

# LON digital input modules



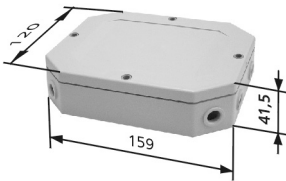
## LDE 10 IP65

24 V AC/DC, 10 digital inputs

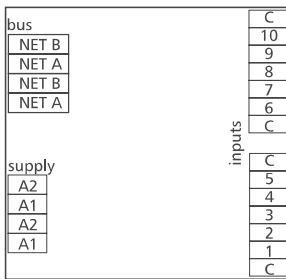
### Part Number

110 407 13 19-IP

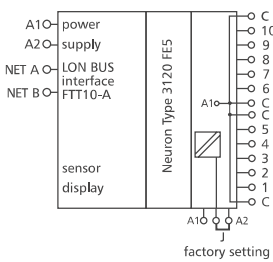
### Dimensions - IP65 housing



### Wiring



### Wiring Diagram



### Use

LON module with 10 digital inputs. Suitable to record the status of potential free switches, e.g. electronic limit switches at vent valves or auxiliary contacts at power contactors.

### Functional description

The inputs can be operated as contact and voltage inputs (A1, 24 VAC/DC, jumper J - A2) or with actuation to GND (A2, jumper J - A1), depending on the setting of the jumper J. 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](http://www.btr-electronic-systems.de).

### Technical data

<b>Housing</b>	dimensions w*h*l	159 x 41.5 x 120 mm
	weight	300 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
		IP65
	type of protection (DIN 40050)	

### Terminal blocks

supply and bus 1.5 mm<sup>2</sup> pluggable  
digital inputs 1.5 mm<sup>2</sup>

### 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

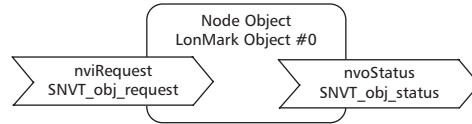
### Display

operation green LED  
function yellow LED for status (service)  
input state yellow LEDs

# LON digital input modules

## Description of the LonMark objects and network variables

LDE 10  
LDE 10 IP65



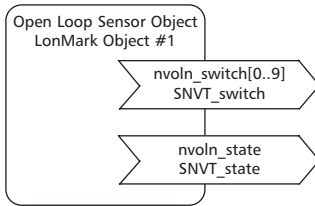
### Node Object

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 status record of the digital inputs and data exchange.

### DigitalIn Object



### DigitalIn Object

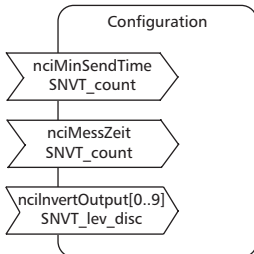
#### nvoln\_switch[0..9] (index 2..11)

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 nvoln\_switch[0..9] = 100.0 1  
Open contact nvoln\_switch[0..9] = 0.0 0

#### nvoln\_state (index 12)

SNVT type SNVT\_state  
Function Status of the inputs. The output variable is issued after a change of the input status, at the end of the preset obligatory update time (nciMinSendTime) or after a module reset.  
Assignment nvoln\_state.bit0 = input 1 ... nvoln\_state.bit9 = input 10  
Closed contact nvoln\_state.bit[0..9] = 1  
Open contact nvoln\_state.bit[0..9] = 0

### Configuration Variables



### Configuration Variables

#### nciMinSendTime (index 13)

SNVT type SNVT\_count  
Function The output variables nvoln\_switch and nvoln\_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 (measuring time) (index 14)

SNVT type SNVT\_count  
Function The status of the inputs are scanned within the preset time. Then the output variables nvoln\_switch and nvoln\_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 ms (factory setting 0)

#### nciInvertOutput[0..9] (index 15..24)

SNVT type SNVT\_lev\_disc  
Function Inversion of the input signal  
nciInvertOutput[0..9] = ST\_ON open input contact; nvoln\_switch and/or nvoln\_state = set  
nciInvertOutput[0..9] = ST\_OFF closed input contact; nvoln\_switch and/or nvoln\_state = set