

LON door installation modules



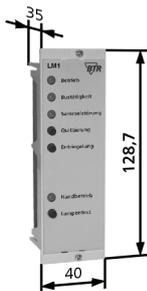
LM1

annunciator module, 24 V DC

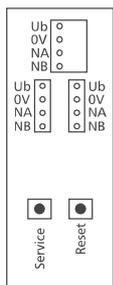
Part Number

110 391 25

Dimensions - E19 housing



Wiring



Use

Tact switch and display module for 19" frames. Suitable as manual control facility in cabinet doors or remote control panels.

If operated with factory settings the LM1 serves as annunciator module for collected failure signals in the Logline LON door installation system.

Functional description

In a LON installation the different LEDs and sensors are activated and/or analysed by the network variables SNVT.

The upper LED of the annunciator module lights as operating display, the second LED lights yellow for collective maintenance, the third LED lights red for collective failure message and the lower LED lights if a switch in the Logline LON door installation system is in the manual control position. The upper sensor key serves as acknowledgement, the second one to unlock maintenance and failure messages. The lower key is used for lamp testing.

LON interface

transceiver	FTT10A free topology
neuron	3120, 3k EEPROM downloadable
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

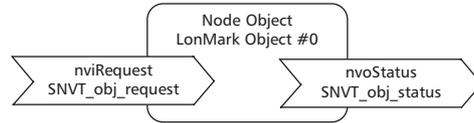
Housing	dimensions w*h*h1	40 x 128.7 x 35 mm (3HE; 8 TE)
	weight	66 g
	mounting position	any
	mounting	in 10" or 19" frames according to IEC 297-3 (accessories page 88 P/N 110361 or 110362)
	material	housing ABS
	type of protection (DIN 40050)	IP20
Terminal blocks	supply and bus	1.5 mm ² pluggable and jumper plug (included to packing)
Supply	operating voltage range	24 V DC ±15 %
	current consumption	43 mA
	duty cycle	100 %
	recovery time	500 ms
Temperature range	operation	-5 °C ... +55 °C
	storage	-20 °C ... +70 °C
Protective circuitry	operating voltage	polarity reversal protection
Display		4 LEDs, adjustable to red, green or yellow

If a LED is adjusted to yellow for acknowledgment (17,0 0) the system will identify this as a maintenance signal and interpret it accordingly at the LM1 module (annunciator module for message collection). If a LED is adjusted to flash red, to acknowledge and to unlock (52,5 0) this is identified as a failure message and interpreted accordingly at the LM1 module.

LON door installation modules

Description of the LonMark objects and network variables

LM1



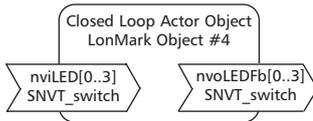
Node Object

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 analysis of the tact switches, status visualization and collected signals.

LED Object



LED Object

nviLED[0..3] (index 2 .. 5)

SNVT type

SNVT_switch

Function

switching of the LEDs

nviLED[0..3] = 0.0 0

the LEDs adopt the status defined by nciLEDAus[0..3]

nviLED[0..3] = 100.0 1

the LEDs adopt the status defined by nciLEDAn[0..3]

nvoLEDFb[0..3] (index 6 .. 9)

SNVT type

SNVT_switch

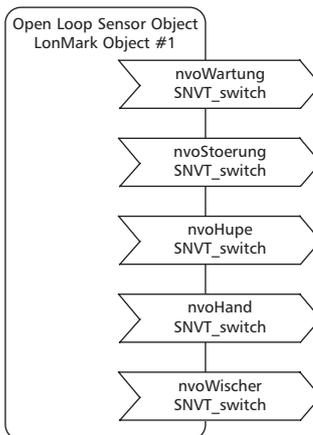
Function

feedback to nviLED[0..3]

value of nviLED[0..3] is transmitted

The nvoLED[1..3] of the annunciator module are set accordingly to 100.0 1 for maintenance, failure or manual operation signals.

Signal Object



Signal Object

nvoWartung (maintenance) (index 10)

SNVT type

SNVT_switch

Function

If nviBTR.bit12 signals a maintenance signal in the system, nvoWartung gets value 100.0 1, to switch a relay for example. When the maintenance signal has disappeared and is acknowledged, the value changes to 0.0 0.

nvoStoerung (failure) (index 11)

SNVT type

SNVT_switch

Function

If nviBTR.bit11 signals a failure signal in the system, nvoStoerung gets the value 100.0 1. When the failure signal has disappeared, is acknowledged and unlocked, the value changes to 0.0 0.

nvoHupe (horn) (index 12)

SNVT type

SNVT_switch

Function

If nviBTR.bit10 signals a failure signal in the system, nvoHupe gets the value 100.0 1. After acknowledgement this value changes to 0.0 0.

nvoHand (manual operation) (index 13)

SNVT type

SNVT_switch

Function

If nviBTR.bit9 signals a manual operation signal in the system, nvoHand gets the value 100.0 1. When the manual operation signal has disappeared the value changes to 0.0 0.

nvoWischer (wipe) (index 14)

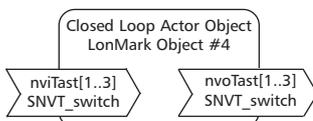
SNVT type

SNVT_switch

Function

If the unlocking tact switch is pushed, nvoWischer gets value 100.0 1 for 5 seconds and then falls back to 0.0 0.

Tact Switch Object



Tact Switch Object

nviTast[1..3] (index 15, 17, 19)

SNVT type

SNVT_switch

Function

At the annunciator module for collected signals nviTast1 can be used externally for acknowledgement, nviTast2 for unlocking and nviTast3 for lamp testing.

nviTast1 = 100.0 1

nvoBTR.bit14 changes to 1

nviTast2 = 100.0 1

nvoBTR.bit13 changes to 1

nviTast3 = 100.0 1

nvoBTR.bit15 changes to 1

nvoTast[1..3] (index 16, 18, 20)

SNVT type

SNVT_switch

Function

feedback to nviTast[1..3]

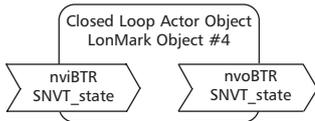
Value of nviTast[1..3] is transmitted or, nvoTast[1..3] gets the value 100.0 1 when pushing the respective tact switch.

LON door installation modules

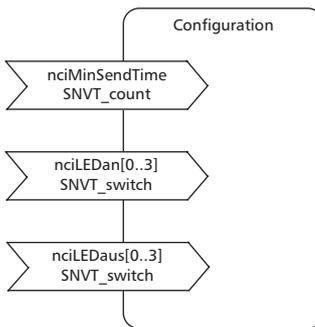
Description of the LonMark objects and network variables

LM1

BTR Object



Configuration Variables



BTR Object

nviBTR (index 21)

SNVT type
Function

Bit0 .. Bit8

Bit9

Bit10

Bit11

Bit12

Bit13

Bit14

Bit15

nvoBTR (index 22)

SNVT type
Function

Configuration Variables

nciMinSendTime (index 23)

SNVT type
Function

Time settings

nciLEDan[0..3] (index 24 .. 27)

SNVT type
Function

LED settings

SNVT_state

System object for Logline LON door installation modules to provide simple connection to the annunciator module for signal collection LM1.

not used

automatic operation in the system = 1; manual operation in the system = 0
new failure signal in the system = 1; no or acknowledged failure in the system = 0
new failure signal in the system = 1; no or unlocked failure in the system = 0
maintenance signal in the system = 1; no or acknowledged maintenance in the system = 0

unlocking signal of the LM1, is set to 1 by unlocking tact switch

acknowledgement signal of the LM1; is set to 1 by the acknowledgement tact switch

request of the LM1 for lamp testing; is set to 1 by the lamp test tact switch

SNVT_state

feedback to nviBTR, value of nviBTR is transmitted

If a LED that is specified as maintenance signal (yellow LED requiring acknowledgement) is set by nviLED[x], nvoBTR Bit12 changes to 1.

If a LED that is specified as failure signal (flashing red LED requiring acknowledgement and unlocking) is set by nviLED[x], nvoBTR Bit10 and Bit11 change to 1.

SNVT_count

All output variables nvo described above, except nvoWischer are issued even without a status change at the end of a preset period of time. Thus the device reports periodically to the system.

0 timer function off-state

1 .. 60 timer time in seconds (factory setting 0)

SNVT_switch

Setting of status and colour of each LED by nviLED[0..3] = 100,0 1.

nciLEDan[0..3].value = a + b + c + d

nciLEDan[0..3].state = 0

a - colour	b - flash	c - acknowledge	d - unlock
0,5 red	0 = no	0 = no	0 = no
1 yellow	4 = yes	16 = yes	32 = yes
1.5 green			

Examples see chart page 74.

nciLEDaus[0..3] (index 28 .. 31)

SNVT type
Function

LED settings

SNVT_switch

Setting of status and colour of each LED by nviLED[0..3] = 0.0 0.

see nciLEDan[0..3]

for example LED off-state nciLEDaus[0..3] = 0.0 0

Factory setting for nciLEDan[0..3] und nciLEDaus[0..3] are 0.0 0. Thus it is configured as BTR annunciator module for signal collection.