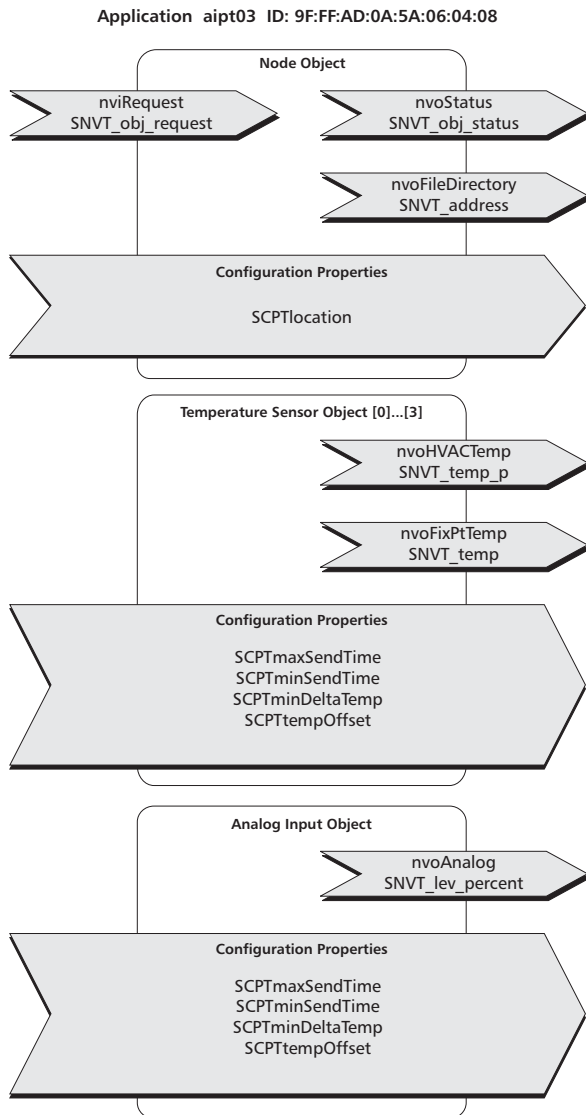


Software Application aipt03 (4 x PT1000 Sensors and 1 x 0-10V Input)

For Module Type AIPT LON (since 2005)



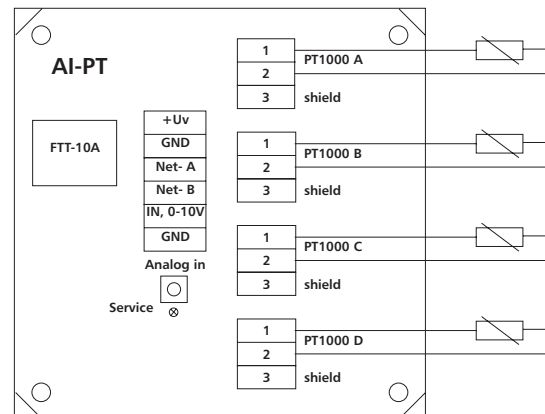
Overview: The standard application has 4 identical objects for temperature detection by a PT1000 sensing element and one object for measuring a 0-10V input signal. All functions are converted considering the LonMark® functions profiles **1040 Temperature Sensor** and **0520 Analog Input**. The application uses standard network variables types (SNVT) and standard configuration property types (SCPT).

Node Object: Besides the network variables prescribed by the LonMark, the object disposes of the configuration property type **SCPTlocation** for the input of the device description.

Temperature-Sensor-Object [0]...[3]: Four identical objects for temperature detection. Each PT1000 input (A...D) is firmly allocated to one of the objects 0...3. Output of the measuring values is made by means of the variables **nvoHVACTemp** and **nvoFixPtTemp**.

Analog Input Object: The analog 0-10V input value is output by the variable **nvoAnalog** as **SNVT_lev_percent** with 0-100%.

Terminal Connection:



Node Object

The Node Object supervises and controls the functions of the individual objects in a device. The 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 variable including the required status bits „invalid_id“ and „invalid_request“.

Configuration Property Type Node Object:

SCPTlocation

SCPT Index: 17, SNVT_str_asc

Function: Additional input possibility to store information about the location in the device.

Temperature Sensor Object[0]...[3]

The objects include the functions for temperature detection and data output. Each PT1000 input (A...D) is firmly allocated to one of the objects 0...3.

Output Variables Temperature Sensor Object:

nvoHVACTemp

SNVT Type: SNVT_temp_p, Index 105

Function: Output variable for the measured temperature value (resolution 1/100 °C). Data output is made depending on the configuration properties *SCPTmaxSendTime*, *SCPTminSendTime*, *SCPTminDeltaTemp* and approx. 1,5 to 4 sec. after reset.

nvoFixPtTemp

SNVT Type: SNVT_temp, Index 39

Function: Output variable for the temperature value measured (resolution 1/10 °C). Data output is made analog to *nvoHVACTemp*.

Configuration Properties Temperature Sensor Object:

SCPTmaxSendTime

SCPT Index: 49, SNVT_time_sec

Function: Heartbeat function. Stipulates the interval time after which all output variables of the object are sent independently of a value change. By input values = 0, the heartbeat function is deactivated. (Preset value: 5 min)

SCPTminSendTime

SCPT Index: 52, SNVT_time_sec

Function: Stipulates the smallest update interval of the temperature output variable. An update is made after expiration of *SCPTminSendTime*, if the temperature value has changed by more than *SCPTminDeltaTemp*. By input values = 0, the function is deactivated. (Preset value: 5 sec)

SCPTminDeltaTemp

SCPT Index: 64, SNVT_temp_p

Function: If the temperature is changing by the adjusted value *SCPTminDeltaTemp*, the new temperature values are transmitted. The function is depending on the adjustment of the parameters *SCPTminSendTime*. (Value range ≥ 0 °C; preset value: 0,30 °C)

SCPToffsetTemp

Index: 70, SNVT_temp_p

Function: By means of this configuration parameter a software calibration of the temperature sensors is possible. (Preset value: 0,0 K)

Analog Input Object

Output Variables Analog Input Object:

nvoAnalog

SNVT Type: SNVT_lev_percent, Index 81

Function: Output variable for the measured analog value at the 0-10V input. Data output is made depending on the configuration property types *SCPTmaxSendTime*, *SCPTminSendTime*, *SCPTminDeltaLevel* and approx. 1,5 to 4 sec. after reset.

Configuration Properties Analog Input Object:**SCPTmaxSendTime**

SCPT Index: 49, SNVT_time_sec

Function: Heartbeat function. Stipulates the interval time after which all output variables of the object are sent independently of a value change. By input values = 0, the heartbeat function is deactivated. (Preset value: 5 min).

SCPTminSendTime

SCPT Index: 52, SNVT_time_sec

Function: Stipulates the smallest update interval of the output variable *nvoAnalog*. An update is made after expiration of *SCPTminSendTime*, if the temperature value has changed by more than *SCPTminDeltaLevel*. By input values = 0 the function is deactivated. (Preset value: 5 sec)

SCPTminDeltaLevel

SCPT Index: 64, SNVT_temp_p

Function: If the measuring value has changed by the adjusted value *SCPTminDeltaLevel*, the new temperature values are transmitted. The function is depending on the adjustment of the parameters *SCPTminSendTime*. (Value range ≥ 0 %; preset value: 2,5 %)

SCPToffset

Index: 26, SNVT_lev_percent

Function: By means of this configuration parameter a software calibration of the input signals is possible. (Preset value: 0,0 %)

General Notice:**Wink - Event**

The service LED is triggered and blinks two times.