



Overview

When users try to add or modify a CYCLIC task interval to a value faster than the Mechatrolink-III communication cycle, the result will be the error shown below:



Figure 1: eCLR error for invalid watchdog value.

The Mechatrolink Communication Cycle is the fastest interval that a PLC CYCLIC task can execute. In the example below, the Mechatrolink-III communication cycle is set to 4 mSec, the Fast Task setting of any multiple of 4 mSec is allowed.

Resource : MP3300iec	Mechatrolink Set Parameters on Multiple Axes
AXIS3 - 3 AXIS4 - 4 AXIS5 - 5 Groups TCP/IP Settings	
Modbus/TCP Modbus/TCP Option Base LIO-01 AXIS65 - 65	Communication Cycle 4.0 ms Max Retries 1

Figure 2: Mechatrolink-III update rate





Product(s): MP3000iec Series Controllers, MotionWorks IEC 3 Doc. No. AN.MPIEC.25

Task settings for	'FastTsk'		×
Interval:	8	ms	
Priority:	0		
Watchdog Time:	8	ms 🔽 E <u>n</u> able Watchdog	
	OK	Cancel	

Figure 3: Fast task initial setting.

Task settings for	'FastTsk'	×
<u>I</u> nterval:	4 ms	
<u>P</u> riority:	0	
Watchdog Time:	4 ms 🔽 Enable Watchdog	
[OK Cancel	

Figure 4: Fast task setting changed.

However, the Fast task <u>CANNOT</u> be set to 2 msec, since this is faster than the Mechatrolink-III communication cycle.

Task settings for 'FastTsk'		
Interval:	2 ms	
Priority:	0	
Watchdog Time:	2 ms 🗹 Enable Watchdog	
	OK Cancel	

Figure 5: Fast task setting of 2 msec.





Product(s): MP3000iec Series Controllers, MotionWorks IEC 3 Doc. No. AN.MPIEC.25



Figure 6: eCLR error for invalid watchdog value.

Table 1: Allowable settings.

Mechatrolink-III Setting	User Task Setting	Result
4	8	
4	4	\checkmark
4	2	X



Product(s): MP3000iec Series Controllers.	MotionWorks IEC 3	Doc. No. AN MPIEC 25

Implementation

Assuming it is necessary for the application to operate at a faster update interval and the MPiec has sufficient CPU capability to operate all the axes on the system at a faster interval, use the following steps to remedy the Minimum Task Interval error:

- 1. Open Hardware Configuration and go online with the MPiec Controller.
- 2. Change the Mechatrolink-III update rate (Example: 2 msec.)



3. Save.



- 4. Reboot the MPiec controller.
- 5. In MotionWorks IEC 3 Pro, connect to the controller by clicking on the Project Control Dialog

2	L User FB	
_	Resource	
	State: Run	ning
Proje	ct Control Dialog	Cold
] 1≱ [Reset	Warm
🕎 Varia	Error	Hot
	Download	Upload
	More	Info
	Close	Help

- 6. Now change the FastTsk interval and watchdog time.
 - Example: 2 msec.





Product(s): MP3000iec Series Controllers, MotionWorks IEC 3 Doc. No. AN.MPIEC.25

Task settings for	'FastTsk'		×
Interval:	2	ms	
Priority:	0		
Watchdog Time:	2	ms 🔽 Enable Watchdog	
	OK	Cancel	

- 7. Repeat step 6 by verifying the new minimum task interval by typing in '1' mSec.
 - Notice the message changes to the minimum task number.



Key Note: Opening the "Project Control Dialog" updates the minimum task interval setting to the Mechatrolink Communication cycle.

Librariee	
Task settings for 'FastTsk'	×
Interval: 2 m	8
Priority: 0	
Watchdog Time: 2 m	s 🔽 Enable Watchdog
	Cancel
Configuration : eCLR	
Resource : MP3300iec*	ectr X
☐ ☐ IO : IO ☐ ☐ IO : IO ☐ ☐ MedTsk : CYCLIC ☐ ☐ IO : IO	Invalid WATCHDOG value (valid range: 4 5000 ms)
□ Main : Main □ ② SlowTsk : CYCLIC □ HMI : HMI	ОК