KEB

Technical Information

Technic Note | Safety encoders with safety module 2 and 3

Content

1 Preface

Technic Notes describe additional information of devices and accessories. They are helping constructors and developers to use KEB products in their applications. However, they are considered for information only without responsibility. The selection with regard to their suitability for the intended use can only be made by the user. If you have any questions, please contact KEB Automation KG or your area representative.

The use of our units in the target products is beyond of our control and therefore exclusively the responsibility of the machine manufacturer, system integrator or customer.

This document is not legally part of the certified device documentation. The functions described in the current KEB documentation must always be given priority. The enclosed documents correspond to conditions valid at printing. Misprint, mistakes and technical changes reserved.

2 Use

This document lists encoders for functional safety applications with FS devices of the KEB Automation KG.

More informations at the IFA report 07/2013e: "Safe drive controls with frequency converters" at „http://www.dguv.de/ifa/publikationen/reports-download/reports-2013/ifa-report-7-2013/index-2.jsp".

2.1 Encoder used with KEB COMBIVERT H6, F6, S6 and Safety Module 2 and 3

2.1.1 Recommended safe encoder tested by KEB

OEM	Mat.-No.	Encoder type	SIL	Fault exclusion for shaft fixing required	valid for	increments per revolution	Notes
Tamagawa	TS2620N21E11	Resolver	>=3	yes	S6-A, F6-A, H6	--	Standard for KEB motors
Sick Stegmann	SKM36S-HFA0-K02	Sin/Cos	2	no – shaft has form lock	S6-A, F6-A, H6	128	Standard for KEB motors
TR-Electronik	IV58-00007 (IV58+FS 4096inc) Sin/Cos	Sin/Cos	3	no – shaft has form lock	S6-A, F6-A, H6	4096	
LTN	RE-15-1-V92	Resolver	>=3	yes	S6-A, F6-A, H6	--	
TE Tyco	1-1824645-0	Resolver	>=3	yes	S6-A, F6-A, H6	--	
Sick Stegmann	DFC60S-S40A01024	Sin/Cos	2	no – key fixed	S6-A, F6-A, H6	1024	
Baumer	IDT22H00 SIL 2048 M NI S21SG8 E 10	Sin/Cos	3	mounting kit for SIL	S6-A, F6-A, H6	2048	

2.1.2 Encodes tested by customers

OEM	Mat.-No.	Encoder type	SIL	Fault exclusion for shaft fixing required	valid for	increments per revolution	Notes
Lenord Bauer	GEL 2444K	Sin/Cos	>=3	no – if form locked	S6-A, F6-A, H6	not specified	

2.1.3 Safe encoder in accordance with data sheet

The following encoders are checked if they are compatible, based on data sheets.

OEM	Mat.-No.	Encoder type	SIL	Fault exclusion for shaft fixing required	valid for	Check date	increments per revolution	Notes
Kuebler	5814 FS2 5834 FS2	Sin/Cos	2	no – shaft has form lock	S6-A, F6-A, H6	03/2018	1024 or 2048	New version
Kuebler	5814 FS3 5834 FS3 5873 FS3 5883 FS3 7014 FS3 7053 FS3 7063 FS3	Sin/Cos	3	no – shaft has form lock	S6-A, F6-A, H6	03/2018	1024 or 2048	
Kuebler	5853 FS2 5863 FS2 5873 FS2 5883 FS2 7014 FS2 7053 FS2 7063 FS2	Sin/Cos	2	no – shaft has form lock	S6-A, F6-A, H6	05/2018	1024 or 2048	
Heidenhain	none							
Sick Stegmann	SKS36S (SKM36S -tested see 2.2)	Sin/Cos	2	no – shaft has form lock	S6-A, F6-A, H6	03/2018	128	
Sick Stegmann	SRS50S SRM50S	Sin/Cos	2	no – shaft has form lock	S6-A, F6-A, H6	03/2018	1024	
Sick Stegmann	SFS60S SFM60S	Sin/Cos	2	no – shaft has form lock	S6-A, F6-A, H6	03/2018	1024	
TR-Electronic	IV58 + FS	Sin/Cos	2/3	no – shaft has form lock	S6-A, F6-A, H6	03/2018	1024 or 2048 or 4096	
TR-Electronic	CDH75M - ETC + FS / CDV75M - ETC + FS	Sin/Cos + FSoE	3	no – shaft has form lock	S6-A, F6-A, H6 + Safe PLC	08/2018	4096 sine/cosine + 8192 FSoE	
TR-Electronic	CDV75MM - ETC + FS	FSoE	3	no – shaft has form lock	Safe PLC	05/2018	8192	
Baumer	HOGS 100S	Sin/Cos	2	not specified	S6-A, F6-A, H6	01/2019	1024-5000	

2.1.4 Non-recommended safe encoder tested by KEB

The following encoders are tested by KEB with KEB FS-devices and are **not recommended**.

OEM	Mat.-No.	Safe encoder	SIL	Fault exclusion for shaft fixing required	valid for	Check date	increments per revolution	Notes
Kuebler	5814 FS2	Sin/Cos	2 or 3	no – shaft has form lock	S6-A, F6-A, H6	2017	2048	Older Version has problems on EMC

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