



- Position and Motion Sensors
- Functional Safety
- Transmission Technology
- Counters and Process Devices

Kübler worldwide

The Kübler Group is a worldwide leading and strongly growing family-run company with four production sites, eleven subsidiaries and strong agents in more than 50 countries. Kübler always focuses on understanding the application of the customer. This results in suitable products and solutions. So trust in a technically well-founded advice and benefit from a lasting application support. Over 480 persons are working all over the world for Kübler and pursue one goal: inspire their customers!



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Our Pulses for Innovations



The Kübler Group belongs today to the leading specialists worldwide in the fields of position and motion sensors, functional safety, counting and process technology and transmission technology.

Founded in the year 1960 by Fritz Kübler, the family business is now led by the next generation of Gebhard and Lothar Kübler.

Eleven international group members and distributors in more than 50 countries offer local product know-how, service and advice throughout the world.

Innovative product and sector solutions, as well as solutions for functional safety and a high level of service, are the reasons behind our global success.

The strict focus on quality ensures the highest levels of reliability and a long service life for our products in the field.

Over 480 dedicated people worldwide make this success possible and ensure that customers can continue to place their trust in our company.



Our Product Portfolio



Position and Motion Sensors

- Incremental and absolute encoders
- Motor Feedback Systems
- Bearingless encoders
- Shaft copying systems
- Linear magnetic measuring systems
- Draw-wire encoders
- Inclinometers
- Connection technology

Transmission Technology

- Slip rings, modular system
- Slip rings, bearingless modular system
- Slip rings, contactless transmission
- Slip rings, compact and low-maintenance
- Slip rings, Ethernet transmission
- Slip rings, High Current
- Optical fiber signal transmission modules
- Cables, connectors and pre-assembled cordsets

Functional Safety

- Certified incremental and absolute encoders
- Certified explosion-protected encoders ATEX / IECEx
- Modules for safe drive monitoring
- Safe fieldbus gateways
- Safe speed monitors
- Adapted service packages
- Connection technology

Counters and Process Devices

- Pulse counters and preset counters
- Hour meters and timers
- Frequency meters and tachometers
- Combination time and energy meters
- Position displays
- Process displays and controllers for temperature, analog signals and strain-gauge
- Setpoint adjuster

We offer Solutions for the following Industries:



The high performance level and reliability of the Kübler products are based on our long experience in these demanding application sectors. Learn more about our application-specific solutions under:

www.kuebler.com/industries



Type: 8.5000.8334
10-30 VDC 100 mA
S-No: 1225500212
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Position and Motion Sensors

Already back in 1997 Kübler introduced the first absolute multiturn encoder with hollow shaft and an installation depth of only 42 mm – a world first. Constant innovations such as the Safety-Lock™ Design or the first optical electronic multiturn stage were to follow this tradition and made new applications and customer solutions possible.



Incremental and absolute singleturn, multiturn and fieldbus encoders

Whether with interference-free positioning or controlling in real-time, as a result of their ingenious safety concept, their extremely rugged technology and their compact construction, Kübler encoders make a significant contribution to the reliability of plant and machinery.



Incremental and absolute bearingless encoders

Thanks to their technology, the magnetic bearingless encoders are almost wear-free and at the same time very robust. With their reduced mounting depth of only 10 mm bearingless encoders are particularly compact and can be mounted quickly and easily on shaft diameters up to 390 mm.



Linear measuring technology

Kübler offers a wide range of solutions and technologies for measuring linear positions and motions:

- Shaft copying system
- Draw wire encoders
- Magnetic measuring system
- Length measuring kits



Inclinometers

Kübler inclinometers are naturally suited to use in harsh industrial environments, whether in railway technology, solar installations, commercial vehicles or cranes and hoists. They boast a compact, rugged construction, excellent shock resistance and a high protection rating.

new

Motor Feedback Systems for Servo Motors

Sendix S36

• Compact and robust

Suitable for installation on standard servomotors with an unchanged size of 36 mm only. Mechanical robustness thanks to latest mechanical gear technology, robust bearing structure, reliable connector technology, torque-proof stator coupling and wide temperature range.

• High signal quality

Resolution ≤ 2048 ppr SinCos or ≤ 24 bits fully digital thanks to Phased Array Sensor Technology.

• All interfaces

An encoder platform with all classical and all open source interfaces for the Single Cable Solution.

• Functional safety

Certified Motor Feedback System, from the sensors, through the mechanics, up to the electrical interface.

Functional Safety

Safety is – not least since the EU Machinery Directive 2006/42/EC – an “integral part of the construction of drives”.

Systems and components for Functional Safety

- Approved SIL3/PLe encoders - absolute and incremental
- Safety modules for safe drive monitoring
- Control solutions for safe processing of safety sensors
- Adapted Service Packages



Incremental encoders

		Ø Dimensions in mm [inch]	Magnetic (Accuracy ± 1°)	Optical (Accuracy ≤ ± 0.015°)	Resolution max. in ppr	Push-pull	RS422	SinCos	Open collector	Ø Hollow shaft max. in mm [inch]	Speed max. in min ⁻¹ (shaft/hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	Pulse frequency max. in kHz	RoHS compliant	Approvals
	Miniature, optical 2400 (shaft) 2420 (hollow shaft)	24 [0.94]	–	•	1.024	•	–	–	–	6 [0.24]	12.000	-20 ... +85 [-4 ... +185]	IP64	cable	5 ... 24 8 ... 30	160	•	UL US
	Miniature, magnetic 2430 (shaft) 2440 (hollow shaft)	24 [0.94]	•	–	256	–	•	–	–	6 [0.24]	12.000	-20 ... +85 [-4 ... +185]	IP67	cable	5	300	•	–
	Compact, optical Sendix Base KIS40 (shaft) Sendix Base KIH40 (hollow s.)	40 [1.57]	–	•	2.500	•	•	–	•	8 [0.31]	4.500	-20 ... +70 [-4 ... +158]	IP64	cable	5 10 ... 30	250	•	UL US
	Compact, optical 3610 (shaft) 3620 (hollow shaft)	36 [1.43]	–	•	3.600	•	•	–	–	8 [0.31]	12.000	-20 ... +85 [-4 ... +185]	IP64	cable M12	5 5 ... 18 8 ... 30	300	•	UL US
	Compact, optical plastic housing 3700 (shaft) 3720 (hollow shaft)	37 [1.46]	–	•	1.024	•	•	–	–	8 [0.31]	6.000	-20 ... +70 [-4 ... +158]	IP65	cable	5 5 ... 30 10 ... 30	250	•	UL US
	Standard, optical Sendix 5000 (shaft) Sendix 5020 (hollow shaft) 24one ¹⁾	58 [2.28]	–	•	5.000	•	•	–	•	15 [0.59] 15.87 [5/8"]	12.000	-40 ... +85 [-40 ... +185]	IP67	cable M12 M23 MIL Sub-D	5 5 ... 30 10 ... 30	300	•	UL US Ex 2/22
	Standard, optical Sendix Base KIS50 (shaft) Sendix Base KIH50 (hollow s.)	58 [2.28]	–	•	5.000	•	•	–	•	15 [0.59]	6.000	-20 ... +70 [-4 ... +158]	IP65	cable M12 M23	5 5 ... 30 10 ... 30	300	•	CE Ex 2/22
	Standard, optical high temperature 5803 (shaft) 5823 (hollow shaft)	58 [2.28]	–	•	5.000	•	•	–	–	12 [0.47]	12.000	-20 ... +110 [-4 ... +230]	IP65	cable M23 MIL	5 10 ... 30	300	•	UL US
	Standard, optical sine wave output, with zero pulse 5804 (shaft) 5824 (hollow shaft)	58 [2.28]	–	•	5.000	–	–	•	–	12 [0.47]	12.000	-20 ... +85 [-4 ... +185]	IP65	cable M23	5 10 ... 30	180	•	UL US
	Standard, optical sine wave output, highly interpolable Sendix 5814 (shaft) Sendix 5834 (hollow shaft)	58 [2.28]	–	•	1.024 and 2.048	–	–	•	–	15 [0.59]	12.000	-40 ... +90 [-40 ... +194]	IP67	cable M12	5 10 ... 30	400	•	UL US Ex 2/22
	Standard, optical Motor-Line Sendix 5834 (tapered shaft)	58	–	•	1.024 and 2.048	–	–	•	–	10 [0.39] tap. shaft	12.000	-40 ... +90 [-40 ... +194]	IP67	cable PCB connector	5 10 ... 30	400	•	UL US
	Standard, optical sine wave output, SIL2 / PLd Sendix SIL 5814FS2 (shaft) Sendix SIL 5834FS2 (hollow s.)	58 [2.28]	–	•	1.024 and 2.048	–	–	•	–	14 [0.55]	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M12 M23	5 10 ... 30	400	•	UL US Ex 2/22 SIL2 PLd

1) We offer for all encoders configured with the underlined preferential options our free of charge 24one delivery promise.
Orders placed on working days before 9AM CET are manufactured and ready for dispatch the same day. The 24one delivery promise is limited to 20 pieces per delivery.

Incremental encoders

		Ø Dimensions in mm [inch]	Magnetic (Accuracy ± 1°)	Optical (Accuracy ≤ ± 0.015°)	Resolution max. in ppr	Push-pull	RS422	SinCos	Open collector	Ø Hollow shaft max. in mm [inch]	Speed max. in min ⁻¹ (shaft/hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	Pulse frequency max. in kHz	RoHS compliant	Approvals
	Standard, optical sine wave output, SIL3 / PLe Sendix SIL 5814FS3 (shaft) Sendix SIL 5834FS3 (hollow s.)	58 [2.28]	–	•	1.024 and 2.048	–	–	•	–	14 [0.55]	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M12 M23	5 10 ... 30	400	•	
	Standard, optical high resolution 5805 (shaft) 5825 (hollow shaft)	58 [2.28]	–	•	36.000	•	•	–	–	12 [0.47]	12.000	-20 ... +105 [-4 ... +221]	IP65	cable M23	5 10 ... 30	800	•	
	Standard, optical stainless-steel Sendix 5006 (shaft) Sendix 5026 (hollow shaft)	58 [2.28]	–	•	5.000	•	•	–	–	15 [0.59]	6.000	-40 ... +85 [-40 ... +185]	IP67	cable M12	5 5 ... 30 10 ... 30	300	•	
	Standard, optical ATEX / IECEx – zone 1/21 7000 (shaft) 7020 (hollow shaft)	70 [2.76]	–	•	5.000	•	•	–	–	–	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	5 5 ... 30 10 ... 30	300	•	
	Standard, optical ATEX / IECEx – zone 1/21 SIL2 / PLd Sendix SIL 7014FS2 (shaft)	70 [2.76]	–	•	1.024 and 2.048	–	–	•	–	–	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	5 10 ... 30	400	•	
	Standard, optical ATEX / IECEx – zone 1/21 SIL3 / PLe Sendix SIL 7014FS3 (shaft)	70 [2.76]	–	•	1.024 and 2.048	–	–	•	–	–	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	5 10 ... 30	400	•	
	Standard, optical ATEX / IECEx – mining 7100 (shaft) 7120 (hollow shaft)	70 [2.76]	–	•	5.000	•	•	–	–	–	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	5 5 ... 30 10 ... 30	300	•	
	Standard, optical large hollow shaft 5821 (hollow shaft)	58 [2.28]	–	•	5.000	•	•	–	–	28 [1.10]	2.500	-20 ... +70 [-4 ... +158]	IP64	cable M12	5 8 ... 30	300	•	–
	Large hollow shaft, optical A020 (hollow shaft)	100 [3.94]	–	•	5.000	•	•	•	–	42 [1.65]	3.000	-40 ... +70 [-40 ... +140]	IP65	cable M12 M23	5 5 ... 30 10 ... 30	300	•	
	Large hollow shaft, optical robust A02H (hollow shaft)	100 [3.94]	–	•	5.000	•	•	•	–	42 [1.65]	6.000	-40 ... +80 [-40 ... +176]	IP65	cable M12 M23 MIL	5 5 ... 30 10 ... 30	300	•	
	Heavy Duty, optical Sendix H100 (shaft)	115 [4.53]	–	•	3.600	•	•	–	–	–	6.000	-40 ... +100 [-40 ... +212]	IP66	cable ¹⁾	5 ... 30 10 ... 30	300	•	
	Heavy Duty, optical Sendix H120 (hollow shaft)	100 [3.94]	–	•	5.000	•	•	–	–	28 [1.10]	6.000	-40 ... +100 [-40 ... +212]	IP67	cable ¹⁾ M12 M23 opt. fiber	5 10 ... 30	300	•	

1) With terminal box

Absolute encoders Singleturn

		Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ±0.015°)	Resolution max. in bit	SSI interface	BiSS interface	Analog/RS485 interface	Parallel interface	Additional incremental track	Speed max. in min ⁻¹ (shaft / hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
	Miniature, magnetic 2450 (shaft) 2470 (hollow shaft)	24 [0.94]	•	–	12	•	–	–	–	–	12.000	-20 ... +85 [-4 ... +185]	IP67	cable	5	•	–
	Compact, magnetic analog Sendix 3651 (shaft) Sendix 3671 (hollow shaft)	36 [1.43]	•	–	12	–	–	4 ... 20 mA 0 ... 10 V	–	–	6.000	-40 ... +85 [-40 ... +185]	IP69k	cable M12	10 ... 30 15 ... 30	•	e1 Ex 2/22
	Compact, optical Sendix F3653 (shaft) Sendix F3673 (hollow shaft)	36 [1.43]	–	•	17	•	•	–	–	Sin Cos RS422	12.000	-40 ... +90 [-40 ... +194]	IP67	cable M12	5 10 ... 30	•	UL US
	Standard, optical parallel, highspeed 5852 (shaft) 5872 (hollow shaft)	58 [2.28]	–	•	14	–	–	–	•	–	12.000/ 6.000	-20 ... +85 [-4 ... +185]	IP66	cable M23	5 10 ... 30	•	UL US
	Standard, optical Sendix 5853 (shaft) Sendix 5873 (hollow shaft)	58 [2.28]	–	•	21	•	•	–	–	Sin Cos RS422	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP67	cable M12 M23	5 10 ... 30	•	UL US Ex 2/22
	Standard, optical Motor-Line Sendix 5873 (tapered shaft)	58 [2.28]	–	•	21	•	•	–	–	SinCos RS422	12.000	-40 ... +90 [-40 ... +194]	IP65	cable PCB connector	5 10 ... 30 4.5 ... 5.5	•	UL US
	Standard, optical SIL2 / PLd Sendix SIL 5853FS2 (shaft) Sendix SIL 5873FS2 (hollow s.)	58 [2.28]	–	•	17	•	•	–	–	Sin Cos	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M23	5 10 ... 30	•	UL US Ex 2/22 SIL2 PLd
	Standard, optical SIL3 / PLe Sendix SIL 5853FS3 (shaft) Sendix SIL 5873FS3 (hollow s.)	58 [2.28]	–	•	17	•	•	–	–	Sin Cos	12.000/ 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M23	5 10 ... 30	•	UL US Ex 2/22 SIL3 PLe
	Standard, optical stainless-steel SSI / parallel 5876 (hollow shaft)	58 [2.28]	–	•	14	•	–	–	•	–	6.000	-20 ... +80 [-4 ... +176]	IP67	cable M12	5 10 ... 30	•	UL US Ex 2/22
	Standard, optical ATEX/IECEx – zone 1/21 Sendix 7053 (shaft) Sendix 7073 (hollow shaft)	70 [2.76]	–	•	17	•	•	–	–	–	6.000 / 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	Ex IECEx
	Standard, optical ATEX/IECEx – Zone 1/21 SIL2 / PLd Sendix SIL 7053FS2 (shaft)	70 [2.76]	–	•	17	•	•	–	–	SinCos	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	Ex IECEx SIL2 PLd

Absolute encoders Singleturn

		Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ±0.015°)	Resolution max. in bit	SSI interface	BiSS interface	Analog/RS485 interface	Parallel interface	Additional incremental track	Speed max. in min ⁻¹ (shaft / hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
	Standard, optical ATEX/IECEx – zone 1/21 SIL3/ PLe Sendix SIL 7053FS3 (shaft)	70 [2.76]	–	•	17	•	•	–	–	SinCos	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	  
	Standard, optical ATEX/IECEx – mining Sendix 7153 (shaft) Sendix 7173 (hollow shaft)	70 [2.76]	–	•	17	•	•	–	–	–	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	 

Absolute encoders Singleturn Fieldbus

		Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ±0.015°)	CANopen	SAE J1939	PROFIBUS DP	EtherCAT	PROFINET IO	EtherNet/IP	Resolution max. in bit	Speed max. in min ⁻¹ (shaft / hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
	Compact, magnetic Sendix M3658 (shaft) Sendix M3678 (hollow shaft)	36 [1.43]	•	–	•	•	–	–	–	–	14	6.000	-40 ... +85 [-40 ... +185]	IP69k	cable M12	8 ... 30	•	
	Compact, optical Sendix F3658 (shaft) Sendix F3678 (hollow shaft)	36 [1.43]	–	•	•	–	–	–	–	–	16	12.000	-40 ... +85 [-40 ... +185]	IP67	cable	10 ... 30	•	
	Standard, optical Sendix 5858 (shaft) Sendix 5878 (hollow shaft)	58 [2.28]	–	•	•	–	•	•	•	–	16	9.000	-40 ... +80 [-40 ... +176]	IP67	cable M12 M23	10 ... 30	•	 
	Standard, optical electronic singleturn Sendix F5858 (shaft) Sendix F5878 (hollow shaft)	58 [2.28]	–	•	–	–	–	–	–	•	16	8.000	-40 ... +80 [-40 ... +176]	IP65	M12	10 ... 30	•	 
	Standard, optical ATEX/IECEx – zone 1/21 Sendix 7058 (shaft) Sendix 7078 (hollow shaft)	70 [2.76]	–	•	•	–	•	–	–	–	16	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	 
	Standard, optical ATEX/IECEx – mining Sendix 7158 (shaft) Sendix 7178 (hollow shaft)	70 [2.76]	–	•	•	–	•	–	–	–	16	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	 

Absolute encoders

Multiturn

		Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ±0.015°)	Resolution max. in bit ST+MT	SSI interface	BiSS interface	Analog/RS485 interface	Additional incremental track	Speed max. in min ⁻¹	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
	Compact, magnetic electronic multiturn Sendix M3661 (shaft) Sendix M3681 (hollow shaft)	36 [1.42]	•	–	12 + 16	–	–	4 ... 20 mA 0 ... 10 V 0 ... 5 V	–	6.000	-40 ... +85 [-40 ... +185]	IP67	cable M12	10 ... 30 15 ... 30	•	e1 pending cUL US Ex 2/22
	Compact, magnetic electronic multiturn Sendix M3663 (shaft) Sendix M3683 (hollow shaft)	36 [1.42]	•	–	14 + 24	•	–	–	–	6.000	-40 ... +85 [-40 ... +185]	IP67	cable M12	10 ... 30	•	e1 pending cUL US Ex 2/22
	Compact, magnetic robust, electronic multiturn Sendix M3661R (shaft)	36 [1.42]	•	–	12 + 16	–	–	4 ... 20 mA 0 ... 10 V 0 ... 5 V	–	4.000	-40 ... +85 [-40 ... +185]	IP69k	cable M12	10 ... 30 15 ... 30	•	e1 pending cUL US Ex 2/22 pending
	Compact, magnetic robust, electronic multiturn Sendix M3663R (shaft)	36 [1.42]	•	–	14 + 24	•	–	–	–	4.000	-40 ... +85 [-40 ... +185]	IP69k	cable M12	10 ... 30	•	e1 pending cUL US Ex 2/22 pending
	Compact, optical electronic multiturn Sendix F3663 (shaft) Sendix F3683 (hollow shaft)	36 [1.42]	–	•	17 + 24	•	•	–	SinCos RS422	12.000	-40 ... +90 [-40 ... +194]	IP67	cable M12	5 10 ... 30	•	cUL US
	Standard, magnetic electronic multiturn Sendix M5861 (shaft)	58 [2.28]	•	–	12 + 16	–	–	4 ... 20 mA 0 ... 10 V 0 ... 5 V	–	4.000	-40 ... +85 [-40 ... +185]	IP65	cable M12	10 ... 30 15 ... 30	•	cUL US Ex 2/22
	Standard, magnetic electronic multiturn Sendix M5863 (shaft)	58 [2.28]	•	–	14 + 24	•	–	–	–	4.000	-40 ... +85 [-40 ... +185]	IP65	cable M12	10 ... 30	•	cUL US Ex 2/22
	Standard, optical electronic multiturn Sendix F5863 (shaft) Sendix F5883 (hollow shaft)	58 [2.28]	–	•	17 + 24	•	•	–	SinCos RS422	12.000	-40 ... +85 [-40 ... +185]	IP67	cable M12 M23	5 10 ... 30	•	cUL US Ex 2/22
	Standard, optical Motor-Line electronic multiturn Sendix F5883M (hollow shaft)	58 [2.28]	•	–	17 + 24	•	–	–	SinCos RS422	9.000	-40 ... +85 [-40 ... +185]	IP65	cable	5 10 ... 30	•	cUL US
	Standard, optical mechanical multiturn Sendix 5863 (shaft) Sendix 5883 (hollow shaft)	58 [2.28]	–	•	17 + 12	•	•	–	SinCos RS422	12.000	-40 ... +90 [-40 ... +194]	IP67	cable M12 M23	5 10 ... 30	•	cUL US Ex 2/22

Absolute encoders

Multiturn

		Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ±0.015°)	Resolution max. in bit ST+MT	SSI interface	BiSS interface	Analog/RS485 interface	Additional incremental track	Speed max. in min ⁻¹ (shaft / hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
	Standard, optical mechanical multiturn SIL2 / PLd Sendix SIL 5863FS2 (shaft) Sendix SIL 5883FS2 (hollow s.)	58 [2.28]	–	•	17 +12	•	•	–	SinCos	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M23	5 10 ... 30	•	
	Standard, optical mechanical multiturn SIL3 / PLe Sendix SIL 5863FS3 (shaft) Sendix SIL 5883FS3 (hollow s.)	58 [2.28]	–	•	17 +12	•	•	–	SinCos	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	cable M23	5 10 ... 30	•	
	Standard, optical mechanical multiturn ATEX/IECEX – zone 1/21 Sendix 7063 (shaft) Sendix 7083 (hollow shaft)	70 [2.76]		•	17 +12	•	•	–	–	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	
	Standard, optical mechanical multiturn ATEX/IECEX – zone 1/21 SIL2 / PLd Sendix SIL 7063FS2 (shaft)	70 [2.76]		•	17 +12	•	•	–	SinCos	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	
	Standard, optical mechanical multiturn ATEX/IECEX – zone 1/21 SIL3 / PLe Sendix SIL 7063FS3 (shaft)	70 [2.76]		•	17 +12	•	•	–	SinCos	6.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	
	Standard, optical mechanical multiturn ATEX/IECEX – mining Sendix 7163 (shaft) Sendix 7183 (hollow shaft)	70 [2.76]		•	17 +12	•	•	–	–	6.000/ 3.000	-40 ... +60 [-40 ... +140]	IP67	cable	10 ... 30	•	

Absolute encoders

Multiturn

Fieldbus

		Ø Dimensions in mm [inch]	Magnetic (Accuracy ±1°)	Optical (Accuracy ≤ ±0.015°)	Resolution max. in bit S+T+MT	CANopen	CANopenlift	PROFIBUS DP	DeviceNet	MODBUS RTU	EtherCAT	PROFINET IO	EtherNet/IP	Speed max. in min ⁻¹ (shaft / hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant	Approvals
	Compact, magnetic electronic multiturn, Sendix M3668 (shaft) Sendix M3688 (hollow shaft)	36 [1.42]	•	–	14 +24	•	–	–	–	–	–	–	–	6.000	-40 ... +85 [-40...+185]	IP67	cable M12	10 ... 30	•	e1 pending UL US Ex 2/22
	Compact, magnetic robust, electronic multiturn Sendix M3668R (shaft)	36 [1.42]	•	–	14 +24	•	–	–	–	–	–	–	–	4.000	-40 ... +85 [-40...+185]	IP69k	cable M12	10 ... 30	•	e1 pending UL US Ex 2/22 pending
	Compact, optical electronic multiturn Sendix F3668 (shaft) Sendix F3688 (hollow shaft)	36 [1.42]	–	•	14 +24	•	–	–	–	–	–	–	–	12.000	-40 ... +85 [-40...+185]	IP67	cable	10 ... 30	•	Ex 2/22
	Standard, magnetic electronic multiturn Sendix M5868 (shaft)	58 [2.28]	•	–	14 +24	•	–	–	–	–	–	–	–	4.000	-40 ... +85 [-40...+185]	IP65	cable M12	10 ... 30	•	Ex 2/22
	Standard, optical electronic multiturn Sendix F5868 (shaft) Sendix F5888 (hollow shaft)	58 [2.28]	–	•	16 +16	•	–	–	•	–	–	•	–	12.000	-40 ... +80 [-40...+176]	IP67	cable M12	10 ... 30	•	UL US Ex 2/22
	Standard, optical Motor-Line electronic multiturn Sendix F5888M (hollow shaft)	58 [2.28]	–	•	16 +16	•	–	–	–	–	–	–	–	9.000	-40 ... +85 [-40...+185]	IP65	cable	10 ... 30	•	UL US
	Standard, optical mechanical multiturn Sendix 5868 (shaft) Sendix 5888 (hollow shaft)	58 [2.28]	–	•	16 +12	•	•	•	–	–	•	•	–	9.000	-40 ... +85 [-40...+185]	IP67	cable M12 Sub-D	10 ... 30	•	UL US Ex 2/22
	Standard, optical mechanical multiturn ATEX/IECEx – zone 1/21 Sendix 7068 (shaft) Sendix 7088 (hollow shaft)	70 [2.76]	–	•	16 +12	•	–	•	–	–	–	–	–	6.000/ 3.000	-40 ... +60 [-40...+140]	IP67	cable	10 ... 30	•	Ex IECEx
	Standard, optical mechanical multiturn ATEX/IECEx – minig Sendix 7168 (shaft) Sendix 7188 (hollow shaft)	70 [2.76]	–	•	16 +12	•	–	•	–	–	–	–	–	6.000/ 3.000	-40 ... +60 [-40...+140]	IP67	cable	10 ... 30	•	Ex IECEx

Motor Feedback Systems

new



Singleturn Motor-Line
compact, optical / magnetic
Sendix S3674
(hub shaft/tapered shaft)

Ø Dimensions in mm [inch]	Optical (Accuracy $\leq \pm 0.015^\circ$)	Resolution max. in bit	RS485 interface ¹⁾	BiSS interface	Speed max. in min ⁻¹	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	RoHS compliant
36	•	19 ST	•	•	12.000	-30 ... +120	IP40	PCB connector, radial	5 7 ... 30	•
36	•	19 ST + 12 MT	•	•	12.000	-30 ... +120	IP40	PCB connector, radial	5 7 ... 30	•

new



Multiturn Motor-Line
compact, optical / magnetic
Sendix S3684
(hub shaft/tapered shaft)

1) Hiperface® kompatibel.
Hiperface® is a registered trademark of Sick Stegmann GmbH.

Bearingless encoders

Incremental

		Hollow shaft max. in mm ["]	Magnetic (Accuracy $\pm 1^\circ$)	With zero pulse	Resolution max. in ppr	Push-pull	RS422	Speed max. in min ⁻¹	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	Pulse frequency max. in kHz	RoHS compliant
	Incremental, standard magnetic RLI20 (hollow shaft)	30 [1.18]	•	–	3.600	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•
	Incremental, standard zero pulse, magnetic RLI50 (hollow shaft)	35 [1.38]	•	•	3.600	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•
	Incremental, standard magnetic RI20/Limes LI20 (hollow shaft)	30 [1.18]	•	–	3.600	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•
	Incremental, standard zero pulse, magnetic RI50/Limes LI50 (hollow shaft)	35 [1.38]	•	•	3.600	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•
	Incremental, large hollow shaft magnetic RLI200 (hollow shaft)	390 [15.35]	•	–	16.000	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•
	Incremental, large hollow shaft zero pulse, magnetic RLI500 (hollow shaft)	350 [13.78]	•	•	6.400	•	•	12.000	-20 ... +80 [-4°F ... +176°F]	IP69k	cable	4.8 ... 26 4.8 ... 30	250	•

Bearingless encoders

Absolute

		Hollow shaft max. in mm ["]	Magnetic (Accuracy $\pm 1^\circ$)	With zero pulse	Resolution max. in ppr	SSI	CANopen	Speed max. in min ⁻¹	Temperature range in °C [°F]	Protection max.	Type of connection	Power supply in V DC	Pulse frequency max. in kHz	RoHS compliant
	Absolute Singleturn, Standard, magnetic RLA50 (hollow shaft)	30 [1.18]	•	–	16.000	•	•	1.000	-10 ... +70 [+14 ... +158]	IP40	M12	10 ... 30	–	•

Linear measuring technology

Magnetic measurement system

	Measuring range max. in m	Accuracy max.	Resolution max. in μm	Dimensions in mm [inch]	Incremental RS422/Push-Pull	Incremental SinCos	Absolute analog	Absolute SSI/BISS	Absolute fieldbus	Traverse speed max. in m/s	Temperature range in $^{\circ}\text{C}$ [$^{\circ}\text{F}$]	Protection max.	Type of connection	RoHS compliant
	50	dep. on meas. length 0.08 mm for 1m	10	10x25x40 [0.39 x 0.98 x 1.57]	•	–	–	–	–	25	-20 ... +80 [-4 ... +176]	IP69k	cable	•
	50	dep. on meas. length 0.1 mm for 1m	5	10x25x40 [0.39 x 0.98 x 1.57]	•	–	–	–	–	16	-20 ... +80 [-4 ... +176]	IP69k	cable	•
	8	dep. on meas. length 0.03 mm for 1m	1	16x30x70 [0.63 x 1.18 x 2.76]	–	•	–	•	•	10	-10 ... +70 [+14 ... +158]	IP64	M12	•
	20	dep. on meas. length 0.17 mm for 1m	10	24x26x75 [0.94 x 1.02 x 2.95]	–	–	–	•	•	4	-10 ... +70 [+14 ... +158]	IP40	cable	•

Linear measuring technology

Draw wire mechanics

	Measuring range max. in m	Accuracy max.	Resolution max. [mm]	Dimensions in mm [inch]	Incremental RS422/Push-Pull	Absolute analog	Absolute SSI/BISS	Absolute fieldbus	Traverse speed max. in m/s	Temperature range max. in $^{\circ}\text{C}$ [$^{\circ}\text{F}$]	Protection max.	Type of connection	RoHS compliant
	0.6	$\pm 0.1\%$ of measuring range	0.15	32.45 x 40.7 x 28.6 [1.28 x 1.60 x 1.13]	–	4 ... 20 mA 0 ... 10 V DC 10 k Ω	–	–	0.8	-10 ... +80 [+14 ... +176]	IP50	cable	•
	1	$\pm 0.1\%$ of measuring range	0.1	40x40 x max. 72 [1.57 x 1.57 x 3.90]	–	4 ... 20 mA 0 ... 10 V 10 k Ω	–	–	0.8	-20 ... +90 [-4 ... +194]	IP50 IP65	cable	•
	1.25	$\pm 0.02\%$ of measuring range	0.05	50x50 x max. 99 [1.97 x 1.97 x 3.90]	•	4 ... 20 mA 0 ... 10 V 1 k Ω	•	•	10	-40 ... +120 [-40 ... +248]	IP67	cable M12	•
	2	$\pm 0.1\%$ of measuring range	0.15	32.45 x 40.7 x 28.6 [1.28 x 1.60 x 1.13]	•	4 ... 20 mA 0 ... 10 V DC 10 k Ω	–	–	0.8	-10 ... +80 [+14 ... +176]	IP45	cable	•
	2	$\pm 0.1\%$ of measuring range	0.1	40x40 x max. 72 [1.57 x 1.57 x 2.83]	•	4 ... 20 mA 0 ... 10 V 10 k Ω	–	–	0.8	-20 ... +90 [-4 ... +194]	IP50 IP65	cable	•

Linear measuring technology

Draw wire mechanics

		Measuring range max. in m	Accuracy max.	Resolution max. [mm]	Dimensions in mm [inch]	Incremental RS422/Push-Pull	Absolute analog	Absolute SSI/BISS	Absolute fieldbus	Integrated inclinometer	Redundant sensor	Traverse speed max. in m/s	Temperature range max. in °C [°F]	Protection max.	Type of connection	RoHS compliant
	Draw wire encoder A41 with absolute encoder	2	±0.35 % of measuring range	0.15	41x41x max. 96.3 [1.61 x 1.61 x 3.79]	–	4 ... 20 mA 0 ... 10 V DC 10 kΩ	•	•	–	–	1	-10 ... +80 [+14 ... +176]	IP50	cable	•
	Draw wire encoder B75 with encoder or analog sensor	3	±0.35 % of measuring range	0.15	75x75x max. 127.4 [2.95 x 2.95 x 5.02]	–	4 ... 20 mA 0 ... 10 V DC 10 kΩ	•	•	–	–	0.8	-40 ... +80 [-40 ... +176]	IP65	cable	•
	Draw wire encoder B80 with encoder or analog sensor	3	±0.02 % of measuring range	0.05	80x80x max. 144 [3.15 x 3.15 x 5.67]	•	4 ... 20 mA 0 ... 10 V 1 kΩ	•	•	–	–	10	-40 ... +120 [-40 ... +248]	IP67	cable M12 M23	•
	Draw wire encoder C100 with redundant sensors, integrated inclinometer	5	±0.1 % of measuring range	0.3	98x108 x 68.4	•	0 ... 10 V 0.5 ... 4.5 V	–	•	•	•	1	-40 ... +85 [-40 ... +185]	IP67	M12 cable	•
	Draw wire encoder C105 with encoder	6	±0.1 % of measuring range	0.1	105x85x max. 163 [4.13 x 3.35 x 6.42]	•	–	•	•	–	–	3	-20 ... +80 [-4 ... +176]	–	cable	•
	Draw wire encoder C120 with encoder or analog sensor	6	±0.02 % of measuring range	0.08	120x120x max. 136 [4.72 x 4.72 x 5.35]	–	4 ... 20 mA 0 ... 10 V 1 kΩ	–	•	–	–	10	-40 ... +85 [-40 ... +185]	IP67	cable M12 M23	•
	Draw wire encoder D120 for outdoor applications	10	±0.05 % of measuring range	0.1	120x120 x max. 381.5 [4.72 x 4.72 x 15.02]	•	4 ... 20 mA 0 ... 10 V 1 kΩ	–	•	–	•	3	-40 ... +85 [-40 ... +185]	IP69k	cable M12	•
	Draw wire encoder D125 with redundant sensors, integrated inclinometer	10	±0.5 % of measuring range	0.6	124x124 x 94	•	0 ... 10 V 0.5 ... 4.5 V	–	•	•	•	1	-40 ... +85 [-40 ... +185]	IP67	M12	•
	Draw wire encoder D135 with encoder or analog sensor	42.5	±0.02 % of measuring range	0.08	135x135 x max. 318 [5.32 x 5.32 x 12.52]	•	4 ... 20 mA 0 ... 10 V 1 kΩ	•	•	–	–	10	-40 ... +120 [-40 ... +248]	IP67	cable M12 M23	•

Linear measuring technology

		Measuring range max. in m	Accuracy max.	Resolution min. in mm	Dimensions in mm [inch]	Incremental RS422/Push-Pull	Incremental SinCos	Absolute analog	Absolute SSI/BISS	Absolute fieldbus	Traverse speed max.	Temperature range in °C [°F]	Protection max.	Type of connection	RoHS compliant
	Elevator measuring system for shaft copying LM3	53	±0.5 mm	0.1	dep. on type	•	•	–	•	•	6 m/s	-20 ... +85 [-4 ... +185]	IP67	cable M12 M23 MIL	•
	Length measuring kit with spring encoder arm Limes Kit TB1	∞	±0.015°	0.1	–	•	•	•	•	•	5 m/s	-25 ... +80 [-13 ... +176]	IP67	cable M12 M23 MIL	•
	Length measuring kit, mini measuring wheel system, incremental incl. encoder	∞	±0.015°	0.1	74 x 50 x 52 [2.91 x 1.97 x 2.05]	•	•	–	–	–	2.000 min ⁻¹	-20 ... +80 [-4 ... +176]	IP64	cable	•
	Length measuring kit with rack and pinion incremental / absolute incl. encoder / preset counter	∞	0.5 mm	0.1	dep. on rack	•	•	–	•	•	0.5 m/s	-20 ... +80 [-4 ... +176]	IP67	cable M12 M23 MIL	•
	Length measuring kit with measuring wheels incremental / absolute incl. encoder / preset counter	∞	±0.015°	0.1	dep. on the measuring wheel	•	•	–	•	–	2.000 min ⁻¹	-25 ... +80 [-13 ... +176]	IP67	cable M12 M23 MIL	•

Linear measuring technology

Shaft copying systems

		Measuring length max. in mm	Traverse speed in m/s	SIL3	EN 81-20/21/50	Incremental	Absolute	Resolution min. in mm	Dimensions in mm [inch]	CANopen Lift (DS417)	CANopen (DS406)	CAN	SSI	RS485	Type of connection	RoHS compliant
	Absolute measuring system for shaft copying LEB	392	5 (larger on request)	–	(•)	–	•	1	135x45x33 [5.31x1.77x1.30]	•	•	•	•	•	cable 5 m	•
	Absolute measuring system for shaft copying LES SIL3 EN 81	392	5 (larger on request)	•	•	–	•	1	135x45x33 [5.31x1.77x1.30]	–	–	•	–	•	cable 5 m	•
	Evaluation unit for the realization of elevator and safety functions in compliance with EN81-20/21/50 LES.EU SIL3 EN 81	–	5 (larger on request)	•	•	–	•	1	120x95x30 [4.72x3.74x1.18] (for top-hat rail mounting)	•	–	•	•	–	PicoMax (Push-In)	•
	Measuring system for shaft copying LM3	53	1.6	–	(•)	•	•	0.1	dep. on the type	•	•	•	•	–	cable, M12, M23, MIL	•

Inclinometers

		Inclinometer MEMS, capacitive analog IN81, 1- and 2-dimensional	±85° 360°	±0.2°	12 bit	80 x 60 x 23 [3.15 x 2.36 x 0.91]	4 ... 20 mA 0.1 ... 4.9 V 0.5 ... 4.5 V 0 ... 5 V 0 ... 10 V	–	–	0.1	-40 ... +85 [-40 ... +185]	IP69k	M12	•	 
		Inclinometer MEMS, capacitive CANopen IN88, 1- and 2-dimensional	±85° 360°	±0.4°	0.01°	80 x 60 x 23 [3.15 x 2.36 x 0.91]	–	•	–	0.1	-40 ... +85 [-40 ... +185]	IP69k	M12	•	 
		Inclinometer MEMS, capacitive Modbus IN88, 1- and 2-dimensional	±85° 360°	±0.4°	0.01°	80 x 60 x 23 [3.15 x 2.36 x 0.91]	–	–	•	0.1	-40 ... +85 [-40 ... +185]	IP69k	M12	•	
	Inclinometer MEMS, capacitive analog IS40, 1-dimensional	360°	±0.5°	0.15°	60 x 30 x 20 [2.36 x 1.18 x 0.79]	4 ... 20 mA 0.1 ... 4.9 V	–	–	0.1	-30 ... +70 [-24 ... +158]	IP69k	M12	•	–	
	Inclinometer MEMS, capacitive analog IS40, 2-dimensional	±60°	±0.5°	0.15°	60 x 30 x 20 [2.36 x 1.18 x 0.79]	4 ... 20 mA 0.1 ... 4.9 V 2 % ... 98 %	–	–	0.1	-30 ... +70 [-24 ... +158]	IP69k	M12	•	–	
	Inclinometer MEMS, capacitive CANopen IS60, 1-dimensional	360°	±0.5°	0.1°	68 x 42.5 x 42.5 [2.68 x 1.67 x 1.67]	–	•	–	0.1	-40 ... +80 [-40 ... +176]	IP69k	M12	•	–	
	Inclinometer MEMS, capacitive CANopen IS60, 2-dimensional	±60°	±0.5°	0.1°	68 x 42.5 x 42.5 [2.68 x 1.67 x 1.67]	–	•	–	0.1	-40 ... +80 [-40 ... +176]	IP69k	M12	•	–	

f Accessories for Position and Motion Sensors

Kübler original accessories are individually adapted to match each particular model. They meet our high quality demands.



Connectors



Cable



Measuring wheels



Couplings



Flange adapters



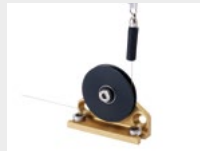
Bearing units



Spring encoder arm



Displays



Draw-wire accessories

f Isolation / adapter inserts for hollow shaft encoders

Thermal and electrical isolation of the encoders.

These isolation inserts prevent currents from passing through the encoder bearings. These can occur when using inverter controlled three-phase or AC vector motors and considerably shorten the service life of the encoder bearings. In addition the encoder is thermally isolated as the plastic does not transfer the heat to the encoder.

Tip:

By using these adapter inserts you can achieve six different hollow shaft diameters, all on the basis of one encoder.



IN1 **IN2**
1.234 **56.78**
[kHz] **[kHz]**

DIL 1 → PRG mode

OK

C



ON

USB

Functional Safety

Kübler's extensive product portfolio of rotary and linear position and motion sensors, with the matching safe encoder evaluation devices, provides the basis for safe application-specific drive solutions. However, safe single components alone do not ensure a safe global application. Legally compliant safety already begins when planning the machine, and this is why the Kübler Service technicians and engineers offer a wide range of supports both for the plant manufacturer and for the operator.



Functional Safety

The matter Functional Safety Technology is simplified by the certified encoders of the Sendix SIL family, which includes both incremental, absolute and ATEX / IECEx encoders.

Functional Safety has become an integral part of mechanical engineering.

With a view to machinery Directive 2006/42/EC, Kübler also provides MTTF values for its standard encoders. This allows the user to perform his own calculations in compliance with standard EN ISO 13849-1.

Safety modules

The safe encoder evaluation devices of the Safety-M family include single compact, standalone devices for simple applications as well as modular extendable compact controllers that can be connected via a gateway to any higher-level control system.

This allows realizing flexible safety release circuits integrating a safe speed and position monitoring to achieve simple machine safety. Kübler's technical safety solutions meet all high safety and reliability requirements.

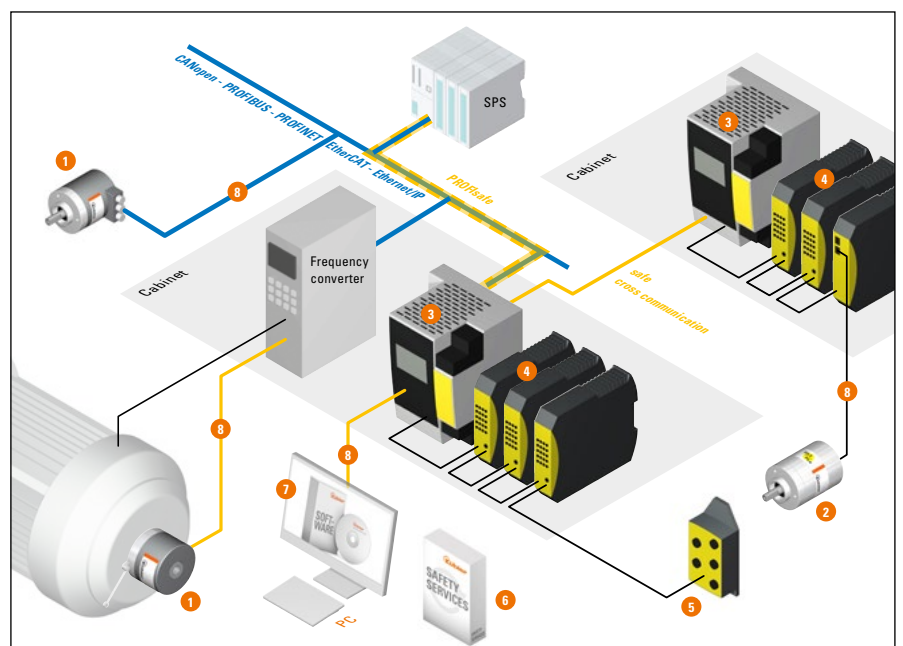
Safety services

Operators of machines or plants can be exposed to increased hazard potentials. These potentials can be mitigated with suitable protective equipment and safety measures.

Safety Services by Kübler will support you with custom-tailored service packages during the whole service life cycle of your machine / plant.

System overview

- 1 – Standard encoders
- 2 – Safe encoders
- 3 – Safety modules
- 4 – Expansion modules
- 5 – Decentralised input/output expansions
- 6 – Safety services
- 7 – PC software
- 8 – Connection technology



Incremental encoders

		Ø Dimensions in mm [inch]	Optical (Accuracy $\leq \pm 0.015^\circ$)	Resolution max. in ppr	SinCos interface	Power supply in V DC	Ø Hollow shaft max. in mm [inch]	Speed max. in min ⁻¹ (shaft / hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	Pulse frequency max. in kHz	RoHS compliant	Approvals
	Standard, optical sine wave output, SIL2 / PLd Sendix SIL 5814FS2 (shaft) Sendix SIL 5834FS2 (hollow s.)	58 [2.28]	•	1.024 and 2.048	•	5 10 ... 30	14 [0.55]	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M12 M23	400	•	  
	Standard, optical sine wave output, SIL3 / PLe Sendix SIL 5814FS3 (shaft) Sendix SIL 5834FS3 (hollow s.)	58 [2.28]	•	1.024 and 2.048	•	5 10 ... 30	14 [0.55]	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M12 M23	400	•	  
	Standard, optical ATEX/IECEx – zone 1/21 SIL2 / PLd Sendix SIL 7014FS2 (shaft)	70 [2.76]	•	1.024 and 2.048	•	5 10 ... 30	–	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	400	•	  
	Standard, optical ATEX/IECEx – zone 1/21 SIL3 / PLe Sendix SIL 7014FS3 (shaft)	70 [2.76]	•	1.024 and 2.048	•	5 10 ... 30	–	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	400	•	  

Absolute encoders Singleturn

		Ø Dimensions in mm [inch]	Optical (Accuracy $\leq \pm 0.015^\circ$)	Resolution max. in bit	SSI interface	BiSS interface	Additional incremental track	Power supply in V DC	Speed max. in min ⁻¹ (shaft / hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	RoHS compliant	Approvals
	Standard, optical SIL2/ PLd Sendix SIL 5853FS2 (shaft) Sendix SIL 5873FS2 (hollow s.)	58 [2.28]	•	17	•	•	Sin Cos	5 10 ... 30	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M23	•	cUL ^{us} Ex ^{2/22} SIL2 PLd
	Standard, optical SIL3/ PLe Sendix SIL 5853FS3 (shaft) Sendix SIL 5873FS3 (hollow s.)	58 [2.28]	•	17	•	•	Sin Cos	5 10 ... 30	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M23	•	cUL ^{us} Ex ^{2/22} SIL3 PLe
	Standard, optical ATEX/IECEx – zone 1/21 SIL2/ PLd Sendix SIL 7053FS2 (shaft)	70 [2.76]	•	17	•	•	SinCos	10 ... 30	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	•	Ex IECEx SIL2 PLd
	Standard, optical ATEX/IECEx – zone 1/21 SIL3/ PLe Sendix SIL 7053FS3 (shaft)	70 [2.76]	•	17	•	•	SinCos	10 ... 30	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	•	Ex IECEx SIL3 PLe

Absolute encoders

Multiturn

	Ø Dimensions in mm [inch]	Optical (Accuracy $\leq \pm 0.015^\circ$)	Resolution max. in bit ST+MT	SSI interface	BiSS interface	Additional incremental track	Power supply in V DC	Speed max. in min ⁻¹ (shaft / hollow shaft)	Temperature range in °C [°F]	Protection max.	Type of connection	RoHS compliant	Approvals
	58 [2.28]	•	17 + 12	•	•	SinCos	5 10 ... 30	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M23	•	
Standard, optical mechanical multiturn SIL2 / PLd Sendix SIL 5863FS2 (shaft) Sendix SIL 5883FS2 (hollow s.)													
	58 [2.28]	•	17 + 12	•	•	SinCos	5 10 ... 30	12.000 / 9.000	-40 ... +90 [-40 ... +194]	IP65	Cable M23	•	
Standard, optical mechanical multiturn SIL3 / PLe Sendix SIL 5863FS3 (shaft) Sendix SIL 5883FS3 (hollow s.)													
	70 [2.76]	•	17 + 12	•	•	SinCos	10 ... 30	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	•	
Standard, optical mechanical multiturn ATEX / IECEx – zone 1/21 SIL2 / PLd Sendix SIL 7063FS2 (shaft)													
	70 [2.76]	•	17 + 12	•	•	SinCos	10 ... 30	6.000	-40 ... +60 [-40 ... +140]	IP67	Cable	•	
Standard, optical mechanical multiturn ATEX / IECEx – zone 1/21 SIL3 / PLe Sendix SIL 7063FS3 (shaft)													

Safety modules

Safety-M compact

Basic modules

	Monitoring - number of axes	Encoder systems	Safe digital input lines	Analog input lines	Relay output lines	Digital output lines	Analog output lines	Encoder interface	Power supply in V DC	Module width in mm [inch]	RoHS compliant	Approvals
	Speed monitoring 1 axis / 1 encoder system SMC1	1	1	4/2	–	1	4	1 opt. SinCos	24	50 [1.97]	•	SIL3 PLe
	Speed monitoring 1 axis / 2 encoder systems SMC2	1	2	4/2	–	1	4	1 opt. HTL/TTL/ SinCos	24	50 [1.97]	•	SIL3 PLe
	Speed monitoring 1 axis / 1 encoder system SMC1D ¹⁾	1	1	8/4	–	2	4	1 opt. HTL/TTL	24	50 [1.97]	•	SIL2 PLd
	Speed monitoring 1 axis / 2 encoder systems SMC2D ¹⁾	1	2	8/4	–	2	4	1 opt. HTL/TTL	24	50 [1.97]	•	SIL3 PLe

1) Available as from Q3/2018.

Safety modules

Safety-M modular

Basic modules

		Monitoring - number of axes	Digital safe input lines	Analog input lines	Relay output lines	Digital safe output lines	Safe cross communication	Communication interface	Encoder interface terminal	Max. number of expansion modules	Power supply in V DC	Module width in mm [inch]	RoHS compliant	Approvals
	Digital, with USB diagnostic interface SMBD.420	• 1)	8 / 4	• 1)	• 1)	2	–	–	HTL/ Proximity switch	31 safe slaves	24	22.5 [0.89]	•	SIL3 PL _e cUL _{US}
	Digital, with Ethernet diagnostic interface SMBD.32E	• 1)	6 / 3	• 1)	• 1)	2	•	–	HTL/ Proximity switch	31 safe slaves	24	22.5 [0.89]	•	SIL3 PL _e cUL _{US}
	Gateway, universal CANopen SMBU.021	• 1)	6 / 3	• 1)	• 1)	6	•	CANopen	–	31 safe slaves	24	100 [3.94]	•	SIL3 PL _e cUL _{US}
	Gateway, universal PROFIBUS DP SMBU.031	• 1)	6 / 3	• 1)	• 1)	6	•	PROFIBUS DP	–	31 safe slaves	24	100 [3.94]	•	SIL3 PL _e cUL _{US}
	Gateway, universal EtherCAT SMBU.0B1	• 1)	6 / 3	• 1)	• 1)	6	•	EtherCAT	–	31 safe slaves	24	100 [3.94]	•	SIL3 PL _e cUL _{US}
	Gateway, universal PROFINET IO SMBU.0C1	• 1)	6 / 3	• 1)	• 1)	6	•	PROFINET IO	–	31 safe slaves	24	100 [3.94]	•	SIL3 PL _e cUL _{US}
	Gateway, universal EtherNet/IP SMBU.0D1	• 1)	6 / 3	• 1)	• 1)	6	•	EtherNet/IP	–	31 safe slaves	24	100 [3.94]	•	SIL3 PL _e cUL _{US}
	Gateway, safe PROFIsafe / PROFIBUS DP SMBS.S31	• 1)	6 / 3	• 1)	• 1)	6	–	PROFIsafe PROFIBUS DP	–	31 safe slaves	24	100 [3.94]	•	SIL3 PL _e cUL _{US}
	Gateway, safe PROFIsafe / PROFINET IO SMBS.SC1	• 1)	6 / 3	• 1)	• 1)	6	–	PROFIsafe PROFINET IO	–	31 safe slaves	24	100 [3.94]	•	SIL3 PL _e cUL _{US}

1) Via expansion module.

Safety modules
Safety-M modular
Expansion modules

		Digital input lines	Analog input lines	Digital output lines	Relay contacts	Encoder interface	Power supply in VDC	Module width in mm [inch]	RoHS compliant	Approvals
	Axis expansion, incremental EMAI.012	–	–	–	–	HTL	24	22.5 [0.89]	•	SIL3 PL _e cUL _{US}
	Axis expansion, absolute EMAA.032	–	–	2	–	SinCos SSI TTL	24	22.5 [0.89]	•	SIL3 PL _e cUL _{US}
	I/O expansion, digital 8 + 8 / 4 EMIO.SIO.048	8	–	8 / 4	–	–	24	22.5 [0.89]	•	SIL3 PL _e cUL _{US}
	I/O expansion, digital 16 / 8 + 1 EMIO.SIO.810	16 / 8	–	2 / 1	–	–	24	22.5 [0.89]	•	SIL3 PL _e cUL _{US}
	I/O expansion, digital 8 / 4 + 4 / 2 EMIO.SIO.420	8 / 4	–	4 / 2	–	–	24	22.5 [0.89]	•	SIL3 PL _e cUL _{US}
	I/O expansion, digital 4 / 2 + 4 EMIO.SIO.204	4 / 2	–	4	–	–	24	22.5 [0.89]	•	SIL3 PL _e cUL _{US}
	I/O expansion, digital 2 / 1 + 2 EMIO.SIO.10xP	2 / 1	–	2	–	–	–	45 [1.77]	•	SIL3 PL _e cUL _{US}
	I/O expansion, analog 2 / 1 EMIO.SAI.200	–	2 / 1	–	–	–	24	22.5 [0.89]	•	SIL3 PL _e cUL _{US}
	I/O expansion, relay 1 x 4 contacts EMIO.SR.004	–	–	–	4	–	24	22.5 [0.89]	•	cUL _{US}
	I/O expansion, relay 2 x 4 contacts EMIO.SR.008	–	–	–	8	–	24	22.5 [0.89]	•	cUL _{US}
	I/O expansion, digital (non safe) 8 + 8 EMIO.IO.880	8	–	8	–	–	24	22.5 [0.89]	•	cUL _{US}

Services

Advice, Safety services

		Contents
	Risk Assessment	• Directives and standards research • Analysis of the operating modes • Risk assessment • Documentation
	Safety Concept	• Analysis of the risks • Selection of the components • Documentation
	Start-up / Validation	• Installation of the components • Functional test in the plant • Acceptance of the components • Documentation
	Safety Retrofit	• Project management • Working out a safety concept • Components procurement • Modification / Integration • Commissioning / Acceptance • Documentation

Services

Support, Application / Service

	Contents
PreSales	• Kübler Hotline • Web Service • Application Engineering • Tailor-made Solutions – Kübler Design System (KDS) • OEM Products and Systems (OPS) • Prototyping • Training
AfterSales	• Kübler Hotline • On-Site Service • Commissioning Support • Repair Service • 48 h Express Service • Service Sites • Service Centers / Technical Hotline

Accessories for Functional Safety

Kübler original accessories are individually adapted to match each particular model. They meet our high quality demands.



Connection technology



Decentralized I/O expansion module



Encoder signal splitting



Fixing components



Bellows couplings



Software



Kubler
SR06DE-25-2-3-XX2

S-No.:

Connection No. 1-3
Connection No. 4-5

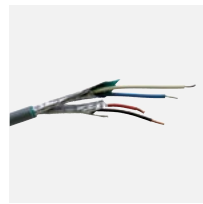
240V 16A
48V 2A

First Kubler GmbH
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Transmission Technology

Quality down to the last detail. Our activities are orientated with the focus always on the customer – from the creation of the product right through to final delivery. This high quality extends to every detail, from the connectors to the optical fiber modules.



Slip rings

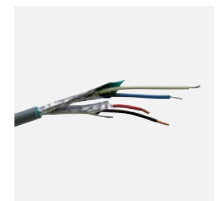
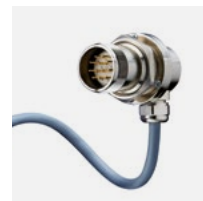
Innovation meets tried and tested product quality and compact dimensions: the new Kübler slip ring generation brings together a number of performance features under one umbrella. The areas of application are many and diverse: from packaging machines, via cranes through to rotary tables, slip rings are able to transmit power, signals or data from a stationary to a rotating platform. Versions for field bus signals such as Profibus or CANopen®, as well as for Ethernet transmission, are available.

Optical fiber transmitter modules

Kübler optical fiber modules solve transmission problems simply, reliably and yet at the same time economically. They reliably convert electrical signals into optical signals – and back again. This technology finds its use wherever electrical signals do not suffice to guarantee a safe transmission of the signals. Or where interference, too large distances or shielding prevent good communication. Even when subjected to extremely strong electro-magnetic fields, Kübler optical fiber modules can transmit signals over distances of up to 2000 metres. With perfect safety.

Signal converter

The signal converter portfolio includes various devices (frequency divider, level converter, signal converters and signal splitters), which adapt signals to most diverse applications.



i M12 cordsets with integrated control LEDs

The 8-pin M12 cordset for incremental encoders ensures fast, simple connections under difficult outdoor conditions. The transparent right-angle housing contains three LEDs for displaying channels A, B and Z.

- Monitors all important encoder functions
- Easy troubleshooting
- Installation help for zero point detection



Connectors and cables

The comprehensive choice of cables, connectors and cordsets from Kübler ensures error-free connections and highly accurate transmission. A perfect match for our encoders and counters.

Slip rings

		Power / Current (Load)	Signal (Data)	Pneumatics	Hydraulics	N° of channels	Ø Hollow shaft max. in mm [inch]	Current max. in A	Protection max.	Speed max. in min ⁻¹	Temperature range max. in °C [°F]
	Modular, construction system SR085	•	•	•	•	max. 20	30	25	IP64	800	-35 ... +85 [-31 ... +185]
	Modular, construction system, bearingless SR085B	•	•	–	–	max. 10	34	16	IP40	200	0 ... +75 [+32 ... +167]
	Modular, contactless signal transmission SRI085	•	•	–	–	max. 9	30	16	IP64	800	-30 ... +85 [-22 ... +185]
	Compact, low-maintenance SR060E	•	•	–	–	max. 5	25	20	IP64	500	0 ... +75 [+32 ... +167]
	Three chamber system, Ethernet transmission SR120	•	•	•	•	on request	–	25	IP65	300	-35 ... +85 [-31 ... +185]
	Modular, robust SR160	•	•	•	•	on request	–	25	IP65	150	-35 ... +85 [-31 ... +185]
	Modular, robust, high current SR250H	•	•	•	•	on request	–	80 ¹⁾	IP65	150	-35 ... +85 [-31 ... +185]

Optical fiber modules (LWL)

	Interface	Transmission distance in m	Input frequency in kHz	Temperature range in °C [°F]	Power / Current in VDC	Power consumption in W
	RS422 HTL	2000	400	-10 ... +60 [-14 ... +140]	5 10 ... 30	2
	SSI	2000	1000	-10 ... +70 [-14 ... +158]	5 10 ... 30	1

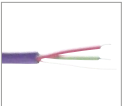
1) > 80 A on request.

Signal converters

		Input signals	Output signals	Control inputs	Power supply in V DC	Encoder supply in V DC	Types of connection	Protection max.	Working temperature max. in °C [°F]
 	Level converter PW 1D-1D	incremental RS422	incremental HTL, TTL	–	5 ... 30	5 ... 30	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]
 	Signal splitter SP 1SC-2SC2D	SinCos	SinCos / incremental HTL, TTL / RS422	–	17 ... 30	5.2 5 ... 30	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]
 	Signal splitter SP 2D-2D	incremental HTL, TTL / RS422	incremental HTL, TTL / RS422	2	12 ... 30	5.2 10 ... 28	screw terminals	IP20	-20 ... +60 [-4 ... +140]
 	Signal converter SK 1A-1S1D2RS	analog	incremental HTL, TTL / RS232, RS485	4	12 ... 30	–	screw terminals, Sub-D, USB	IP20	0 ... +45 [+32 ... +113]
 	Signal converter SK 1D-1A2RS	incremental HTL, TTL / RS422	analog	1	18 ... 30	5.5	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]
 	Signal converter SK 1S-1A2RS	SSI	analog	1	18 ... 30	5.5	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]
 	Signal converter SK 1SC-1D	SinCos	incremental HTL, TTL	–	18 ... 30	5.5	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]
 	Signal converter SK 1S-1P	SSI	parallel	–	18 ... 36 5 12	–	screw terminals, Sub-D	IP20	0 ... +50 [+32 ... +122]
 	Frequency divider FT 1D-1D	incremental HTL, TTL	incremental HTL, TTL	–	18 ... 30	5.5	screw terminals, Sub-D	IP20	0 ... +45 [+32 ... +113]

Connection technology

Cable, unprepared, cut to length

		PVC cable	PUR cable	TPE cable	Cross section in mm ²	Cable diameter in mm	For incremental encoders	For absolute encoders	For safety modules	For ATEX zone 2/22	RoHS compliant
	5 core + shield	•	•	–	5 x 0.14 [AWG25] 5 x 0.75 [AWG18]	approx. 4.7 approx. 7.5	•	–	–	–	•
	8 core + shield	–	•	–	8 x 0.14 [AWG25] 3 x 2 x 0.14 [AWG25] + 2 x 0.5 [AWG20]	approx. 5.5 approx. 7.4	–	•	•	–	•
	10 core + shield	–	•	–	4 x 2 x 0.25 [AWG23] + 2 x 1 [AWG17]	approx. 7.9	•	•	•	–	•
	12 core + shield	•	•	•	10 x 0.14 [AWG25] + 2 x 0.5 [AWG20] 12 x 0.14 [AWG25] 6 x 2 x 0.14 [AWG25] 5 x 2 x 0.14 [AWG25] + 2 x 0.5 [AWG20] 6 x 2 x 0.14 [AWG25]	approx. 6.9 approx. 6.7 approx. 7.5 approx. 8.5 approx. 7.3	•	•	–	•	•
	18 core + shield	•	–	–	18 x 0.14 [AWG25]	approx. 7.8	–	•	–	–	•
	PROFIBUS DP DeviceNet CANopen EtherCAT, PROFINET IO, EtherNet/IP	•	•	–	2 x 0.34 [AWG25] 2 x 0.52 [AWG20] + 2 x 1.04 [AWG17] 3 x 2 x 0.25 [AWG23] 2 x 2 x 0.34 [AWG22]	approx. 7.6 approx. 8.4 approx. 6.2 approx. 4.8	•	•	•	–	•

Connection technology

Connectors, self-assembly

		N° of pins	Housing	Connection technology	Cable diameter Ø in mm	Straight connector	Right angle connector	Wall/panel lead-through	For fieldbus	For ATEX zone 2/22
	M12	4/5/8/12	Metal	Screw terminals	6 - 8	•	•	•	•	•
	M23	12/17	Metal	Solder pins	5.5 - 10.5	•	–	•	–	–
	MIL	7/10	Metal	Solder pins	5 - 8	•	–	–	–	–
	RJ45	8	Plastic	Crimp connection	4.5 - 8	•	–	–	•	–
	Sub-D	9	ABS metallized	Solder pins	3.5 - 8.6	–	•	–	–	–

Connection technology

Cordsets, pre-assembled

	PVC cable	PUR cable	TPE cable	Optical fiber	Straight connector	Right angle connector	For incremental encoders	For absolute SSI / BiSS encoders	For fieldbus	For analog interfaces	For safety modules
 with M12 connector	•	•	–	–	•	•	•	•	•	•	•
 with M23 connector	•	•	•	–	•	–	•	•	–	•	–
 Simplex patch cable optical fiber	–	–	–	•	•	–	•	•	–	–	–
 with RJ45 connector	–	•	–	•	–	–	–	•	–	–	•
 with Sub-D connector	•	•	–	–	–	•	•	•	•	–	•

Kublercodix

024.5

0.00

Counters and Process Devices

Successful innovation? A question of corporate culture. In 1960 company founder Fritz Kübler developed the first short time meter with permanent time display. In 2007 Kübler introduced its unique combination meter HW 66, the first in the world to measure both time and energy in one device.



Electromechanical counters

The indestructible all-rounders – from microcounters to standard hour meters. The mature technology platform of the robust counters with electromagnetic drive and mechanical counting drum system is still as up-to-date today as it always was. Due to their low power consumption these counters are ideal for battery operation. Their significant features include – as always – their excellent shock, impact and magnetic-field resistance.

Electronic counters

Have everything that counts. Kübler offers a wide range of counters for pulses, frequency, position and time – all with proven quality. Electronic counters from the house of Kübler boast very high protection levels and require only minimal installation depths. The possibilities when it comes to their areas of application are therefore virtually limitless.

Process devices

Control is better. Kübler process devices reliably display and control their process values such as temperature, analog signals (0/4 ... 20 mA, 0/2 ... 10 V) or pressure – with linearization functions with up to 16 control points. Here the Codix name guarantees the concept of simple, unified operation. The Kübler process technology portfolio includes process and temperature displays, process, temperature and strain-gauge control devices and setpoint generators.

i Kübler Codix



The Kübler Codix brand name stands for universal usability and standard dimensions, as well as for the philosophy of simple menu-driven programming of our latest counter generation. At the centre of the sophisticated technology lie the large, easy-to-read LED or LCD displays and the intuitive operation, which we also offer with text menu programming. The high quality plug-in screw terminals make a significant contribution to the fast, user-friendly start-up.

- Very bright LED display
- High contrast LCD display
- Robust housing
- High IP protection
- Simple, unified programming
- Fast count and frequency inputs

i Kübler Codix

With Codix:

**The fastest way to get started ...
no need for a manual**



CODIX sets new standards when it comes to user-friendliness.

- Help text as running text
- Easy-to-read 14-segment LED 6-digit display
- Simple programming via 4 keys on the front
- One front key as well as 2 additional inputs can be programmed for specific applications
- Practical quick-start guide for setting the parameters and operating the device. The guide can be affixed directly to the front of the unit and can be removed and re-applied as required.

Pulse counters electronic

		Pulse	Time	Frequency	Tachometer	Position	Fieldbus (FB) / Serial interface (SI)	Presets: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LCD pulse counters																					
	Codix 130 adding or subtracting, AC/DC	•	–	–	–	–	–	–	•	•	–	LCD	8	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7 [1.88]	-10...+60 [+14...+140]	IP65	Batt.	•	cULus
	Codix 131 count direction or difference counter, AC/DC	•	–	–	–	–	–	–	•	•	–	LCD	8	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7 [1.88]	-10...+60 [+14...+140]	IP65	Batt.	•	cULus
	Codix 132 count direction, AC	•	–	–	–	–	–	–	•	•	–	LCD	8	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7 [1.88]	-10...+60 [+14...+140]	IP65	Batt.	•	cULus
	Codix 140 adding 0...9999999	•	–	–	–	–	–	–	•	•	–	LCD	7	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7 [1.88]	-20...+65 [-4...+149]	IP65	DC	•	–
LCD service counter																					
	Codix 142 service counter 0...9999999	•	–	–	–	–	1 o	–	•	•	•	LCD	7	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7 [1.88]	-20...+65 [-4...+149]	IP65	DC	•	–
LED pulse counters																					
	Codix 520 adding	•	–	–	–	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	cULus
	Codix 521 6 count modes	•	–	–	–	•	–	1 o	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	cULus
	Codix 524 multifunctional	•	•	•	•	•	–	1 o	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	cULus
	Codix 52U with dual functions in 4 combinations	•	•	•	•	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	cULus
	Codix 52P + Frequency 6 count modes	•	–	•	•	•	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	cULus
	Codix 52T / 52C 2 totalizers with separate scaling; 52C with separate inputs	•	–	–	–	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20...+65 [-4...+149]	IP65	DC	•	cULus
	Codix 540 adding	•	–	–	–	–	–	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	cULus
	Codix 541 6 count modes	•	–	–	–	•	–	1 o	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	cULus
	Codix 544 multifunctional	•	•	•	•	•	–	1 o	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	cULus
	Codix 54U with dual functions in 4 combinations	•	•	•	•	–	–	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	cULus
	Codix 54P + Frequency 6 count modes	•	–	•	•	•	–	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20...+65 [-4...+149]	IP65	AC/DC	•	cULus
LCD touch counter																					
	571T multifunctional (also reciprocal) analog output, serial interface	•	•	•	•	•	SI	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	–
LCD modules																					
	190 PCB mounting	•	–	–	–	–	–	–	•	–	–	LCD	7	32x18 [1.26 x 0.71]	–	5 [0.2]	-40...+80 [-40...+176]	–	DC	•	–
	192 PCB mounting	•	–	–	–	–	–	–	•	–	–	LCD	6	32x18 [1.26 x 0.71]	–	5 [0.2]	-40...+85 [-40...+185]	–	DC	•	–

Pulse counters electromechanical

		Pulse	Time	kWh	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant	Approvals
Micro counters																	
	K 46 / K 47 high shock resistance	•	–	–	•	•	–	–	–	6 / 7	30 x 20 [1.18 x 0.79] panel mount	27 x 14 [1.06 x 0.55]	-10 ... +60 [+14 ... +140]	IP65	DC	•	–
	K 66 / K 67 high shock resistance, magnetic field resistant	•	–	–	•	•	–	–	–	6 / 7	30 x 20 [1.18 x 0.79] panel mount	27 x 14 [1.06 x 0.55]	-10 ... +60 [+14 ... +140]	IP65	DC	•	–
	K 04 / K 05 high shock resistance	•	–	–	•	•	–	–	–	4 / 5	26 x 15 [1.02 x 0.59] panel mount	24 x 13 [0.94 x 0.51]	-10 ... +60 [+14 ... +140]	IP65	AC/DC	•	c 
	K 06 / K 07 / AK 07 high shock resistance	•	–	–	•	•	•	–	–	6 / 7	32 x 15 [1.26 x 0.59] panel mount	30 x 13 [1.18 x 0.51]	-10 ... +60 [+14 ... +140]	IP65	AC/DC	•	c 
	SK 07 high shock resistance, for DIN rail	•	–	–	–	–	•	•	–	7	30 x 65 [1.18 x 2.56]	–	-10 ... +60 [+14 ... +140]	IP50	AC/DC	•	c 
Mini counters																	
	W 15 also in DIN format 48 x 24 mm [1.89 x 0.94"]	•	–	–	•	–	–	–	manual	5	from 34 x 23 [1.34 x 0.91]	from 31 x 20 [1.22 x 0.79]	-10 ... +50 [+14 ... +122]	IP40	AC/DC	•	–
	W 16 / W 17 also in DIN format 48 x 24 mm [1.89 x 0.94"]	•	–	–	•	•	–	–	–	6 / 7	from 34 x 23 [1.34 x 0.91]	from 31 x 20 [1.22 x 0.79]	-10 ... +50 [+14 ... +122]	IP41	AC/DC	•	–
Standard counters																	
	Bk 14 Very long service life	•	–	–	•	–	–	–	manual	4	from 37 x 28 [1.46 x 1.10]	from 33.3 x 25 [1.31 x 0.98]	-10 ... +60 [+14 ... +140]	IP40 IP41	AC/DC	•	–
	B 16 / B 18 Very long service life	•	–	–	•	–	–	• ¹⁾	manual (only B16)	6 / 8	from 50 x 25 [1.97 x 0.98]	50 x 25 [1.97 x 0.98]	-10 ... +60 [+14 ... +140]	IP40 IP41	AC/DC	•	–
	Mk 14 / Mk 16 Very long service life	•	–	–	•	–	–	–	manual electrical	4 / 6	from 37 x 26 [1.46 x 1.02]	from 33.3 x 22 [1.31 x 0.87]	-10 ... +45 [+14 ... +113]	IP40 IP41	AC/DC	•	–
Dual function counters																	
	HC 77 combination hour meter and totalizer	•	•	–	•	–	–	–	–	2 x 7	from 48 x 48 [1.89 x 1.89]	45 x 45 [1.77 x 2.78] ø 50.5 [1.99]	-15 ... +50 [+5 ... +122]	IP65	AC/DC	•	c 
	SHC 77 combination hour meter and totalizer	•	•	–	–	–	–	•	–	2 x 7	48.5 x 61.5 [1.91 x 2.42]	–	-15 ... +50 [+5 ... +122]	IP52	AC/DC	•	c 
	HW 66 / HW 66 M combination hour meter and energy meter	–	•	•	•	–	–	• ¹⁾	–	2 x 6	from 48 x 48 [1.89 x 1.89]	45 x 45 [1.77 x 2.78] ø 50 [1.97]	-20 ... +55 [-4 ... +131]	IP65	AC	•	–

1) With mounting frame

Pulse counters pneumatic

	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Reset	Number of digits	Panel cut-out in mm [inch] (for front panel version)	Signal	Protection max.	Count frequency max. in Hz	RoHS compliant
Standard counters											
 PMk 14 / PMk 16 / PMk 18 Totalizer	•	–	–	–	manual (PMk 14, PMk 16)	4/6/8	33.3x22 [1.31 x 0.87] 48x24 [1.89 x 0.94]	L signal = 1.5 ... 8 bar O signal ≤ 0.15 bar	IP41	17 / 50	•

Preset counters electronic

	Pulse	Time	Frequency	Tachometer	Position	Fieldbus (FB)/ Serial interface (SI)	Preset: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LCD preset counters																				
 901 1 preset – pulse, time (battery)	•	•	–	–	–	–	1 r	•	•	•	LCD	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	63.2 [2.49]	-20 ... +65 [-4 ... +149]	IP65	batt.	•	CE, UL
 Codix 907 / 908 multicolor display (optional), decade keyboard count frequency 5 kHz	•	•	–	–	•	–	1 r 2 r	•	•	•	LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-10 ... +50 [+14 ... +122]	IP65	AC/DC	•	–
 Codix 923 / 924 multicolor display (optional), decade keyboard count frequency 65 kHz	•	•	•	•	•	–	up to 4 r 6 o	•	•	•	LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	CE, UL

LCD touch preset counter

 571T multifunctional (also reciprocal) analog output, serial interface	•	•	•	•	•	SI	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20 ... +60 [-4 ... +140]	IP65	AC/DC	•	–
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LED preset counters

 Codix 560 LED multifunction preset counters, 14 segment LED, automatic help texts, opt. serial interface	•	•	•	•	•	SI FB	2 r	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	91 [3.58]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	CE, UL
 572 dual preset counters with 4 outputs and analog output, serial interface	•	–	–	–	•	SI	4 o	•	•	•	LED	6/8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	141 [5.55]	0 ... +45 [+32 ... +113]	IP65	AC/DC	•	–
 575 SSI o. incremental inputs / 4 outputs with analog output	•	–	–	–	•	SI	4 o	•	•	•	LED	6/8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	141 [5.55]	0 ... +45 [+32 ... +113]	IP65	AC/DC	•	–

Preset counters electromechanical

Standard counters

		Pulse	Time	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Preset	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant
	BVa 15 adding with preset constantly visible	•	–	•	–	–	• ^{1) 2)}	1	manual	2 x 5	from 50 x 50 [1.97 x 1.97]	50 x 50 [1.97 x 1.97]	-10 ... +60 [+14 ... +140]	IP40	AC/DC	•
	MVs 13 subtracting	•	–	•	–	–	–	1	manual electrical	2 / 3	from 39 x 55 [1.54 x 2.17]	33.3 x 50 [1.31 x 1.97]	-10 ... +45 [+14 ... +113]	IP40	AC/DC	•
	MVs 16 subtracting	•	–	•	–	–	• ¹⁾	1	manual electrical	6	from 50 x 50 [1.97 x 1.97]	50 x 50 [1.97 x 1.97]	-10 ... +45 [+14 ... +113]	IP40	AC/DC	•

1) With mounting frame G300003.

2) With DIN rail mount G300002.

Hour meters Timers electronic

		Pulse	Time	Frequency	Tachometer	Position	Fieldbus (FB) / Serial interface (SI)	Presets: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LCD hour meters																					
	Codix 134 99999h59m or 99999.99h	—	•	—	—	—	—	—	•	•	—	LCD	7	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	47.7 [1.88]	-10 ... +60 [+14 ... +140]	IP65	Batt.	•	cULus
	Codix 135 9999h59m59s or 9999999.9h	—	•	—	—	—	—	—	•	•	—	LCD	8	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	47.7 [1.88]	-10 ... +60 [+14 ... +140]	IP65	Batt.	•	cULus
	Codix 141 99999.99h	—	•	—	—	—	—	—	•	•	—	LCD	7	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	47.7 [1.88]	-20 ... +65 [-4 ... +149]	IP65	DC	•	—
LCD service timers																					
	Codix 143 service timer 99999.99h	—	•	—	—	—	—	1 o	•	•	•	LCD	7	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	47.7 [1.88]	-20 ... +65 [-4 ... +149]	IP65	DC	•	—
LED timers																					
	Codix 523 h, min, sec or hh.mm.ss	—	•	—	—	—	—	1 o	•	•	•	LED	6	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	cULus
	Codix 524 multifunction	•	•	•	•	•	—	1 o	•	•	•	LED	6	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	cULus
	Codix 52U with dual functions in 4 combinations	•	•	•	•	—	—	—	•	•	•	LED	6	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	cULus
	Codix 543 h, min, sec or hh.mm.ss	—	•	—	—	—	—	1 o	•	•	•	LED	6	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	cULus
	Codix 544 multifunction	•	•	•	•	•	—	1 o	•	•	•	LED	6	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	cULus
	Codix 54U with dual functions in 4 combinations	•	•	•	•	—	—	—	•	•	•	LED	6	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	cULus
LCD time modules																					
	194 PCB mounting	—	•	—	—	—	—	—	•	—	—	LCD	6	32 x 18 [1.26 x 0.71]	—	5 [0.20]	-40 ... +80 [-40 ... +176]	—	DC	•	—
	198 PCB mounting	—	•	—	—	—	—	—	•	—	—	LCD	6	32 x 18 [1.26 x 0.71]	—	5 [0.20]	-40 ... +85 [-40 ... +185]	—	DC	•	—

Hour meters Timers electromechanical

		Pulse	Time	kWh	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Standard temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant	Approvals
Micro timers																	
	HK 47 high shock resistance	—	•	—	•	•	—	—	—	7	30x20 [1.18 x 0.79] panel mount	27x14 [1.06 x 0.55]	-10 ... +60 [+14 ... +140]	IP66	DC	•	—
	HK 07 / AHK 07 high shock and impact resistant	—	•	—	•	•	•	—	—	7	32x15 [1.26 x 0.59] panel mount	30x13 [1.18 x 0.51]	-10 ... +60 [+14 ... +140]	IP65	DC	•	—
Timers with DIN dimensions																	
	HK 17 small dimensions	—	•	—	•	—	—	—	—	7 / 8	from 37x26 [1.46 x 1.02]	33x22 [1.30 x 0.87]	-15 ... +50 [+5 ... +122]	IP65	AC/DC	•	c 
	H 37 also in DIN format 48x24 mm [1.89 x 0.94"]	—	•	—	•	—	—	• ¹⁾	—	7 / 8	from 48x24 [1.89 x 0.94]	from 45x22 [1.77 x 0.87]	-15 ... +50 [+5 ... +122]	IP65	AC/DC	•	c 
	H 57 DIN format 48x48 mm [1.89 x 1.89"]	—	•	—	•	—	—	—	—	7 / 8	from 48x24 [1.89 x 0.94]	45x45 [1.77 x 1.77] ø60 [2.36]	-15 ... +50 [+5 ... +122]	IP65	AC/DC	•	c 
Timers for DIN rail mounting																	
	AH 57 DIN format 48x48 mm [1.89 x 1.89"]	—	•	—	—	—	—	•	—	7 / 8	48.5x61.5 [1.91 x 2.40]	—	-15 ... +50 [+5 ... +122]	IP65	AC/DC	•	c 
	SHK 07.1 high shock resistance	—	•	—	—	—	—	•	—	7	30x65 [1.18 x 2.56]	—	-10 ... +60 [+14 ... +140]	IP52	AC/DC	•	—
	SH 17 36mm wide	—	•	—	—	—	—	•	—	7	36x90 [1.42 x 3.54]	—	-10 ... +70 [+14 ... +158]	IP65	AC/DC	•	—
Timers, round design																	
	HR 47 opt. run indicator	—	•	—	•	—	—	—	—	7	ø58 [2.28]	ø50 [1.97]	-25 ... +80 [+13 ... +176]	IP65	AC/DC	•	—
	HR 76 high shock resistance	—	•	—	•	—	—	—	—	6	from ø58.7 [2.31]	ø50.8 [2.00]	-30 ... +65 [+22 ... +149]	IP65	AC/DC	•	c 
Standard timers																	
	HB 26 plug-in version, long service life	—	•	—	•	—	—	• ¹⁾	manual	6	from 50x25 [1.97 x 0.98]	50x25 [1.97 x 0.98]	-15 ... +50 [+5 ... +122]	IP41	AC/DC	•	—
	HB 27 long service life	—	•	—	•	—	—	• ¹⁾	—	7	from 50x25 [1.97 x 0.98]	50x25 [1.97 x 0.98]	-15 ... +50 [+5 ... +122]	IP51	AC/DC	•	—
Dual function counters																	
	HC 77 combination hour meter and totalizer	•	•	—	•	—	—	—	—	2x7	from 48x48 [1.89 x 1.89]	45x45 [1.77 x 2.78] ø50.5 [1.99]	-15 ... +50 [+5 ... +122]	IP65	AC/DC	•	c 
	SHC 77 combination hour meter and totalizer	•	•	—	—	—	—	•	—	2x7	48.5x61.5 [1.91 x 2.40]	—	-15 ... +50 [+5 ... +122]	IP52	AC/DC	•	c 
	HW 66 / HW 66 M combination hour meter and energy meter	—	•	•	•	—	—	• ¹⁾	—	2x6	from 48x48 [1.89 x 1.89]	45x45 [1.77 x 2.78] ø50 [1.97]	-20 ... +55 [+4 ... +131]	IP65	AC	•	—

1) With mounting frame

Time preset counters electronic

LCD time preset counters

		Pulse	Time	Frequency	Tachometer	Position	Fieldbus (FB) / Serial interface (SI)	Preset: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
	901 1 preset – pulse, time (battery)	•	•	–	–	–	–	1 r	•	•	•	LCD	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	63.2 [2.49]	-20 ... +65 [-4 ... +149]	IP65	Batt.	•	c 
	Codix 907 / 908 multicolor display (optional), decade keyboard, count frequency 5 kHz	•	•	–	–	•	–	1 r 2 r	•	•	•	LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-10 ... +50 [-4 ... +122]	IP65	AC/DC	•	–
	Codix 923 / 924 multicolor display (optional), decade keyboard, count frequency 65 kHz	•	•	•	•	•	–	up to 4 r 6 o	•	•	•	LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	c 

LED time preset counter

	Codix 560 LED multifunction preset counters, 14 segment LED, automatic help texts, opt. serial interface	•	•	•	•	•	SI FB	2 r	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	91 [3.58]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	c 
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LCD touch time preset counter

	571T multifunctional (also reciprocal) analog output, serial interface	•	•	•	•	•	SI	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20 ... +60 [-4 ... +140]	IP65	AC/DC	•	–
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Time preset counters electromechanical

Standard preset counter

		Pulse	Time	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Preset	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Standard temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant
	HVa 15 adding	–	•	•	–	–	• ¹⁾	1	manual	2 x 5	from 50 x 50 [1.97 x 1.97]	50 x 50 [1.97 x 1.97]	-15 ... +50 [+5 ... +122]	IP42	AC/DC	•

1) With mounting frame G300003 or DIN rail mount G300002.

Frequency displays Tachometers

Frequency displays

Tachometers

		Pulse	Time	Frequency	Tachometer	Position	Fieldbus (FB) / Serial interface (SI)	Presets: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	 RoHS compliant	Approvals
LCD frequency display																					
	Codix 136 in Hz	–	–	•	•	–	–	–	–	–	–	LCD	8	48x24	45x22.2 [1.77 x 0.87]	47.7	-10 ... +60 [-14 ... +140]	IP65	Batt.	•	  US
LED frequency displays																					
	Codix 522 1/sec or 1/min	–	–	•	•	–	–	1 o	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	  US
	Codix 524 multifunctional	•	•	•	•	–	–	1 o	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	  US
	Codix 52U with dual functions in 4 combinations	•	•	•	•	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	  US
	Codix 52P + Frequency 6 count modes	•	–	•	•	–	–	–	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	  US
	Codix 542 1/sec or 1/min	–	–	•	•	–	–	1 o	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	  US
	Codix 544 multifunctional	•	•	•	•	–	–	1 o	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	  US
	Codix 54U with dual functions in 4 combinations	•	•	•	•	–	–	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	  US
	Codix 54P + Frequency 6 count modes	•	–	•	•	–	–	–	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	  US

Frequency displays Tachometers with limits

Frequency displays

Tachometers

with limits

	Pulse	Time	Frequency	Tachometer	Position	Fieldbus (FB) / Serial interface (SI)	Presets: o = optocoupler, r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals						
LCD tachometer (with multicolor, LED look)																										
	Codix 923 / 924 multicolor display, decade keyboard, count frequency 65 kHz						•	•	•	•	•	–	up to 4 r 6 o	•	•	•	LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC	•	
LED tachometers with limits																										
	Codix 560 LED multifunction preset counters, 14 segment LED, automatic help texts, opt. serial interface						•	•	•	•	•	SI FB	2 r	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC	•	
	574 dual frequency display 4 outputs, analog output, serial interface						–	–	•	•	–	SI	4 o	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	141 [5.55]	0...+45 [+32...+113]	IP65	AC/DC	•	–
LCD touch tachometer with limits																										
	571T multifunctional (also reciprocal) analog output, serial interface						•	•	•	•	•	SI	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	–

Position displays

LCD position display



Codix 133
phase discriminator
(quadrature) x1 and x2
evaluation

Pulse	Time	Frequency	Tachometer	Position (incremental = i; SSI = s)	Fieldbus (FB) / Serial interface (SI)	Preset: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
—	—	—	—	i	—	—	•	•	—	LCD	8	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	47.7 [1.88]	-10 ... +60 [+14 ... +140]	IP65	Batt.	•	CE US

LED position displays



Codix 521
6 count modes

•	—	—	—	i	—	1 o	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	CE US
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Codix 524
multifunctional

•	•	•	•	i	—	1 o	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	CE US
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Codix 52P + Frequency
6 count modes

•	—	•	•	i	—	—	•	•	•	LED	6	48x24 [1.89 x 0.94]	45x22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	CE US
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Codix 541
6 count modes

•	—	—	—	i	—	1 o	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	CE US
---	---	---	---	---	---	-----	---	---	---	-----	---	------------------------	------------------------	--------------	------------------------------	------	-------	---	-------

Codix 544
multifunctional

•	•	•	•	i	—	1 o	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	CE US
---	---	---	---	---	---	-----	---	---	---	-----	---	------------------------	------------------------	--------------	------------------------------	------	-------	---	-------

Codix 54P + Frequency
6 count modes

•	—	•	•	i	—	—	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	CE US
---	---	---	---	---	---	---	---	---	---	-----	---	------------------------	------------------------	--------------	------------------------------	------	-------	---	-------

LCD touch SSI position display



570T
SSI absolute encoder
display, analog output,
serial interface

—	—	—	—	s	SI	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20 ... +60 [-4 ... +140]	IP65	AC/DC	•	—
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Position displays with limits

	Pulse	Time	Frequency	Tachometer	Position (incremental = i, SSI = s)	Fieldbus (FB) / Serial interface (SI)	Presets: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LCD position preset counters (optional with multicolor, LED look)																				
	•	•	–	–	i	–	1 r 2 r	•	•	•	LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-10...+50 [+14...+122]	IP65	AC/DC	•	–
	•	•	•	•	i	–	up to 4 r 6 o	•	•	•	LCD/ LED Look	2x6	48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC	•	cULus
LCD touch position preset counters																				
	–	–	–	–	s	SI	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	–
	•	•	•	•	i	SI	4 o 2 r	•	•	•	LCD touch	8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	120 [4.72]	-20...+60 [-4...+140]	IP65	AC/DC	•	–
LED position preset counters																				
	•	•	•	•	i	SI FB	2 r	•	•	•	LED	6	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	91 [3.58]	-20...+65 [-4...+149]	IP65	AC/DC	•	cULus
	•	–	–	–	i	SI	4 o	•	•	•	LED	6/8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	141 [5.55]	0...+45 [+32...+113]	IP65	AC/DC	•	–
	•	–	–	–	s	SI	4 o	•	•	•	LED	6/8	96x48 [3.78 x 1.89]	92x45 [3.62 x 1.77]	141 [5.55]	0...+45 [+32...+113]	IP65	AC/DC	•	–

Multifunction devices electronic

		Pulse	Time	Frequency	Tachometer	Position	Fieldbus (FB) / Serial interface (SI)	Presets: o = optocoupler; r = relay	Reset manual	Reset electrical	Programmable	Display	Number of digits	Dimensions front in mm [inch]	Panel cut-out in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
LED multifunction displays																					
	Codix 524 multifunctional	•	•	•	•	•	–	1 o	•	•	•	LED	6	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	
	Codix 544 multifunctional	•	•	•	•	•	–	1 o	•	•	•	LED	6	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	
LCD multifunction preset counters																					
	901 1 preset – pulse, time (battery)	•	•	–	–	–	–	1 r	•	•	•	LCD	2x6	48 x 48 [1.89 x 1.89]	45 x 45 [1.77 x 1.77]	63.2 [2.49]	-20 ... +65 [-4 ... +149]	IP65	Batt.	•	
	Codix 907 / 908 multicolor display (optional), decade keyboard, count frequency 5 kHz	•	•	–	–	•	–	1 r 2 r	•	•	•	LCD/ LED Look	2x6	48 x 48 [1.89 x 1.89]	45 x 45 [1.77 x 1.77]	91 [3.58]	-10 ... +50 [+14 ... +122]	IP65	AC/DC	•	–
	Codix 923 / 924 multicolor display (optional), decade keyboard, count frequency 65 kHz	•	•	•	•	•	–	up to 4 r 6 o	•	•	•	LCD/ LED Look	2x6	48 x 48 [1.89 x 1.89]	45 x 45 [1.77 x 1.77]	91 [3.58]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	
LED multifunction preset counters																					
	Codix 560 LED multifunction preset counters, 14 segment LED, automatic help texts, opt. serial interface	•	•	•	•	•	SI FB	2 r	•	•	•	LED	6	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	91 [3.58]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	
LCD touch multifunction preset counter																					
	571T multifunction (also reciprocal) analog output, serial interface	•	•	•	•	•	SI	4 o 2 r	•	•	•	LCD touch	8	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	120 [4.72]	-20 ... +60 [-4 ... +140]	IP65	AC/DC	•	–
LED dual function displays																					
	Codix 52U with dual functions in 4 combinations	•	•	•	•	–	–	–	•	•	•	LED	6	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	
	Codix 52P + Frequency 6 count modes	•	–	•	•	•	–	–	•	•	•	LED	6	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	
	Codix 52T 2 counters with separate scaling	•	–	–	–	–	–	–	•	•	•	LED	6	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	
	Codix 52C 2 counters with separate inputs and separate scaling	•	–	–	–	–	–	–	•	•	•	LED	6	48 x 24 [1.89 x 0.94]	45 x 22.2 [1.77 x 0.87]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	
	Codix 54U with dual functions in 4 combinations	•	•	•	•	–	–	–	•	•	•	LED	6	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	
	Codix 54P + Frequency 6 count modes	•	–	•	•	•	–	–	•	•	•	LED	6	96 x 48 [3.78 x 1.89]	92 x 45 [3.62 x 1.77]	83 [3.27]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	

Multifunction devices

Dual function counters

Electromechanical

		Pulse	Time	kWh	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant	Approvals
Dual function counters																	
	HC 77 combination hour meter and totalizer	•	•	–	•	–	–	–	–	2x7	from 48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77] ø 50.5 [1.99]	-15 ... +50 [+5 ... +122]	IP65	AC/DC	•	cULus
	SHC 77 combination hour meter and totalizer	•	•	–	–	–	–	•	–	2x7	48.5x61.5 [1.91 x 2.42]	–	-15 ... +50 [+5 ... +122]	IP52	AC/DC	•	cULus
	HW 66 / HW 66 M combination hour meter and energy meter	–	•	•	•	–	–	• ¹⁾	–	2x6	from 48x48 [1.89 x 1.89]	45x45 [1.77 x 1.77] ø 50 [1.97]	-20 ... +55 [-4 ... +131]	IP65	AC	•	–

1) With mounting frame

Energy meters

	Pulse	Time	kWh	Panel mounting	PCB mounting	Base mounting	DIN rail mounting	Reset	Number of digits	Dimensions in mm [inch]	Panel cut-out in mm [inch] (for front panel version)	Temperature range in °C [°F]	Protection max.	Supply type	RoHS compliant	Approvals
	—	•	•	•	—	—	• 1)	—	2 x 6	from 48 x 48 [1.89 x 1.89]	45 x 45 [1.77 x 1.77] ø 50 [1.97]	-20 ... +55 [-4 ... +131]	IP65	AC	•	—

Process displays
Process controllers
Setpoint adjusters

	Standard signal 0...20; 4...20 mA	Standard signal 0...10; 2...10V	Standard signal ± 10V	Temperature Thermocouples	Temperature Resistance thermometers (RTDs)	mV/V sensors / strain gauge input	Input characteristic curve S = control points	Presets/Limit values o = optocoupler; r = relay	Analog output	Display	Number of digits	Dimensions front in mm [inch]	Depth in mm [inch]	Temperature range in °C [°F]	Protection max.	Power supply	RoHS compliant	Approvals
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LED process displays

	•	•	—	—	—	—	linear	—	—	LED	5	48 x 24 [1.89 x 0.94]	59 [2.32]	-10 ... +50 [+14 ... +122]	IP65	DC	•	cULus
	•	•	—	—	—	—	linear	—	—	LED	5	48 x 24 [1.89 x 0.94]	59 [2.32]	-10 ... +50 [+14 ... +122]	IP65	DC	•	cULus
	•	•	•	—	—	—	12 S	2 r	•	LED	6	96 x 48 [3.78 x 1.89]	90.5 [3.56]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	cULus

LED process controller

	•	•	•	—	—	—	12 S	2 r	•	LED	6	96 x 48 [3.78 x 1.89]	90.5 [3.56]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	cULus
---	---	---	---	---	---	---	------	-----	---	-----	---	--------------------------	----------------	------------------------------	------	-------	---	-------

LCD touch process controller

	•	•	•	—	—	—	24 S	4 o 2 r	•	LCD touch	8	96 x 48 [3.78 x 1.89]	120 [4.72]	-20 ... +60 [-4 ... +140]	IP65	AC/DC	•	—
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LED setpoint adjuster

	—	—	—	—	—	—	—	—	—	LED	4	48 x 24 [1.89 x 0.94]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	cULus
---	---	---	---	---	---	---	---	---	---	-----	---	--------------------------	--------------	------------------------------	------	----	---	-------

1) With mounting frame

Temperature displays Temperature controllers

LED temperature displays

	Codix 531 Min / Max value detection	—	—	—	—	Pt100 Ni100	—	—	—	—	LED	5	48x24 [1.89 ... 0.94]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	c 
	Codix 532 Min / Max value detection	—	—	—	J; K; N	—	—	—	—	—	LED	5	48x24 [1.89 ... 0.94]	59 [2.32]	-20 ... +65 [-4 ... +149]	IP65	DC	•	c 
	Codix 564 Min / Max value detection, 2 limit values, analog output	—	—	—	B; E; J; K; N; R; S; T	Pt100 0...500 Ω	±100 mV	12 S	2r	•	LED	6	96x48 [3.78 ... 1.89]	90.5 [3.56]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	c 

LED temperature controllers

	Codix 564 Min / Max value detection, 2 limit values, analog output	—	—	—	B; E; J; K; N; R; S; T	Pt100 0...500 Ω	±100 mV	12 S	2r	•	LED	6	96x48 [3.78 ... 1.89]	90.5 [3.56]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	c 
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Strain-Gauge controllers

LED strain-gauge controllers

	Codix 566 Min / Max value detection, 2 limit values with totalizer, tare, analog output	—	—	—	—	—	1.0 1.5 2.0 3.0 3.3 mV/V	12 S	2 r	•	LED	6	96 x 48 [3.78 x 1.89]	90.5 [3.56]	-20 ... +65 [-4 ... +149]	IP65	AC/DC	•	c 
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i Accessories for counters and process devices

Although little remains to be added – within the comprehensive range of accessories you can still find many more ideas to adapt Kübler counters and process displays exactly to your requirements.



DIN-rail adapters



Bezel adapters



Sealing covers



Socket boxes



Mounting fixtures and supports



Software



Blind enclosures



Sealing gaskets

i Codix with analog output

The Codix devices with analog output can scale the measured values accordingly and convert them into a different analog standard signal (0 ... 10 VDC; 2 ... 10 VDC; 0 ... 20 mA; 4 ... 20 mA) to transmit them to a higher-level controller or send them to a curve tracer or large display. It is possible to transmit the current measured value in addition to the minimum or maximum values as well as the total value.

Together with the 2 output relays simple local control tasks can be undertaken – quite simply, without the need for programming knowledge, with direct display for user-friendly control on site.

i Codix with serial interface

The Codix devices with serial interfaces enable uncomplicated read-out or write of all important values in the device for monitoring and control purposes. Connection of large displays and printers can also be executed simply and without problem.

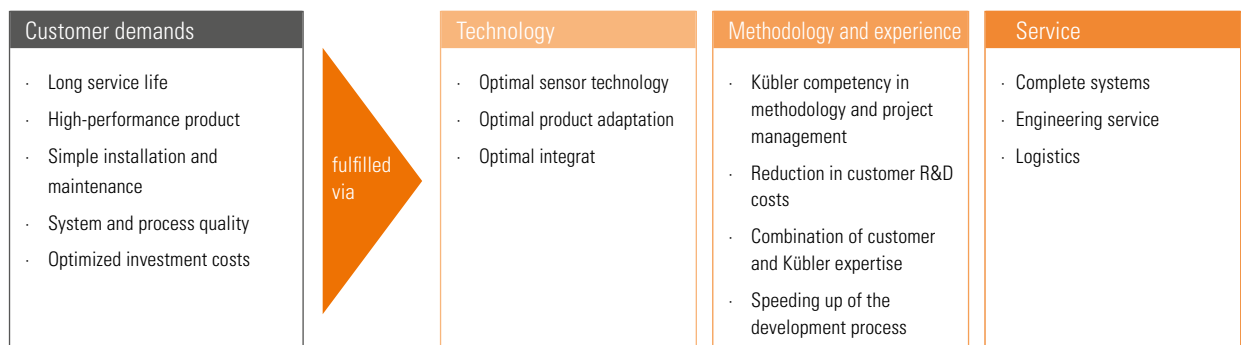
Furthermore, the interface permits parameter and other settings of the display to be stored or transmitted quickly and easily to a number of devices. Several devices with various measuring tasks can be networked together in order to monitor complete operating or process tasks. The Codix devices offer the standard RS232 and RS485 interfaces – the standard Modbus and CR/LF protocols have already been implemented for the Codix 560.

Tailor-made solutions – Kübler Design System

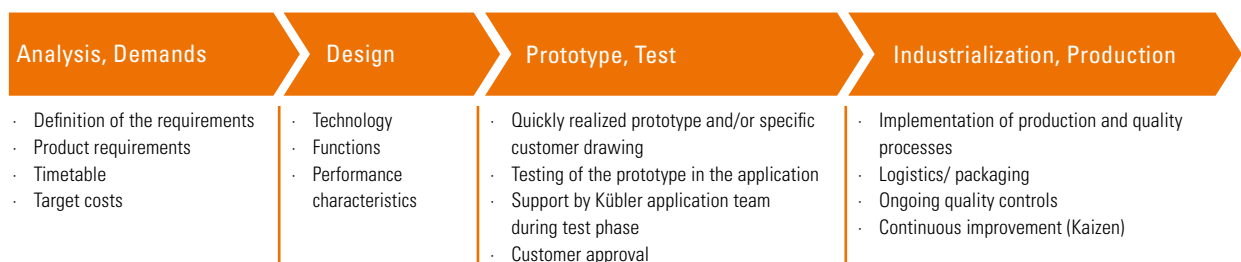
With the KDS method our customers receive a lasting solution to lowering costs, reducing the number of models available or eliminating quality deficiencies. With KDS we develop product and engineering solutions together. The method stands out because of its structured process; this delivers innovation through experience and cooperation with the customer.

Gebhard and Lothar Kübler, Managing Directors Fritz Kübler GmbH

The Kübler Design System – satisfying customer demands



The 4 phases of the Kübler Design System



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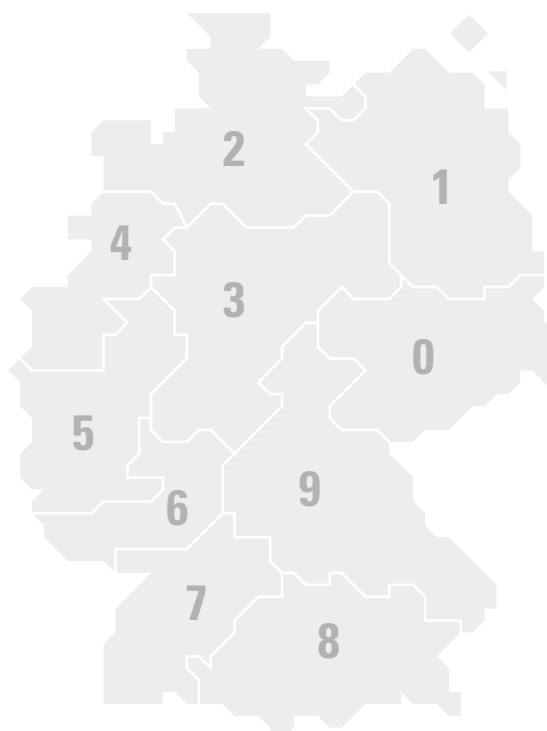
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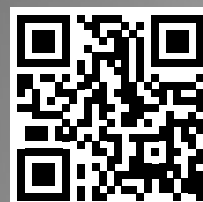




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