YASKAWA

Advanced Safety Module

for Sigma-7 SERVOPACK SGD7S-□□□DA0□8□□F91, 400 V

Product Application Note

Model: SGD7S-OSB01A
SGD7S-OSB02A

To properly use the product, read this document thoroughly and retain for easy reference, inspection, and maintenance. Ensure the end user receives this document.

Document No. TOEP YEUOS7S 03A

Contents

1 Scope

This document is a supplement to the existing product descriptions of the Advanced Safety Module.
It describes an addition to the existing product application specification.

This applies to the following version(s) of the product:

Model	HW Version	SW Version
SGD7S-OSB01A	C01	0007
SGD7S-OSB02A	C01(CPU), C02 (I/O)	0007

The following notes must be considered when sizing, selecting and operating 400 V motors of the Sigma-7 series with a Sigma-7 SERVOPACK SGD7S-□□□DAO□8□□F91 equipped with the Advanced Safety Module.

2 Important Notes on the Use of the Product

2.1 Safety Integrity Level SIL2 With Motor Encoder Only

Allowed speed range depending on the motor and encoder system used

Motor Encoder Type		Speed Range [rpm]	Remarks
Incremental	SGM7□-□□□ F □□□	From -4500 to +4500	
Absolute Single-Turn	SGM7□-□□□ 7 □□□	From -4500 to +4500	
Absolute Multi-Turn	SGM7□-□□□ 7 □□□	From -4500 to +4500	If the **Advanced Safety Module Parameter Editor** setting for parameter "Multi-Turn Limit" is set to "0" (see Figure 1 below).
		From -6000 to +6000	If the **Advanced Safety Module Parameter Editor** setting for parameter "Multi-Turn Limit" is in the range of "1" to "65535" (see Figure 1 below).

For motors with absolute multiturn encoder (SGM7□-□□□ 7 □□□) and speed range up to 6000 rpm, the encoder must be set to multiturn mode in the SERVOPACK as well:
Sigma 7 SERVOPACK parameter Pn002.2 (Absolute Encoder Usage) must be set to "0" (see Figure 2 below). (Use the encoder according to encoder specifications).

Important: Exceeding the allowed speed range will lead into the Fail-safe state and the motor will be stopped. This is independent of whether a safety function is applied or not.

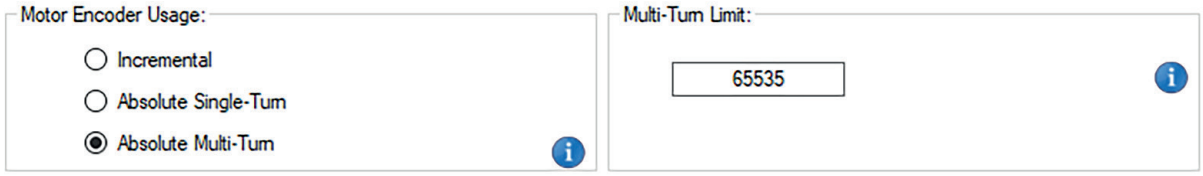

Figure 1: **Advanced Safety Module Parameter Editor** - *Multi-Turn Limit Setting*

2.2 Safety Integrity Level SIL3 With Additional 2nd Encoder

Allowed speed range depending on the motor and encoder system used

Motor Encoder Type		Speed Range [rpm]	Remarks
Incremental	SGM7□-□□□ F □□□	From -6000 to +6000	
Absolute Single-Turn	SGM7□-□□□ 7 □□□	From -6000 to +6000	
Absolute Multi-Turn	SGM7□-□□□ 7 □□□	From -6000 to +6000	

For motors with absolute multiturn encoder (SGM7□-□□□ 7 □□□), the SERVOPACK parameter Pn002.2 (Absolute Encoder Usage) must be set to "0" (see Figure 2 below). (Use the encoder according to encoder specifications).

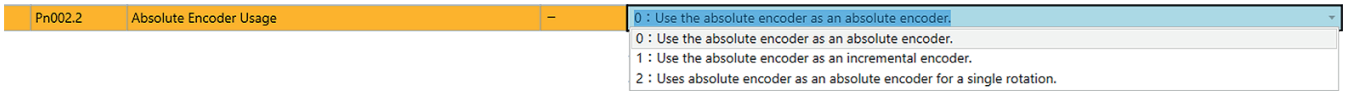

Figure 2: **SigmaWin+ SERVOPACK parameter settings** – *Pn002.2 Absolute Encoder Usage*

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12/2021 | TOEP YEUOS7S 03A | First edition

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