

Report/ Bericht

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Minutes of the Design Review / 11 CRYO Coolers Controls for the SOLEIL SYNCHROTRON Synchrotron SOLEIL contract n° 64 08 0410 dated October 13th, 2008

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Project/Projekt: CRYO - Coolers

Release/ Freigabe

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1 Introduction:

Purpose of this document is to summarize the topics and results that showed up during the Design Review Meeting of the control system for the closed loop cryo coolers ordered by SOLEIL. The goal of the meeting was to define the preferred way to achieve remote access to the control system via Tango.

2 Topics and results of the design review

In the following the topics are listed which were discussed and the related results are reported in a short form.

2.1 Presentation of the control system:

- The operation of the cryo cooler and the realization of the functions of the cooler via the GUI were explained.
- The features of the quoted control system were described.
- The mechanical layout of the control system was explained.
- The data transfer possibilities of the original data exchange to TANGO were introduced. (see figure 1 at the end of this document)
- Alternative solutions to realize the data exchange were described (see figure 2 at the end of this document)

2.2 Decision how to proceed with the control system:

- SOLEIL appreciates a direct access to the PLC via a SIEMENS ETHERNET Module CP343-1. The direct data access via "fetch & write" mode offers the opportunity of data logging using the standard tools available for TANGO.

2.3 Required Actions and Time Schedule

- 1) Since SOLEIL uses a slightly different ETHERNET Module than ACCEL proposes, SOLEIL will check the compatibility of both units until 21st of November
- 2) ACCEL will provide a memory map to SOLEIL until December 15th.
- 3) ACCEL will enable remote access to the ETHERNET module to allow SOLEIL to check for the proper communication via TANGO

2.4 Control of the heater in the supply line

The reason for the heater in the supply line was briefly explained and discussed. ACCEL will provide 8 PID – Controllers to control the eight heaters. The power of the heater will be 2 KW. The controller will be integrated into the power distribution of the Control Rack. A JUMO DTRON 304 controller will be used to realize the temperature control. The required circuit breakers and power relays will be provided and integrated into the power distribution. A documentation of the controller will be provided by ACCEL until November 21st. The control of the additional heater will not be implemented into the PLC.

3 Summary:

The features of the control system were explained and a common understanding of the most suitable remote control was achieved. The next steps to realize the control system are well defined.

The time schedule to realize the features of the control system was determined.

The concept of the control system is determined and accepted by SOLEIL

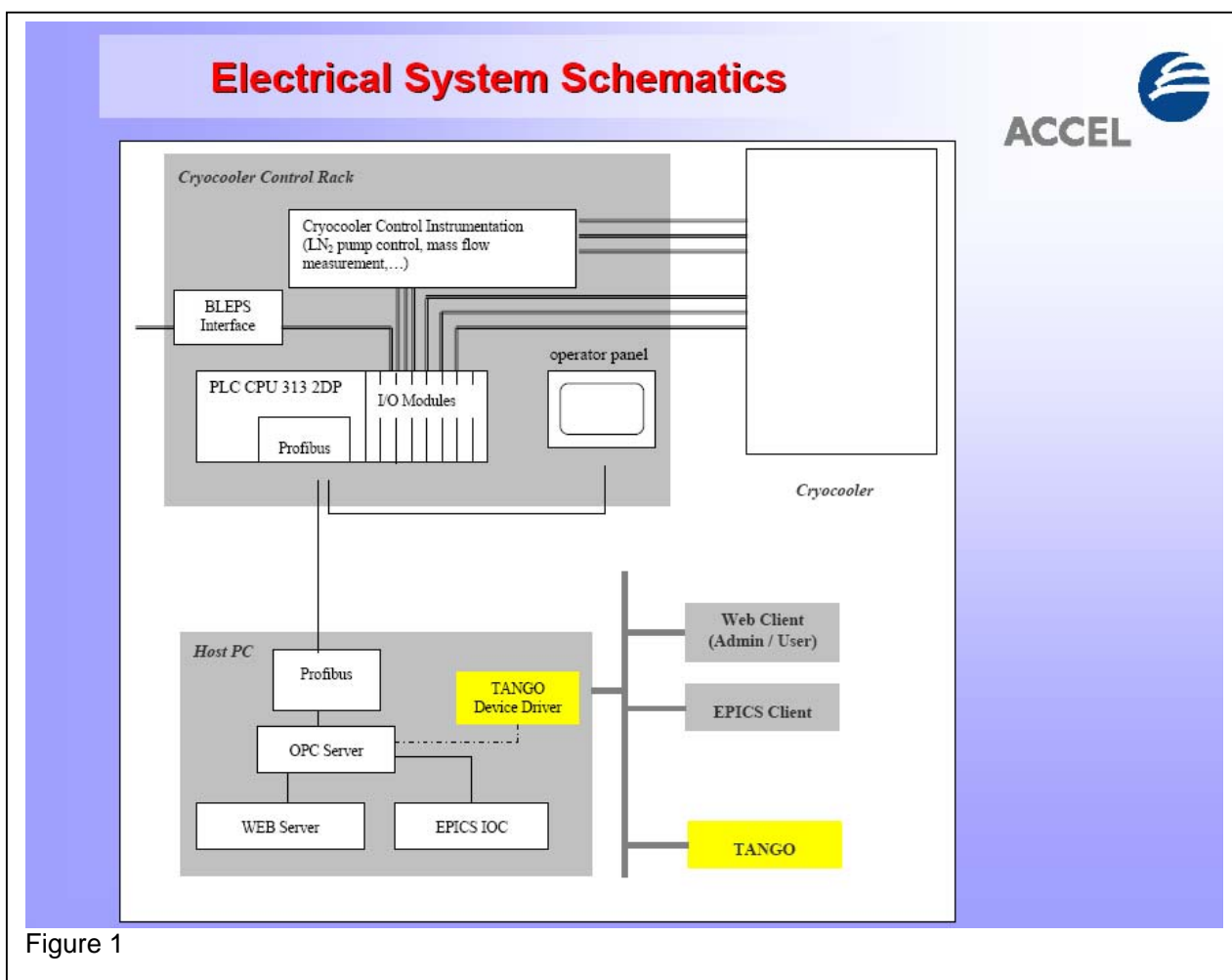


Figure 1

Alternative approach to remote access - 1

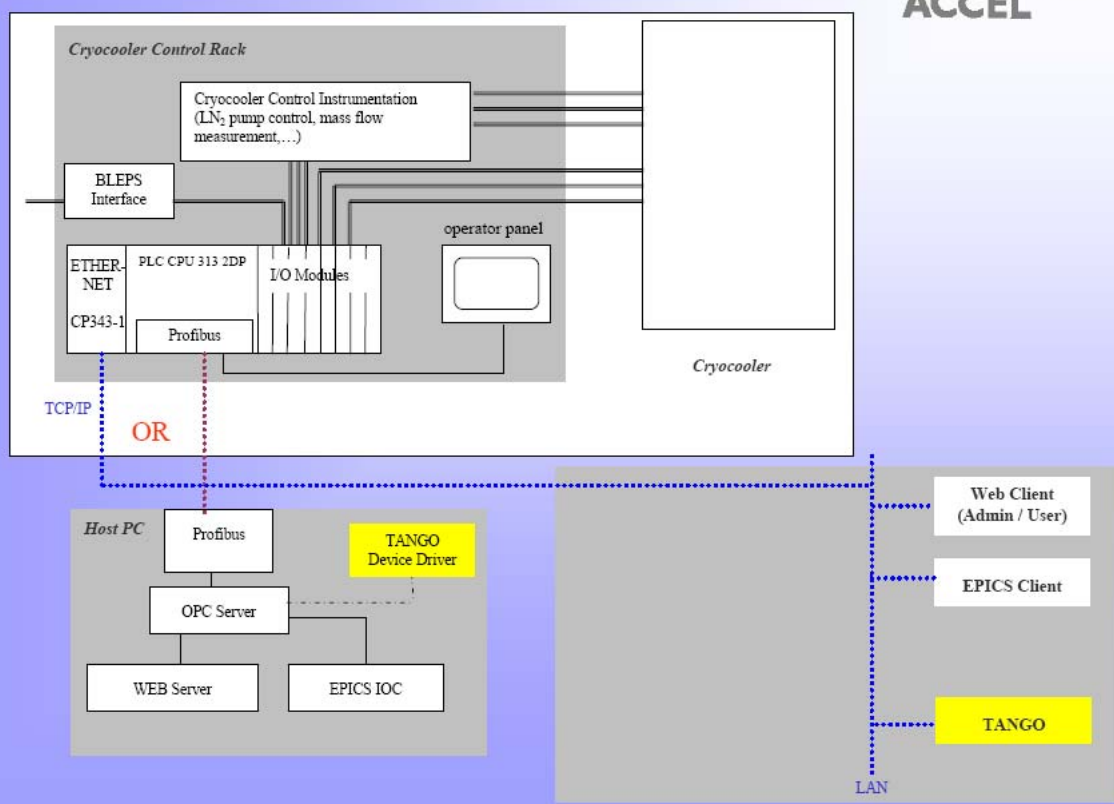


Figure 2