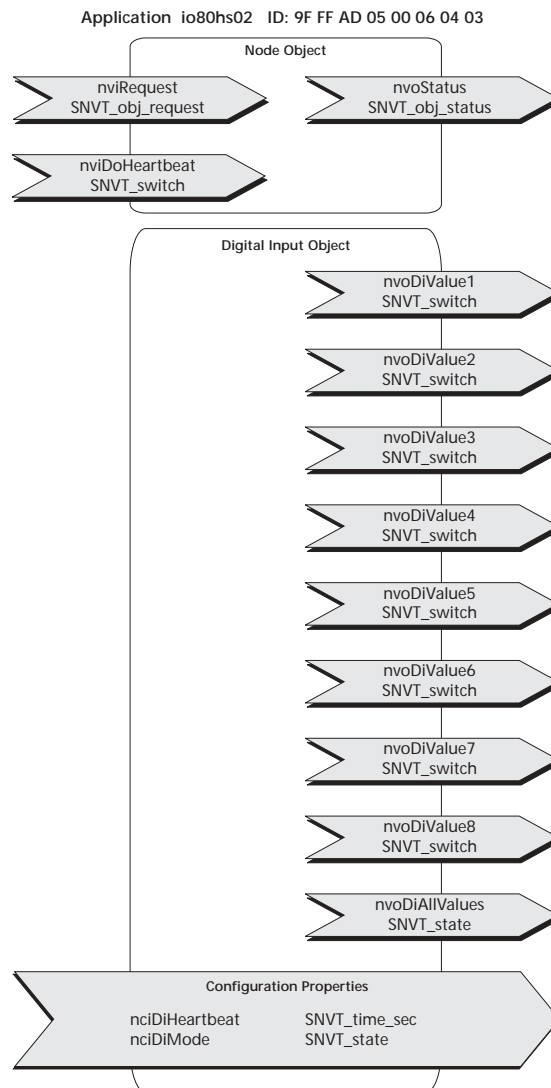


**Software Application io80hs02** (Standard I/O)

For Input/Output Module model IO80HS LON

Standard application for status detection of digital inputs and data output. Application uses Standard Network Variables (SNVT) according to LonMark® prescriptions.

**Node Object**

The Node Object supervises and controls the functions of the individual objects within the unit. The basic functions required by the LonMark® are supported.

**Network Variables Node Object:****nviRequest**

SNVT Type: SNVT\_obj\_request

Function: Input variable with functions RQ\_NORMAL, RQ\_UPDATE\_STATUS and RQ\_REPORT\_MASK.

**nvoStatus**

SNVT Type: SNVT\_obj\_status

Function: Output variable including required status bits "invalid\_id" and "invalid\_request".

**nviDoHeartbeat**

SNVT Type: SNVT\_switch

Function: If input variable is set (100.1 1), the output variables [nvoDiValue[0..7] and nvoDiAllValues are updated and transmitted after a calculated period of time [Node number 1....127] x 10 ms)

## Digital Input Object

Object includes status detection of digital inputs and data output.

### Network Variables Digital Input Object:

#### *nvoDiValue[1...8]*

SNVT Type: SNVT\_switch

Function: Output variables with the status of the digital inputs. The output variables are put out after change of input status, after expiration of heartbeat time (nciDiHeartbeat) and after module reset. Calculated time for output after module reset:  $1s + ([Nodenummer\ 1...127] \times 10\ ms)$

By *nciDiMode*, the functions of the inputs are configurable as *open* or *closed contacts*.

Potential-free contact active ==> *nvoDiValue[1...8]* = 100.0 1

Potential-free contact not active ==> *nvoDiValue[1...8]* = 0.0 0

#### *nvoDiAllValues*

SNVT Type: SNVT\_state

Function: Status of all digital inputs of one collective network variable. Data output analog to *nvoDiValue*.

By *nciDiMode*, the functions of the inputs are configurable as *open* or *closed contacts*.

Potential-free contact active ==> *nvoDiAllValues.bit[0...7]* = 1

Potential-free contact not active ==> *nvoDiAllValues.bit[0...7]* = 0

### Configuration Parameter Digital Input Object:

#### *nciDiHeartbeat*

SNVT Type: SNVT\_time\_sec

Function: Heartbeat interval. After expiration of *nciDiHeartbeat* the digital inputs are polled and output variables *nvoDiValue[1...8]* and *nvoDiAllValues* are transmitted. Heartbeat function is disabled with input values < 1 sec. (Default: 0 )

#### *nciDiMode*

SNVT Typ: SNVT\_state

Funktion: Parameter to configure the inputs as open or closed contacts.

*nviDiMode.bit0* = 1 ==> all digital inputs are open contacts

*nviDiMode.bit0* = 0 ==> the digital inputs DIs are configurable with .bit1...8

*nviDiMode.bit1...8* = 1 ==> digital inputs are open contacts

*nviDiMode.bit1...8* = 0 ==> digital inputs are closed contacts

### General Remarks:

#### *Wink - Event*

Service LED is triggered and blinking two times.

#### Configuration properties

A download of application overwrites manufacturer's configuration parameters. The configuration variables are designed as bindable network variables stored in EEPROM. Thus parameter changes are possible even without installation tool.

**!! An update of variables is directly written into the non-volatile memory of hardware. User has to make sure that !! total number of writing cycles does not exceed maximum capacity of non-volatile memory (dimension <10000).**