

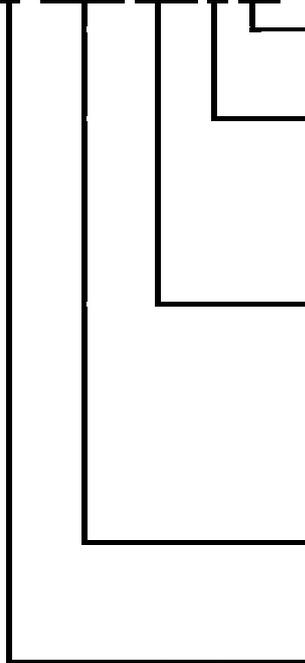
DRAW-WIRE ENCODER LS501

The draw-wire encoder is designed to measure the lengths (electronic measuring tape), and the linear trajectory. The encoder is usually firmly attached to a basis and the suspension of the wire is attached to the object to be measured. The wire rewinding is provided with a spring. The encoder is available in the version with the incremental encoder (LS-D type) or the multi-turn potentiometer (LS-P type). For the encoder with a potentiometer the measured trajectory is proportional to the resistance, and the value is absolute and analogue. With the incremental encoder, the distance is proportional to the number of pulses and is relative. The resolution is determined by the number of pulses per revolution. If the incremental encoder is equipped with a zero pulse, this pulse is sent at each revolution of the coil – i.e. 10-times for the whole measuring range. The draw-wire encoders are used for undemanding measuring procedures, e. g. for material feeders, elevators, handling technique, etc.



Type Designation

LS501 x **xxxx** **xxx** x **xx**



SUBSTANDARD

e. g. **IP65**-higher protection

OUTLET VERSION

KB- side BINDER connector (*standard*)
PA, PB- with cable of 1 m length available upon request

ENCODER RESOLUTION

for IRC 500 pulses/rev. (upon request - 1000 pulses/rev.; or with zero pulse)

For potentiometer R5k (R10k upon request)

MEASURING LENGTH

1000 mm
1250 mm
2000 mm

ENCODER TYPE

D - incremental
P - with potentiometer

Technical Data

Measuring Length [mm]	1000/1250/2000
Distance per revolution [mm]	100/125/200
Draw wire acceleration [m/s ²]	10
Draw wire	Ø 0.6mm, from stainless steel with PA coat
Min. draw wire winding force [N]	3
Max. draw wire rewinding force [N]	6
Weight [kg]	0.45
Protection	IP52 or IP65

Working Conditions

Working temperature	0 up to + 60°C
Impact pulse	10g/0.1ms with potentiometer
	2g/11ms with IRC encoder
Vibration	20Hz-2kHz/10g with potentiometer
	0-60Hz/2g with IRC encoder
Humidity	max. 90% without condensation

Connection of Connecting Elements				
Connector Pin	Cable Colour and Relevant Meaning			
	IRC		Potentiometer	
1	GND		GND	Green
2	Z signal		Slider	White
3	A signal		Supply	Brown
4	Supply		--	
5	B signal		--	

Output signals for the incremental encoder:

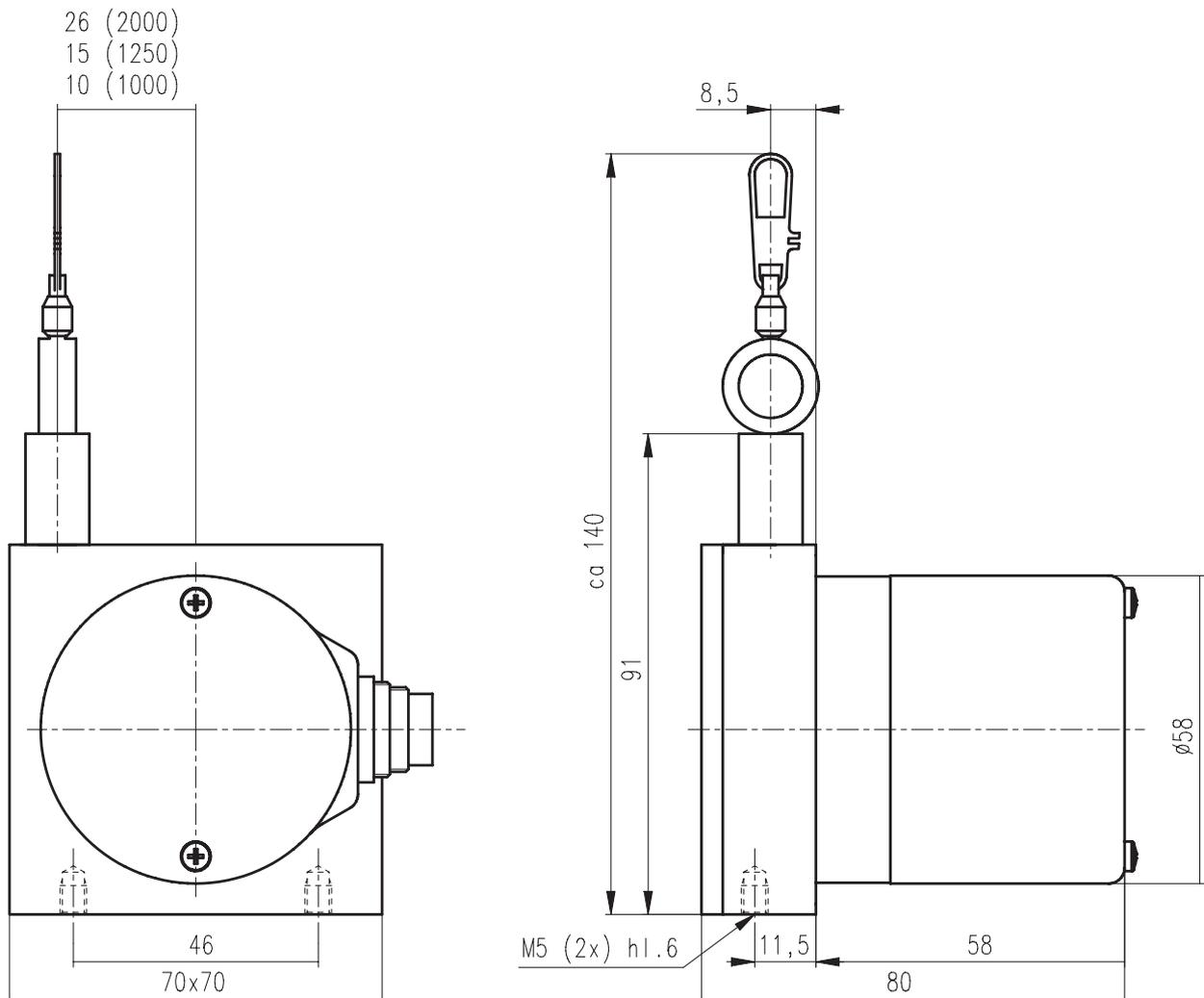
2 basic signals A and B, phase shifted against each other by 90°, electrical, without negations, or with a zero pulse.

Important Note:

The spontaneous draw wire winding must be avoided. Otherwise the draw wire or the winding spring may be damaged.

Electrical Data	IRC Encoder	Potentiometer
Resolution	500 pulses/rev. (1000 upon request)	5k/10 revolutions (10k upon request)
	0.05 mm for 1000 mm 0.0625 mm for 1250 mm 0.1 mm for 2000 mm	Theoretically almost infinite
	Length absolute error (of a pulley)	max. 0.1%
Nonlinearity	+0.05% MR	+0.25% MR
Measurement repeatability	+0.015% MR	+0.1% MR
Draw wire thermal expansion	0.0117mm/mK (error 0.001%/K - may be omitted in practice)	
Supply voltage (V DC)	+ 5 V/50 mA (possible power supply with 18 to 30V upon request)	max. 42
Slider current - recommended/max (mA)	-	0.1/5
Output signals	Digital A+B signals without negations (with zero pulse upon request - impossible for division of 1000) TTL logic level, gain 1 (HTL + 20 mA upon request)	Analogue

Dimensioned drawing



**For more information do not hesitate to contact us.*

Change of technical parameters reserved