

Din Mounted Smart LonWorks® Repeater

Features

- ◆ 2 or 3 Channel versions
- ◆ Compact Din Rail Mounted
- ◆ Allows cost effective extension of channel length for Free Topology 78Kbps, FTT-10 media
- ◆ No configuration required, once connected to power and channels repeater starts working
- ◆ On board selectable network termination
- ◆ 24V AC/DC and 230V AC powered
- ◆ LonMark, LNS compliant
- ◆ CE, RoHS



Description

The Smart Repeater is a physical 2-way (RPTS-TP/FT10 x 2) or 3-way repeater (RPTS-TP/FT10 x 3). It is used to connect two or three segments of a LonWorks TP/FT-10 network. The Smart Repeater can split channels containing too many nodes or exceeding the maximum node limit into smaller network segments, which then conform to the standards.

The Smart Repeater is compatible with LPT-10 link power transceiver technology, and may be used in LPT-10 networks, too.

Caution: Installation by qualified personnel only. Observe established engineering procedures and CNS's published data. Be careful when connecting power!

The repeater is available for 230V AC and 24V AC/DC power supply (115V version upon request). A special feature is its wide supply voltage range. The 230V variant can alternatively be supplied with 24V AC/DC.

A dual colour LED signals power on and data transmission. The Smart Repeater has a configurable internal network termination for each network segment. For additional information regarding use of these products please, refer to CNS LonWorks Repeater Guide or the FAQ link on CNS's website Home page.

Please note that CNS supplies a complete range of Lon Network Infrastructure Products (NIP's) and Internet Lon Network Infrastructure Products (INIP's) including Physical Layer Repeaters, Universal Terminators, Lon/IP 852 & Lon/ WiFi 852 Routers please visit our web site www.control-network-solutions.co.uk for more information.

Installation Advice

A physical layer repeater (PLR) transfers data between two network segments without verification of data. Therefore, the repeater can transmit damaged packages or interference. In a sense, the repeater works like an amplifier. Crosstalk between two segments (e.g. between NET A and NET B) can result in a feedback. Any generated bad signals on the transmitting side will be detected by most protocol analysers as invalid packets. On the receiving side, the level of the interference is usually too low to be detected by a protocol analyser. Due to the high sensitivity of FTT10A transceivers, the following precautions should be observed:

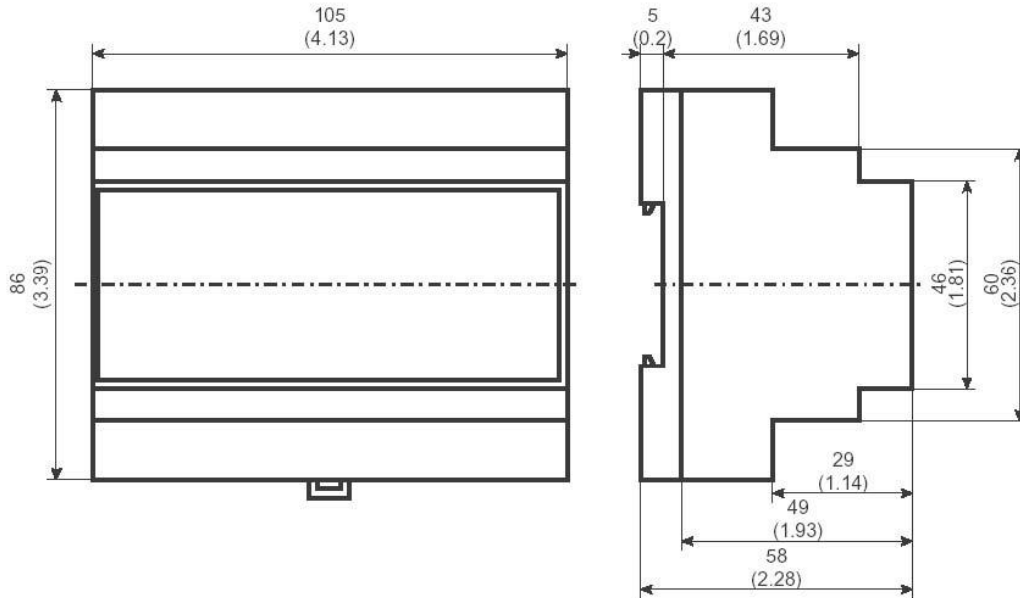
- 1 Terminate all network segments correctly either using the built-in termination; or external Universal LonTerminators Part No [CNSUTERMIII](#)
- 2 Only connect one network segment to each repeater network connector.
- 3 Avoid parallel cables for different network segments.
- 4 Use only data cable specified for TP/FT-10.
- 5 Never connect the shields of different network segments, when using shielded cable.

When all these measures fail a Smart LonRouter should be considered instead, [click here](#) for data.

Specifications

Unit is suitable for fitting on DIN 46277 and DIN EN 50022 mounting rails

Installation position: any



Certification CE, RoHS

General electrical data	RPTS 24V	RPTS 230V
Supply voltage	24V AC/DC	230V AC
Absolute maximum ratings	15 – 35V DC 18 – 28,8V AC	180 – 253V AC
Power consumption	< 1W / < 2 VA	< 3VA

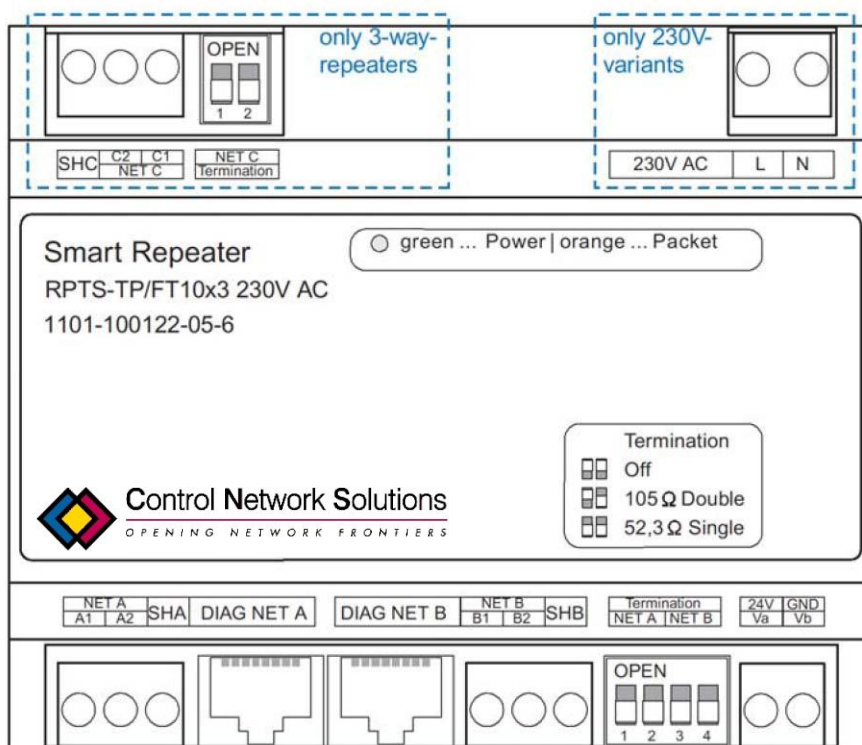
Enclosure		
Type	6TE-DIN rail mounting, accord. to EN 50022	
Length x width x height [mm]	105 x 86 x 58	
Material	polycarbonate, polypropylene	
Weight	24V	approx. 200g
	230V	approx. 300g

Environmental conditions	
Operating temperature	-20..70°C (-4 °F..+158°F)
Storing temperature	-20..70°C (-4 °F..+158°F)
Rel. humidity	0..75%, non condensing
Protection standard	IP20

Transceiver	
TP/FT10, Link Power compatible	

Options upon request	
Supply voltage	115V AC

Connections



Front Panel Din Repeater Connector Assignments

Terminal	Function
A1, A2	LON bus NET A, polarity independent
B1, B2	LON bus NET B, polarity independent
C1, C2	LON bus NET C, polarity independent
SHA, SHB, SHC	shield connection for LON bus NET A / NET B / NET C
Va	power supply 24V, terminal A (+24V for DC)
Vb	power supply 24V, terminal B (ground for DC)
L, N	power supply 230V AC




1	LON Bus Router A Side, NET A2 (B Side, NET B2)	
2	LON Bus Router A Side, NET A1 (B Side, NET B1)	
3.8	Not Assigned	

LED Status

LED state	Description
off	RPTS is switched off
green	RPTS is switched on, no data packets
green/orange blinking	RPTS is switched on, packets are transmitted; the more packets, the longer the orange phase

Termination



For correct bus termination built-in terminators are provided, which can be configured by easily accessible DIP switches. Termination for each network segment depends upon the network topology.

DIP switch	Termination	Topology
	OFF	no termination / external termination
	105Ω	doubly terminated bus topology
	52,3Ω	singly terminated free topology

Warning -when using several LonRouter modules with internal termination, make sure that the network is not inadvertently terminated multiple times as this will cause network communication failures. It maybe better and more cost effective overall, to use external LonTerminators such as CNS's DIN mountable LonTerminatorIII's to avoid this installation problem.

Please observe the guidelines concerning the cable length and recommended cable types, published by Echelon Corporation and the LONMARK Interoperability Association.

Reference documents for installation and network topology issues;

-  Echelon LonWorks FTT-10A Transceiver User's Guide, 078-0156-01G
-  Echelon LPT-11 Link Power Transceiver User's Guide, 078-0198-01A Echelon Twisted Pair Transceiver User's Guide, 078-0025-01C

Ordering Information

CNS FTT-10A LonRepeater part no: CNSRPTRS/1/1/C

Where C = 2 for two Channel or 3 for three Channel

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