



HEIDENHAIN



Product Information

LS 679

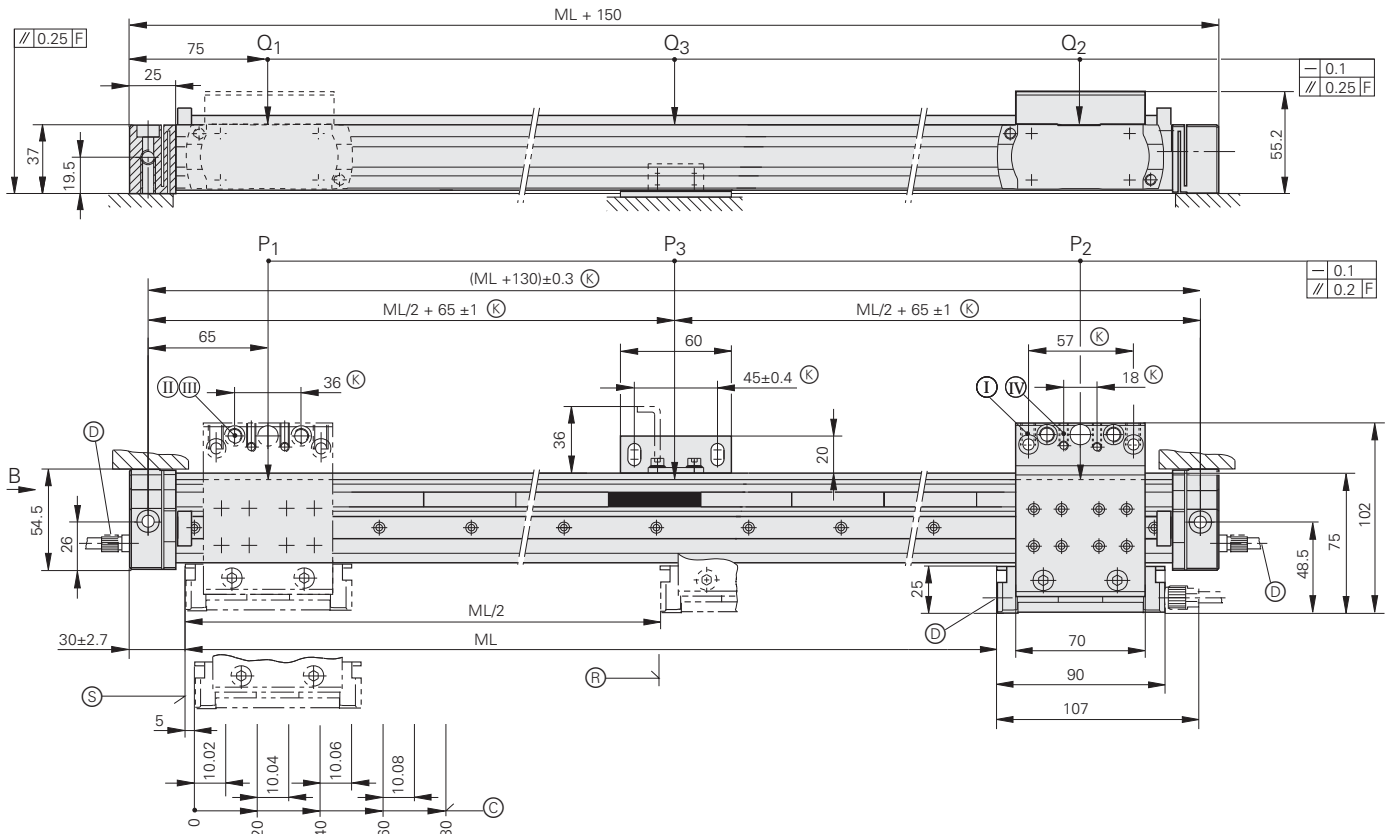
Incremental Linear
Encoder with
Integrated Guideway

October 2008

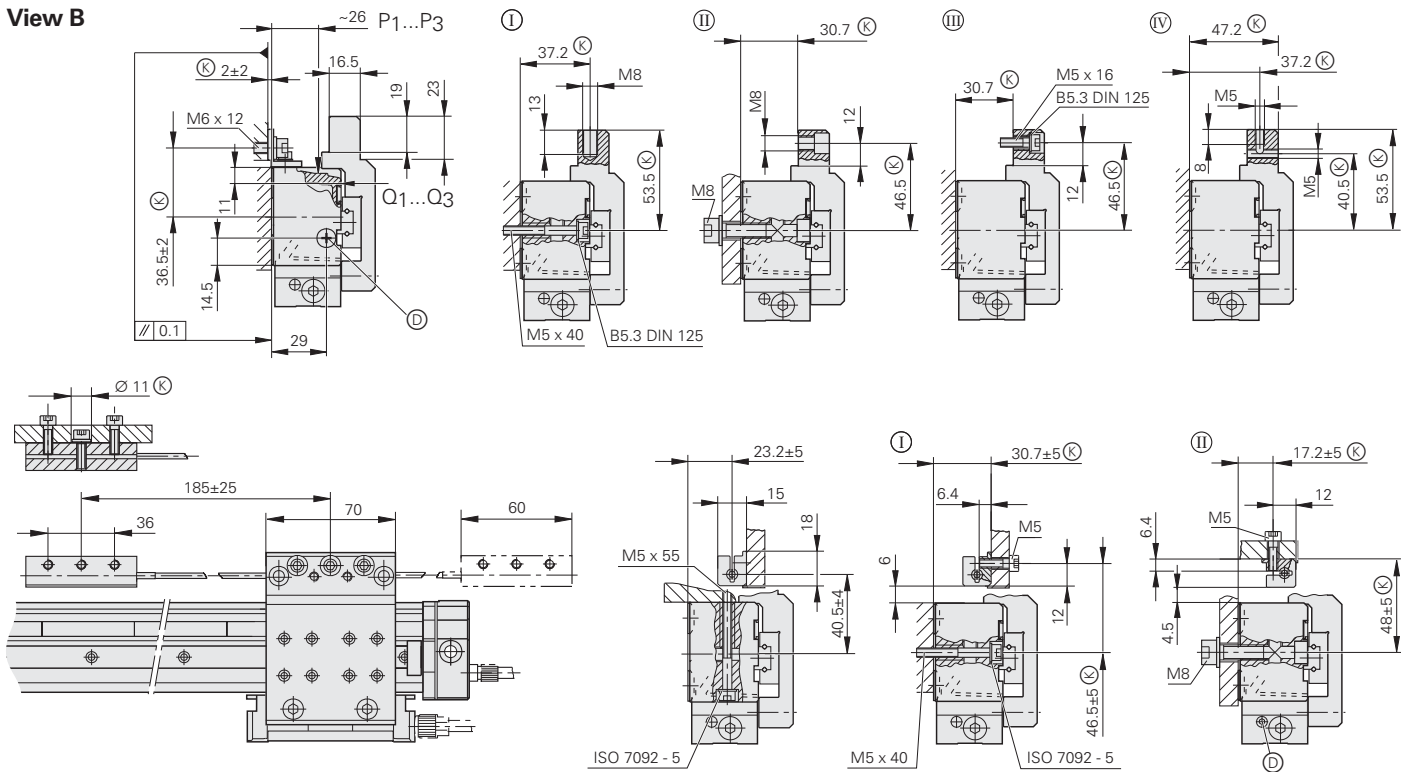
LS 679

Incremental linear encoder for measuring steps to 1 μm

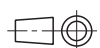
- Integrated guideway
- Large mounting tolerances with use of coupling rod



View B



Dimensions in mm



Tolerancing ISO 8015
ISO 2768 - m H
< 6 mm: ± 0.2 mm

ⓐ, ⓑ, ⓓ

Ⓧ = Mounting options

F = Machine guideway

P = Gauging points for alignment

Ⓚ = Required mating dimensions

Ⓧ = Compressed air inlet

ⓐ = Reference-mark position on LS 679

ⓐ = Reference-mark position on LS 679 C

Ⓧ = Beginning of measuring length (ML)



Specifications	LS 679
Measuring standard	Glass scale with DIADUR graduation
Accuracy grade*	$\pm 5 \mu\text{m}$ (up to ML 470), $\pm 10 \mu\text{m}$
Measuring length ML* in mm	170 220 270 320 370 420 470 520 570 620 670 720 770 820 920
Reference marks	Selectable with magnets every 50 mm, standard setting: 1 reference mark in the center
Incremental signals	\square TTL x 5
Grating period Integrated interpolation Signal period	20 μm 5-fold 4 μm
Scanning frequency Edge separation a	50 kHz $\geq 1 \mu\text{s}$
Measuring step	1 μm (after 4-fold evaluation in the subsequent electronics)
Traversing speed	$\leq 60 \text{ m/min}$
Power supply	5 V $\pm 5 \%$ / < 170 mA (without load)
Electrical connection	Separate adapter cable (1 m/3 m/6 m/9 m) connectable on both sides to mounting block
Cable length	$\leq 50 \text{ m}$ (with HEIDENHAIN cable)
Required moving force	$\leq 5 \text{ N}$
Vibration 55 to 2000 Hz Shock 11 ms Acceleration	$\leq 30 \text{ m/s}^2$ (EN 60068-2-6) $\leq 200 \text{ m/s}^2$ (EN 60068-2-27) $\leq 30 \text{ m/s}^2$ in measuring direction
Operating temperature	0 to 50 °C
Protection EN 60529	IP 40
Weight	0.8 kg + 2.5 kg/m measuring length

* Please indicate when ordering

Electrical Connection, Accessories

Connecting Elements and Cables

Adapter cable without connector, cable Ø 6 mm



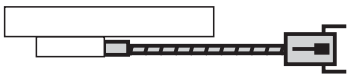
ID 354319-xx

Adapter cable with connector (male), cable Ø 6 mm



ID 344228-xx

Adapter cable in armor with connector (male), cable Ø 10 mm



ID 344451-xx

Complete with coupling (female) and connector (male)



ID 298400-xx

With one coupling (female)



ID 298402-xx

Cable without connectors
[4(2 x 0.14 mm²) + (4 x 0.5 mm²)]



ID 244957-01

Pin Layout

12-pin M23 coupling					12-pin M23 connector								
	Power supply				Incremental signals						Other signals		
	12	2	10	11	5	6	8	1	3	4	7	/	9
	U _P	Sensor U _P	0V	Sensor 0V	U _{a1}	U _{a1}	U _{a2}	U _{a2}	U _{a0}	U _{a0}	U _{aS} ¹⁾	Vacant	Vacant ²⁾
	Brown/ Green	Blue	White/ Green	White	Brown	Green	Gray	Pink	Red	Black	Violet	-	Yellow

Cable shield connected to housing; **U_P** = power supply voltage

Sensor: The sensor line is connected internally with the corresponding power line.

¹⁾ **LS 323/ERO 14xx:** Vacant ²⁾ **Exposed linear encoders:** TTL/11 μA_{PP} conversion for PWT, otherwise vacant

Vacant pins or wires must not be used!

Accessory

Coupling rod

Incl. mounting block and screws
For coupling the LS 679 to press brakes
and bending machines
ID 344695-01



HEIDENHAIN

DR. JOHANNES HEIDENHAIN GmbH

Dr.-Johannes-Heidenhain-Straße 5

83301 Traunreut, Germany

☎ +49 (8669) 31-0

FAX +49 (8669) 5061

E-Mail: info@heidenhain.de

www.heidenhain.de

For more information

- Brochure: *Sealed Linear Encoders*