

Overview

Preprocessor (PP92) is a high-performance IEC 61850-9-2 data acquisition card used to offload the resource demanding task of receiving and handling IEC 61850-9-2 data streams from the central processor.

Areas of application

Preprocessor can be used as a part of measurement and automation complexes for Smart Grids, power electronics, low-medium and high voltage substation automation, communication and electrical equipment test benches, etc.

Features

Digital data format

Preprocessor can receive up to 4 IEC 61850-9-2 data streams of 100 kHz sampled values via Ethernet link (about 100 Mbit/s per stream). Different IEC 61850-9-2 profiles available.

Easy deployment and system scaling

Complex can be easily mounted in any place of measurement. Multiple digital data streams can be handled using Ethernet switches. Preprocessor acts as informational firewall for server from external cyber attacks.

Guaranteed insulation

Optical Ethernet link ensures reliable galvanic insulation of preprocessor from the data sources.

Control and measurement system integration

Preprocessor can be installed into a 3U PXI Chassis (NI, Adlink, etc). Using a LINUX driver all of the acquired data is transferred to a control and measurement system (EPICS). The delay between receiving an IEC 61850 data packet and availability of data for the PC can be 1.5 ms or less, which enables to use the system for fast rate close-loop control of technology processes.

IEC 61850-9-2 SV

3 X Gigabit Ethernet Ports

Up to 4 X 100 kHz data streams

Up to 40 X 12.8 kHz data streams



PP92 card

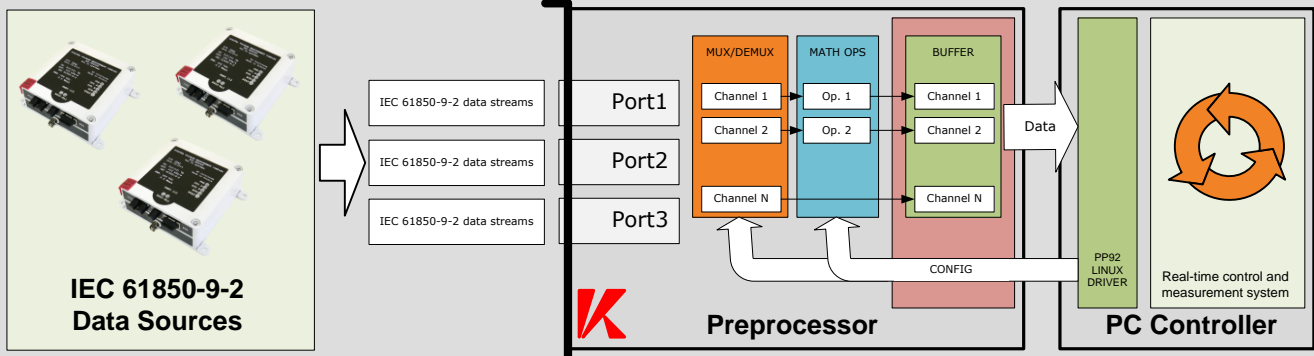
Chassis for data acquisition

Multiple preprocessor cards can be installed into one chassis to handle intensive data acquisition tasks.

The PC Controller can be embedded into the chassis or external server can be connected using MXI card.



Internal data-flow in a digital acquisition system based on the IEC 61850-9-2 Preprocessor



Complex can be used for critical real-time tasks of data acquisition via IEC 61850.

		IEC 61850-9-2 PreProcessor	
Physical	Dimensions (W x H x D)	20.5 x 131 x 213 mm 0.8 x 5.2 x 8.4 "	
	Construction form-factor	3U (PCIMG EXP.0) 1 place in a chassis	Chassis: National Instruments, Adlink
Environmental	Temperature range	+5..+40 °C (+40..+104 °F)	
	Humidity	30 to 80% non-condensing	
Interfaces	PC interface	CompactPCI PCI (optional)	
	Communication ports	3 x Gigabit Ethernet 1000 BASE-SX Multi-mode, 850nm, LC connector	
Service software	Characteristics	Preprocessor LINUX driver EPICS driver Configuration software	
Supported data formats	IEC 61850-9-2 LE	12.8 kHz (8 ASDU per PDU)	
	IEC 61850-9-2 LE	4 kHz (1 ASDU per PDU)	
	IEC 61850-9-2	100 kHz (1 ASDU per PDU)	
Performance	Characteristics	Up to 57 600 MIPS Up to 4 X 100 kHz data streams or Up to 40 X 12.8 kHz data streams	