

Din Mounted Smart LonWorks® Router

Features

- ◆ Compact Din Rail Mounted
- ◆ 24V AC/DC and 230V AC powered
- ◆ LonMark, LNS compliant
- ◆ Echelon RTR10 based
- ◆ Optional Trend configuration available, on request
- ◆ Transparent media and channel support Choice of four routing algorithms allowing trade-off between ease of installation and network performance
- ◆ Improves system reliability by physically isolating one channel from another
- ◆ Reduces development cost by providing easy to fit solution
- ◆ On-Board selectable Lon network terminators save cost of purchasing external devices
Unlimited number of network variables forwarded
- ◆ Up to 2.5ms delay through router at 10MHz operation.
- ◆ Reset and Service buttons provided with power LED and service LED's for both sides of the router
- ◆ Available with following transceivers types:
 - **39Kb/s RS485 (data rate adjustable via Lon Network tools)**
 - **78Kb/s twisted pair Free topology transceiver (FTT-10A), LPT-10/11 network compatible**
 - **1.25Mb/s twisted pair transformer isolated transceiver (TPT/XF-1250)**
- ◆ CE, RoHS



Description

The LonWorks® DIN router uses RTR-10 core technology to create an intelligent Lon router fully compatible with Echelon's LNS and LonMaker network management tools. These devices can be powered from either Mains 220/240 VAC or 24 VAC. These routers can be supplied with TP/FT10

transceivers which are also capable of being connected to LPT-10 (Link Power Transceiver) networks.

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

For additional information regarding use of these products please, refer to CNS LonWorks Router Guide and CNS LonWorks Din Router Installation Guide. 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, Lon Terminators, Lon/IP 852 & Lon/ WiFi 852 Routers please visit our web site www.control-network-solutions.co.uk for more information.

Lon routers are used for the following reasons;

- ◆ Active failure elimination
- ◆ Extension of transmission channels in physical dimensions and number of nodes
- ◆ Coupling of different transmission media
- ◆ Enhancement of network reliability by supplying additional signals paths
- ◆ Logical network segmentation
- ◆ Logical signal filtering
- ◆ Signal amplification and regeneration

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Specifications

Mechanical

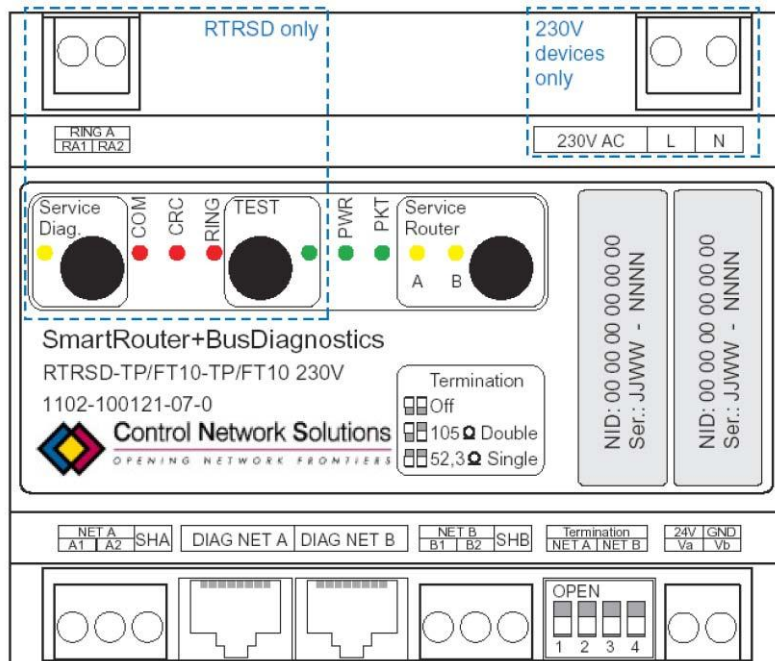
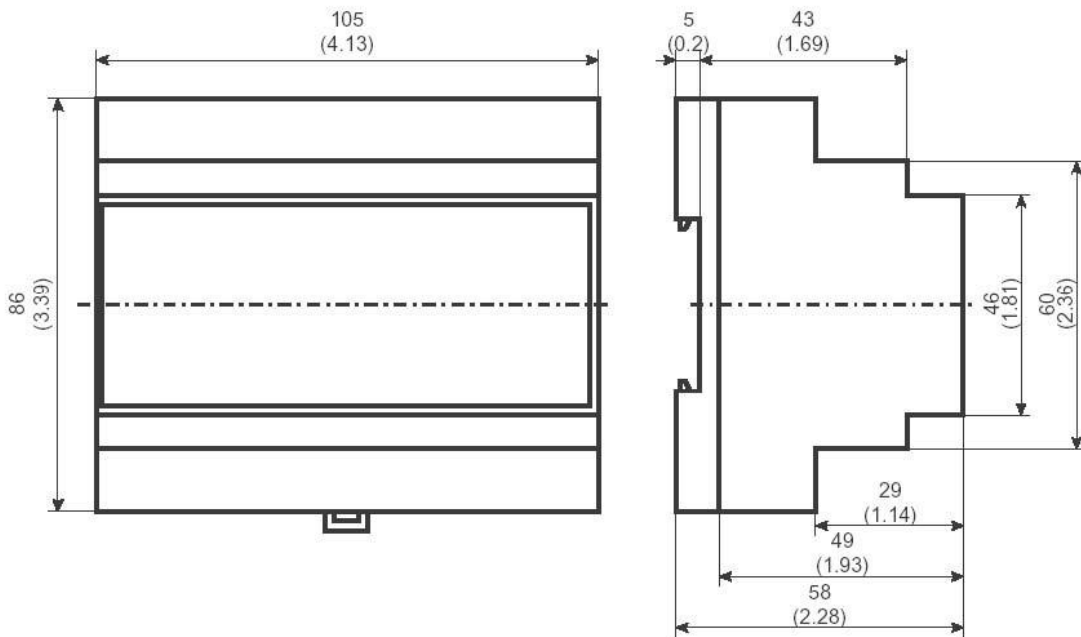
Unit is suitable for fitting on DIN 46277 and DIN EN 50022 mounting rails

Overall Width 105mm

Overall Height 86mm

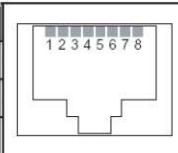
Overall Depth 58mm

Installation position: any









Front Panel Din Router

Connector Assignments

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	

A1 (A2)	LON Bus Router A Side, NET A1 (NET A2)
SHA (SHB)	Shield Connection for LON Bus Router A Side (B Side)
RA1 (RA2)	LON Bus Router A Side, Ring NET RA1 (Ring NET RA2)
B1 (B2)	LON Bus Router B Side, NET B1 (NET B2)
Va	Power Supply 24V Connection A (+24V at DC)
Vb	Power Supply 24V Connection B (Ground at DC)
L, N	Power Supply 230V AC

Dip Switch Positions for Setting Bus Termination

Switch Position	Termination	Topology	
RTRS[D]-TP/FT10-TP/FT10			
		NET A (B), Off	no termination (external termination)
		NET A (B), 105 Ohm	Double terminated line topology
		NET A (B), 52,3 Ohm	Single terminated free topology
RTRS[D]-TP/FT10-TP/XF1250 / RTRS-TP/FT10-TP/RS485 (B Side)			
		NET B, Terminator Network	Double terminated line topology at TP/XF1250 on side B

Warning -when using LonRepeater 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.

LED Status Descriptions

LED Status		Description
Service Router SR-A (SR-B)	Off	RTR-A(B) side with running application
	Flashing	RTR-A(B) side not configured
	Yellow	RTR-A(B) side without application
PKT	Green Pulses	Router is transmitting packets. The longer the green phase the more packets are transmitted.
PWR	Green	Device is switched-on, Link Power OK
	Flashing (0,5s on)	Device is switched-on, Link Power error

Electrical

General Electrical Data	RTRS[D] 24V	RTRS[D] 230V ¹⁾
Supply Voltage	24V AC/DC	230V AC
Absolute Limits	15 – 35V DC / 18 – 28,8V AC	180 – 253V AC
Power Consumption	< 1W / < 2 VA	< 3VA

¹⁾ The 230V variants are equipped in addition with 24V AC/DC supply voltage. By using them the absolute limit values of the 24V variants apply.

Housing		
Type	6TE mounting rail housing acc. to DIN EN 50022	
Length x Width x Height [mm]	105 x 86 x 58	
Material	Polycarbonate, Polypropylene	
Weight	24V	approx. 200g
	230V	approx. 310g

Environmental Conditions	
Operating Temperature	0..70°C (32..122°F)
Storage Temperature	-20..70°C (-4..+158°F)
Relative Humidity	0..75% (non condensing)
Degree of Protection	IP 20

Transceiver Types	
Side A	TP/FT10, Link Power compatible
Side B optional	TP/FT10, Link Power compatible or TP/XF-1250; TP/RS485 (39kBaud default; Baud rate adjustable with network management tools - e.g. ALTOroute)

Certification - CE, RoHS

Reference documents for installation and network topology issues;

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

Ordering Information

CNSRTRS/A/B, where A & B represent the transceiver options. Transceiver Type options -FTT10A = 1, TPT1250 = 2, RS485 = 3

Example; CNSRTRS/1/1 = Side A transceiver FTT10 to Side B transceiver FTT10 Router

Contact

Control Network Solutions Ltd

Studio 7,
Intec 2,
Intec Business Park,
Wade Road,
BASINGSTOKE,
Hampshire, RG24 8AG, England
Tel: +44 (0) 1256 818700
Fax: +44 (0) 1256 812520
Email: cns@control-network-solutions.co.uk
Web: www.control-network-solutions.co.uk

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