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Riga Event Timers in compact implementations

In complex systems, timing block is often required as a compact module built together with other modules in a common housing. To meet these requirements we have developed the set of the event timing modules with different performance and precision. The modules also differ with schematic complexity, sizes and power consumption. Compact Event Timer Module (CETM) provides the same functionality as A033-ET while the size of board is only 90x150 mm and power consumption is about 4 W. The modified interpolator has the small dead-time 25 ns providing for measurement rate up to 40 MSPS. This modification allows the wider range of external conditions however degrades the precision up to 5 ps RMS resolution. Doubled Event Timer Module presents two CETM's integrated into one module. Two measurement channels provide independent event registration and zero or negative dead-time between these events. The size of board is 120x160 mm and power consumption is 5.1 W. Fast Event Timer Module is the timing module providing one channel measurement with very high frequency up to 80 MSP and precision about 5 ps. In case of low event rates this precision can be enhanced up to 3 ps using the replication possibility. A preliminary size of board is 160x220 mm however it can be essentially minimized. The power consumption is 8 W.