Engineering Guide for ISIS Slit temperature Publisher

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1. Introduction

The purpose of this document is to provide a guide for software engineers to understand the interactions and purpose of the software components which comprise the new ISIS Slit temperature Publisher.

2. Scope

This document is conceived to be used by software engineers. However, 'Overview' and 'Troubleshooting' chapters may be useful for OSAs or Operations Team.

3. Overview

IsisSlitTempPublisher is a new software component integrated into WHT observing system which is in charge of reading the value of ISIS Slit temperature from the PLC and publishes it on the ISIS Mimic and in RED and BLUE arms exposures headers.

The software is automatically started/finished by the startobssys/shutdownobssys commands, therefore, in normal circumstances, it needs no user interaction from the user.

If for any reason, the system should be started/stopped manually the following command should be used:

TO>obssys

TO>IsisSlitTempPublisher {start|stop|restart|status}

Please consult Troubleshooting section for details about possible problems.

4. Building the Software

To obtain the latest copy of the sources from the CVS repository:

cvs co IsisSlitTempPublisher

The system has been created using the Netbeans IDE (V 6.9.1) and it holds all the structure needed for being built from there.

However, it can also be built from the command line using ant tool. Please refer to README.txt document in the application top folder.

5. Software description

The IsisSlitTempPublisher component is a Java standalone application that polls the PLC memory with certain rate (currently every 10 seconds) and publishes the Slit temperature and its average value into parameter notice board with the keywords ISISTEMPA and ISISTEMPL respectively.

The communication with the PLC is done using a JNI wrapper to the PLICO C based library.

Description of the main classes

Please refer to javaDoc documentation for further Details.

Manager

It creates the Poller Thread that will manage directly the PLC communication and make the average calculations.

Poller

Polls the PLC, writes the values into PNB and calculates the average of the temperature.

PNBConector

Manages the communication with the parameter notice board.

PNBWriter

Writes the values into the parameter notice board.

PlcInterface

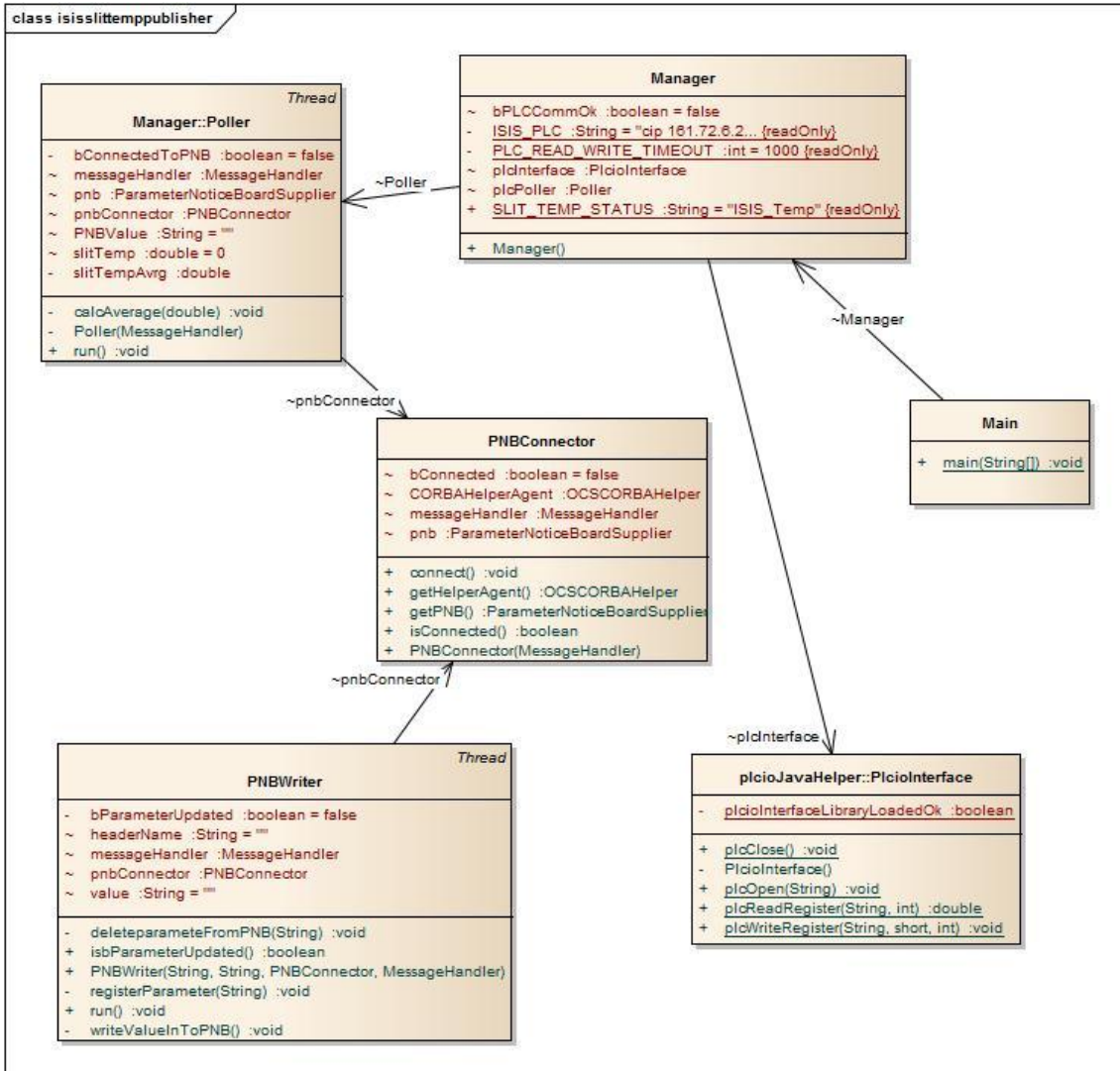Provides the interface to the PLCIO library.

3

Figure 1. Class Diagram

6. Troubleshooting

Isis Mimic shows 'Error' for both temperatures: Probably the communication with the PLC has been interrupted. In this scenario you will probably see other ISIS related errors in the mimic.

Isis Mimic does not refresh the temperature values: It could happen that the Publisher has been killed for any reason. In the taurus' pink window type:

TO>IsisSlittempPublisher restart

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