

UDE FreeRTOS™ Support

Debugging of Real-Time Critical Applications

The **Universal Debug Engine® (UDE)** is a powerful development platform for debugging, testing and system analysis of microcontroller software applications. With an additional add-on, UDE provides extended functions for software development of real-time critical applications, which are under control of the **FreeRTOS™** real-time operating system.

- FreeRTOS™ support is provided as UDE Add-On and extends a UDE basic debugger license
- FreeRTOS Add-On consists of the FreeRTOS Support Window that provides a comprehensive and detailed view to information about FreeRTOS™ resources and objects
- The shown information is directly collected from the target system
- No separate description file or similar is needed
- Available information depends on particular FreeRTOS™ configuration. Configuration is determined at compile time and does not change during run-time.

SAFERTOS/FreeRTOS Support

Tasks	Queues	Semaphores and Mutexes	Timers	Configuration		
	Name	Address	State	Priority	Event Container	Stack
	QConsB3	0x20000A20	eReady	0	0x00000000	0x20000818
	QProdB4	0x20000C88	eBlocked	2	BQ1.TasksWaitingToS...	0x20000A80
	QProdB5	0x20000F88	eBlocked	0	BQ2.TasksWaitingToS...	0x20000D80
	QConsB6	0x200011F0	eReady	0	0x00000000	0x20000FE8
	PolSEM1	0x200014E0	eReady	0	0x00000000	0x200012D8
	PolSEM2	0x20001748	eReady	0	0x00000000	0x20001540
	BlkSEM1	0x20001A38	eBlocked	1	0x00000000	0x20001830
	BlkSEM2	0x20001CA0	eBlocked	1	0x00000000	0x20001A98
	IntMath	0x20001F08	eRunning	0	0x00000000	0x20001D00
	Tmr Tst	0x20002388	eBlocked	0	0x00000000	0x20002180
	CREATOR	0x200026E0	eBlocked	3	0x00000000	0x200023E8
	IDLE	0x20002948	eReady	0	0x00000000	0x20002740
	Tmr Svc	0x20002BB0	eSuspended	1	TmrQ.TasksWaitingTo...	0x200029A8

The information that is shown in UDE's FreeRTOS Support Window is updated as soon as the target microcontroller enters the HALT state (e.g. at a breakpoint).

Available Information for Resources and Objects

Tasks

Number/ID, name, address, state, stack information and utilization, priority, events, mutexes, error code, etc.

Queues

Number/ID, name, address, content, blocked tasks and reason for blocking, storage information, number of items added or removed, etc.

Semaphores and Mutexes

Number/ID, name, address, type, task that holds the mutex, semaphore count, blocked tasks, etc.

Timers

ID, name and address, timer period, call back, state, etc.

Configuration

Current FreeRTOS™ configuration, which was set for the FreeRTOS™ build.

Licensing

An additional license (UDE FreeRTOS) is required to use the FreeRTOS support add-on within a UDE base license.

About FreeRTOS™

FreeRTOS™ is an open source real-time operating system kernel available for a large number of microcontroller platforms and small devices. The design follows the principle to be small and simple.

If you have any questions about our products, please feel free to contact us:

PLS Programmierbare Logik & Systeme GmbH
Technologiepark Lautau
D-02991 Lautau
Germany
Phone: + 49 35722 384 - 0

PLS Development Tools
10080 N. Wolfe Rd., Suite SW3-200
Cupertino, CA 95014
USA
Phone: +1-949-863-0327
Toll Free: +1-877-77-DEBUG

Your local partner:

www.pls-mc.com
info@pls-mc.com

pls
Development Tools

2023_1207