Sinamics Response times

Torque Rise Times

125 microsecond clock Cycles

With 1FK7 motor and Resolver = 1.7msec
With 1FT6 motor and Abs encoder = 1.5 msec
With 1PH7 motor = 1.8msec

Note :
These times include a 1msec delay caused by setpoint transmission via Profibus (assuming 1msec DP Clock Sync cycle)

250 microsecond clock cycle

With 1PH7 motor and no encoder = 3msec
With 1PH7 motor and incremental encoder = 2.2 msec

Speed Rise Times

125 microsecond clock Cycles

With 1FK7 motor and Resolver = 4.5msec
With 1FT6 motor and Abs encoder = 3.3 msec
With 1PH7 motor and incremental encoder = 5 msec

250 microsecond clock cycle

With 1PH7 motor and no encoder = 12msec
With 1PH7 motor and incremental encoder = 8 msec

Note :
These times include a 1msec delay caused by setpoint transmission via Profibus (assuming 1msec DP Clock Sync cycle)

If you have the High performance license for Sinamics and 3 or less axis , it is possible to run the current and speed controller clock cycles at 62.5 microseconds .

Note . This license is required only if you require the high performance mode . In the same way as with Simotion licenses , it does not 'lock out' the functionality if you enable the function without the license .

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