

## Design and development plan for control and data acquisition system of Thailand Tokamak 1 (TT1)

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Control and data acquisition systems of Thailand Tokamak 1 (TT1) are designed and developed as tools for researchers and students in Asian country. The control and data acquisition systems is designed base on the PXI platforms and synchronized with a precision time protocol (PTP), defined in the IEEE 1588 standard. The PXI6683 cards are used as a timing module in PXI cases, time resolution up to 100 ns. This protocol is similar to what is planned for ITER. TCP/IP network is used to connect between the central control and PXI cases while fiber optic is used for interlock, triggering and data systems. The data acquisition system is consisted of 192 channels that are installed in 2 PXI case. A bandwidth of this system includes 20 kHz; for poloidal flux loop, Rogowski coil, 2D magnetic probes and voltage loop, 100 kHz; for saddle/locked loops, and 1 MHz; for MHD probes.

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