

Incremental encoders



The wide variety of incremental encoders from Kübler offer **solutions for many branches of industry** e.g.

- Geared motors & Drives
- Elevators
- Medical equipment
- Wind power
- Special purpose machines
- Electronic machines

- Packaging technology
- Vehicles, trains, buses, construction plant, agricultural vehicles, cranes
- Movement of materials, storage & transport.
- Plant engineering & Construction
- For geared motors we offer special products as well as our expertise in finding the right solution

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Absolute encoders/Fieldbus encoders



Singleturn and multiturn encoders with Fieldbus, SSI, parallel- or analogue interfaces

Technologies

- Absolute multiturn encoders with mechanical gear or electronic multiturn stage
- Intelligent Sensing Technology (IST)[®]
- Integrative Technology[®]
- Safety Lock[™] Design, OptoASIC Technology
- Latest field bus profile

These characteristics are ideal, for example, in the following applications:

- Trains, buses, construction plant, agricultural vehicles and other mobile equipment
- Movement of materials, storage, transport and storage technology.
- Plant engineering & Construction
- Elevators
- Gears & motors
- Wind power

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Linear encoders



LIMES Measurement System

- Magnetic sensor is scanned along a magnetic band
- Not affected by dust, shavings, humidity
- Resolution up to 0.005 mm
- simple mounting
- Measuring length up to 90 m

Draw wire encoder

- Convert linear motion to rotary motion and simply measure with an encoder
- Measurement length up to 40 000 mm
- Output signal as incremental or absolute encoder or potentiometer
0 ... 10 V, 4 ... 20 mA

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Display counters



Electromechanical or electronic, programmable for many applications:

- Technical equipment, e.g. alarm systems, gas pumps, dialysis machines, laboratory instruments, pumps
- Machine construction
- Packaging technology

- Industrial solutions
- Pulse and miniature counters for panel mounting in kWh meters. In addition we also offer specialist counters and count modules.

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Preset counters



Easy control of count, time and rate using serial interfaces.

- 48 x 48 DIN-Housing

Typical applications are:

- Timing
- Positioning
- Rate monitoring
- Saw machines
- Cable-cutting machines, loading equipment, specialist machinery

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Hour meters/Time relays



Electromechanical and electronic versions for:

- Machines
- Medical equipment, e.g. respirators
- Vehicles of various types
- Generators
- Small machines & instruments
- Control panels

Electronic Time relays for:

- Industrial applications
- Automation and machines
- Vehicles, mobile plant

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Tachometers/Position displays



Programmable electronically for many applications:

- Remote display of rotational speeds, numbers of parts, ... on machines
- Equipment technology, e.g. petrol pumps, dialysis technology, laboratory equipment, pumps
- Mechanical engineering
- Packaging technology

- Sector-specific solutions
- Pulse and stepper-motor driven counters for integration in kilowatt-hour meters. We supply special counters and counting modules for that purpose
- Position displays e.g. for production machines, automation, cable cutting and winding machines, length measuring systems

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Process devices, Temperature displays, Setpoint generator



Temperature displays and controllers for thermocouples and RTDs

- 2-, 3- or 4 wire technology
- for electrical machines, baking machinery, printed-circuit board machines and many others.

Process displays and controllers for all standard current and voltage signals (0/4 ... 20 mA, 0/2 ... 10 V, -10 ... +10 V)

- optional totalizer function with process displays/controllers
- automation process technology, instruments and medical equipment ...
- 2 sizes, compact 48 x 24 mm and 96 x 48 mm
- easy to operate, even wearing gloves
- programmable input characteristic curve, MAX/MIN detection with/without limit values
- serial interfaces and programming software

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Incremental encoders

New



Version	Magnetic ring R1 with LINES L1 R120	Miniature Shaft/Blind hollow shaft 2400/2420	Economy ¹⁾ shaft 3700	Economy ¹⁾ hollow shaft 3720
Series				
Special features	Magnetic sensor with magnetic ring, rugged and non-sensitive	Hollow shaft version - very small yet fully suited to industrial use	Low-cost compact encoder for resolutions up to 1024 ppr, Tubetech® cable outlet permits high constant load on the cable outlet. Version with through hollow shaft (8 mm)	
Mechanical characteristics				
Shaft/Hollow shaft ø [mm]	6 ... 30	4/6	4 ... 8	4 ... 8
Housing dim. [mm]	–	ø24	ø 37	ø 37
Max. speed [min ⁻¹]	15000	12000	6000	6000
Max. shaft load rad./ax. [N]	–	20/10 at 2400	20/10	20/10
Max. operating temp. [°C]	–10 ... +70	–20 ... +85	–20 ... +70	–20 ... +70
Max. protection to	IP 67	IP 64 housing side	IP 67 housing side	IP 67 housing side
Type of connection	Cable	Cable	Cable	Cable
Max. resolution [PPR]	1440	1024	1024	1024
Electrical characteristics				
Output	Push-pull or line driver	Push-pull	RS 422 or Push-pull	RS 422 or Push-pull
Supply voltage [V DC]	5 or 24	5 ... 24 or 8 ... 30	5 or 5 ... 30	5 or 5 ... 30
Max. pulse frequency [kHz]	250	160	250	250



Version	Compact Shaft 3610	Compact Hollow shaft 3620	Universal, compact ¹⁾ Shaft Sendix Incremental 5000	Universal, compact ¹⁾ Hollow shaft Sendix Incremental 5020
Series				
Special features	Compact, low-cost, high performance data		Flange compatible with all 58 mm series. Tough, e.g. Safetylock design ensures solid bearing construction, compact design. Flexible, e.g. hollow shaft up to 15.7 mm; for temperatures down to -40 °C.	
Mechanical characteristics				
Shaft/Hollow shaft ø [mm]	4/5/6/ 1/4"	6/6.35/8	6 ... 12	6 ... 15,7
Housing dim. [mm]	ø36,5	ø36,5	ø 50	ø 50
Max. speed [min ⁻¹]	12000	12000	12000	12000
Max. shaft load rad./ax. [N]	40/20	–	80/40	–
Max. operating temp. [°C]	–20 ... +85	–20 ... +85	–40 ... +85	–40 ... +85
Max. protection to	IP 65 housing side	IP 65 housing side	IP 67	IP 67
Type of connection	Cable	Cable	Cable/plug	Cable/plug
Max. resolution [PPR]	2500	2500	3600	3600
Electrical characteristics				
Output	Push-pull	Push-pull	RS 422, push pull 7272 or push pull	RS 422, push pull 7272 or push pull
Supply voltage [V DC]	5 ... 24 or 8 ... 30	5 ... 24 or 8 ... 30	5 or 5 ... 30	5 or 5 ... 30
Max. pulse frequency [kHz]	200	200	300	300

¹⁾ available as explosion proof zone 2 and 22

Incremental encoders/ industrial standard \varnothing 58 mm



Version	Universal ¹⁾ 5800 Shaft Preferred ¹⁾ 5802 Shaft 5800/5802	High temperature ¹⁾ shaft 5803	Sine wave ¹⁾ shaft high resolution, 5804/5805	Economy ¹⁾ shaft 5810
Series				
Special features	5800: many options, PUR cable 5802: preferred types, low-cost	Operating temperature range up to 110 °C; TPE cable; options include MIL plugs and inch measurements.	5804: high quality sine wave signal 5805: high resolution up to 36,000 ppr.	Low-cost entry-level model for applications with limited resolution, very small installation depth
Mechanical characteristics				
Shaft/Hollow shaft \varnothing [mm]	6 ... 10, 3/8"	6 ... 10, 3/8"	6 ... 10	6/10
Housing dim. [mm]	\varnothing 58	\varnothing 58	\varnothing 58	\varnothing 58
Max. speed [min ⁻¹]	12000	12000	12000	6000
Max. shaft load rad./ax. [N]	80/40	80/40	80/40	80/40
Max. operating temp. [°C]	-20 ... +90	-20 ... +110	-20 ... +90	-20 ... +75
Max. protection to	IP 65	IP 65	IP 65	IP 64
Type of connection	Cable/Plug	Cable/Plug	Cable/Plug	Cable/Plug
Max. resolution [PPR]	5000	5000	5000 ²⁾ 36000 interpol. ³⁾	1024
Electrical characteristics				
Output	RS 422 or Push-pull	RS 422 or Push-pull	Sine wave 1 Vpp ¹⁾ RS 422 or Push-pull ²⁾	Push-pull
Supply voltage [V DC]	5, 5 ... 30 or 10 ... 30	5 or 10 ... 30	5 or 10 ... 30	10 ... 30
Max. pulse frequency [kHz]	300	300	180	100

²⁾ 5804 ³⁾ 5805

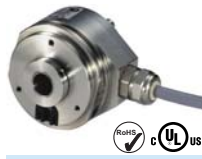


Version	Hollow shaft ¹⁾ Universal 5820 5822	Hollow shaft, ¹⁾ universal 5823	Hollow shaft, ¹⁾ sine wave, high res 5824/5825
Series			
Special features	5820: many options 5822: preferred types, low-cost, wide variety of fixing options	High temperature version with TPE cable	High quality sine wave signal ²⁾ High resolution up to 36.000 ppr ³⁾
Mechanical characteristics			
Shaft/Hollow shaft \varnothing [mm]	6/8/14/15	6/8/10/12/14/15	6/8/10/12/14/15
Housing dim.. [mm]	\varnothing 58	\varnothing 58	\varnothing 58
Max. speed [min ⁻¹]	12000	12000	12000
Max. shaft load rad./ax. [N]	—	—	—
Max. operating temp. [°C]	-20 ... +90	-20 ... +110	-20 ... +90
Max. protection to	IP 66	IP 66	IP 66
Type of connection	Cable/Plug	Cable/Plug	Cable/Plug
Max. resolution [PPR]	5000	5000	5000 ²⁾ 36000 interpolated ³⁾
Electrical characteristics			
Output	RS 422 or Push-pull	RS 422 or Push-pull	Sine wave 1 Vpp ²⁾ RS 422 or Push-pull ³⁾
Supply voltage [V DC]	5, 5 ... 30 or 10 ... 30	5 or 10 ... 30	5 or 10 ... 30
Max. pulse frequency [kHz]	300	180	180 ²⁾ , 800 ²⁾

²⁾ 5824 ³⁾ 5825

¹⁾ available as explosion proof zone 2 and 22

Incremental encoders



Version	Hollow shaft ¹⁾ stainless steel (Niro) 5826	Heavy duty ¹⁾ 9000	Stainless steel with shaft (Niro) 9000 NIRO	Ex-proof ¹⁾ shaft, hollow shaft 7030 <i>Atex approved</i>
Series	5826	9000	9000 NIRO	7030
Special features	Stainless steel housing; sea water version on request	Extended axial and radial load	Suitable for food processing and chemical industries	Very compact ExII2GExdIICT6 and ExII2DIP6xT85°C
Mechanical characteristics				
Shaft/Hollow shaft ø [mm]	10/12	12	12	12
Housing dim. [mm]	ø 58	ø 90	ø 90	ø70
Max. speed [min ⁻¹]	12000	6000	6000	6000
Max. shaft load rad./ax. [N]	—	140/70	140/70	20/10 (shaft)
Min./Max. operating temp. [°C]	-20 ... +90	-20 ... +90	-20 ... +85	-20 ... +60
Max. protection to	IP 66	IP 66	IP 66	IP 64
Type of connection	Cable/Plug	Cable/Plug	Cable	Cable
Max. resolution [PPR]	5000	5000	5000	5000
Electrical characteristics				
Output	RS 422 or Push-pull	RS 422 or Push-pull	RS 422 or Push-pull	RS 422 or Push-pull
Supply voltage [V DC]	5, 5 ... 30 or 10 ... 30	5 or 10 ... 30	5 or 10 ... 30	5 or 10 ... 30
Max. pulse frequency [kHz]	300	300	300	300











Version	Large hollow shaft up to 42 mm ¹⁾ A020	Heavy Duty Model Large hollow shaft up to 42 mm ¹⁾ A02H
Series	A020	A02H
Special features	For medium loads, hollow shaft up to 42 mm dia., installation depth only 43 mm, wide variety of fixing options	Rugged: balanced stainless-steel clamping rings, special bearing-shaft connection increases stability and vibration resistance, economic alternative to traditional heavy duty encoders that are often over-engineered and expensive. Versatile due to compact size. Optional isolating inserts.
Mechanical characteristics		
Shaft/Hollow shaft ø [mm]	up to 42	up to 42
Housing dim. [mm]	ø100	ø100
Max. speed [min ⁻¹]	1500	6000
Max. shaft load rad./ax. [N]	—	—
Max. operating temp. [°C]	-20 ... +75	-20 ... +80
Max. protection to	IP 65	IP 65
Type of connection	Cable/Plug	Cable/Plug
Max. resolution [PPR]	5000	5000
Electrical characteristics		
Output	RS 422, Push-pull, sine wave	RS 422 or Push-pull, sine wave
Supply voltage [V DC]	5 or 10 ... 30	5 or 11 ... 24
Max. pulse frequency [kHz]	300	50

Isolating inserts
The isolating insert provides galvanic isolation between the encoder and the motor shaft and prevents current flowing via the motor and encoder bearings. We also supply isolated tether arms specially adapted to these applications.

¹⁾ available as explosion proof zone 2 and 22

Absolute encoders/Singleturn

		<i>New</i> 	<i>New</i> 		
Version		Singleturn Magnetic encoder shaft/hollow shaft 3650/3670	Singleturn¹⁾ Sendix absolut 5853 <i>with SinCos or incremental track</i>	Singleturn¹⁾ universal model, shaft 5850	Singleturn¹⁾ parallel model 5852
Series					
Special features		New encoder generation with magnetic sensor element	New encoder generation with Safety-Lock™ design and new OptoASIC	Patented Integrative Technology® construction offers 3 to 5 times higher shock resistance (250g) than is standard in the market The encoders are equipped with various control inputs.	
Mechanical characteristics					
Shaft/Hollow shaft ø	[mm]	6/8/10/ 1/4"	6/10/ 1/4" / 3/8"	6/10	6/10
Max. housing dim..	[mm]	ø 36	ø 58	ø 58	ø 58
Max. speed	[min ⁻¹]	6000	12000	12000	12000
Max. shaft load rad./ax.	[N]	40/20	80/40	80/40	80/40
Max. operating temp. [°C]		-40 ... +85	-40 ... +90	-20 ... +90	-20 ... +90
Max. protection to		IP 69k	IP 67	IP 65	IP 65
Type of connection		Cable	Plug/Cable	Plug/Cable	Plug/Cable
Electrical characteristics					
Max. resolution		512 (9 Bit)	131072 (17 Bit)	16384 (14 Bit)	16384 (14 Bit)
Version		Singleturn	Singleturn	Singleturn	Singleturn
Interface		SSI, 0 ... 10 V, 4 ... 20 mA	SSI, BISS	SSI, Parallel, 4 ... 20 mA	Parallel
Type of code		-	Binary, Gray	Gray, Binary, BCD	Gray or Gray-Excess
Supply voltage	[V DC]	5/18/20 ... 30	5 or 10 ... 30	5 or 10 ... 30	5 or 10 ... 30

		<i>New</i> 	<i>New</i> 		
Version		Singleturn¹⁾ Sendix absolut	Singleturn¹⁾ Sendix absolut 5873 <i>with SinCos or incremental track</i>	Singleturn¹⁾ universal model, hollow shaft 5870	Singleturn¹⁾ hollow shaft parallel model 5872
Series		5858			
Special features		New encoder generation with Safety-Lock™ design and new OptoASIC	New encoder generation with Safety-Lock™ design and new Opto-ASIC	patented Integrative Technology® construction offers 3 to 5 times higher shock resistance (250g) than is standard in the market	
Mechanical characteristics					
Shaft/Hollow shaft ø	[mm]	6/10/ 1/4" / 3/8"	10 ... 15	6/8/10/12	10/12
Max. housing dim..	[mm]	ø 58	ø 58	ø 58	ø 58
Max. speed	[min ⁻¹]	9000	9000	6000	6000
Max. shaft load rad./ax.	[N]	80/40	-	-	-
Max. operating temp. [°C]		-40 ... +80	-40 ... +90	-20 ... +90	-20 ... +90
Max. protection to		IP 67	IP 67	IP 66	IP 66
Type of connection		Plug/Cable	Plug/Cable	Plug/Cable	Plug/Cable
Electrical characteristics					
Max. resolution		65536 (16 Bit)	131072 (17 Bit)	16384 (14 Bit)	16384 (14 Bit)
Version		Singleturn	Singleturn	Singleturn	Singleturn
Interface		CANopen/Profibus-DP	SSI, BISS with SinCos	SSI or Parallel	Parallel
Type of code		-	Binary, Gray	Gray, Binary, BCD	Gray or Gray-Excess
Supply voltage	[V DC]	10 ... 30	5 or 10 ... 30	5 or 10 ... 30	5 or 10 ... 30

¹⁾  available as explosion proof zone 2 and 22

Absolute encoders / Singleturn



Version	Singleturn ¹⁾ Sendix absolut 5878	Singleturn ¹⁾ Ex proof Shaft, Hollow shaft 7031	Singleturn ¹⁾ stainless steel Hollow shaft 5876	Connection technology
Series	5878	7031	5876	
Special features	New encoder generation with Safety-Lock™ design and new OptoASIC	Atex approved Very compact ExII2GEEExdIICT6 and ExII2DIP6xT85°C		Encoders and connection technology from a single source
Mechanical characteristics				
Shaft/Hollow shaft ø	[mm] 10 ... 15	12/12	10/12	Please enquire about our wide range of connection technology: • connectors • cable assemblies • M12 technology • Profibus, CANopen and DeviceNet connection technology • M23x1, MIL and Right-angle-plugs
Housing diam..	[mm] ø 58	ø 70	ø 58	
Max. speed	[min ⁻¹] 9000	6000	6000	
Max. shaft load rad./ax.	[N] 80/40	20/10 (shaft)	—	
Max. operating temp. [°C]	-40 ... +80	-20 ... +70	-20 ... +80	
Max. protection to	IP 67	IP 64	IP 66	
Type of connection	Plug/Cable	Plug/Cable	M12 plug/Cable	
Electrical characteristics				
Max. resolution	65536 (16 Bit)	16384 (14 Bit)	16384 (14 Bit)	
Version	Singleturn	Singleturn	Singleturn	
Interface	CANopen	SSI, Parallel, 4 ... 20 mA	SSI or Parallel	
Type of code	Profibus-DP	Gray, Binary, BCD	Gray, Binary, BCD	
Supply voltage	[V DC] 10 ... 30	5 or 10 ... 30	5 or 10 ... 30	

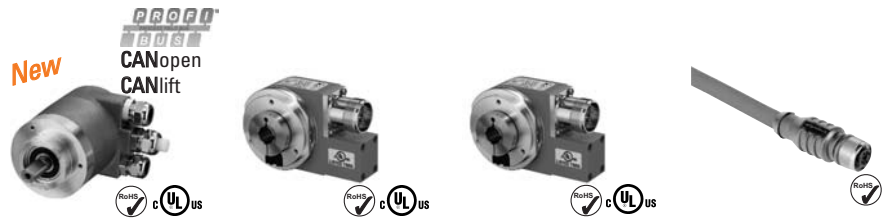
Absolute encoders / Multiturn



Version	Multiturn ¹⁾ Sendix absolut 5863	Multiturn, shaft standard 5862S	Multiturn, shaft ¹⁾ programmable 5862	Multiturn, Fieldbus shaft ¹⁾ 5860
Series	5863	5862S	5862	5860
Special features	with SinCos or incremental track G geared Multiturn Safety-Lock™ bearing design and new OptoASIC	Very compact, electronic multiturn, optional incremental track, Patented Intelligent Sensing Technology®, Integrative Technology®		Compact, electronic multiturn, M12 connection technology
Mechanical characteristics				
Shaft/Hollow shaft ø	[mm] 6/10/ 1/4" / 3/8"	6/10	6/10	6/10 hollow shaft 15
Housing diam..	[mm] ø 58	ø 58	ø 58	ø 60
Max. speed	[min ⁻¹] 12000	6000	6000	6000
Max. shaft load rad./ax.	[N] 80/40	80/40	80/40	80/40
Max. operating temp. [°C]	-40 ... +90	-20 ... +80	-20 ... +80	-10 ... +80
Max. protection to	IP 67	IP 65	IP 65	IP 65 (IP 66 on requ.)
Type of connection	Plug/Cable	Cable/Plug	Cable/Plug	Cable or M12 connector
Electrical characteristics				
Max. resolution	17 x 12 Bit progr.	13 x 12 Bit	13 x 12 Bit progr.	13 x 12 Bit
Version	Multiturn	Multiturn	Multiturn	Multiturn
Interface	SSI, BISS with SinCos	SSI	SSI, RS 485, AWG-pr.	Profibus DP/CANopen/DeviceNet
Type of code	Gray or Binary	Gray	Gray or Binary	
Supply voltage	[V DC] 10 ... 30	5 ... 30	5 ... 30	10 ... 30

¹⁾ available as explosion proof zone 2 and 22

Absolute encoders / Multiturn



Version	Multiturn ¹⁾ Sendix absolut 5868	Multiturn, hollow shaft, standard 5882S	Multiturn, hollow ¹⁾ shaft, programmable 5882	Connection technology
Series	Geared Multiturn Safety-Lock™ bearing design and new OptoASIC	Very compact, electrical multiturn, optional incremental track, Patented Intelligent Sensing technology®, M12 Technology		Encoders and connection technology from a single source
Mechanical characteristics				
Shaft/Hollow shaft ø [mm]	6/10/ 1/4" / 3/8"	10/12	10/12	Please enquire about our wide range of connection technology: <ul style="list-style-type: none"> • connectors • cable assemblies • M12 technology • Profibus, CANopen and DeviceNet connection technology • M23x1, MIL and Right-angle-plugs
Housing diam.. [mm]	ø 58	ø 58	ø 58	
Max. speed [min ⁻¹]	9000	6000	6000	
Max. shaft load rad./ax. [N]	80/40	—	—	
Max. operating temp. [°C]	-40 ... +80	-20 ... +90	-20 ... +90	
Max. protection to	IP 67	IP 65	IP 65	
Type of connection	Cable/Plug	Cable/Plug	Cable/Plug	
Electrical characteristics				
Max. resolution	65536 (16 bit)	13 x 12 Bit	13 x 12 Bit prog.	
Version	Multiturn	Multiturn	Multiturn	
Interface	Profibus DP/CAN-open/DeviceNet	SSI	SSI, RS 485, AWG-pr.	
Type of code		Gray	Gray or Binary	
Supply voltage [V DC]	10 ... 30	5 ... 30	5 ... 30	



Version	Multiturn ¹⁾ Sendix absolut 5883 <i>with SinCos or incremental track</i>	Multiturn ¹⁾ Sendix absolut 5888	Multiturn, hollow ¹⁾ shaft or shaft progr. 9081	Multiturn, Fieldbus shaft ¹⁾ 9080
Series	Geared Multiturn Safety-Lock™ bearing design and new OptoASIC	Geared Multiturn Safety-Lock™ bearing design and new OptoASIC	Very compact, electrical multiturn, optional incremental track, Patented Intelligent Sensing technology®, Integrative Technology®	
Mechanical characteristics				
Shaft/Hollow shaft ø [mm]	10 ... 15	10 ... 15	up to 28	12/hollow shaft 12 ..28
Housing diam.. [mm]	ø 58	ø 58	ø 90	ø 90
Max. speed [min ⁻¹]	9000	9000	6000	6000
Max. shaft load rad./ax. [N]	—	—	—	80/40
Max. operating temp. [°C]	-40 ... +90	-40 ... +80	-20 ... +80	-10 ... +80
Max. protection to	IP 67	IP 67	IP 65	IP 65 (IP 66 on requ.)
Type of connection	Cable/Plug	Cable/Plug	Plug	Cable or M12 connect
Electrical characteristics				
Max. resolution	17 bit x 12 bit prog.	65536 (16 x 12 bit)	13 x 12 Bit prog.	13 x 12 Bit
Version	Multiturn	Multiturn	Multiturn	Multiturn
Interface	SSI, BISS	Profibus DP/CAN-open/DeviceNet	SSI, RS 485, AWG-pr.	Profibus DP/CANopen
Type of code	Binary, Gray		Gray or Binary	Binary
Supply voltage [V DC]	10 ... 30	10 ... 30	5 ... 30	10 ... 30

¹⁾ available as explosion proof zone 2 and 22

Linear measurement systems



Version	Linear measurement system <i>LINES</i>	Miniature with encoders	Draw wire mechanics for encoders	Measuring device
Series	L1, L2			
The idea	Magnetic sensor with magnetic band, rugged and non-sensitive, simple stick-on magnetic band	Convert linear motion to rotary motion and simply measure with an encoder, from 1 to 40 m. For standard applications, rugged, wide choice of encoders including fieldbus encoders.		With rack or measuring wheels. Encoder holding device for optimum contact pressure.
Mechanical characteristics				
Measuring range [mm]	up to 90 000	1000/2000	up to 40000	no limit
Resolution [mm]	up to 0.005	0,1	0,1	up to 0.1 mm
Repeatability	± 1 digit	±0.15	~0.05	0.1 at 1 m
Temperature range [°C]	-10 ... 70 °C	-10 ... +80	-20 ... +80	-20 ... + 70 °C
Materials			Al	Measuring wheels: Plastic or AL, Rack: steel
Housing	Sensor: plastic	Plastic reinforced	Steel, red para wire, coloured cable ident.	
Wire	Cable: PUR	Steel wire *		
Suitable encoders/interfaces	Push-Pull or Line-Driver Inverted	2400 series with either incremental or analog-(current, voltage) output	Various incremental and absolute encoders	depends from the encoder

* over 1000 mm: plastic coated wire.

Accessories



Couplings



Mounting brackets for hollow-shaft encoders



Eccentric fixings



Flange adapters



Connectors, Cable assemblies



Programming software Ezturm®



SSI display 571/position display 570



Accessories for draw wire encoder




Measuring wheels

Absolute Multiturn Encoders from Kübler – mechanical or electrical ?

Unique:

The optimal solution from Kübler
– fits your application.



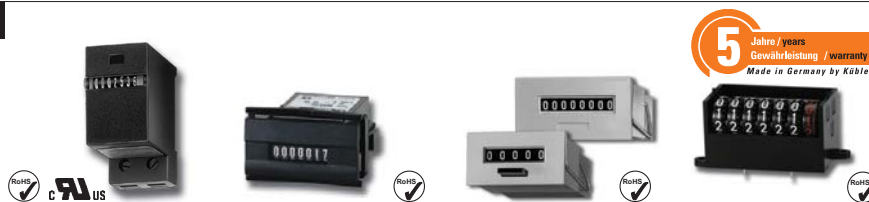
Characteristics	Geared Multiturn NEW! 	Electronic Multiturn Series 5862, 5882, 5860, 9081, 9080
For use near to strong magnetic fields, e.g. for geared motors with brake	Very good: Sendix absolut encoders are 100% resistant to magnetic fields. They succeed against other geared solutions, which to some extent use magnetic sensor technology. No battery required!	Limited: Because of magnetic sensitive parts (as is common with encoders with electronic multiturns).
High dynamic – high precision feedback	Very good: Highly deterministic and fast, allow feedback cycle times < 20 µs, sine/cosine outputs as option.	Good: With optional incremental tracks A/B.
Outdoor applications Wet environment	Very good: Sendix absolut up to IP 67.	Good: Up to IP 65.
Very high or low temperatures e.g. outdoor applications	Very good: Sendix absolut for a wide temperature range of -40 °C until 90 °C.	Good: -20°C ... +80 °C.
Limited space Large hollow shaft	Good: Sendix absolut is the first encoder on the market to offer a through hollow shaft up to 14 mm or blind hollow shaft solutions up to 15 mm. This offers space-saving possibilities.	Very good: Integrative and Intelligent Sensing Technology permits hollow shafts up to 28 mm or the slimmest multiturn encoder on the market, with an installation depth from only 42 mm with through hollow shaft.
Safety critical equipment	Very good	Limited: To some extent mechanical gears are prescribed.
Programmability	Limited: Resolution Single-turn, Offset, Code direction, configuration by factory (configuration software in preparation).	Very good: Full range scaleable and additional features like 4 programmable outputs (with EzTurn).
Set Up	Very good: SET-Push button and Status-LED facilitate the set up locally, additional DIR- and SET-Inputs.	Good: SET- and DIR-Inputs.

Electromechanical micro counters



Version	Micro	Micro	Micro	Micro
Series	K 46/K 47	K 66/K 67	K 04/K 05/AK 05	K 06/K 07/AK 07
Special features	Shock resistant miniature counters, low power consumption, various models, e.g. for panel-, PCB and base mounting. Suitable for soldering and wash-down (IP 65). For kWh applications, medical equipment, alarm systems, battery-powered units, fuel pumps ...			
Technical data	High shock resistance	100% resistant to shock and magnetic fields	High shock resistance	High shock resistance
Number of digits	6/7	6/7	4/5	6/7
Digit height, visible [mm]	1.7 x 4/1.2 x 4	1.7 x 4/1.2 x 4	1.7 x 4/ 1.2 x 4	1.7 x 4/1.2 x 4
Panel cut-out [mm]	e.g. 27 x 14	e.g. 27x 14	e.g. 24 x 13	e.g. 30 x 13
Viewing angle	variable	variable	variable	variable
Type of mounting	Panel/PCB mount	Panel/PCB mount	Panel/base mount, PCB	Panel/base mount, PCB
Max. protection	up to IP65	up to IP65	up to IP65	up to IP65
Pulse voltage min/max. [V DC]	1.5 ... 24	1.5 ... 24	3 ... 24	3 ... 24
[V AC]	–	–	24 ... 23025	24 ... 230
Max. count frequency [Hz]	10	10	50	25
Min. power consumption [mW]	70	70		50

Electromechanical standard counters



Version	DIN-Rail	Miniature	Industry standard	Cyclometer display for Energy meters KWH 17
Series	SK 07	W 15/W 16/W 17	B 15/B 16/B 18	KWH 17
Special features	Pulse counter for DIN rail mounting, high shock resistance	Miniature pulse counter for OEM applications. Various housing sizes and mounting options	Industry standard, plug-in versions	Stepper motor driven* for mounting in kWh meters, shielded against magnetic effects, low power consumption
Technical data				
Number of digits	7	5/6/7	5/6/8	7
Reset	no	yes/no/no	yes/yes/no	no
Digit height, visible [mm]	1.2 x 4	1.7 x 4	2 x 4.5/2 x 4.4/2 x 4	5 x 3
Panel cut-out [mm]	–	45 x 22 / 31 x 20	50 x 25	–
Viewing angle	front	front, top	front	front
Type of mounting	DIN rail	Panel/base mount ,PCB	Panel mount	PCB
Max. protection	IP 50 front side	–	–	–
Pulse voltage min/max. [V DC]	12/24	12/24	12/24	5/10
[V AC]	24/230	24/230	24/230	–
Max. count frequency [Hz]	25	10	25	–
Min. power consumption [mW]	50	130/50/50	1000	25

* Temperature range
–40 ... +90 °C

Display counters **CODIX 13X**



Version	LCD-Panel mount	LCD-Panel mount	LCD-Panel mount	LCD-Panel mount
Series	CODIX 130	CODIX 131	CODIX 132	CODIX 133
Special features	Low-cost compact LCD counter, battery-powered (service life > 8 years), count inputs for mechanical contacts or AC/DC voltage pulses. All models have screw terminals (5 mm raster), optional backlighting, high count speeds, customized versions possible.			
Function				
Totaliser	yes	yes	–	–
Differential/ up-down counter	–	yes	–	–
Up/down counter*	–	yes	yes	–
Position display	–	–	–	yes
Technical data				
Number of digits	8	8	8	8
Reset	manual/electric	manual/electric	manual/electric	manual/electric
Digit height [mm]	8	8	8	8
Max. protection	IP 65 front	IP 65 front	IP 65 front	IP 65 front
Dimensions [mm]	DIN 48 x 24	DIN 48 x 24	DIN 48 x 24	DIN 48 x 24
Panel cut-out [mm]	45 x 22	45 x 22	45 x 22	45 x 22
Max. count frequency [Hz]	12 000	12 000	30	6 000
Power supply	Lithium-Battery	Lithium-Battery	Lithium-Battery	Lithium-Battery
Count inputs	NPN/PNP 10 ... 260 V AC/DC	NPN/PNP 10 ... 260 V AC/DC	10 ... 260 V AC/DC	NPN/PNP

* only version with NPN/PNP

Display counters and multifunction displays **CODIX 52X**



Version	LED Panel mount	LED Panel mount	LED Panel mount	LED Panel mount
Series	CODIX 520 <i>New</i>	CODIX 521...524 <i>New</i>	CODIX 52P <i>New</i>	CODIX 52U <i>New</i>
Special features	A re-design and new models expand the field of applications for these compact, powerful LED counters, tachometers and timers. 60 kHz count frequency makes it possible to use these products with encoders, even at high speeds.			
Function				
Pulse counter	yes	CODIX 521/524	–	2 pulse counters, pulse counter and timer, pulse and frequency meter or 2 timers.
Position display for encoders	–	CODIX 521/524	yes**	
Frequency meter/ Tachometer	–	CODIX 522/524	yes**	
Timer	–	CODIX 523/524	–	
Technical data				
Number of digits	6	6	6	6
Reset	manual/electric	manual/electric	manual/electric	manual/electric
Digit height, visible [mm]	8	8	8	8
Dimension [mm]	DIN 48 x 24	DIN 48 x 24	DIN 48 x 24	DIN 48 x 24
Panel cut-out [mm]	45 x 22	45 x 22	45 x 22	45 x 22
Max. protection	IP 65 front	IP 65 front	IP 65 front	IP 65 front
Max. count frequency [Hz]	60 000	60 000	30 000	60 000
Power supply [V DC]	10 ... 30	10 ... 30	10 ... 30	10 ... 30
Inputs	Schmitt-Trigger	Schmitt-Trigger	Schmitt-Trigger	Schmitt-Trigger
Outputs	–	optional: Optocoupler	–	–

**separate inputs for frequency and position

Display counters and multifunction displays **CODIX 54X**



Version Series Special features	LED-Panel mount CODIX 540 <i>New</i>	LED-Panel mount CODIX 541...544 <i>New</i>	LED-Panel mount CODIX 54P <i>New</i>	LED-Panel mount CODIX 54U <i>New</i>
Function	A re-design and new models expand the field of applications for these compact, powerful LED counters, tachometers and timers. 60 kHz count frequency makes it possible to use these products with encoders, even at high speeds.			
			54P Position display and tachometer/frequency display	54U Multifunction device with dual functions
Pulse counter	yes	CODIX 541/544	–	2 pulse counters, pulse counter and timer, pulse and frequency counter or 2 timers.
Position display for Encoders	–	CODIX 541/544	yes*	
Frequency meter/Tachometer	–	CODIX 542/544	yes*	
Time	–	CODIX 543/544	–	
Technical data				
Number of digits	6	6	6	6
Reset	manual/electric	manual/electric	manual/electric	manual/electric
Digit height [mm]	14	14	14	14
Dimensions [mm]	DIN 96 x 48	DIN 96 x 48	DIN 96 x 48	DIN 96 x 48
Panel cut-out [mm]	92 x 45	92 x 45	92 x 45	92 x 45
Max. protection	IP 65 front side	IP 65 front side	IP 65 front side	IP 65 front side
Max. count frequency [Hz]	60 000	60 000	30 000	60 000
Supply voltage [V DC]	10 ... 30	10 ... 30	10 ... 30	10 ... 30
[V AC]	90 ... 260	90 ... 260	90 ... 260	90 ... 260
Inputs	Schmitt-Trigger	Schmitt-Trigger	Schmitt-Trigger	Schmitt-Trigger
Outputs	–	optional: Optocoupler	–	–

*separate inputs for frequency and position

Electronic count modules



Version Series Special features	LCD count module 190 <i>New</i>	LCD count module 192	LCD count modules 166/167/168	LCD count modules 180
Technical data				
Number of digits	7	6	4/6/6	8
Count mode	add.	add.	add./add./add-sub.	add./sub.
Reset	electrical	electrical	electrical	manual/electrical
Height of figures [mm]	6	5	6	8
Dimensions [mm]	32 x 19	32 x 19	31 x 24	47 x 21
Panel cut-out [mm]	–	–	29,4 x 22	–
Type of mounting	PCB mount	PCB mount	Panel/PCB mount	Panel/PCB mount
Max. protection	–	–	IP 40	–
Max. count frequency [Hz]	10000	100	18/10 000/10 000	10 000
Power supply	4.75 ... 60 V DC	8 ... 28 V DC	Battery ¹⁾ 2.6 ... 3.4 V DC ²⁾	2.4 ... 3.2 V DC

¹⁾ 166 ²⁾ 167/168

Multifunction displays



Versions	LED Panel mount SSI display	LED Panel mount Multifunction display
	Type 570	Type 571
Series	SSI-clock frequency up to 1 MHz, master or slave mode	Fast count input for our LIMES system
Special features	position display for absolute encoders	programmable: speed, rotational speed, count and timer functions
Technical data		
Number of digits	6	6
Height of figures [mm]	15	15
Panel cut-out [mm]	92 x 45	92 x 45
Max. protection	IP 65 front side	IP 65 front side
Max. count frequency [Hz]	1 MHz data freq.	100 kHz at count
Supply voltage [V DC]	17 ... 30	16 ... 35
[V AC]	115/230	115/230
Inputs	2	2
Outputs	Scaleable analogue output or 2 optocoupler with tracking preset or RS 232/485 interface	

Preset counters multifunction

Codix 716/717 with serial interface and software EzControl



Versions	LCD Panel mount	LCD Panel mount	LED Panel mount
	901	903/904	715
Series	Simple, low-cost, very easy to programme using decade keyboard, alternative to electromechanical counters	Multifunction preset counters as pulse counters, position indicators, frequency displays, preset timers or elapsed time meters. Programmable scaling function or various time ranges. Many operation and output modes. Plug-in screw terminals. Supplied with front gasket and fixing clips.	
Special features		optional: backlit	
Technical data			
Number of digits/display	6/LCD	6/LCD	5/LED
Dimensions [mm]	DIN 48 x 48	DIN 48 x 48	DIN 48 x 48
Panel cut-out [mm]	45 x 45	45 x 45	45 x 45
Max. protection	IP 65 front side	IP 65 front side	IP 65 front side
Max. count frequency [Hz]	25	10 000	10 000
Supply voltage [V DC]	Battery (8 Years)	11 ... 30	11 ... 30
[V AC]	–	90 ... 260	115/230
Presets	1	903: 1, 904: 2	1
Outputs	Relay	Relay or Optocoupler	Relay or Optocoupler
Inputs	count, reset and program disable inputs 12 ... 250 V AC/DC	2 count inputs, gate, reset and program disable inputs.	count, gate, reset-, latch and key lock input
Serial interface	–	–	–

Preset counters multifunction/ electromechanical



Versions	LCD Panel mount CODIX 716/717 optional EX proof				LED Panel mount Multifunction counter Type 571		electromechanical adding, panel mount Bva 15		Electromechanical, panel mount Mvs 13/16	
	Series	Multifunction preset counters as pulse counters, position indicators, frequency displays, preset timers or elapsed time meters.				Fast count input for our LIMES system programmable: counter and position indicator, speed, rotational speed, time functions and reciprocal speed		Preset changeable during operation, plug-in version available, easy to operate, various front panel sizes		adding / subtracting
Special features										
Technical data										
Number of digits	6/LED				6		5		3/6	
Height of figures [mm]	8				15		Counter 4.5, Preset 4		4	
Panel cut-out [mm]	45 x 45				92 x 45		50 x 50		50x33,3/50x50	
Max. Protection	IP 65 front side				IP 65 front side		-		-	
Max. count frequency [Hz]	20 000				100 kHz at count		25		25	
Supply voltage [V DC]	10 ... 30				17 ... 30		24		24	
[V AC]	90 ... 260				115/230		24/115/230		24/115/230	
Presets	716: 1, 717: 2				2		1		1	
Outputs	Relay or Optocoupler 2 count inputs, gate- and mode input optional RS232/422/485				Scaleable analogue output or 2 optocoupler outputs, programmable as limits or RS232 or 485 interface		Microswitch with changeover contact		Microswitch with changeover contact	

Hour meters electromechanical



Version	Miniature			Panel mount
Series	HK 46 / HK 47			HK 07
Special features	Shock resistant miniature hour meter for installation in control panels, on PCBs or for DIN-rail mounting. Various models, IP65 (PCB versions can be soldered and washed down). For applications in technical equipment (medical apparatus, UV-lamps) and in industrial applications.			Rugged miniature counter with synchro/stepper motor, various front plate sizes
Technical data				
Number of digits	6/7			7/8
Digit height, visible [mm]	1.7 x 4/ 1.25 x 4			1.7 x 3,8
Dimensions [mm]	30 x 20/ 30 x 34			33 x 22
Panel cut-out [mm]	27 x 14			-
Viewing angle	variable			front
Type of mounting	Panel mount, PCB			Panel mount
Max. protection	IP 66			IP 65 front side
Typ. power consumption 5/24 V [mW]	82/135			0,5 W – 1,65 VA
Voltage ranges [V DC]	4.5 ... 35			10 ... 130
[V AC]	-			20 ... 440

Hour meters electromechanical



Version	Panel mount	Panel mount	Panel mount	Panel mount
Series	H 37/H 37S	H 57/H 57S/AH 57	HR 76	HB 26 / 27
Special features	low cost, stepper-motor driven hour meters for panel/base mount. Quiet motor running even after >8 years thanks to special motor technology.			
Technical data		short panel mount depth, adapters for □ 55, □ 72 and ø72	Shock-resistant round hour meter, IP 65	with reset, plug-in version available HB 27 without reset
Number of digits	7/8	7/8	6	6/7
Time range	0.01 ... 99 999.99 h	0.01 ... 99 999.99 h	0.1 ... 99 999.9 h	0.01 ... (9)9 999.99 h
Digit height, visible [mm]	1.7 x 4	1.7 x 4	1.8 x 3.5	4.5
Dimensions [mm]	DIN 48 x 24/53 x 28	DIN 48 x 48	ø 58.7 / 71.1	different versions
Panel cut-out [mm]	45 x 22/50 x 25	□ 46/ø 50,5	ø 50,5	50 x 25
Viewing angle	front	front	front	front
Type of mounting	Panel mount	Panel mount	Panel mount	Panel mount
Max. protection	IP 65 front side	IP 65 front side	IP 65 from all sides	IP 41 front side
Min. power consumption [W/VA]	0,5/1,2	0,5/1,2	0,08/0,4	0,5/1,2
Voltage ranges	[V DC]	10 ... 130/24 (S)	10 ... 80	10 ... 115
	[V AC]	20 ... 264/100 ... 264 (S)	20 ... 440/100 ... 264 (S)	115/230

*not for S-Line

Hour meters electromechanical



Version	for DIN rail	Combination with hour meter and pulse counter HC 77/SHC 77	
Series	SH 17		
Special features	DIN rail hour meter, double module width, with easy connection	Pulse and hours-run meter in one unit	
Technical data			
Number of digits hour meter	7	7	
Time range	0.01 ... 99 999.99 h	0.01 ... 99 999.99 h	
Number of digits adding counter	–	8	
Digit height, visible [mm]	1.5 x 3.5	1.7 x 4	
Panel cut-out [mm]	–	□ 46/ø 50,5	
Viewing angle	front	front	
Type of mounting	DIN rail	Panel mount, DIN rail	
Max. protection	IP 65 front side	IP 52 front side	
Min. power consumption [W/VA]	1/2,5	1/3	
Voltage ranges	[V DC]	10 ... 27	10 ... 130
	[V AC]	230	20 ... 264

Hour meters electronic LCD



Version Series	LCD Panel mount CODIX 134	LCD Panel mount CODIX 135	LCD count module 194 <i>New</i>	LCD count module 198
Special features	Low cost, battery-powered LCD timer. Screw terminals. IP 65. Optional backlighting. Inputs: PNP, NPN or 10 ... 260 V AC/DC		PCB mount module with wide temperature range -40 ... +85°C, high shock resistance	PCB mount module with wide temperature range -40 ... +85°C, high shock resistance
Technical data				
Number of digits	7	8	6	6
Time range	0.01 h; h.min	h.min.s; 0.1s	9999-99 h	99999.9 h*
Digit height, visible [mm]	8	8	6	5
Dimension [mm]	DIN 48 x 24	DIN 48 x 24	ca. 32 x 19	ca. 32 x 19
Panel cut-out [mm]	45 x 22	45 x 22	—	—
Max. protection	IP 65 front side	IP 65 front side	—	—
Type of mounting	Panel mount	Panel mount	PCB mount	PCP mount
Voltage range [V DC]	Lithium Battery (service life >8 years)	Lithium Battery (service life >8 years)	4,75 ... 15/9 ... 60	8 ... 28

* with run indicator

Hour meters electronic LED



Version Series	LED Panel mount CODIX 523/524 <i>New</i>	LED Panel mount CODIX 52U <i>New</i>	LED Panel mount CODIX 543/544 <i>New</i>	LED Panel mount CODIX 54U <i>New</i>
Special features	523: Time meter 524: multifunction timer, frequency meter, pulse counter or position display 523/524 with set function	New functions, dual functions as time counter and totaliser or 2 time counters or 2 impulse counters or tachometer and totaliser	543: Timer 544: Multifunction timer, frequency meter, pulse counter or position display 543/544 with set function	New functions, dual functions as time counter and totaliser or 2 time counters or 2 impulse counters or tachometer and totaliser
Technical data				
Number of digits	6	6	6	6
Time range	sec, min, h or hh.mm.ss	sec, min, h or hh.mm.ss	sec, min, h or hh.mm.ss	sec, min, h or hh.mm.ss
Digit height, visible [mm]	8	8	14	14
Dimensions [mm]	DIN 48 x 24	DIN 48 x 24	DIN 96 x 48	DIN 96 x 48
Panel cut-out [mm]	45 x 22	45 x 22	92 x 45	92 x 45
Max. protection	IP 65 front side	IP 65 front side	IP 65 front side	IP 65 front side
Type of mounting	Panel mount	Panel mount	Panel mount	Panel mount
Voltage range [V DC]	10 ... 30	10 ... 30	10 ... 30	10 ... 30
[V AC]			90 ... 260	90 ... 260

Time preset counters electronic

Codix 716/717 with serial interface and software EzControl



Version Series Special features	LCD Panel mount 903/904 opt.: back light	LED Panel mount 715	LCD Panel mount CODIX 716/717 optional EX proof
	Technical data		
Number of digits/display	6/LCD	5/LED	6/LED
Dimensions [mm]	DIN 48 x 48	DIN 48 x 48	DIN 48 x 48
Panel cut-out [mm]	45 x 45	45 x 45	45 x 45
Max. protection	IP 65 front side	IP 65 front side	IP 65 front side
Count frequency max. [Hz]	10 000	10 000	20 000
Power supply [V DC]	11 ... 30	11 ... 30	10 ... 30
[V AC]	90 ... 260	115/230	90 ... 260
Presets	903: 1, 904: 2	1	716: 1, 717: 2
Output	Relay or Optocoupler	Relay or Optocoupler	Relay
Input	2 count inputs, gate, reset and key lock input	Count, gate, reset, latch and key lock input	2 count inputs, gate-and mode input
Serial interface			optional R232/422/485

Time preset counters electronic/electromechanical

Time relay/Timer



Version Series Special features	LED Panel mount Type 571	electromechanical HVa 15	Time relay LCD 910
	Technical data		
Number of digits	6	5	6
Reset	electrical	manual	manual/electrical
Digit height, [mm]	8	Count: 4.5; Preset: 4	6.5/3.5
Dimension [mm]	96 x 48	56 x 66, 53 x 53	DIN 48 x 48
Panel cut-out [mm]	92 x 45	50 x 50	45 x 45
Max. protection	P 65 front side	IP 42 front side	IP 65 front side
Time range	0,001 s ... 99.59.59 h	0.01h ... 999.99h	sec, min, h
Power supply [V DC]	16 ... 35	10 ... 130	Replaceable lithium battery
[V AC]	115/230	20 ... 264	
Presets	2	1	1
Outputs		Microswitch with changeover contact	Relay

Tachometers



Version Series	LCD Panel mount CODIX 136	LED Panel mount CODIX 522/524 New	LED Panel mount CODIX 52U New	LED Panel mount CODIX 52P New
Special features	Easy to operate frequency indicator, direct display in Hz	522: Tachometer 524: Multifunction as tachometer, pulse counter, timer, position display	Higher count speeds, new functions, dual function also as tachometer and pulse counter	52P Position display and tachometer/frequency display, separate inputs
Technical data				
Number of digits	8	6	6	6
Digit height [mm]	8	8	8	8
Dimensions [mm]	DIN 48 x 24	DIN 48 x 24	DIN 48 x 24	DIN 48 x 24
Panel cut-out [mm]	45 x 22	45 x 22	45 x 22	45 x 22
Max. protection	IP 65 front side	IP 65 front side	IP 65 front side	IP 65 front side
Max. count frequency [kHz]	12	60	60	30
Measurement principle	Gate time	Gate or time interval	Gate or time interval	Gate or time interval
Measuring period or gate time	1/sec	1/sec or 1/min	1/sec or 1/min	1/sec or 1/min
Power supply [V DC]	Lithium Battery	10 ... 30	10 ... 30	10 ... 30
[V AC]				
Input	NPN/PNP	Schmitt-Trigger	Schmitt-Trigger	Schmitt-Trigger

Tachometers



Version Series	LED Panel mount CODIX 542/544 New	LED Panel mount CODIX 54U New	LED Panel mount CODIX 54P New	LCD Panel mount 903/904
Special features	Higher count speeds, new functions, dual function also as tachometer and pulse counter	Higher count speeds, new functions, dual function also as tachometer and pulse counter	Tachometer and position display with separate inputs	Multifunction as tachometer, timer and preset counter 903: 1 limit 904: 2 limits
Technical data				
Number of digits	6	6	6	6
Digit height [mm]	14	14	14	Count: 9, Preset: 7
Dimensions [mm]	DIN 96 x 48	DIN 96 x 48	DIN 96 x 48	DIN 48 x 48
Panel cut-out [mm]	92 x 45	92 x 45	92 x 45	45 x 45
Max. protection	IP 65 front side	IP 65 front side	IP 65 front side	IP 65 front side
Count frequency max. [kHz]	35	30	30	10
Measurement principle	Gate or time interval	Gate or time interval	Gate or time interval	Gate time
Measuring period or gate time	1/sec or 1/min	1/sec or 1/min	1/sec or 1/min	0.01 ... 99.99 sec
Power supply [V DC]	10 ... 30	10 ... 30	10 ... 30	11 ... 30
[V AC]	90 ... 260	90 ... 260	90 ... 260	90 ... 260
Input/Output	Schmitt-Trigger	Schmitt-Trigger	Schmitt-Trigger	2 count inputs, gate-, reset- and key lock input/ 2 alarm outputs

Tachometers / with alarms



Version Series	LED Panel mount 715	LED Panel mount CODIX 716/717	LED Panel mount 571
Special features	Multifunction as tachometer, timer and preset counter	Multifunction as tachometer, timer and preset counter	Multifunction as frequency display, frequency from run/operation time, position display or timer
Technical data		Optional: proof	
Number of digits	5	6	6
Digit height [mm]	7.5	8	15
Dimensions [mm]	DIN 48 x 48	DIN 48 x 48	DIN 96 x 48
Panel cut-out [mm]	45 x 45	45 x 45	92 x 45
Max. protection	IP 65 front side	IP 65 front side	IP 65 front side
Count frequency max. [kHz]	10	20	25
Measurement principle	Gate time	Time interval	Time interval
Measuring period or gate time	0.01 ... 99.99 sec	1/sec or 1/min	Programmable as required
Power supply [V DC]	11 ... 30	10 ... 30	16 ... 35
[V AC]	115/230	90 ... 260	115/230
Input/outputs	Count, Gate, Reset, Latch- and Keylockinput/ 1 alarm output	2 count inputs, Gate, Reset and Keylock-input /2 alarms as relay or optocoupler	2 count inp., Reset/ 2 Optocoupler or Analogue inputs or RS232/485 output

Position displays LCD/LED



Version Series	LCD Panel mount CODIX 133	LED Panel mount CODIX 521 <i>New</i>	LED Panel mount CODIX 524 <i>New</i>	LED Panel mount CODIX 52P <i>New</i>
Special features	easy to operate position indicator; direct display of encoder pulses	Position indicator with multiplying and dividing factor, set value and faster speed	Combination device with position indicator, pulse counter, frequency meter and timer function	Position indicator and Tachometer with separate scalable inputs
Technical data				
Number of digits	8	6	6	6
Digit height [mm]	8	8	8	15
Dimensions [mm]	DIN 48 x 24	DIN 48 x 24	DIN 48 x 24	DIN 48 x 24
Panel cut-out [mm]	45 x 22	45 x 22	45 x 22	45 x 22
Max. protection	IP 65 front side	IP 65 front side	IP 65 front side	IP 65 front side
Count frequency max. [kHz]	6	25 (Quad mode)	25 (Quad mode)	15 (Quad mode)
Counting mode	Single and dual evaluation	Single, dual, quadruple evaluation direction or differential mode	Single, dual, quadruple evaluation direction or differential mode	Single, dual, quadruple evaluation direction or differential mode
Power supply [V DC]	Lithium battery	10 ... 30	10 ... 30	10 ... 30
[V AC]				
Input	NPN/PNP	Schmitt-Trigger NPN/PNP	Schmitt-Trigger NPN/PNP	Schmitt-Trigger NPN/PNP

Position displays LED



		Version Series	LED Panel mount CODIX 541 <i>New</i>	LED Panel mount CODIX 544 <i>New</i>	LED Panel mount CODIX 54P <i>New</i>
		Special features	Position indicator with multiplying and dividing factor, set value and faster speed	Combination device with position indicator, pulse counter, frequency meter and timer function	Position indicator and Tachometer with separate scalable inputs
Technical data					
Number of digits			6	6	6
Digit height	[mm]		14	14	14
Dimensions	[mm]		DIN 96 x 48	DIN 96 x 48	DIN 96 x 48
Panel cut-out	[mm]		92 x 45	92 x 45	92 x 45
Max. protection			IP 65 front side	IP 65 front side	IP 65 front side
Count frequency max.	[kHz]		25 (Quad mode)	25 (Quad mode)	30
Counting mode			Single, dual, quadruple evaluation direction or differential mode	Single, dual, quadruple evaluation direction or differential mode	Single, dual, quadruple evaluation direction or differential mode
Power supply	[V DC] [V AC]		10 ... 30 90 ... 260	10 ... 30 90 ... 260	10 ... 30 90 ... 260
Input			Schmitt-Trigger NPN/PNP	Schmitt-Trigger NPN/PNP	Schmitt-Trigger NPN/PNP

Positioning multifunction displays



		Versions Series	LED Panel mount SSI display Type 570	LED Panel mount Multifunction display Type 571
		Special features	SSI-clock frequency up to 1 MHz, master or slave mode position display for absolute encoders	Fast count input for our LIMES system programmable: speed, rotational speed, count and timer functions
Technical data				
Number of digits			6	6
Height of figures	[mm]		15	15
Panel cut-out	[mm]		92 x 45	92 x 45
Max. protection			IP 65 front side	IP 65 front side
Max. count frequency	[Hz]		1 MHz data freq.	100 kHz at count
Supply voltage	[V DC] [V AC]		17 ... 30 115/230	16 ... 35 115/230
Inputs			2	2
Outputs			Scaleable analogue output or 2 optocouplers with tracking preset or RS 232/485 interface	

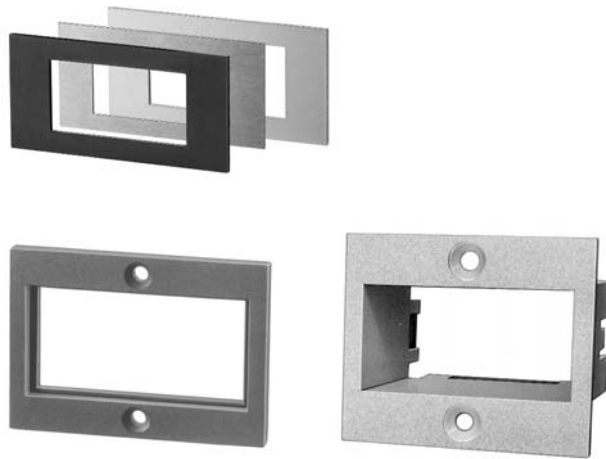
Accessories



Enclosures



Transparent covers with key lock



Bezel adapters



Slip-on bezels



Connection boxes



Software EzControl

Process displays **CODIX**



Version	Process display	Process display with totaliser function	Process display	Process display with totaliser function
Series	CODIX 529	CODIX 530	CODIX 550	CODIX 552
Special features	compact, 5 digit display for analogue and temperature inputs, microprocessor based technology, galvanic isolation of the supply voltage, low cost. 14 bit resolution, programmable scaling of characteristic curve for non-linear processes.		Very bright, large display, large keys for easy programming even wearing gloves, auxiliary sensor supply output, IP 65 protection (front). Process control devices with programmable characteristic curve with 24 control points. Relay outputs.	
Technical data				
Number of digits	5	5	5	5
MIN/MAX memory (EEPROM)	yes	–	yes	yes
Integration function scalable	–	yes	–	yes
Display/digit height [mm]	LED/8	LED/8	LED/14	LED/14
Dimensions [mm]	DIN 48 x 24	DIN 48 x 24	DIN 96 x 48	DIN 96 x 48
Panel cut-out [mm]	45 x 22	45 x 22	92 x 45	92 x 45
Inputs	0 ... 20 mA, 4 ... 20 mA 0 ... 10 V, 2 ... 10 V	0 ... 20 mA, 4 ... 20 mA 0 ... 10 V, 2 ... 10 V	0 ... 20 mA, 4 ... 20 mA 0 ... 10 V, 2 ... 10 V ±10 V	0 ... 20 mA, 4 ... 20 mA 0 ... 10 V, 2 ... 10 V ±10 V
Supply voltage [V DC]	10 ... 30	10 ... 30	10 ... 30 90 ... 260	10 ... 30 90 ... 260

Temperature displays **CODIX**



Version	Temperature display PT100 and Ni 100	Temperature display J, K and N	Temperature display	EzControl
Series	CODIX 531	CODIX 532	CODIX 551*	
Special features	Sensor break detection, external or internal cold junction compensation		Very bright, large display, large keys for easy programming even wearing gloves	<ul style="list-style-type: none"> Easy parameter software for CODIX 716/717 and process displays CODIX 55x. Upload and download function Monitor- and terminal programm Online display for measurement values
Technical data				
Number of digits	5	5	5	
MIN/MAX memory	yes	yes	yes	
Display/Digit height [mm]	LED/8	LED/8	LED/14	
Dimensions [mm]	DIN 48 x 24	DIN 48 x 24	DIN 96 x 48	
Panel cut-out [mm]	45 x 22	45 x 22	92 x 45	
Inputs	PT100, Ni100	J, K and N Thermocouples	0 ... +100 mV -100 ... +100 mV 0 ... 400 Ω, 0 ... 4000 Ω, PT100/1000	
Input	Display- Hold	Display- Hold	Display- Hold	
Supply voltage [V DC]	10 ... 30	10 ... 30	10 ... 30	
[V AC]			90 ... 260	

*Programmable characteristic curve with 24 control points

CODIX-Series



<p><i>—all Codix 550 ... 555 with serial interface and software EzControl</i></p> <p>Version</p> <p>Series</p> <p>Special features</p>	<p>Process controller</p> <p>CODIX 553</p>	<p>Temperature controller</p> <p>CODIX 554</p>	<p>Process controller</p> <p>CODIX 555</p>	<p>Multifunction Signal conditioner/ Process controller</p> <p>850/851</p>
	<p>Very bright, large display, large keys for easy programming even wearing gloves, auxiliary sensor supply output, IP 65 protection (front). Process control devices with programmable characteristic curve with 24 control points. Relay outputs with hysteresis function. Menu programming. CODIX 555 has additional totaliser function.</p>			<p>designed for DIN-rail mounting, supplied with programming software, RS 232 interface</p>
<p>Technical data</p>				
Number of digits	5	5	5	5
Display/Digit height [mm]	LED/14	LED/14	LED/14	LCD/6
MIN/MAX memory	Yes	Yes	Yes	—
Dimensions [mm]	DIN 96 x 48	DIN 96 x 48	DIN 96 x 48	45 x 110 x 112
Panel cut-out [mm]	92 x 45	92 x 45	92 x 45	0 ... 1V, 0 ... 20V, -100 ... +100mV, -10 ... +10V, 0 ... 20mA, 4 ... 20mA, -20 ... +20mA, Potentiometer PT100/1000
Inputs				
0 ... 20 mA, 4 ... 20 mA,	yes	—	yes	
0 ... 10 V, 2 ... 10 V, -10 ... + 10 V	yes	—	yes	
-100 ... +100 mV	—	yes	—	
0 ... 400 Ω, 0 ... 4000 Ω, PT100/1000	—	yes	—	
Thermocouples	—	yes	—	yes
Control Inputs	Reset, Key, Display Hold	Reset, Key, Display Hold	Reset, Key, Display Hold	—
Supply voltage [V DC]	10 ... 30	10 ... 30	10 ... 30	18 ... 36
(galvanically isolated) [V AC]	90 ... 260	90 ... 260	90 ... 260	20 ... 28, 90 ... 253
Alarms/Outputs	2/Relay or Optocoupler-output	2/Relay or Optocoupler-output	2/Relay or Optocoupler-output	2 Relays, 250 V AC, 5A Analogue outputs: 0 ... 20 mA, 4 ... 20 mA, -20 ... +20 mA, 0-1V

Setpoint generator **CODIX 533**



CE marking pending

<p>Version</p> <p>Series</p> <p>Special features</p>	<p>Setpoint generator</p> <p>CODIX 533</p> <p>When a value is entered using the keys on the front, this will appear on the output of the device as either a current or a voltage value. Manual operation or programmable.</p>	<p>The Setpoint generator offers three modes of operation:</p> <ul style="list-style-type: none"> - Manual operation - Manual ramping - Automatic ramping <p>With automatic ramping, the times and setpoint are programmed in and are then output automatically.</p>
	<p>Technical data</p>	
Function	Setpoint output	<p>Example of automatic ramping</p>
Display/Digit height [mm]	4 LED/8	
Dimensions [mm]	DIN 48 x 24	
Panel cut-out [mm]	45 x 22	
Outputs	0 ... 12 V DC und 0 ... 24 mA	
Increment	10 μA, 10 mV	
Accuracy	0,1 %	
Inputs	Hold input, 2 keys	
Power supply [V DC]	10 ... 30 V DC galvanical isolated	

Accessories



Transparent cover



Bezel adapter



Enclosure



Slip-on bezel