LON digital output modules
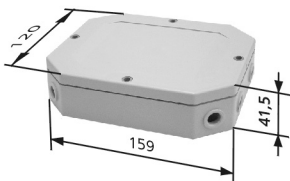
Logline®
LON

LRAS 4/21 IP65
24 V AC/DC, 4 relay outputs

Part Number
110 402 13 21-IP

Dimensions - IP65 housing

120
41.5
159

Wiring

bus			44
NET B			41
NET A			42
NET B			34
NET A			31
		outputs	32
supply			22
GND			21
24 V			24
GND			12
24 V			11
			14

Wiring Diagram
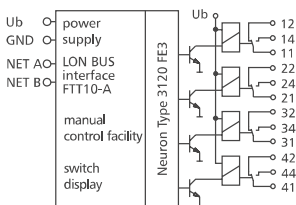
Use

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 lamp load 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	159 x 41.5 x 120 mm
	weight	368 g
	mounting position	any
	mounting	directly to a smooth surface
		8 cable entries for M12 and M16 fittings
	material	housing ASA+ polycarbonate
		terminal blocks polyamide
		cover polycarbonate
	type of protection (DIN 40050)	IP65
Terminal blocks	supply and bus	1.5 mm² pluggable
	digital outputs	1.5 mm² pluggable
Supply	operating voltage range	20 ... 28 V AC/DC
	current consumption	205 mA (AC) / 67mA (DC)
	duty cycle	100 %
	recovery time	550 ms
Output	output contact	4 changover contacts
	contact material	$AgSnO_2$
	switching voltage	250 V AC
	making/breaking current max.	80 A
	nominal current	10 A
	total current for all contacts	max. 25 A
	contact fuses	max. 10 A
	mechanical endurance	30×10^6 cycles
	electrical endurance	9×10^4 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

BTR NETCOM

LON digitale output modules

Description of the LonMark objects and network variables
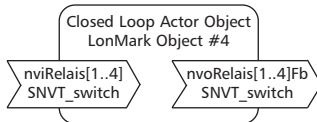
LRAS 4/21
LRAS 4/21 IP65
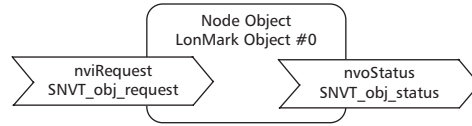
Node Object

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

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
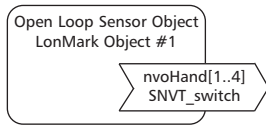
Hand Object

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
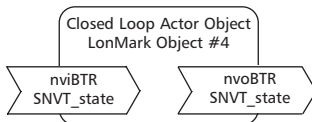
BTR Object

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

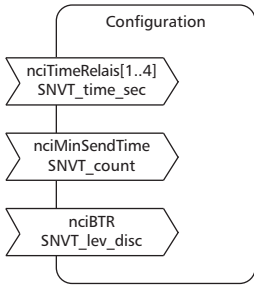**nvoBTR (index 15)**

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

LON digital output modules

Description of the LonMark objects and network variables

LRAS 4/21
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