Supplementary TwinCAT 3 Usermode Runtime

PLC execution for evolving security requirements in engineering

The changing system requirements in Windows environments – largely driven by security considerations – must also be taken into account in control engineering. Beckhoff has always implemented this consistently and in line with industrial automation technology. A current example is the TwinCAT 3 Usermode Runtime and the runtime mode that can be selected during installation, which allows applications programmed in TwinCAT to run – albeit without real-time properties – in the operating system's user mode and thus even in Windows environments with restrictive configurations.

The TwinCAT 3 Usermode Runtime (TC1700) makes it possible to run customer programs on engineering systems that do not support the installation or operation of the TwinCAT real-time runtime. Its deep integration with the TwinCAT Package Manager makes it practically seamless to use. With the Usermode Runtime, programs can be run on a trial basis for development purposes even in Windows environments of the kind described here. It can be used free of license costs and requires only (trial) licenses for the TwinCAT products being used.

Users are offered additional flexibility through the two options, External Control (TC1701) and Fast As Possible (TC1702), which allow them to control the timing of the control program's execution. External Control provides an interface that runs the application, clocked by an external application. This makes it possible to synchronize with other programs. The Fast As Possible option allows the application to run as quickly as the underlying hardware permits. This also simulates different cores

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and clock speeds. Calculated results of an application can be previewed with this option.

Both options are included in the new TwinCAT 3 Restricted Runtime (TC399x), which was developed specifically for use over several hours in continuous integration (CI), continuous deployment (CD), and simulation processes – yet another example of how Beckhoff implements modern IT requirements in a way that is tailored to automation. This runtime license enables flexible, recurrent use in development and test environments, but is not suitable for live operation. Accordingly, through an integrated sanction function, the software automatically switches to TwinCAT's configuration mode after six hours of runtime, thereby stopping the programs. The software can be used for a further six hours by restarting it, and restarts can be repeated as often as required.

➔ www.beckhoff.com/tc1700
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Press picture:



Picture caption:
With the TwinCAT 3 Usermode Runtime, applications without real-time properties can be run in the operating system's user mode.

Press kit:
www.beckhoff.com/media/downloads/press/2026/pr412026_beckhoff.zip

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