Elsys TPCX
High Speed Data Acquisition Modules

Fast, High-Precision, and High-Resolution Data Acquisition Modules

- 4 or 8 Channels per Module
- Up to 240 MS/s @ 14-bit Resolution
- Up to 60 MS/s 16-bit Resolution
- Single-Ended and Differential Inputs
Elsys TPCX Data Acquisition Modules

The Elsys TPCX Transient Recorder modules are high-precision and high-resolution digitizers with sophisticated features such as advanced trigger mode, continuous data acquisition mode, differential inputs, digital input lines (Markers) and ICP coupling for powering piezo sensors. The various TPCX modules are compact short-form PCI boards. A scalable data acquisition system may be started with one or several modules that can be extended in the future to build a solution with up to 64-channels in one housing. This is the advantage of a modular data acquisition system. Modules with different sample rates and different resolution may be mixed to match the application needs. An engineer can either be efficient the very first day by taking advantage of the powerful Elsys Data Acquisition application software TransAS or start the development of a custom software based on the C++/C# driver with sample programs for Windows and Linux. Especially for ATE and integrated system applications there is an IVI Scope Class driver available. In both cases, the client-server architecture of the software allows to remotely control the TPCX modules over Ethernet with access from one or several clients.

Key Capabilities

- Short form PCI Data Acquisition boards
- 4-, or 8-channels SE and Diff modules
- Systems with up to 64-channels can be built in one device with proprietary starhub
- Systems with up to 1024 channels
- Up to 240 MS/s sample rate
- 14-bit and 16-bit vertical resolution
- Up to 128 MS memory per channel
- High-precision typ. 0.03% of FSR
- Continuous data recording
- Multiblock data acquisition mode with up to 16’000 blocks
- Advanced trigger for debugging
- Very low input noise
- High differential CMRR
- Turnkey solution combined with powerful TransAS Data Acquisition application software
- Device drivers C++/C# for Windows® and Linux with sample programs
- IVI Scope Class driver with sample programs for C++/C# and LabVIEW

TPCX Modules Order Information

<table>
<thead>
<tr>
<th>Model Unit 1)</th>
<th># of Channels</th>
<th>Max. Sample Rate/ch [MS/s]</th>
<th>ADC Resolution (16-bit up to 1/4 of max. sample rate)</th>
<th>Memory [MS/ch]</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPCX-ffbb-4S</td>
<td>4 SE, 2 Diff</td>
<td>10, 20, 40, 80, 120, 240</td>
<td>14-bit 16-bit</td>
<td>Standard 16 MS</td>
</tr>
<tr>
<td>TPCX-ffbb-4D</td>
<td>4 Diff</td>
<td></td>
<td></td>
<td>Optional 64 MS</td>
</tr>
<tr>
<td>TPCX-ffbb-8S</td>
<td>8 SE, 4 Diff</td>
<td>10, 20</td>
<td></td>
<td>Standard 8 MS</td>
</tr>
<tr>
<td>TPCX-ffbb-8D</td>
<td>8 Diff</td>
<td></td>
<td></td>
<td>Optional 32 MS</td>
</tr>
</tbody>
</table>

1) Replace "f" with Max. Sample Rate and "bb" with Vertical Resolution. Example: Sample Rate = 40 MS/s, Resolution = 16-bit -> TPCX-4016
2) Sample rates 120 MS/s, 240 MS/s only

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