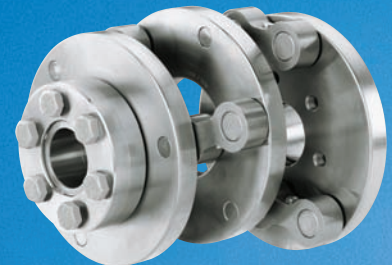


Please read and observe

these operating instructions carefully! Non-observation of the information it contains may lead to coupling malfunction or failure and consequential damage.



Shaft-hub connections of Schmidt-Kupplung®



Hub version 3
Locking assembly
Page 6-7



Hub version 5
Flange-mounting
Page 9



Hub version 6
Standard hub
Page 9

Danger and information symbols



Caution! Danger of personal injury and machine damage.



Note! Important points to observe.

Schmidt-Kupplung®

For extreme parallel offset the Schmidt-Kupplung® is a compact, torsionally stiff performance shaft coupling and compensates variable parallel shaft offset without side loads in a very compact envelope.

The Schmidt-Kupplung® is the ideal precision component for small envelopes.

These installation and operating instructions are an integral part of your Schmidt-Kupplung®. They provide important information about correctly installation, operating and maintenance of your coupling.



Please read these instructions carefully and observe all notes.



The coupling must be installed only by qualified and trained personnel.



Schmidt-Kupplung® must be used only as outlined in the associated technical specifications.

Please read and observe

these operating instructions carefully! Non-observation of the information it contains may lead to coupling malfunction or failure and consequential damage.

Manufacturer's Declaration

This product is a component intended for installation in a plant or machine as defined by Machinery Safety Directive 98/37/EC. Commissioning must be performed only after the machine or plant in which this product is to be fitted has been confirmed as conforming to the requirements of the above EC Directive.

Safety instructions

These installation and operating instructions are an integral part of your Schmidt-Kupplung®. Always keep these instructions in an easily accessible place near the coupling. They provide important information about correctly fitting, operating and maintaining your coupling. Please read these instructions carefully and observe all notes.

Schmidt-Kupplung® must be used only as outlined in the associated technical specifications.



Danger! Rotating drive components are potential for danger!

All persons working on or operating the machine or plant must observe the applicable safety regulations and instructions and take appropriate safety precautions. The machine's owner/operator is responsible for ensuring that all necessary safety precautions are in place and that the personnel has been appropriately instructed. The drive components must be used only for their intended purpose and within their specified technical operation limits.



Modifications

The product must not be reworked or otherwise modified.



The coupling must be installed only by qualified, trained personnel.



Carefully read these installation and operating instructions before fitting and commissioning the coupling.

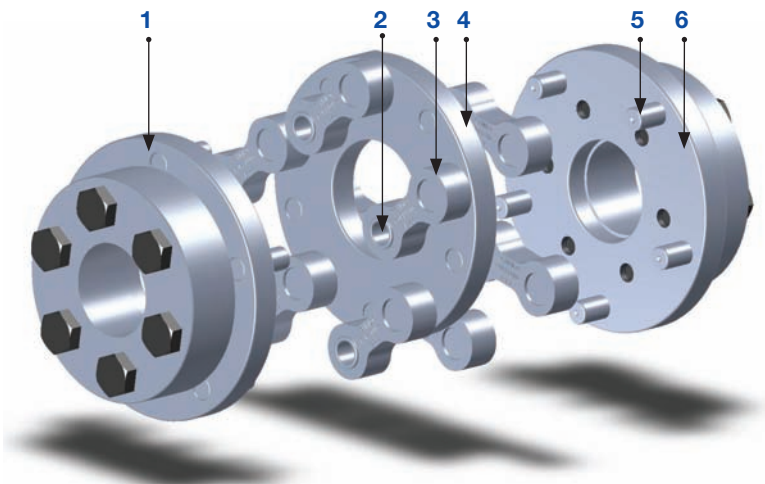


The notes on safety contained in these instructions do not represent completeness.

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Danger and information symbols	1
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Assembly of Schmidt-Kupplung®



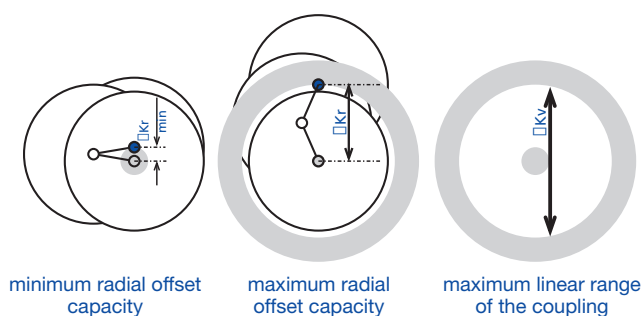
Parts list

- 1 Input hub
- 2 Needle bearing
- 3 Coupling link with funnel-type grease nipple)
- 4 Centre disk
- 5 Drive pins
- 6 Output hub

Function

The Schmidt-Kupplung® consists of three coupling disks that are connected by two sets of minimum 3 parallel coupling links. The links are connected to drive pins on the disks and are equipped with needle bearings. They have the task of transmitting the torsional forces as thrust forces between the disks. Rotary and swivelling motion is transmitted accurately and with low backlash. For minimum misalignment figures ($\Delta K_{r\min}$) see table 1. These values must be maintained. A zero radial offset is not permissible during installation and in operation.

Radial misalignment



minimum radial offset capacity

maximum radial offset capacity

maximum linear range of the coupling

State of delivery

Schmidt-Kupplung® is supplied lubricated and ready for use. At high ambient temperatures, high speeds and in contaminated environments we recommend lubrication with Klüber Staburags NBU 12-300 KP grease (see page 10). Normally the coupling elements are fitted with funnel type grease nipples. Contaminated environments can impair the effectiveness of the lubrication. Keep dirt, caustic solutions, fibres and similar substances away from the

coupling.

Observe the recommended lubrication intervals. Although exceptionally rugged, Schmidt-Kupplung® should be protected from external forces. After the goods-in inspection, keep them in their original packaging until they are ready to be fitted at their installation site. Special packaging, such as overseas packaging or for long-term corrosion protection, is available by special arrangement.



Caution!

Danger of injury through moving parts. Avoid unintentional disassembly through change of coupling's length (do not pull the coupling apart, as parts may drop out).



The product must not be reworked or otherwise modified. SCHMIDT-KUPPLUNG GmbH does not accept liability for any loss or damage resulting from such modifications.

Temperature stability

The couplings are suitable for continuous operation temperatures from -20 °C to +110 °C. If operating temperatures are likely to lie outside this range, please consult the manufacturer.

SCHMIDT-KUPPLUNG 
GmbH

Fon +49 5331 9552-500 · Fax +49 5331 9552-552
www.schmidt-kupplung.com · info@schmidt-kupplung.com

Maximum bore diameter

Schmidt-Kupplung® are supplied ready to install with the desired bore diameter.



SCHMIDT-KUPPLUNG GmbH does not accept liability for any couplings with prebored hubs that have been reworked by the customer. The customer is solely responsible for any consequential loss, damage or injury in this case.



Caution!

Do not exceed the maximum bore diameter ($\varnothing d$) for the Schmidt-Kupplung® (see the technical documentation for your coupling). Larger bores can result in destruction of the coupling. Coupling fragments hurled at high speed can cause serious or fatal injury.

Misalignment capacity ratings

Schmidt-Kupplung® compensates variable parallel shaft offset without side loads in a very compact envelope.

Radial offset

Schmidt-Kupplung® always need a certain minimum radial offset. For minimum offset figures (ΔK_r , min) see table 1.

These ratings must be maintained. A zero radial offset is not permissible during installation and in operation.

Observe the maximum radial offset capacity ΔK , and the maximum linear range of the coupling ΔK_v (see table 1).

Axial misalignment

The installation dimension L must not be less than the ratings given in table 3. To compensate for thermal expansion, for example an extension of ΔK_a is permissible. It is recommended that the coupling is operated near its nominal length. The couplings are not axially fixed and can therefore be used for an axial installation.

Angular misalignment

Angular misalignment also affects the coupling's lifespan. The angular misalignment should remain within the specified ratings.



The maximum angular misalignment and the maximum deviation from the overall length must not occur at the same time.

Table 1: For the maximum misalignment ratings see next page.

Table 1: Maximum misalignment ratings

Model	ΔK_V (mm)	$\Delta K_{r \min}$ (mm)	ΔK_r (mm)	ΔK_a (mm)	ΔK_w (°)
Standard					
S 35	45	6	23	1	0,8
S 40	95	13	50	1	0,8
S 45	45	6	23	1	0,8
S 115	64	9	34	1	0,8
S 150	126	17	66	1	0,8
S 155	64	9	34	1	0,8
S 210	126	17	66	1	0,8
S 215	64	9	34	1	0,8
S 285	100	14	53	1	0,5
S 360	162	22	85	1	0,5
S 365	100	14	53	1	0,5
S 440	162	22	85	1	0,5
S 445	100	14	53	1	0,5
S 630	162	22	85	1	0,5
S 635	122	17	64	1	0,5
S 760	162	22	85	1	0,5
S 765	122	17	64	1	0,5
S 950	162	22	85	1	0,5
S 955	122	17	64	1	0,5
S 1130	180	25	95	1	0,5
S 1135	129	18	68	1	0,5
S 1320	180	25	95	1	0,5
S 1325	129	18	68	1	0,5
S 1520	180	25	95	1	0,5
S 1525	129	18	68	1	0,5
S 2160	219	30	115	2	0,3
S 2165	162	22	85	2	0,3
S 2870	219	30	115	2	0,3
S 2875	162	22	85	2	0,3

Model	ΔK_V (mm)	$\Delta K_{r \min}$ (mm)	ΔK_r (mm)	ΔK_a (mm)	ΔK_w (°)
Power Plus					
P 3830	219	30	115	2	0,3
P 3835	162	22	85	2	0,3
P 4800	219	30	115	2	0,3
P 4805	162	22	85	2	0,3
P 6610	219	30	115	2	0,2
P 6615	162	22	85	2	0,2

Model	ΔK_V (mm)	$\Delta K_{r \min}$ (mm)	ΔK_r (mm)	ΔK_a (mm)	ΔK_w (°)
Offset Plus					
V 65	151	21	79	1	0,5
V 210	216	30	114	1	0,5
V 290	360	50	190	1	0,5
V 440	216	30	114	1	0,5
V 680	396	55	209	1	0,3
V 700	216	30	114	1	0,5
V 760	216	30	114	1	0,5
V 950	270	37	142	1	0,5
V 955	216	30	114	1	0,5
V 1200	432	60	228	1	0,3
V 1320	234	32	123	1	0,5
V 1520	320	44	169	1	0,5
V 1525	234	32	123	1	0,5
V 2100	504	70	266	1	0,3
V 2160	270	37	142	2	0,3
V 2875	270	37	142	2	0,3
V 3300	522	72	275	2	0,2
V 3840	270	37	142	2	0,3

Model	ΔK_V (mm)	$\Delta K_{r \min}$ (mm)	ΔK_r (mm)	ΔK_a (mm)	ΔK_w (°)
Power Plus					
P 45	45	6	23	1	0,5
P 60	45	6	23	1	0,5
P 110	95	13	50	1	0,5
P 115	45	6	23	1	0,5
P 200	64	9	34	1	0,5
P 250	64	9	34	1	0,5
P 280	126	17	66	1	0,5
P 285	64	9	34	1	0,5
P 350	126	17	66	1	0,5
P 355	64	9	34	1	0,5
P 590	162	22	85	1	0,5
P 595	100	14	53	1	0,5
P 700	162	22	85	1	0,5
P 705	100	14	53	1	0,5
P 1010	162	22	85	1	0,5
P 1015	122	17	64	1	0,5
P 1580	162	22	85	1	0,5
P 1585	122	17	64	1	0,5
P 2880	162	22	85	2	0,3

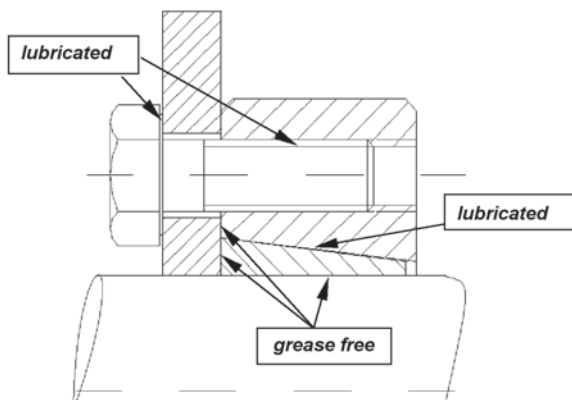
Installation



Refer to the list of dimensions or assembly drawing. Observe installation dimensions, especially the permissible min./max. radial offset (see table 1). The couplings are normally assembled as complete units. If a coupling, for example, with two standard hubs (hub version 6), is dismantled and the hubs are fitted to the shafts individually, make sure that the bearings and drive pins remain clean and undamaged. When assembling the coupling, be aware that the seals and escaping air will offer some resistance, but do not apply force. Make sure the coupling is pushed together to its nominal overall length. All coupling links of each set must be parallel to each other when the coupling is fitted. The shaft ends to be joined and the bores of the hubs must be clean, dry and free from burrs. Check the connection dimensions and tolerances. Set the overall length according to table 3 or drawing (in the delivery condition, the lower limit dimension is often used). Take into account the direction and magnitude of any length changes, for example in long shafts that are exposed to heat. Protect the coupling from direct exposure to heat, dust, sand, solvents etc. (for example with a metal enclosure).

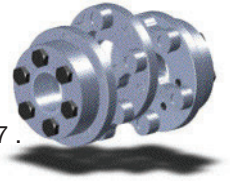


Caution! Make sure the coupling does not accidentally come apart during installation and dismantling. Take care when transporting, installation and assembling the coupling. Do not pull the coupling apart, as components may drop out.



Hub version 3

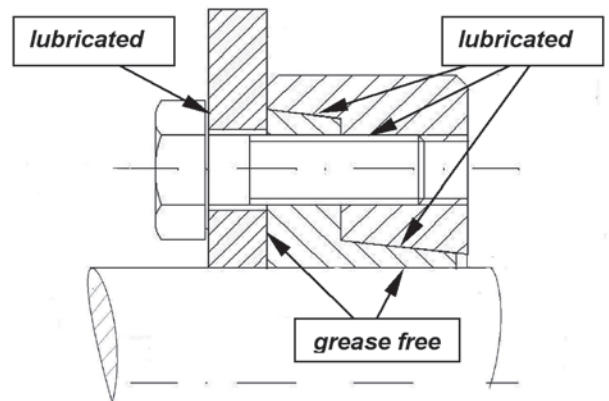
with locking assembly



The bores are supplied in tolerance F7 .

The locking assembly versions transmit the torque to the shaft through the outer and inner rings, which have a friction fit between each other and with the hub. Tightening screws are used to secure the hub to the shaft. Before they are tightened, there is a clear gap between the outer ring and the coupling. The gap width and number of screws are matched so that enough spare tightening capacity remains after closing the gap to tighten the outer ring against the coupling. Before installation, degrease the shaft and the coupling's mounting face. Loosely assemble the coupling and locking assembly, slide it onto the shaft and adjust the length. Tighten the screws in several stages up to their full tightening torque (see table 2). To remove the coupling from the shaft, undo the tightening screws one after the other in several stages.

Table 2: For screw tightening torques see next page





Hub version 3

with locking assembly

Table 2: Screw tightening torques

Model	Screw size	Tightening torque (Nm)
Standard		
S 35	M6	12
S 40	M6	12
S 45	M6	12
S 115	M8	29
S 150	M8	29
S 155	M8	29
S 210	M10	58
S 215	M10	58
S 285	M10	58
S 360	M10	58
S 365	M10	58
S 440	M10	58
S 445	M10	58
S 630	M12	100
S 635	M12	100
S 760	M10	58
S 765	M10	58
S 950	M12	100
S 955	M12	100
S 1130	M12	100
S 1135	M12	100
S 1320	M12	100
S 1325	M12	100
S 1520	M16	240
S 1525	M16	240
S 2160	M12	100
S 2165	M12	100
S 2870	M16	240
S 2875	M16	240

Power Plus		
P 45	M6	12
P 60	M6	12
P 110	M6	12
P 115	M6	12
P 200	M8	29
P 250	M8	29
P 280	M10	58
P 285	M10	58
P 350	M10	58
P 355	M10	58
P 590	M10	58
P 595	M10	58
P 700	M12	100
P 705	M12	100
P 1010	M12	100
P 1015	M12	100
P 1580	M12	100
P 1585	M12	100

Power Plus		
P 3440	M16	240
P 3445	M16	240
P 2880	M16	240
P 3830	M16	240
P 3835	M16	240
P 4800	M16	240
P 4805	M16	240
P 6610	M16	240
P 6615	M16	240

Offset Plus		
V 65	M6	12
V 210	M8	29
V 290	M10	58
V 440	M10	58
V 680	M10	58
V 700	M10	58
V 760	M12	100
V 950	M12	100
V 955	M12	100
V 1200	M12	100
V 1320	M12	100
V 1520	M12	100
V 1525	M12	100
V 2100	M16	240
V 2160	M16	240
V 2875	M16	240
V 3300	M16	240
V 3840	M16	240

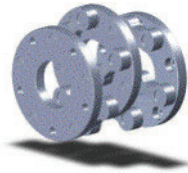
Table 3: Installation length (mm)

Model	Hub version 3	Hub version 5	Hub version 6
Standard			
S 35	74	44	60
S 40	74	44	60
S 45	74	44	60
S 115	108	74	94
S 150	116	74	104
S 155	116	74	104
S 210	124	74	104
S 215	124	74	104
S 285	151	101	143
S 360	151	101	143
S 365	151	101	143
S 440	151	101	143
S 445	151	101	143
S 630	194	134	162
S 635	194	134	162
S 760	184	134	170
S 765	184	134	170
S 950	202	134	192
S 955	202	134	192
S 1130	209	155	185
S 1135	209	155	185
S 1320	223	155	195
S 1325	223	155	195
S 1520	235	155	215
S 1525	235	155	215
S 2160	264	196	236
S 2165	264	196	236
S 2870	284	196	266
S 2875	284	196	266
Power Plus			
P 45	74	44	60
P 60	74	44	60
P 110	82	44	78
P 115	82	44	78
P 200	116	74	104
P 250	112	74	104
P 280	124	74	104
P 285	124	74	104
P 350	124	74	104
P 355	124	74	104
P 590	151	101	143
P 595	151	101	143
P 700	161	101	143
P 705	161	101	151

Model	Hub version 3	Hub version 5	Hub version 6
Power Plus			
P 1010	194	101	143
P 1015	194	134	170
P 1580	202	134	170
P 1585	202	134	192
P 2880	276	134	192
P 3830	276	196	236
P 3835	276	196	266
P 4800	284	196	266
P 4805	284	196	276
P 6610	296	196	276
P 6615	296	196	322
Offset Plus			
V 65	82	48	72
V 210	116	74	104
V 290	124	74	124
V 440	151	101	143
V 680	151	101	151
V 700	151	101	151
V 760	194	134	170
V 950	194	134	192
V 955	194	134	192
V 1200	194	134	202
V 1320	223	155	195
V 1520	223	155	215
V 1525	223	155	215
V 2100	235	155	215
V 2160	276	196	236
V 2875	284	196	266
V 3300	284	196	266
V 3840	276	196	266

Hub version 5

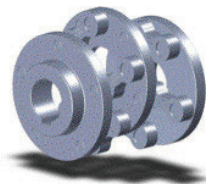
Flange-mounting



Firmly bolt the flange-mounting hub onto the customer's flanged shafts or other components. Using a torque spanner, tighten the flange mounting bolts to the customer-specified tightening torque.

Hub version 6

Standard hub with keyway and set screw



To achieve a low backlash, a firm shaft connection is required. To prevent axial compressive forces acting on the couple during its installation, provide an axial support for the coupling's components. Alternatively you can push the hubs onto the shafts separately before assembling the coupling. The bores are supplied in tolerance F7.

Maintenance

We recommend lubrication with Klüber Staburags NBU 12-300 KP grease. Normally the coupling elements are fitted with funnel type grease nipples. Observe the recommended lubrication intervals (see figure 3). The most critical parts of the coupling are the bearings in the coupling links and the drive pins in the coupling disks. To minimize downtimes in the event of these components malfunctioning, it is advisable to keep spare coupling links in stock. These are available as ready for use repair kits. Example: For the Standard series, you will need 2 sets = 6 coupling links of the appropriate size. When ordering, please give the coupling model with its part number.

Never replace bearings or links separately.

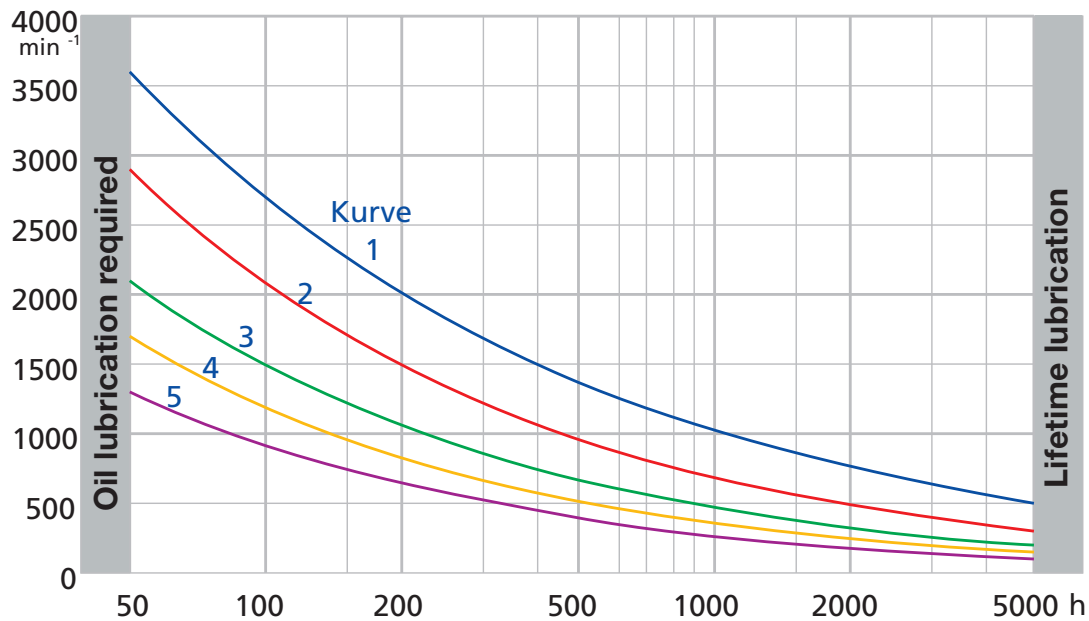
If drive pins are damaged, we recommend that you return the coupling for repairs. Maintenance work on Schmidt-Kupplung® couplings must be performed only by SCHMIDT-KUPPLUNG personnel. The original grease can be ordered in 400 g cartridges under article number 42186.

SCHMIDT-KUPPLUNG GmbH does not accept liability for damage or injury caused by customer-serviced or modified couplings and/or couplings fitted with parts other than those supplied by SCHMIDT-KUPPLUNG. Any warranty becomes void through any such modifications.

Figure 3:

For lubrication intervals for Schmidt-Kupplung, see next page.

Lubrication intervals



Curve 1 Curve 2 Curve 3 Curve 4 Curve 5

Standard				
S 115	S 285	S 630	S 1130	S 2160
S 150	S 360	S 635	S 1135	S 2165
S 155	S 365	S 760	S 1320	S 2870
S 210	S 440	S 765	S 1325	S 2875
S 215	S 445	S 950	S 1520	
		S 955	S 1525	

Curve 1 Curve 2 Curve 3 Curve 4 Curve 5

Offset Plus				
V 210	V 440	V 760	V 1320	V 2160
V 290	V 680	V 950	V 1520	V 2875
	V 700	V 955	V 2100	V 3300
		V 1200		V 3840

Curve 1 Curve 2 Curve 3 Curve 4 Curve 5

Power Plus				
P 200	P 480	P 1010		P 2880
P 250	P 590	P 1015		P 3830
P 280	P 595	P 1580		P 3835
P 285	P 700	P 1585		P 4800
P 350	P 705			P 4805
P 355				P 6610
				P 6615

 **General notes**

The failure, incorrect selection and incorrect use of these products can lead to a faulty operation or failure of associated plant sections. Conversely, the incorrect functioning of connected components can cause these products to fail.

Our website, the technical brochures and other publications provide information to help you select the best suited product for your application. The suitability of the selected products should always be verified by a technical expert. Make sure that you have analyzed all aspects of your application and verified the product information provided in these publications.

Because of the many possible applications for these products and the wide range of operating conditions, the user of the products is exclusively responsible for ensuring that the selected products are suitable for the intended application and fulfil all applicable safety requirements. Where necessary, tests should be performed to ensure correct product selection.

The provided specifications are subject to change at any time without prior notification.

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