



Teslights Hybrid Lighting Controls B-PLC Solution UVAX Protocol Node NT-8980



Technical Manual, T0115
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Warning

This guide is for persons who have received training and are qualified to work with electricity and electrical metering equipment. All applicable national and local electrical codes and standards must be followed. Failure to follow proper procedures may result in serious bodily harm including death.



Disclaimer

The information in this guide has been compiled with care, but Teslights, LLC makes no warranties as to the accuracy or completeness. Further, the product described herein may be changed or enhanced from time to time. This information does not constitute commitments or representations by Teslights, LLC and is subject to change without notice.

Images shown are a representation only. They may not match exactly with the real equipment.

1. Overview

1.1 UVAX Protocol Node NT-8980

The BPLC (Power Line Communication) Node is the device which permits to transmit and receive data to/from BPLC Head End by means of power line. Nodes can be up to 300m to each other for a good communication. These communications can be up to 200 MB per second which allow:

- Real time performance.
- Secure transmission.
- Outperforming Modulation Technology (OFDM).
- PnP Installation and Configuration (Plug and Play).
- Standard Base IP
- Self-Healing Network.

Integrating:

- Optimal Path Selection Protocol: a technology that finds the best rout in terms of attenuation and number of hops to connect a Node to the Head End.
- Node Keep Alive: A procedure used to check the connectivity of a node to the backbone which resets the Node when the connection is lost for a certain time.
- Adaptive Load Balancing: A technology that optimizes channel allocation to maximize the throughput in a network with many Nodes.
- Remote Firmware Upgrade: Capable of installing a new node or application software from a centralized control center.
- Stand-Along Function: Integrates an RTC to provide capability of stand-alone operation.
- Power Supply Fault Detection: Allows the system to check if has been occurred a fault in the lamp power supply.
- RJ-45 connection that allows having an internet access point on the node.

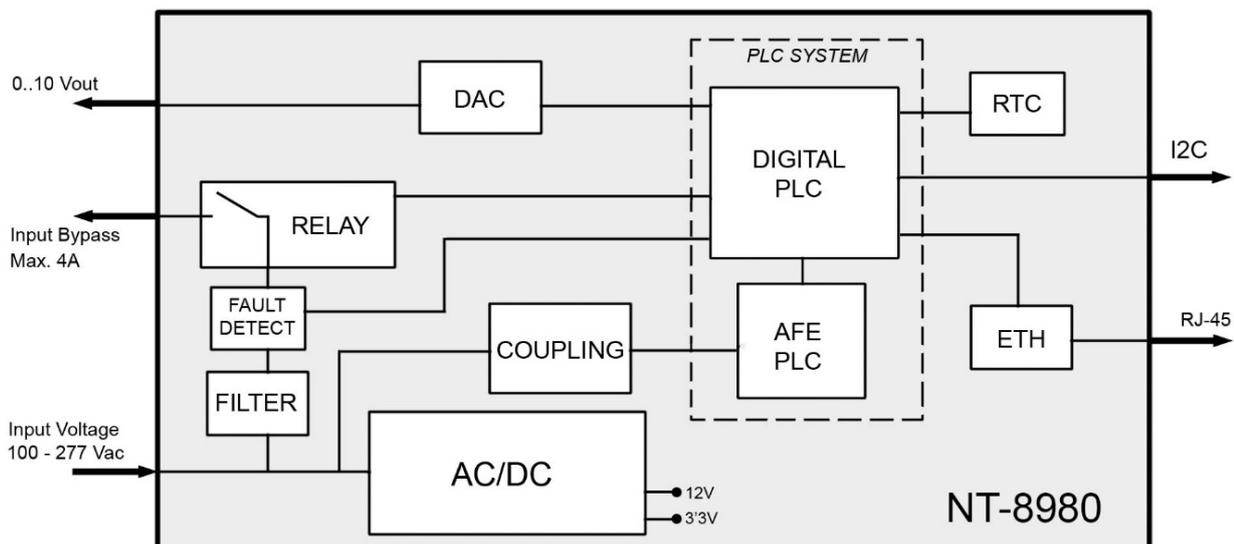
The UVAX Protocol Node NT-8980 is equipped with an output of Alternating Current up to 4A with the same rating voltage as the input (bypass of the input). This output passes through a filter to avoid interferences on the PLC signal, and through a relay, so the activation of the output is controllable by the user.

Dimming functions are done with control output with a range between 0VDC and 10VDC.

It also integrates an Ethernet cable with RJ-45 plug that allows having an internet access point on the node. This function can be used, for example, to connect an IP camera.

UVAX Protocol Node NT-8980 has an I2C digital interface that permits to connect several sensors to each node.

1.2 Block Diagram NT-8980



2. Electrical Specifications

Input

| | |
|----------------------------|---------------|
| Input voltage range (VAC): | 100 ~ 277 VAC |
| Input frequency: | 50 ~ 60Hz |
| Power factor: | > 0.80 |
| Maximum power: | 4W |

Output VAC1

| | |
|-----------------------------|---------------|
| Output voltage range (VAC): | 100 ~ 277 VAC |
| Maximum output current: | 4A |
| Maximum output power: | 400w |

Control output

| | |
|-------------------------|---------|
| Output voltage range: | 0 ~ 10V |
| Maximum output current: | 50mA |

3. Environment

Usage for open type applications:

- IEC² 60529, IP-65
- Nema³, Type-1

| | |
|----------------------------------|----------------|
| Environment working temperature: | -25 °C ~ 60°C. |
| Environment storage temperature: | -25 °C ~ 85°C. |
| TC: | 65 °C |



1. The maximum charge is defined by the maximum power and maximum current, the one it reach before.
2. International Electrotechnical Commission, 3 Rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
3. National Electrical Manufacturers Association, 1300 North 17th Street, Rosslyn, VA 22209



4. Dimensions and weight

- 77mm H x 177mm W x 34mm D
- Optional wire gland
- 590 g



5. Approvals

| Approvals | |
|-------------|---|
| 2006/95/CE | EN60950-1: 2006+A11: 2009 EN60529_1991+A1: 2000 |
| 2004/108/CE | EN55022:2006+A1:2007 EN55024: 1998+A1:2001+A2:2003 EN61000-3-2:2006 EN61000-3-3: 2008 EN61547: 1995+A1: 2000 TGN17 |



7. Installations, cautions and warnings

- Do not install if the device is damaged. Inspect the box for obvious defects such as cracks in the housing.
- This device doesn't have replaceable or interchangeable elements, so it mustn't be manipulated.
- If the device is installed or used in a manner not specified by the accompanying documents, the safety of the device may be impaired.
- If the device functions abnormally, proceed with caution. The safety of the device may be impaired.
- Do not install around combustible gas or gas vapor.
- Do not install in an electrical service with current or voltage outside of the specified limit of the device.
- Do not operate this device with the cover removed.
- Beware of working around this device when the voltage is live. There is a risk of electric shock.
- Check that all connections are reliable and correct before connecting the device to the voltage line.
- See instructions for connection diagrams.



8. Product Limited Warranty

Teslights, LLC warrants its equipment for 2 years from the ship date against defects in material or workmanship when installed in accordance with manufacturer's instructions by qualified personnel.

This warranty does not cover installation, removal, reinstallation or labor costs and excludes normal wear and tear. The warranty does not cover product which has been altered from its original manufactured condition due to faulty installation, tampering, accident, neglect, abuse, force majeure or abnormal conditions of operation.

Obligation under this warranty is limited to repair and/or replacement, at Teslights LLC's option, of the manufactured product and in no event shall Teslights, LLC be liable for consequential or incidental damages.



9. Release dates

| Model | Revision No. | Release Date (dd/mm/yyyy) |
|---------|--------------|------------------------------|
| NT-8980 | R001 | 01/01/2015 |