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C3Or3C-03: LCLS-II Cryogenic System Instrumentation

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SLAC National Accelerator Laboratory has upgraded to LCLS-II, featuring a 4 GeV superconducting linear accelerator composed of 37 cryomodules and two large helium refrigeration systems with a cooling capacity of 4 kW at 2.0 K. In this paper, we provide an overview of the instrumentation and controls for the Cryoplant, Cryodistribution, and Cryomodules, spanning from the instruments themselves, to the PLC I/O cards, and finally to the Human-Machine Interface (HMI). We also discuss the best practices and lessons learned during the commissioning process, which contributed to the successful implementation of the instrumentation and controls.

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