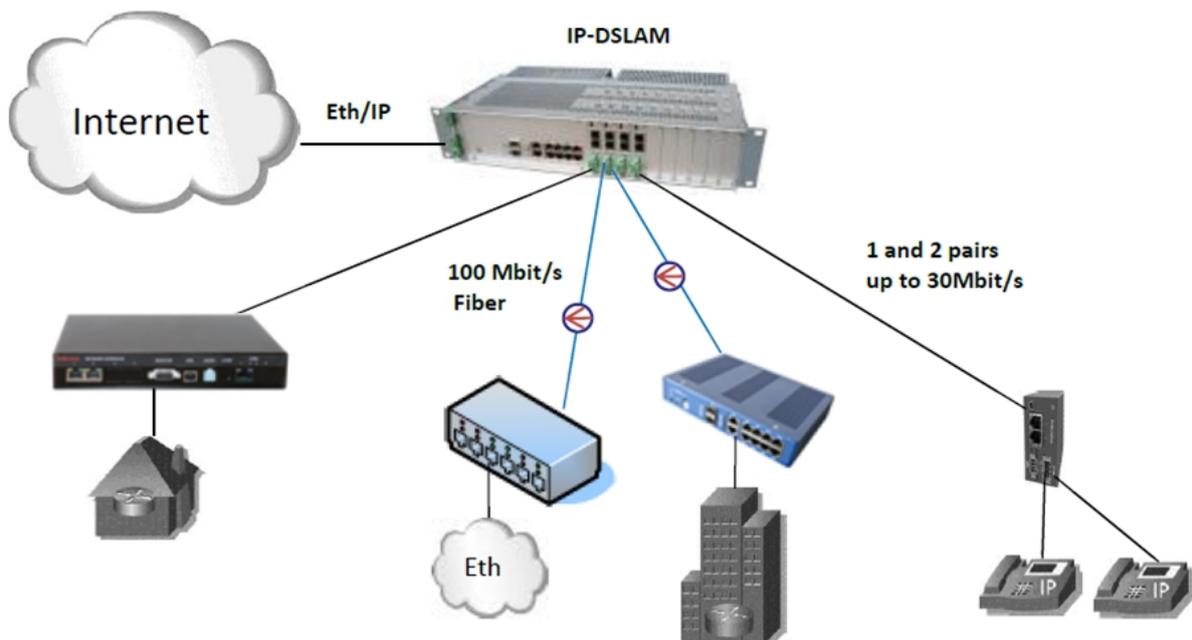## SHDSL.bis and Optical Mini DSLAM

Features

- Up to 15.2Mbps Data Transmission per Copper Pair
- SHDSL and SHDSL.bis, TC-PAMI6/32
- Additional TC-PAM4/8/64/128 available
- 100 Mbps Fiber Optical Tributary Interface
- Integrated Layer 2 managed Ethernet Switch:
    - 4x Gigabit Ethernet Uplink (2x TP / 2x SFP)
    - 8x 10/100Mbps
- Rapid Spanning Tree, Ethernet Ring Protection, Link
- Aggregation, VLAN, QoS
- Point-to-Point, Point-to-Multipoint & Ring Operation
- Console Port, Telnet, Web, SNMP Management
- 24/48VDC and/or 110/230VAC Redundant Powered, Low Power Consumption
- Included Primary Protection
- Repeater supported and available
- 19" & 2U Height or Robust DIN-Rail Metal Enclosure
- industrial Temperature Range available

The S-Access Etherlink_V **AccessMiniLink** platform is an extension of the **Etherlink_IV** product family. Beside of having up to 10 dual **Etherlink_V SHDSL.bis Extended** line cards there is a feature-rich managed layer 2 Ethernet switch included. This switch has 8 autosensing front accessible 10/100Base-T ports as well as 2 gigabit Ethernet ports with fiber connectivity (SFP) and 2 gigabit Ethernet ports with copper connectivity (RJ-45). The inside backplane connect this switch to all Etherlink_V line cards through additional 10 Ethernet 10/100 Base-T ports.

The S-Access Etherlink_V SHDSL.bis Extended product family offers a broad range of products, which are based on the latest SHDSL.bis standards (ITU-T G.991.2 & ETS TS 101 524), while also being fully interoperable with all our existing SHDSL equipment (Etherlink I,II,IV).

SHDSL.bis Extended allows symmetrical data transmission at speeds up to 15.2Mbps over a single pair of copper. In addition, the dual Etherlink_IV line card also supports DSL channel bonding for 2 copper pairs in order to achieve speeds to 30.4Mbps! Using the link aggregation feature of the additional integrated switch, the S-Access AccessMiniLink can transmit up to 300Mbps over 20 copper pairs. This incredible speed makes Fiber installations in a lot of places needless.

In addition to SHDSL.bis, the **AccessMiniLink** platform supports subscriber access over Fiber Optic. The optical line card has built-in SFP jack for standard 100 Mbps Ethernet module. The protocol is compatible with third-party switches, media converters, etc. like all S-Access Etherlink products, the AccessMiniLink and its line cards are based on industrial components and are manufactured according to highest quality standards providing additional value due to the extended temperature range and higher reliability. The combination of comprehensive functions, providing maximum flexibility together with the higher quality of the S-Access AccessMiniLink make it the perfect choice for your access needs.

Etherlink_V AccessMiniLink Applications:

Point-to-Point & Point-to-Multipoint & Bus

a) Ethernet Transmission Point-to-Point
b) Ethernet Transmission Point-to-Multipoint
c) Ethernet Add/Drop over a Long Copper Line

Typical Internet Service Provider (ISP) Application

Etherlink_V AccessMiniLink Applications (2):

Typical Ring Application for Utilities

Optical Giga Ring
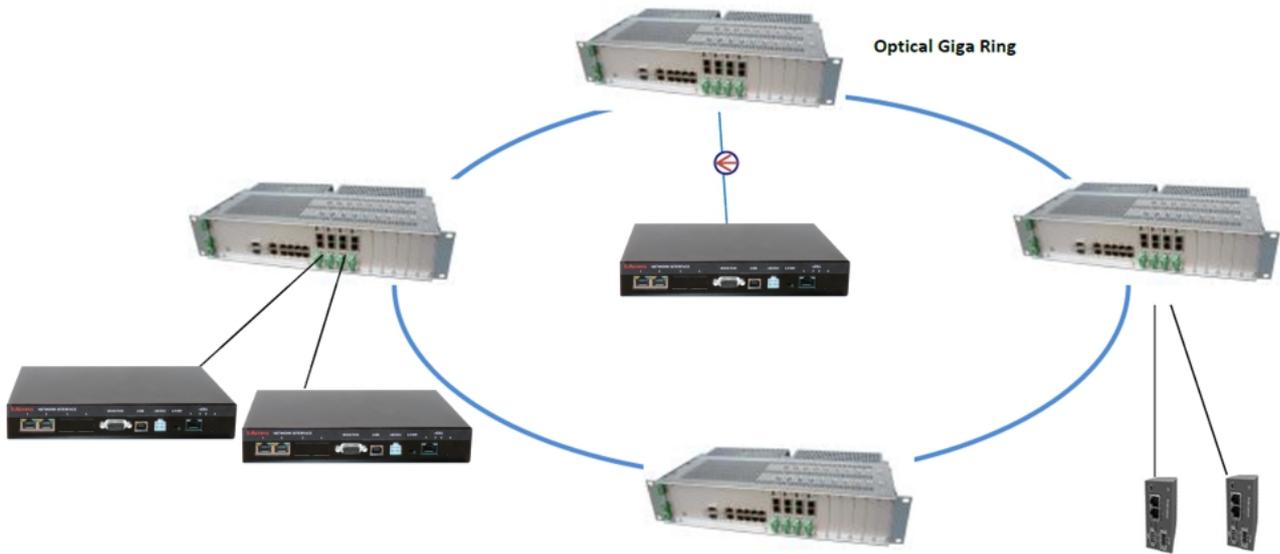
Bonding of up to 20 Copper Pairs,

REPEATER

1-20 Copper Pairs
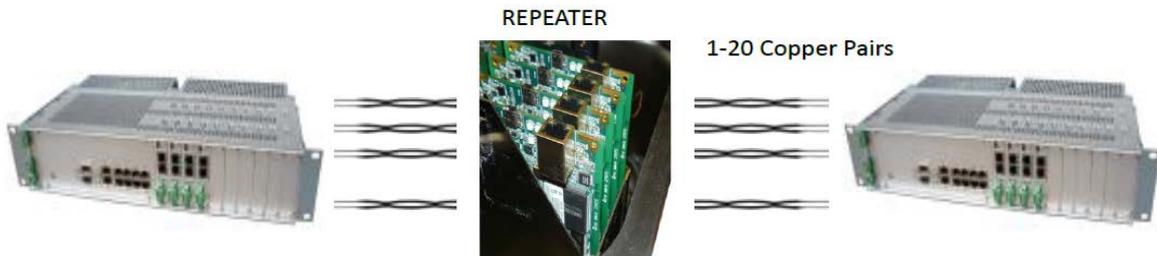
| Ethernet |

AccessMiniLink Rack with Switch

Model:	SA_AM_916-DC

Switch Interfaces:	8x Ethernet 10/100BaseT (Auto Sensing)
	2x Gigabit Ethernet 1000Base T
	2x Gigabit Ethernet SFP
	1x USB 2.0 (local Console Port)
	10x Ethernet 10/100BaseT on Backplane to Line Card
Physical Interfaces:	RJ45 (Ethernet), SFP (Ethernet), Mini-B (USB)
Management:	local Console Part, Telnet/SSH, Web, SNMP v1 and V2c
L2 Features:	**Spanning Tree and Ethernet Ring**
	IEEE 802.1D Spanning Tree Protocol (STP)
	IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
	IEEE 802.is Multiple Spanning Tree Protocol (MSTP)
	Ethernet Ring Protection Mechanism, 50ms rapid In switching and protection
	VLAN
	4K IEEE 802.1q VLANs
	Port-based VLAN, MAC-Based VLAN, Private VLAN
	GVRP, Q-in-Q, VLAN Translation
	Link Aggregation
	Static Trunk, Dynamic Trunk, IEEE 802.3ad LACP, 10ad Balancing
	Multicast Features
	IGMP V1. v2, v3, IGMP Snooping, IGMP Groups
	Multicast VLAN
Qos:	**Quality of SerV1ce**
	8 Priority Queues/port
	WRR, Strict Priority
	WRR/WDDR+Strict Priority
	802.1 p
	Port-Based C0S
	C0S based on MAC DA/SA
	Bandwidth Control per Part
	Access Control List
	MAC+Port Binding, VLAN+Port Binding
Security:	**Port Security**
	Trust Port, Port B10cking, Private VLAN, Part Powering Off
	MAC address learning limit per part
	DoS check, Management IP list
Alarm Interface:	Major and Minor Alarm Relais

AccessMiniLink Rack without Switch

Model:	SA_AM_910-DCNS

Alarm Interface:	Major and Minor Alarm Relais

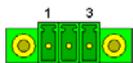| Model:	SA_AM_916-PS48
Input Voltage:	18-72 VDC, max. 90 Watts
Temperature:	-20 to +70° C
Connector:	3 Pin Phoenix Mini Combicom connector (Front access)

Model:	SA_AM_916-PS110/230
Input Voltage:	90-240 VAC, 47 - 63 Hz, max. 90 Watts
Temperature:	-20 to +70° C
Connector:	IEC 60320 Appliance Inlet C14 (Back access)

Ethernet

AccessMiniLink SHDSL.bis Line Card

Model:	**SA_AM_91644C**
DSL Version:	SHDSL / SHDSL.bis / Extended
Modulation:	TC-PAM4 / TC-PAM8 / TC-PAM16 / TC-PAM32 / TC-PAM64 /TC-PAM128
Data Rate:	128kbps - 30.464Mbps, 2x 15.232Mbps
Copper Pairs:	2 with Modes Master / Slave / Auto / Multipoint / Multipair
Interfaces:	1x Ethernet 10/100BaseT on Backplane to Switch
	1x USB 2.0 (local Console Port)
Physical Interfaces:	Phoenix Mini Combicom (SHDSL), Mini-B (USB)
Management:	Console Part, Telnet. Web and SNMP

AccessMiniLink Fiber Optic Line Card

Model:	**SA_AM_916FOC**
Fiber Optic:	100Base-FX
Data Rate:	100 Mbps
Line Budget:	Dependent on SFP module type
Number of Fiber:	1 or 2, depending on the SFP module type
Modes:	Auto
Interfaces:	1x Ethernet 10f100BaseT on Backplane to Switch
	1x Ethernet 100Base-FX (SFP) on the front panel
	1x USB 2.0 (local Console Port)
Physical Interfaces:	SFP cage, Mini-B (USB)
Management:	Console Port, Telnet, Web and SNMP

AccessMiniLink SHDSL.bis Dinrail Modem

Model:	**SA_AM_91644C-DR-24V**
	SA_AM_91644C-DR-230V
DSL Version:	SHDSL / SHDSL.bis / Extended
Modulation:	TC-PAM4 / TC-PAM8 / TC-PAM16 / TC-PAM32 / TC-PAM64 /TC-PAM128
Data Rate:	128kbps - 30.464Mbps, 2x 15.232Mbps
Copper Pairs:	2 with Modes Master / Slave / Auto / Multipoint / Multipair / Ring
Interfaces:	2x Ethernet 10/100BaseT (Layer2 Managed Switch)
	1x USB 2.0 (local Console Port)
Power:	18 to 72VDC or 85 to 264VAC & 120 to 370VDC. 4W Typ.
Physical Interfaces:	RJ45 (Ethernet), Phoenix Mini Combicom (Power & SHDSL), Mini-B (USB)
Management:	Console Port, Telnet. Web and SNMP
Temperature:	Standard: -5 to +45°C, Extended: -25 to +80°C

AccessMiniLink Fiber Optic Dinrail Modem

Model:	**SA_AM_916FOC-DR-24V**
	SA_AM_916FOC-DR-230V
Fiber Optic:	100Base-FX
Data Rate:	100 Mbps
	Dependent on SFD module type
Number of Fiber:	1 or 2, depending on the SFP module type
Modes:	Auto
Interfaces:	1x Ethernet 10/100BaseT
	1x Ethernet 100Base-FX (SFP) on the front panel
	1x USB 2.0 (Local Console Port)
Power:	18 to 72VDC or 85 to 264VAC & 120 to 370VDC, 4W Typ.
Physical Interfaces:	RJ45 (Ethernet), SFP cage, Mini-B (USB)
Management:	Console Port, Telnet. Web and SNMP
Temperature:	Standard: -5 to +45°C, Extended: -25 to +80°C

Ethernet

Etherlink_V AM Feature Overview

Etherlink_V - MaxiMiniLink Models	19", 2U Subrack/Minirack	Backside Mountable	18-72 VDC	90-264 VAC, 47-63 Hz	Reduandancy Possibility	Ethernet 10/100BaseT	Gigabit Eth 1000Base-T	Gigabit Ethernet SFP	Point-to-Point	Point-to-Multipoint	Ring Applications	Spannung Tree	Link Aggregation	VLAN, QoS	Port Security	Multicast	Remote Power Receiver	Remote Power Source	Console Port Management	Telnet Management	Web Management	SNMP Management
SA_AM-916-DC	√		√		√	√	√	√	√	√	√	√	√	√	√	√			√	√	√	√
SA_AM-916-DCNS	√		√		√																	
SA_AM-916-PS48	√	√			√																	
SA_AM-916-PS110/230	√			√	√																	

Etherlink_V AM Feature Overview

Etherlink_V - MaxiMiniLink Models	19", 2U Subrack/Minirack	2U Minirack, Rail or Wall	18-72 VDC	90-264 VAC, 47-63 Hz	Reduandancy Possibility	Ethernet 10/100BaseT	Gigabit Eth 1000Base-T	Gigabit Ethernet SFP	Point-to-Point	Point-to-Multipoint	Ring Applications	Spannung Tree	Link Aggregation	VLAN, QoS	Port Security	Multicast	Remote Power Receiver	Remote Power Source	Console Port Management	Telnet Management	Web Management	SNMP Management
SA_AM-916SR_2U4S	√	√			√																	

Etherlink_V RC Feature Overview

Etherlink_V - MaxiMiniLink Line Cards	Standalone	Rail Mounting	AccessMini Subrack Module	Protected Housing	Single Pair	Dual Pair Bonding	Triple Pair Bonding	Quadruple Pair Bonding	Point-to-Point	Point-to-Multipoint	E1 (120Ohm)	E1 (75Ohm) optional	Ethernet Bridge	Ethernet Add/Drop	Nx64kbps Interface	E1 Cross Connect	Remote Power Receiver	Remote Power Source	Console Port Management	Telnet Management	Web Management	SNMP Management
SA_AM-91644C-DR-24V	√		√		√	√			√	√	*1	*1	√	√					√	√	√	√
SA_AM-916FOC	√		√		√				√				√						√	√	√	√

Ethernet

Etherlink_V DR Feature Overview

Etherlink_V - MaxiMiniLink DINrail

Functionality	Standalone	Rail Mounting	AccessMini Subrack Module	Protected Housing	Single Pair	Dual Pair Bonding	Triple Pair Bonding	Quadruple Pair Bonding	Point-to-Point	Point-to-Multipoint	E1 (120Ohm)	E1 (75Ohm) optional	Ethernet Bridge	Ethernet Add/Drop	18-72 VDC	90-264 VAC, 47-63 Hz	Remote Power Receiver	Remote Power Source	Console Port Management	Telnet Management	Web Management	SNMP Management
SA_AM-91644C-DR-24V	√	√			√	√			√	√			√	√	√				√	√	√	√
SA_AM-91644C-DR-230V	√	√			√	√			√	√			√	√		√			√	√	√	√
SA_AM-916FOC-DR-24V	√	√			√				√				√		√				√	√	√	√
SA_AM-916FOC-DR-230V	√	√			√				√				√			√			√	√	√	√