



Ethernet Power Node EPN102

The Ethernet Power Node (EPN102) represents an innovative way of power feeding the devices in EDA solutions on small sites, e.g. IP DSLAMs and the Fast Ethernet to E1 converter (EXN104).

IP DSLAM power supply

EPN102 is a Power over Ethernet (PoE) node designed for EDA. The main functionality is to supply -48 V power onto two of the spare wires in the standard Ethernet cable. Hence, EPN102 implements an elegant way of powering the IP DSLAM of EDA at small sites.

EPN102 operates from the supply voltage in an input range from -40.5 V DC to -60 V DC and will provide output voltage accordingly, with a voltage drop of less than 2 V.

EPN102 is capable of delivering up to 21 W per port within an ambient temperature range of 0 to 55°C. A remote sensing circuit connects power when required on each individual output – similarly, power will automatically be disconnected when load is removed from the output.

Opens for flexible network setup

EPN102 provides one Ethernet input port and one Ethernet output port for connection to an Ethernet aggregation switch and an IP DSLAM, respectively. Both ports provide Power-over-Ethernet output. This allows for power feeding of both an IP DSLAM and Ericsson's Fast Ethernet to E1 converter (EXN104), in case an n*E1 uplink is preferred.

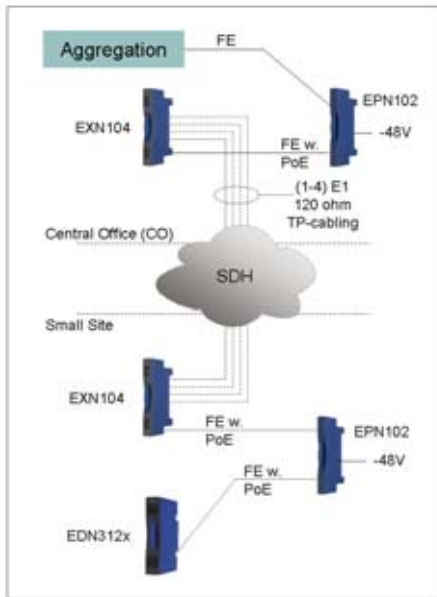
Reliable power source

Besides providing power to the IP DSLAM, EPN102 also performs the necessary protection and filtering in order to make sure that the IP DSLAM is powered from a stable and reliable source. EPN102 will resist over-voltages according to regulatory standards for telecommunications equipment and it is fuse protected against wrong polarity connection.

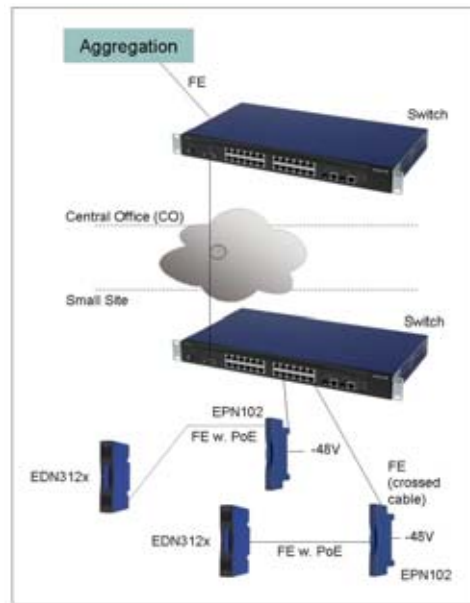
Installation

EPN102 is designed for cost-efficient installation on small sites together with a few IP DSLAMs and possibly Fast Ethernet to E1 converters (EXN104) for physical E1 uplink to the Central Office. The unique design of the IP DSLAM has been carried forward in this solution and EPN102 is installed directly into a 10-pair Krone LSA-PLUS or LSA PROFILE module. Installation is plug-and-play and requires no configuration or management.

Dark fiber installation of EPN102 at Central Office:



Dark fiber installation of EPN102 at a small site:



Technical data

THIS DOCUMENT IS VALID FOR RELEASES

- EDA 2.0, EDA 2.1, and EDA 2.2

ETHERNET PORTS

- Two Power-over-Ethernet (PoE) ports (RJ-45), connected according to IEEE P802.3AF/D3.1 clause 33
- One Fast Ethernet (FE) input and one Fast Ethernet output, 100BaseT (ANSI/IEEE 802.3 clause 25)
- Ethernet RX and TX crossed from input to output

POWER OVER ETHERNET OUTPUT

- Max. 2 V DC drop from input voltage, >95% efficiency
- Power limitation at 21 W on each PoE output (0.7 A)
- 4 ms voltage interruption backup on PoE outputs
- Short circuit protection on RJ-45 outputs
- PoE feeding on RJ-45 pins 4+5 (GND) and 7+8 (-48 V)

VOLTAGE INPUT

- -40.5 V DC to -60 V DC (-48 V DC nominal) on 2-pole Molex MICRO-FIT connector
- Requirement on input current: max. 1.5 A

DIMENSIONS

- HxWxD: 21 x 185 x 110 mm
- Weight: 180 g

OVP AND SAFETY

- Over Voltage Protected on -48 V input for resistance to surge (500 V 2/12 W 1.2/50 ms (8/20 ms)) and 2 J surge pulse at the end of a 4 ms voltage interruption (ETR283:1996).
- Compliance to standards for safety (CE), as well as EN 60950/UL 60950 including A1, A2, A3, A4 for safety issues, double insulation, Class I, TNV1.
- Protective ground in the LSA

EMC

- EN 300 386:2001 for Telecom. Centers Class A and other than Telecom. Centers Class A.
- FCC Part 15 Title 47 class A

ENVIRONMENTAL

- ETS 300 019-1-3 (Operating env.) Class 3.2: Partly temperature controlled locations, i.e. -5 to 55 °C
- ETS 300 019-1-2 Class 2.3: Public Transportation
- ETS 300 019-1-1 (Storage) Class 1.2: Weather protected, non temp. controlled storage stations
- Life-cycle optimized according to ISO 14001