

# Linear measuring technology

<b>Draw-wire mechanics with encoder</b>	<b>Draw-wire encoder C105</b>	<b>Measuring length max. 6 m Traverse speed max. 3 m/s</b>
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The draw-wire encoder C105 can be combined with all encoders having a size 58 synchro flange and 6 mm shaft.

Kübler's encoders portfolio offers the suitable Sendix encoder for every application.



**Flexible and simple**

- Possibility for user to exchange encoder.
- Measuring lengths 2800 mm or 6000 mm.
- Simple installation.
- Scalable analog output with limit switch function.

**Order code with encoder (incremental, absolute)**

D 8.1	XXX	XX	XX	XXXX
Type	a	b	c	d

- |   |   |   |
|---|---|---|
| <p><b>a</b> <i>Measuring range</i></p> <p>106 = 6000 mm<br/>2A1 = 2800 mm</p> | <p><b>b</b> <i>Encoder used</i></p> <p>2Z = Sendix 5000, incremental<br/>M3 = Sendix M5863, absolute<br/>F3 = Sendix F5863, absolute<br/>63 = Sendix 5863, absolute<br/>M8 = Sendix M5868, absolute<br/>F8 = Sendix F5868 absolute<br/>68 = Sendix 5868, absolute</p> | <p><b>c</b> <i>Output circuit</i></p> <p>depends on the encoder used</p> <p><b>d</b> <i>Type of connection</i></p> <p>depends on the encoder used</p> <p><b>e</b> <i>Resolution / Protocol / Options</i></p> <p>depends on the encoder used</p> |
|---|---|---|

Standard resolutions for draw-wire with incremental encoder			
Drum circumference [mm]	200	200	200
Pulses / revolution [ppr]	200	2000	4000
Pulses / mm	1	10	20
Resolution [mm]	1	0.1	0.05

Standard resolutions for draw-wire with absolute encoder Sendix M5863 (12 bit ST) or M5868 (12 bit ST, programmable via bus)	
Drum circumference [mm]	200
Pulses / revolution [ppr]	4096
Pulses / mm	20.5
Resolution [mm]	0.05

**Recommended standard variants (with incremental, absolute encoder)**

Order no. draw-wire encoder	Mounted encoder	Interface	Power supply	Type of connection	Resolution / Protocol	Option
D8.1xxx.2Z54.2000	Sendix 5000 (8.5000.B154.2000)	Push-pull with inverted signal	10 ... 30 V DC	1 x radial M12 connector	2000 ppr	-
D8.1xxx.M324.G222	Sendix M5863 (8.M5863.4124.G222)	SSI	10 ... 30 V DC	radial M12 connector	4096 ppr / SSI-Gray-Code	-
D8.1xxx.M824.2122	Sendix M5868 (8.M5868.4124.2122)	CANopen	10 ... 30 V DC	radial M12 connector	CANopen encoderprofil DS406 V4.0	-

**Other variants (with absolute encoder)**

Order no. draw-wire encoder	Mounted encoder	Interface	Power supply	Type of connection	Resolution / Protocol	Option
D8.1xxx.F326.G223	Sendix F5863 (8.F5863.2126.G223)	SSI	10 ... 30 V DC	1 x radial M12 connector	4096 ppr / SSI-Gray-Code	SET button + status LED
D8.1xxx.6326.G223	Sendix 5863 (8.5863.2126.G223)	SSI	10 ... 30 V DC	1 x radial M12 connector	4096 ppr / SSI-Gray-Code	SET button + status LED
D8.1xxx.F82E.2123	Sendix F5868 (8.F5868.212E.2123)	CANopen	10 ... 30 V DC	1 x radial M12 connector	CANopen encoder profile DS406 V3.2	SET button
D8.1xxx.6822.2123	Sendix 5868 (8.5868.2122.2123)	CANopen	10 ... 30 V DC	2 x radial M12 connector	CANopen encoder profile DS406 V3.2	SET button
D8.1xxx.M834.3222	Sendix M5868 (8.M5868.4134.3222)	SAE J1939	10 ... 30 V DC	1 x radial M12 connector	SAE J1939	-
D8.1xxx.6832.3113	Sendix 5868 (8.5868.2132.3113)	PROFIBUS	10 ... 30 V DC	3 x radial M12 connector	Profibus-DP V0 encoder profile Class 2	SET button
D8.1xxx.68B2.B212	Sendix 5868 (8.5868.21B2.B212)	EtherCAT	10 ... 30 V DC	3 x radial M12 connector	EtherCAT with CoE 3.2.10	-
D8.1xxx.68C2.C212	Sendix 5868 (8.5868.21C2.C212)	PROFINET IO	10 ... 30 V DC	3 x radial M12 connector	PROFINET encoder profile version 4.1	-
D8.1xxx.F8AN.A222	Sendix F5868 (8.F5868.21AN.A222)	EtherNet/IP	10 ... 30 V DC	3 x axial M12 connector	EtherNet/IP	-



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## Technical data

Mechanical characteristics	
<b>Measuring range</b>	2800 mm / 6000 mm
<b>Traversing speed</b>	max. 3000 mm/s
<b>Extension force <math>F_{min}</math></b>	8 N
<b>Repeat accuracy</b>	±0.15 mm
<b>Working temperature</b>	-20°C ... +80°C [-4°F ... +176°F]
<b>Weight</b>	approx. 700 g [24.69 oz]
<b>Drum circumference</b>	200 mm
<b>Wire</b>	2800 mm paracord – with $\varnothing$ 1.05 mm 6000 mm steel wire – with $\varnothing$ 0.54 mm

For the electrical characteristics as well as for the terminal assignment, please refer to the data sheet of the encoder used.

## Dimensions

Dimensions in mm [inch]

### Draw-wire mechanics with encoder

Dimension B depends on the encoder used	
Encoder	B
Sendix incremental (5000) D8.1xxx.2Zxx.xxxx	37.0 [1.46]
Sendix absolute (F5863) D8.1xxx.F3xx.xxxx	49.5 [1.95]
Sendix absolute (5863) D8.1xxx.63xx.xxxx	49.5 [1.95]
Sendix absolute (F5868, CANopen) D8.1xxx.F8xx.21xx	70.0 [2.76]
Sendix absolute (F5868, EtherNet/IP) D8.1xxx.F8xx.A2xx	59.5 [2.34]
Sendix absolute (F5868, EtherNet/IP) D8.1xxx.68xx.A2xx	77.2 [3.04]
Sendix absolute (F5868, EtherNet/IP) D8.1xxx.Mxxx.xxxx	49.8 [1.96]

