NC1101
Field module with extended I/O features for LonWorks® control networks

♦ **6 isolated polarity insensitive digital inputs**

♦ **6 relay outputs**

♦ **1 isolated current input 0 ÷ 20 mA**

♦ **Real time clock (RTC)**

♦ **Ultra wide power supply range 9 ÷ 70 VDC**

♦ **LonTalk® protocol**

♦ **Free topology communication (FTT-10)**

♦ **DIN-rail mounting**

The NC1101 module features 6 isolated and polarity insensitive digital inputs 0 to 70VDC/48VAC, 6 relay outputs each capable of switching 230VAC/2.5A, 1 isolated current input 0 ÷ 20 mA, a real time clock and an ultra wide power supply range from 9 to 70VDC (18 to 48VAC). With this reach set of features the module is designed for implementation in lighting control systems, in building automation and industrial data acquisition and control systems. It is a cost effective solution for meeting various operational environments and comes preprogrammed with functional profiles. The NC1101 module is easily mounted onto a 35 mm DIN-rail. The presence of status LED for each digital input and output considerably facilitates initial electrical wiring and later on system maintenance.

2 Y E A R
WARRANTY

SPECIFICATION

Digital Inputs	
Number	6, with common end
Input voltage	0 to 70 VDC
	0 to 48 VAC
Logic 0	< 8 VDC/VAC
Logic 1	≥ 9 VDC/VAC
Isolation	3 KV
Connection	Note 1

Analog Inputs	
Number	1
Type	0 ÷ 20 mA
Resolution	16 bit
Full scale error	0.1%
Temperature coefficient	15 ppm/°C
Isolation	1000 VDC
Connection	Note 2

Relay outputs	
Number	6, in two groups with common end
Type	4 NO, 2 NC
Isolation coil/contact	4 kV
Switching capacity	230 VAC / 2.5 A

Power supply	
Input voltage range	9 to 70 VDC
	18 to 48 VAC
Power consumption	≤ 2 W
Isolation from the bus	No
Connection	Note 1

Control network	
Protocol	LonTalk
Neuron IC	3150
Communication	TP/FT-10
Transfer rate	78 KBit/s
Connection	Note 1

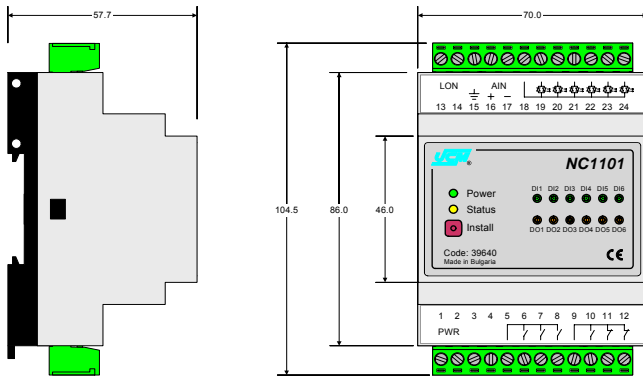| General	
Operating temperature	от –20°C до +60°C
Storage temperature	от –25°C до +70°C
Case	Isolating
	IP20
	UL94V-0
Weight	188 g
Dimensions	70x86x57.7 mm

<u>*Notes:*</u>

1. The connection is polarity insensitive.
2. Observe polarity as described in section Electrical Installation.

MECHANICAL MOUNTING

All dimensions are in millimeters

♦ The device snaps onto a 35 mm DIN-rail mounted in a suitable place on a wall, panel or in a cabinet, on a flat surface in an arbitrary position.

♦ It is inadmissible to locate the device near heaters or other surfaces that are heated to high temperatures.

ELECTRICAL INSTALLATION

Terminal №	
1, 2	Power supply
5	Common for relay outputs on pins 6, 7, 8
6, 7, 8	Relay outputs 1 (NO), 2 (NO), 3 (NO)
9	Common for relay outputs on pins 10, 11, 12
10, 11, 12	Relay outputs 4 (NO), 5 (NC), 6 (NC)
13, 14	Network
15	PE
16	$A_{IN}+$
17	$A_{IN}-$
18	Common for digital inputs
19, 20, 21, 22, 23, 24	Digital inputs 1, 2, 3, 4, 5, 6

♦ All required safety measures shall be taken during electrical installation work of the device.

♦ Electrical installation work of the device shall be undertaken by qualified and certified engineering personnel.

PROGRAM INTERFACE

Functional Blocks	Description
NodeObject	Used by network tools to test and manage all the functional blocks on the device. It may be used also to report status of the device, alarms generated by it and to document the location of the device.
AnalogInput	Processes the 0 to 20 mA analog signal. The output network variable is of changeable type and its value can be of SNVT_amp, SNVT_amp_mil or SNVT_lev_percent type. Event driven as well as time driven updates of the output can be set. Sampling rate, signal offset and other calibration constants are completely configurable. For special purposes the raw output of the hardware is provided also.
DigitalInputs[6]	Handle the digital inputs of the device. Each object is independently configured. Inputs state can be inverted and sensed with programmable delays. Output variables are of type SNVT_switch and can be propagated on a given time interval.
RelayOutputs[6]	Handle the relay outputs of the device. Each object is independently configured. Outputs can be inverted, enabled/disabled and set to a default state on startup or due to missing updates. Switching the relays ON or OFF can be delayed through different configuration settings.
RealTimeKeeper	Provides real time on the network and internally for the device. This information is used to "time-stamp" alarms and to synchronize schedulers and other time dependent functional blocks. Uses the built in time keeping hardware with battery backup.
TubeLightCtrl	Used to control the lighting system in road tunnels. Adjust the lights at the entrance of the tunnel depending on the outside brightness during the day. Sets the minimum required light level during the hours with low traffic. Controls six light stages inside and one outside the tunnel. Operates in fully automatic mode and allows local and remote manual control when needed.

♦ Program interface (.xif) files for network configuration tools are provided on request

SPECIFICATION

NC1101   0

0	Node with preloaded NodeObject, AnalogInput, DigitalInputs[6], RelayOutputs[6] and RealTImeKeeper functional blocks
1	Same as previous with added TubeLightCtrl functional block