ACL2-V.35 Line Terminal

The Nokia ACL2-V.35 Line Terminal with V.35 interface provides highly efficient and cost-effective 2 Mbit/s HDSL transport over the existing copper-wire local loop.

Dynanet Copper Access concept

The Nokia ACL2-V.35 is a 2Mbit/s HDSL line terminal. It provides 2.048 Mbit/s user payload and ETSI-compliant framing over one or two twisted copper pairs.

Technical Highlights

- 2 Mbit/s (4 wires) or 1 Mbit/s (2 wires) modes
- efficient 2B1Q line coding
- ETSI TS 101 135 compatible (ETR 152)
- complies with Dynanet HDSL equipment
- complies with Nokia NMS network management platform
- SNMP support with Modem Management Adapter (MoMA), DCN Adaptor

The ACL2-V.35 fully integrates into Nokia´s existing Dynanet Access Transmission System family; it shares the same mechanical racking, power systems and common network management systems.

The ACL2-V.35 interworks with all Nokia ETSI-compliant 2 Mbit/s data network terminals (DNT) in tributary applications, and with other ACL2 units in aggregate applications.

Applications

The ACL2-V.35 can be used in a number of applications that provide highly reliable fractional 2 Mbit/s subscriber access, and also special features such as 1Mbit/s service over single pair.

ACL2-V.35 line terminal can be connected into an IP router or Frame Relay switch. Intranet and high speed Internet access, private campus area connections, and distributed video conferencing are widely used applications of Nokia ACL2-V.35 HDSL terminals.

ACL2-V.35 can be used in conjunction with Nokia Dynanet HDSL Network Terminals to create an efficient data communications network.

If Nokia HDSL repeaters are used on the line, the reach can be extended over the typical 4 km local loop length.

Network management

The ACL2-V.35, as well as other Nokia Dynanet products, can be managed locally with the Nokia Service Terminal or windows-based Node Manager on a standard PC.

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Remote management is accomplished with any of the Nokia NMS platform tools, or in a more simple case also with the Node Manager or Service Terminal. The management features comprise remote configuration, test loop activation, line quality monitoring, and alarms.

An open SNMP proxy support is available for applications where Ethernet LAN equipment needs a common management protocol with access products. An embedded operation channel (EOC) allows full element management features over the HDSL link, without using the payload dedicated to specific customer applications.

Technical data	Nokia ACL2–V.35	
Product codes	ACL2-V.35 for Nokia Q1	T66110.01
	ACL2-V.35 for SNMP modem pool	T66110.02
Interfaces	Line interfaces:	2 x 32 Euro
	Line code	2B1Q dual duplex
	Line rate	2 x 1.168 Mbit/s or 1 x 1.168 Mbit/s
	Signal bandwidth	292 kHz
	Line interface	4-wire or 2-wire
	Line impedance	135 ohm
	Tx power	13.5 dBm 135 ohm
	Equipment interfaces	1/2 Euro (V.35)
	Management interface	1/4 Euro (V.11)
Operational Range	Exceeds ETSI specifications	(see table below)
Operation and Management	Local management interfaces	V.11
Power	Incoming battery voltage	–20 to –75 VDC
	Power consumption	max 5 W
Mechanical Construction	233 x 21.5 x 160 mm (H x W x D)	Euro-2 size PCB
MTBF	> 50 years	
Environmental Specifications	Transport	ETSI ETS300019-1-2 class 2.3
	Storage	ETSI ETS300019-1-1 class 1.2
	Operation	ETSI ETS300019-1-3 class 3.2
Electromagnetic Compatibility	EMC, emission	EN55022:1998 class B
	EMC, immunity	EN55024: 1998
	EMC, telecomm. req.	ETSI ETS300386-1:1997 (normal priority of service)

Typical connection length	Cable diameter (mm)	Pair capacitance	ETSI Noise 5 mV/√Hz
	0.4	37 nF/km	3.4 km
	0.5	25 nF/km	5.3 km

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