

NAME

TDC – Risoe TDC

DESCRIPTION

The Risoe Time-to-Digital Converter (TDC) P2011a/P2012a processes events from the Risoe 2D multiwire small angle neutron scattering detector. `spec` supports the TDC over a GPIB interface.

The controller is selected in the `config` file with the line

```
GP_RISOTDC = gplib_address @img_sel
```

where `sel` is the image-device number used as the first argument in the `image_par()` and `image_get()` functions below. When running the configuration editor, switch to the MCA- and CCD-like device configuration screen to select the Risoe TDC as a CCD-like device.

The size of the 2D data array sent by the TDC is 128×128. The native data type is unsigned long.

FUNCTIONS

The `image_par()` function controls the TDC behavior as follows:

`image_par(sel, "clear")` – Clears the TDC memory.

`image_par(sel, "run")` – Start data collection. Memory is not cleared.

`image_par(sel, "halt")` – Halt data collection.

`image_par(sel, "XYmode")` – Set 2D mode, 128×128 pixels. This is the default mode.

`image_par(sel, "Xmode")` – Set data collection to 1D mode along the horizontal direction.

`image_par(sel, "Ymode")` – Set data collection to 1D mode along the vertical direction.

`image_par(sel, "map", num)` – Set the map number as described in the TDC manual.

The default value for `num` is zero, which is appropriate for 2D data collection. For 1D data collection, a value of 2 is recommended.

`image_get(sel, arr)` – Reads data into the array `arr`.