



### Overview

TEConcept has developed a Physical Layer Tester "PLT" for Devices to run Physical Layer Tests according to the IO-Link Test Specification. The Physical Layer Tester is powered by an external 48V power supply; it is controlled via a USB port and offers a standard M12 connector for the Devices Under Test "DUT".

A PC software tool asks for the IODD of the DUT and automatically adjusts most of its test procedure parameters according to the capabilities of the DUT. The test cases are defined by XML files that are accessible by the user.

### Functional Description

The PLT is based on a high-speed multi-channel A/D converter that measures voltages and currents on both the C/Q and the L+ line. For every test case, a specific snapshot of signals is taken and stored. In order to generate these signals, the PLT includes all necessary elements, such as an IO-Link Master, adjustable voltage and current sources, line simulations and so forth.

These snapshots are visualized in an oscilloscope-like view by the PC application. They must be analyzed in a semi-automatic way where measurements are taken by moving graphical cursors that are linked with voltage current and time values. The measured data are entered/copied into predefined fields and used for an automatically generated test report.

### Physical Layer Tester Features

- Compliant to IO-Link Test Specification V1.1.4
- User calibration support
- IODD support
- Integrated IO-Link Master
- Integrated Line Simulation
- Semi-automatic measurement procedure based on recorded waveforms
- SIO – Mode tests
- BIT – and UART Eye-Diagrams
- Test Report Generation (PDF)
- All test results are stored in a reloadable test data file

### Advantages

- All components to run Physical Layer Tests are included
- Substantial reduction of test effort and test duration
- Automatic test report generation

### Deliverables

- IO-Link Physical Layer Tester
- 48V power supply, USB cable
- Connector cables
- Windows-based graphical user interface