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Compact Bidirectional 2.5 Gbit/s Optical Transceiver for the H1-Experiment — •Stefan Lüders, Raphael Baldinger, Ralph Eichler, Christoph Grab, Beat Meier, Silvan Streuli und Karoly Szeker — Institute for Particle Physics, ETH Zürich, 5232 Villigen PSI, Switzerland

The upgrade of the multi–wire proportional chamber (CIP) of the H1–experiment at HERA (DESY) increases the number of channels to 9600. These channels have to be read out within the time between two bunch crossings of 96 ns and made available to the z–vertex trigger. With the extremely tight spatial conditions at the rear CIP endflange a fast and compact bidirectional read–out electronics is required, keeping the power consumption and the amount of dead material in the H1–experiment to a minimum.

This contribution presents a solution using 40 identical optical link modules, stacked on top of each other in groups of five and each transferring the trigger information with a data rate of 4×832 Mbps (an effective rate of 4×625 Mbps) via optical fibers out of the H1–experiment.

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