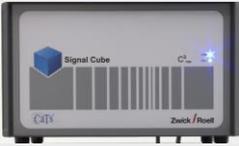




Signal Cube

Modular signal conditioning
Part of the Control Cube product range





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OVERVIEW DESCRIPTION

Part of Control Cube product range

- Signal Cube integrates with Control Cube and is therefore perfectly suited to use in a servo-hydraulic test application
- Simply interconnect Signal Cube with Control Cube to form an integrated test and acquisition system.
- Interconnection is achieved using a CNet cable

Simultaneous sample and hold

- All channels are completely synchronised
- Because Signal Cube and Control Cube share the same CNet bus, all channels from both systems are totally synchronised.
- During acquisition, all Control Cube and all Signal Cube channels are synchronously acquired into a single time history data file,
- Any subset combination of any channels from both devices can be selected for acquisition.
- Signal Cube channels can also be displayed on digital displays as well as on the strip chart or XY-Chart.



Overview specification

- The basic chassis contains the power supply / Ethernet and CNet connection
- Accommodates 4SG strain gauge conditioning cards providing 4 channels of strain gauge bridge conditioning per card
- Accommodates up to 6 conditioning cards providing up to 24 channels of strain gauge signal conditioning per Signal Cube chassis
- Software selectable Full, $\frac{1}{2}$ and $\frac{1}{4}$ bridge configuration
- 24 bit AD accuracy
- 4096 Hz maximum sample rate
- Can be used as a stand-alone acquisition system or integrated in a test control system with K7500 or Control Cube servo-controllers.





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CUBUS SOFTWARE FOR SIGNAL CUBE



Cubus software for Signal Cube

Cubus is required to configure and calibrate the Signal Cube channels. The connected channels are detected and displayed in the transducers table, allowing their configuration and calibration with Cubus

Integration with Control Cube transducers

All Signal Cube transducer channels are displayed on their own separate tab to distinguish them from the Control Cube transducers.

Clicking on the Config button allows configuration and calibration of each strain gauge bridge.

This involves setting up of:

- Bridge: ¼ ½ or full bridge
- Gauge resistance: 120, 350 Ohm
- Gauge factor
- Bridge factor
- Excitation
- Balance
- Offset

Additional settings for the filters are also available

Transducers

The screenshot shows the Cubus software interface. On the left is a tree view of the hardware setup. The main window displays a table of transducers:

Cube	Active	Input	Name	Parameter	Fullscale	Units	Config
2	<input checked="" type="checkbox"/>	SG	Left bending	Strain	1,000.0	µε	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	SG	Right bending	Strain	1,000.0	µε	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	SG	Beam axial	Strain	1,000.0	µε	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	SG	Bolt	Strain	1,000.0	µε	<input type="checkbox"/>

Below the table is a checkbox for "Virtual transducers" which is checked. To the right, a "Strain gauge properties" dialog is open for "Left bending Strain [µε]". It has tabs for "Strain gauge", "Config", "Calibration", "Filter", and "Info". The "Config" tab is active, showing radio button options for "Bridge" (Quarter bridge selected, Half bridge, Full bridge) and "Gauge resistance" (120 Ohm, 350 Ohm selected). Navigation buttons "Back", "Next", and "Close" are at the bottom.

TX Reading