LON digital input modules

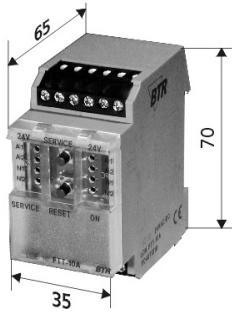**Logline®**
LON

LDE 230
24 V AC/DC, 4 optical inputs

Part Number
110 414 13 19

Dimensions - C12 housing

65
70
35

Wiring

4-	4+		3-	3+
A1	24 V AC/DC	A1		
A2	GND	A2		
N1	NET 1	N1		
N2	NET 2	N2		
1+	1-		2+	2-

Wiring Diagram

A1
A2
NET1
NET2
24V
FTT-10A
Neuron
1+ 250VAC 1-
2+ 250VAC 2-
3+ 250VAC 3-
4+ 250VAC 4-
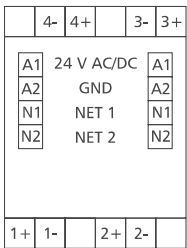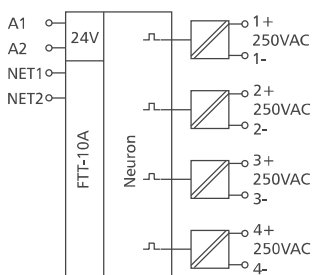
Use

LON Module with 4 digital input. Suitable to record the status of 230 VAC switches, e.g. switches or tact switches for light control

Functional Description

The input contacts 1+ to 4+ together with the contacts 1- to 4- are assigned to 230 VAC switches or contacts. In a LON installation these data points can be bound individually or as a whole.

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 65 mm
	weight	83 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)
	digitale inputs	2.5 mm²
Supply	operating voltage range	20 ... 28 V AC/DC
	current consumption	63 mA (AC) / 21 mA (DC)
	duty cycle	100 %
	recovery time	550 ms
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)
	input state	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.

BTR NETCOM

LON digital input modules

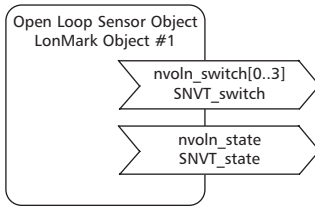## Description of the LonMark objects and network variables

LDE 230
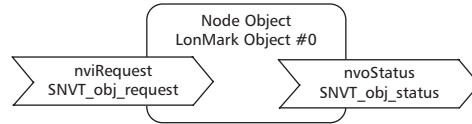
Node Object

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 status record of the digital inputs and data exchange
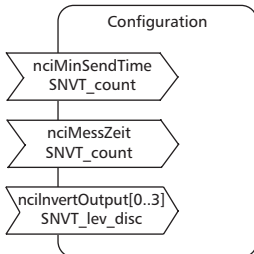
```
            Node Object
         LonMark Object #0
   nviRequest              nvoStatus
   SNVT_obj_request        SNVT_obj_status
```

DigitalIn Object

```
Open Loop Sensor Object
   LonMark Object #1
      nvoIn_switch[0..3]
         SNVT_switch
      nvoIn_state
         SNVT_state
```

DigitalIn Object

nvoIn_switch[0..3] (Index 2..5)

SNVT type	SNVT_switch
Function	Status of the inputs. The output variables are issued after a change of the input status, at the end of the preset obligatory update time (nciMinSendTime) or after a module reset.
Closed contact	nvoIn_switch[0..3] = 100.0 1
Open contact	nvoIn_switch[0..3] = 0.0 0

nvoIn_state (Index 6)

SNVT type	SNVT_state
Function	Status of the inputs. The output variables are issued after a change of the input status, at the end of the preset obligatory update time (nciMinSendTime) or after a module reset.
Assignment	nvoIn_state.bit0 = input 1 … nvoIn_state.bit3 = input 4
Closed contact	nvoIn_state.bit[0..3] = 1
Open contact	nvoIn_state.bit[0..3] = 0

Configuration Variables

```
        Configuration
   nciMinSendTime
      SNVT_count
   nciMessZeit
      SNVT_count
   nciInvertOutput[0..3]
      SNVT_lev_disc
```

Configuration Variables

nciMinSendTime (Index 7)

SNVT type	(SNVT_count)
Function	The output variables nvoIn_switch and nvoIn_state are issued after a preset period of time even without a change of the input status.
Time settings	0 timer turned off 1 .. 60 timer period in seconds (factory setting 0)

nciMessZeit (Index 8)

SNVT type	(SNVT_count)
Function	The status of the inputs are scanned within the preset time. Then the output variables nvoIn_switch and nvoIn_state are set and issued at the end of the preset update time (nciMinSendTime).
Time settings	0 timer turned off 120 ... 60.000 timer period in seconds (factory setting 0)

nciInvertOutput[0..3] (Index 9..12)

SNVT_type	(SNVT_lev_disc)
Function	Inversion of the input signal
nciInvertOutput[0..3] = ST_ON	open input contact; nvoIn_switch bzw. nvoIn_state = set
nciInvertOutput[0..3] = ST_OFF	closed input contact; nvoIn_switch bzw. nvoIn_state = set