

Add-On Product Sheet



USB 3.0 upgrade

This SC-TDC-1000/08 S USB-3.0 device is equipped with an upgrade from USB 2.0 to USB 3.0, which enables a distinct improvement of the maximal data transfer rate. Due to hardware limits of the TDC electronics this maximum rate is 40 million events per second.

Start Frequency Divider

In addition the device is equipped with an internal start frequency divider for input frequencies of up to 150 MHz (the divided start frequency must be smaller than the max. start retrigger frequency of the device of 7 MHz).

The internal dividing factor is set within the ini-file "tdc_gpx3.ini" in the working directory of the TDC. The corresponding entry is:

Start_Divider = X

Where X should be one of the following values: 2, 4, 8, 16, 32 ("1" is not allowed).

X = 0 switches off the start divider and leads to normal operation without dividing the start frequency.

When using a dividing factor of X, a number of X multiple time histograms will appear. This is due to the fact that in frequency dividing mode the system will only register each 1st start pulse out of a sequence of X start pulses. On the other hand all stop pulses are detected which leads to the multiple time histograms that appear sequentially in time. This structure has to be resorted to the correct absolute times by a MODULO-operation during data analysis.