LON digital output modules

Logline®
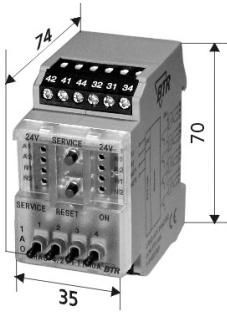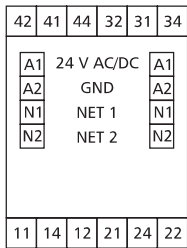**LON**

LRAS 4/21
24 V AC/DC, 4 relay outputs

Part Number
110 402 13 21

Dimensions - C12 housing

Wiring

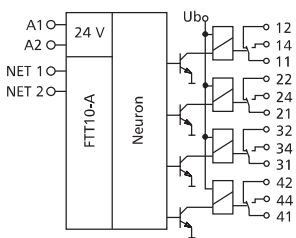| 42	41	44	32	31	34
A1	\multicolumn{4}{c}{24 V AC/DC}	A1
A2		GND			A2
N1		NET 1			N1
N2		NET 2			N2
11	14	12	21	24	22

Wiring Diagram

Use

LON module with 4 digital outputs. Suitable to switch electrical components such as motors, contactors, lamps, blinds etc.
For high inductive loads it is recommended to protect the relay contacts additionally by a RC element.

Functional description

In a LON installation the 4 relays can be actuated individually with the standard network variables. The relays are provided with a manual control that is only activated in the "Configured Mode". The module is provided with an additional adjustable wipe function.

LON interface

transceiver	FTT10A free topology
neuron	3120, 2k EEPROM
data format	standard network variables (SNVT)
transmission rate	78 kBit/s
max. length (see page 7)	
line topology	2700 m / 64 nodes
free topology	500 m / 64 nodes
cabling	twisted pair

Application software

XIF and NXE files are available as downloads under
www.btr-electronic-systems.de.

Technical data

| Housing	dimensions w∗h∗l	35 x 70 x 74 mm
	weight	104 g
	mounting position	any
	mounting	DIN rail according to EN 50022
	material	housing + terminal blocks polyamide 6.6 V0 cover plate polycarbonate
	type of protection (DIN 40050)	housing IP40 terminal blocks IP20
Terminal blocks	supply and bus	pluggable terminal block 1.5 mm² (terminal block and jumper plug are included to each packing unit)
	digital outputs	2.5 mm²
Supply	operating voltage range	20 ... 28 V AC/DC
	current consumption	205 mA (AC) / 67 mA (DC)
	duty cycle	100 %
	recovery time	550 ms
Output	output contact	4 changeover contacts
	contact material	AgNi
	switching voltage	250 V AC
	nominal current	5 A
	total current for all contacts	max. 12 A
	contact fuse	5 A
	mechanical endurance	1.5×10^7 cycles
	electrical endurance	1.5×10^5 cycles
	permissible switching frequency	6 / min. at nominal current
Temperature range	operation	-5 °C ... +55 °C
	storage	-20 °C ... +70 °C
Protective circuitry	operating voltage	polarity reversal protection
Display	operation	green LED
	function	yellow LED for status (service)
	output status	yellow LEDs

Note   The modules can be mounted in series without interspace. The max. number of modules connected in series is 15, each group needs an external power supply.

LON digitale output modules

Description of the LonMark objects and network variables

LRAS 4/21
LRAS 4/21 IP65

Node Object
LonMark Object #0

nviRequest
SNVT_obj_request

nvoStatus
SNVT_obj_status
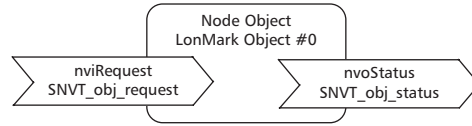
Node Object
The Node Object monitors and controls the functions of the different objects in the device. It supports the basic functions Object-Status and Object-Request required by LonMark.

Application Objects
The objects contain the functions setting of the digital outputs and data exchange.


DigitalOut Object

Closed Loop Actor Object
LonMark Object #4

nviRelais[1..4]
SNVT_switch

nvoRelais[1..4]Fb
SNVT_switch
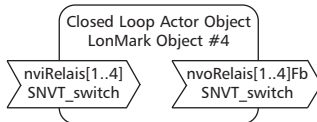
DigitalOut Object

nviRelais[1..4] (index 2, 4, 6, 8)

SNVT type	SNVT_switch
Function	switching of the outputs
nviRelais[1..4] = 0.0 0	relays released contacts x1 - x2 (i.e. 11 - 12) closed
nviRelais[1..4] = 100.0 1	relays switch contacts x1 - x4 (i.e. 11 - 14) open

nvoRelais[1..4]Fb (index 3, 5, 7, 9)

|	
SNVT type	SNVT_switch
Function	The output variables are issued after a change of the relay status.
nvoRelais[1..4]Fb = 100.0 1	relays activated
nvoRelais[1..4] = 0.0 0	relays released

Hand Object

Open Loop Sensor Object
LonMark Object #1

nvoHand[1..4]
SNVT_switch
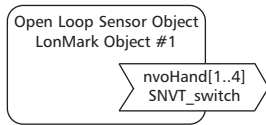
Hand Object

nvoHand[1..4] (index 10..13)

SNVT type	SNVT_switch
Function	manual feedback
nvoHand[1..4] = 100.0 1	manual switch in automatic mode
nvoHand[1..4] = 0.0 0	manual switch set on "1" or "0"

BTR Object

Closed Loop Actor Object
LonMark Object #4

nviBTR
SNVT_state

nvoBTR
SNVT_state
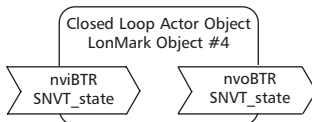
BTR Object

nviBTR (index 14)

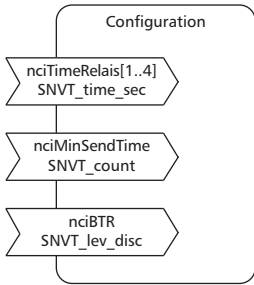|	
SNVT type	SNVT_state
Function	System object for Logline LON door installation modules for easy connection with the annunciator module LM1. Is only active if nciBTR = ST_ON
Bit0 .. Bit8	not used
Bit9	if system is on automatic operation = 1; if system is on manual operation = 0
Bit10 = 1	relay 2 activated; = 0 relay 2 released (horn)
Bit11 = 1	relay 1 activated; = 0 relay 1 released (error)
Bit12 = 1	relay 3 activated; = 0 relay 3 released (maintenance)
Bit13 = 1	relay 4 activated; = 0 relay 4 released (unlocking)
Bit14	not used
Bit15	not used

nvoBTR (index 15)

SNVT type	SNVT_state
Function	Feedback to nviBTR. Value of nviBTR is transmitted.

BTR NETCOM

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Description of the LonMark objects and network variables

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LRAS 4/21 IP65

Configuration Variables

Configuration

| nciTimeRelais[1..4] |
| SNVT_time_sec |

| nciMinSendTime |
| SNVT_count |

| nciBTR |
| SNVT_lev_disc |

Configuration Variables

nciTimeRelais[1..4] (index 16..19)

SNVT type	SNVT_time_sec
Function	Wipe function. With a preset time and nviRelais[1..4] = 100.0 1 the respective relay releases automatically. It is only reactivated if nviRelais[1..4] is set from 0.0 0 to 100.0 1. The wipe function is turned off during manual operation.
Wipe settings	0 wipe function turned off 0,1 .. 6553,4 s

nciMinSendTime (index 20)

SNVT type	SNVT_count
Function	The output variables nvoRelais[1..4]Fb are issued at the ende of a preset period of time even without a change of the input status.
Time settings	0　　　timer turned off 1 .. 60 timer time in seconds (factory setting 0)

nciBTR (index 21)

SNVT type	SNVT_lev_disc
Function	activation of the BTR objects
nciBTR = ST_ON	nviBTR is used
nciBTR = ST_OFF	nviBTR is not used