



Twincat Library: Realtime Check

Application Note

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002	2013-13-03	mvx	rename class to TL_DebugRealtime

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Table of Contents

1 Target and Purpose.....1	3 Using the results.....2
2 Installing the code.....2	

1 Target and Purpose

The Triamec TwinCat library strongly is affected by the realtime behavior of TwinCAT which depends on the PC environment. This application note supports searching for realtime flaws.

2 Installing the code

Add the following line to Global_Variables_Triamec

```
DebugTimer : TL_DebugRealtime;
```

add the calls

```
DebugTimer.Start(Trialink:=Trialink);  
DebugTimer.Stop(Trialink:=Trialink);
```

before and after the code to be tested.

3 Using the results

Use the Scope configuration "AN102_DebugRealtime to plot the times in ms.

TimeElapsed_ms is the time between Start and Stop in milliseconds. It contains the Execution time plus any time lost due to higher priority interrupts.

TimeDelayed_ms is the (jitter) delay of Start against average cyclic call (PLL). It uses a PLL that locks into the hardware timeStamp on the trialink board to test for TwinCAT jitter.

TimeLastExe_ms is the Beckhoff info on execution time of the last call in milliseconds

Read the variables **Largest*** to find the largest value since starting the trialink through Communication-Enable.