

XPi Data Acquisition System

Modular Acquisition System for Beam Diagnostics



HIGHLIGHTS

FEATURE

BENEFIT

Particularly suited for beam diagnostics devices such as ion-chambers and beam position monitors

Modular controller

Equipped with a corresponding module, it can cover different applications

Several external input/output optical TRIGGER and CONVERSION signals

Enabling data acquisition synchronization with external events such as Lasers or FEL pulses

Output switch contact

Easy integration into the interlock systems

LCD display

Direct data readings

Manual control

Quick configuration of the main device parameters

Standard 10/100 Ethernet interface

Remote control

Ethernet-TCP/IP or UDP interface

Easy integration into existing control system

APPLICATIONS

- Fast Feedback applications
- 4-quadrant beam position monitor
- Ion Chamber flux monitoring
- Photodiode acquisition
- Precision process control
- Multichannel charge/current acquisition
- Direct current measurement
- Detector polarization

SPECIFICATIONS

Instrument Module Slots	2
External I/O	Optical TRIGGER and CONVERSION signals
Interlock Interface	2 SPDT Switch type
Front Panel Display	LCD 4 row x 20 char
Communication	Ethernet TCP-IP and UDP
Supply Voltage	110 V/220 V - 50/60 Hz
Dimensions	1U 19" Rack - 482 x 260 x 44 mm
Weight	3600 g

CURRENTLY AVAILABLE MODULES

XPi Picoammeter

Fast, 4-channel, simultaneous sampling, 20-bit resolution, low noise, charge integration picoammeter.

The module performs a triggerable charge measurement ranging from 50 pC (with a resolution of 50 aC) up to 1.8 nC (with a resolution of 1.8 fC). With a software programmable integration-time starting from 500 μ s up to 1 s, a current measurement ranging from 50 pA (resolution of 50 aA) up to 3.6 μ A (resolution of 3.6 pA) is achievable. Each input channel has two integrator stages so that the current-to-voltage conversion can be continuously performed during the ADC conversion, avoiding any dead time in the data output.

XPi High Voltage Module

Ultra-low noise, high-stability, 16-bit resolution, high-voltage module.

The module provides output voltages from +/-200 V (with a minimum step increment of 3 mV) up to +/-2000 V (with a minimum step increment of 30.5 mV) and is especially suitable for ion-chambers or other detector polarization.

Coming soon

XPi Strain Gage Module

Especially suitable for mirror position monitoring.

DELIVERABLES

- XPi Data Acquisition System
- **Optional:** XPi Picoammeter
- **Optional:** XPi High Voltage Module
- **On request:** TANGO device driver and LabVIEW VIs

XPi Picoammeter specifications

Input Channels	4
Charge Meas. Range	50 pC - 1.8 nC
Effective Current Range	50 pA - 3.6 mA
Resolution Bits	20
Integration Time	500 μ sec - 1 sec
Polarity	Positive

XPi High Voltage Module Specifications

Output Channels	1 HV + 1 monitor
Resolution Bits	16
Output Connectors	SHV + BNC
Noise (for 1 KV) RMS	Typ. < 500 μ V @ 600 V
HV fixed Voltages	From \pm 200 to \pm 2000
Output Power	1 W

Contact us!

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