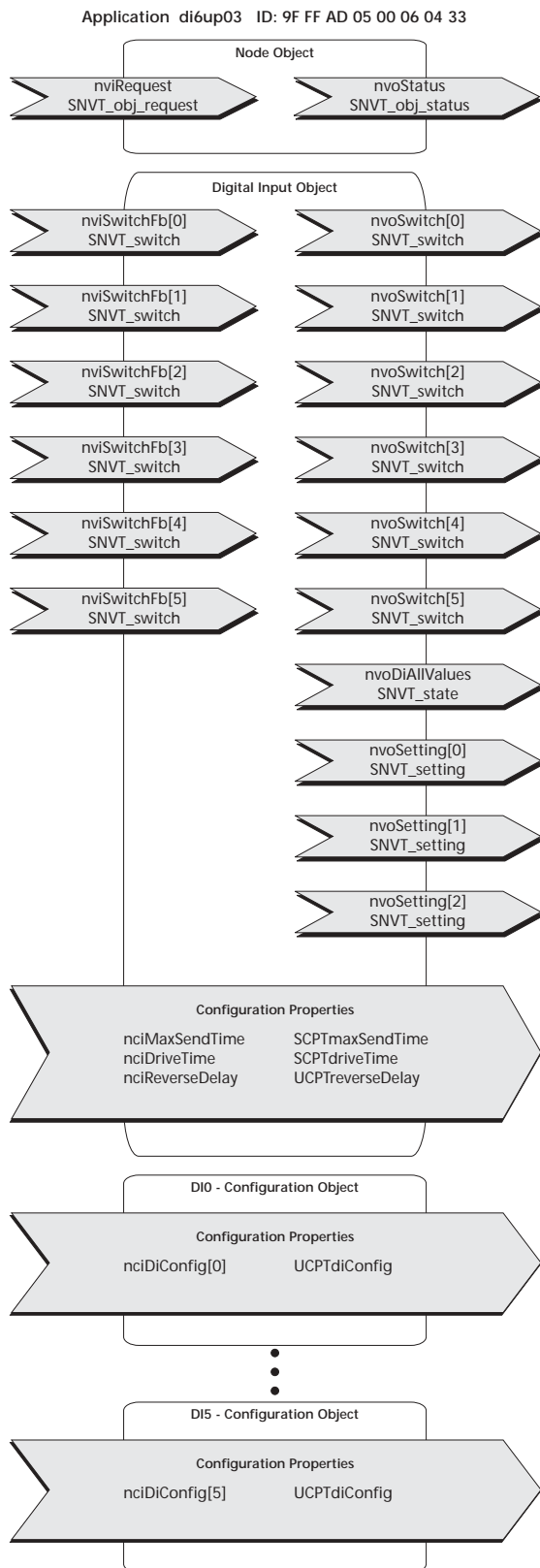


Software Application di6up03 (Standard I/O, Toggle, Blinds with SNVT_setting)

For input/output module model DI6UP LON



Application for status inquiry of digital inputs and data output. Each digital input is free configurable with regard to its function and allocation to the output variables.

The application uses the standard network variables (SNVT) and standard configuration parameter (SCPT). For extended adjustment options user-defined configuration parameters (UCPT) are used. The UCPTs used are defined in the **Thermokon Device Resource Files** from version 1.5 or higher and should be installed at the PC, before the device patterns are made-up by the installation tool.

Configuration: By means of the parameters *nciDiConfig[0]...[5]* each input can be individually configured.

nciDiConfig[]*.

byte[0]: Allocation of a DI to an output variable
nvoSwitch[0]...[5]

byte[1]: Allocation of a DI to an output variable
nvoSetting[0]...[2]

byte[2]: Configuration make-and break contact

byte[3]: Configuration of DI function
 0 = Status output, DI active resp. deactive
 1 = Light control with Toggle function
 2 = „without function“
 3 = Light control „only ON“
 4 = Light control „only OFF“
 5 = Blind control „Open“
 6 = Blind control „Close“

0, (Standard I/O-Function): The status of the switch contact (active/not active) is output by SNVT_switch- and SNVT_setting-variables output:

DI active: 100.0 1 respectively SET_ON

DI not active: 0.0 0 respectively SET_OFF

1, Toggle-Function: Each button actuation results in a change-over of the output variables between the values 0.0 0 and 100.0 1 respectively between SET_OFF and SET_ON. If a light group should be controlled by several buttons, the current status of a light group can be considered by means of a feedback variable nviSwitchFb[*].

3, ON-Function: Each button actuation results in the switch-on of the output variables to the values 100.0 1 and SET_ON.

4, OFF-Function: Each button actuation results in the switch-off of the output variables to the values 0.0 0 and SET_OFF.

5/6, Blind Function: The blind function only affects the output variables of type SNVT_setting for the control of LON blind drivers. Short-term button actuations (< 2 s) serve for the fine adjustment of the blades. A long-term button actuation (> 2s) starts the automatic run and the blind is continuously controlled for the time nciDriveTime. The automatic run can be stopped by actuating any button.

Node Object

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

Network variables Node Object:

nviRequest

SNVT Type: SNVT_obj_request, Index 92

Function: Input variable including the functions RQ_NORMAL, RQ_UPDATE_STATUS and RQ_REPORT_MASK.

nvoStatus

SNVT Type: SNVT_obj_status, Index 93

Function: Output variables including required status bits „invalid_id“ and „invalid_request“.

Digital Input Object

The Object contains the functions for status detection of digital inputs and data output. The functionality of the digital inputs and the corresponding function course of the input respectively output variables are free configurable. The functions **Standard I/O**, **Toggle**, **only ON**, **only OFF** and **blind**, as well as the direction of the inputs (make/break) can be set up in the DI-configuration object by means of the configuration parameters *nciDiConfig[0]...nciDiConfig[5]*.

Network Variables Digital Input Object:

nviSwitchFb[0..5]

SNVT Type: SNVT_switch, Index 95

Function: Input variable for the current status of the light group controlled by nvoSwitch[0...5].

nvoDiAllValues

SNVT Type: SNVT_state, Index 83

Function: The output variable shows the status of all digital inputs (active / not active) in a collective-NV. The function is fix preadjusted and cannot be changed by the configuration parameters nciDiConfig. Data transmission is made upon value change of the output variables, after expiration of the heartbeat time (nciMaxSendTime) and after module reset.

D10 active	=	.bit0 = 1
D10 not active	=	.bit0 = 0
:	:	:
:	:	:
D15 active	=	.bit5 = 1
D15 not active	=	.bit5 = 0

nvoSwitch[0...5]

SNVT Type: SNVT_switch, Index 95

Function: Output variable of the digital inputs for light control. Data transmission is made analog to nvoDiAllValues.

nvoSetting[0...2]

SNVT Type: SNVT_setting, Index 117

Function: Output variable including the switch commandes „open“, „close“ and „stop“ for blind control via a LON-sunblindblind actuator.

nvoSbInd_Set12 = SET_STOP, FF, 7FFF	==>	Switch command „stop blind“
nvoSbInd_Set12 = SET_UP, FF, 7FFF	==>	Switch command „open blind“
nvoSbInd_Set12 = SET_DOWN, FF, 7FFF	==>	Switch command „close blind“

Short-term button actuations (< 2 s) are for the fine adjustment of the blades. A long-term button actuation (> 2 s) starts the automatic run and the blind is continuously controlled for the time nciDriveTime. The automatic run can be stopped by actuating any button.

Configuration parameter Digital Input Object:

nciMaxSendTime

SCPT Type: SCPTmaxSendTime, Index 49, SNVT_time_sec

Function: Heartbeat function. Stipulates the interval time, after which all output variables of the object are sent, independent of a value change. The heartbeat function is deactivated by input value =0.
(Preset value: 0, i.e. Values are only sent upon value change)

nciDriveTime

SCPT Type: SCPTdriveTime, Index 45, SNVT_time_sec

Function: Configuration parameter for adjustment of maximum turn on time of blind motors in the automatic run.
(Preset value: 100 s)

nciReverseDelay

UCPT Type: UCPTReverseDelay, Index 14, SNVT_count

Function: Configuration parameter for adjustment for change-over delay in ms upon rotation reversing of blind motors. (Preset value: 500 ms)

DIO...5 - Configuration Objects

Objects with the configuration parameters nciDiConfig[*] for function set-up of the digital inputs.

Configuration parameter DI-Configuratin Object:

nciDiConfig[]*

UCPT Type: UCPTdiConfig, Index 44, UNVT_str_hex4

Function: Configuration parameter for function set-up of the digital inputs.

nciDiConfig[0]	==>	configured DIO, (preset value, 0,0,0,0)
nciDiConfig[1]	==>	configured DI1, (preset value, 1,0,0,0)
nciDiConfig[2]	==>	configured DI2, (preset value, 2,1,0,0)
nciDiConfig[3]	==>	configured DI3, (preset value, 3,1,0,0)
nciDiConfig[4]	==>	configured DI4, (preset value, 4,2,0,0)
nciDiConfig[5]	==>	configured DI5, (preset value, 5,2,0,0)

.byte[0]: Value range 0-5; Allocation of a DIs to an output variable nvoSwitch[0]...[5]. It is also possible to allocate more DIs to one network variable.

.byte[1]: Value range 0-2; Allocation of a DIs to an output variable nvoSetting[0]...[2]. When using the variables for blind control, the digital inputs with den functions „open“, respectively „close“ must be allocated to the same network variables.

.byte[2]: Value range 0-1; Configuration make-, respectively break-contact
 0 ==> Make contact, i.e. DI is active in closed status
 1 ==> Break contact, i.e. DI is active in open status

.byte[3]: Value range 0-6; Configuration of DI-Function
 0 ==> Status output, DI active respectively not active
 1 ==> Light control with Toggle-function
 2 ==> „without function“
 3 ==> Light control „only ON“
 4 ==> Light control „only OFF“
 5 ==> Blind control „Open“
 6 ==> Blind control „Closed“

General Remarks:**Wink - Event**

The Service LED is triggered and flashes two times.

Configuration parameter:

The configuration parameter are designed as configuration network variables and are therefore also available in the virtual functional block as bindable network variables (from LNS 3.0). Thus parameter changes are possible via another LON-node even without installation tool.

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