

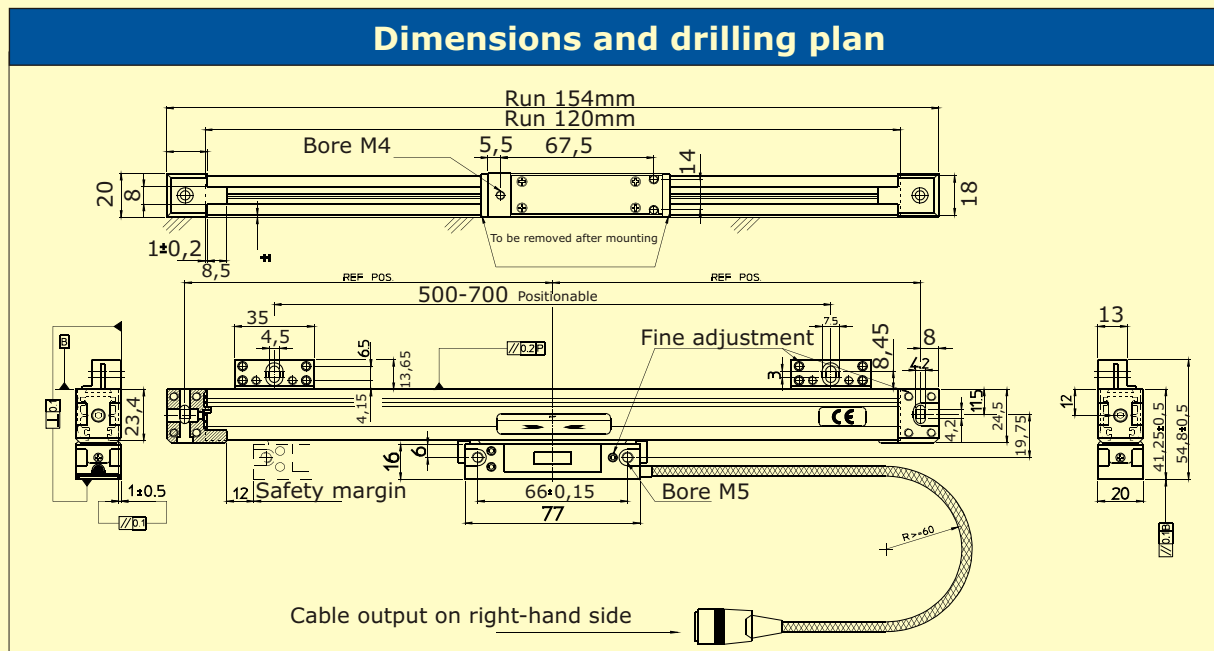
Optical scale incremental ISA 2320



Characteristics

- Very slim design (for applications with low installation space)
- Use on rough surfaces by retrofitting
- Resolution up to 0.5 μm
- Accuracy $\pm 3 \mu\text{m}$ up to $\pm 10 \mu\text{m}$
- Therm. expansion: $\approx 10,6 \times 10^{-6} \text{ }^\circ\text{C}^{-1}$
- Reference index in the desired position
- High protection against reverse polarity and short circuits at the output port

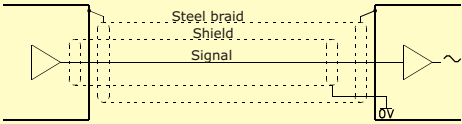
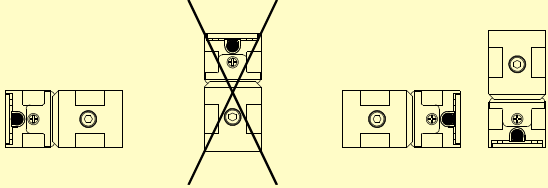
Dimensions and drilling plan

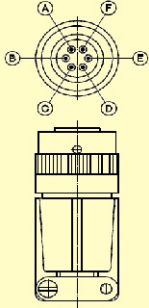
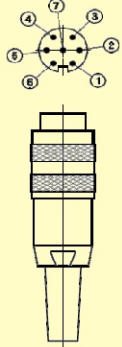
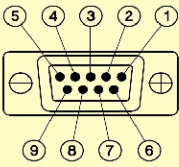
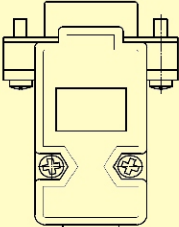


Mechanical data

	ISA 10	ISA 100	ISA 5	ISA W1	ISA W05
Grating pitch μm	400	40	20	40	20
Accuracy $\mu\text{m/m}$	± 10	± 5	± 3	± 3	± 3
Resolution μm	100	10	5	1	0,5
Max. traversing speed m/min	120	80	60	25	12
Max. acceleration	40 m/s ²				
Required moving force	$\leq 4\text{N}$ (0.4 Kgf)				
Protection class	IP 53 standard IP64 pressurized				
Operating temperature	0 - 50°C				
Storage temperature	-20°C - 70°C				

Electrical data	
Sensor emitter	Phototransistor - Led
Power supply	5 VDC or 12 VDC $\pm 5\%$
Power consumption	Typical 65mA (5VQ/5VL)
Signal output	Two square waves + zero ref.
Phase displacement	$90^\circ \pm 5^\circ$
Negative signal	Da - by Line-Driver

Connecting diagram	Mounting position
	

Pin assignment				
C3	Signal	PIN	Color	 <p>View solder side</p>
	B	A	green	
	A	B	white	
	V+	C	red	
	GND	D	blue	
	⊥	E	shield	
Z	F	brown		
C4	A	3	white	
	B	4	green	
	Z	6	brown	
	V+	5	red	
	GND	1	blue	
	⊥	7	shield	
N.C	2	-		
C58	A	1	white	 
	N.C	2	-	
	Z	3	brown	
	B	4	green	
	N.C	5	-	
	N.C	6	-	
	V+	7	red	
	GND	8	blue	
	⊥	9	shield	
⊥	CASE	shield		



Pin assignment Line Driver	
Signal	Conductor color
A	green
B	white
V+	red
GND	dark blue
Shield	Shield
Z	brown
\bar{A}	orange
\bar{B}	light-blue
\bar{Z}	yellow

Ordering example					
Example: ISA - 100Z - 00250 - 05VQ - M04/S - C3					
Model	Resolution Index	Length	Power supply Output signal	Cable length	Connector wiring
ISA	100Z	00250	05VQ	M04/S	C3
	10 =100 μm K50 =50 μm 100 =10 μm W10 =10 μm 5 =5 μm K5 =5 μm Y2 =2 μm W1 =1 μm 1 =1 μm W05 =0,5 μm Z =with index No cod. =no index P =index at coded distance C =index at constant step E =selectable index	Length in mm 00250 =250 mm 00300 =300 mm 00350 =350 mm 00400 =400 mm 00450 =400 mm 00500 =500 mm 00550 =550 mm 00600 =600 mm 00650 =650 mm 00700 =700 mm	05 V =5 V 12 V =12 V 24 V =24 V L =linedriver Q =Push-Pull	Mnn =Length in m M03 =3 m M04 =4 m M55 =55 m M120 =120 m S =cable for continuous movement (Pur)	Cnn =progressive C3 =6PIN/M amphenol C4 =7PIN/M amphenol C58 =D-Sub 9pin connector SC =without connector

