

Title: Why Does the Servo Motor Exceed Set Safe Speed Limits?

Product(s): SGDV and SGD7 SERVOPACKs with Advanced Safety Option

Doc. No. SRV-H5ER5H

When observing the **Safety Module Monitoring Speed A**(Un01E) or **B**(Un01F), the reported speed could be higher than the speed that is set in the **Limited Constant Speed A**(Pc14) or **B**(Pc24) parameter when **Safety Function A(or B) – Monitoring** is active. There is a **margin speed** that is added to the **Limited Constant Speed** values. If the **Monitoring Speed + Margin Speed** is greater than **Limited Constant Speed**, then an **A.EB7 (Safety Module: Safety Function A Monitoring Alarm)** or **A.EB8 (Safety Module: Safety Function A Monitoring Alarm)** alarm will trigger. See table below for the **Margin Speed** value for common Sigma-5 and Sigma-7 motors.

Motor Model	Max Speed(RPM)	Margin Speed(RPM)
SGMMV	6000	12
SGMJV	6000	12
SGMAV	6000	12
SGMGV <11kW	3000	6
SGMGV >7.5kW	2000	4
SGMSV 1.0kW	6000	12
SGMSV >1.0kW	5000	10
SGM7J	6000	12
SGM7A	6000	12
SGM7P	6000	12
SGM7G <11kW	3000	6
SGM7G >7.5kW	2000	4

As an example, if **Limited Constant Speed A**(Pc14) is set to 100, an SGMMV motor can run at 112 rpm (as read from **Safety Module Monitoring Speed A**, Un01E), without the amplifier triggering alarm **A.EB7**. However, **A.EB7** will occur if the motor exceeds 112 rpm.