

Absolute Linear Displacement Encoders Model LC 57 Hermetically sealed

LC 10172 AE

05/93

■ Gray, Natural Binary or BCD output code

■ Measuring strokes from 100 to 1500 mm

■ Permanent magnet slide

■ Protected to IP 65

Construction

The displacement encoder consist of a fully enclosed light alloy case of rectangular cross-section in which a coded scale in deformation resistant plastic is read out by on electro-optical sensor device. The coded scale is pulled through the sensor head by a permanent magnet slide. The head is fixed to the case. It also contains the CMOS electronic circuit required for signal conditioning and code conversion as well as the output circuits. The electrical connection is provided by a 25-pin connector on the sensor head.

Application

The above construction enables the displacement encoder to be used in harsh and particularly dusty industrial environments. The use of the Gray code on the scale and self-monitoring by parity checks ensures the reliable, non-ambiguous output of information.

Technical Data

Measuring strokes : 100 mm to 1500 mm

■ Resolution: 0.1 mm
■ Reading speed: 2 m/s max.
■ Hysteresis: 0.1 mm

■ Linearity: ≤ 0.05%

■ Coeff. of expansion : 0.0018%/K■ Output code : Gray, Natural Binary or BCD

Output circuits : A = Open collector
Darlington (std.)

B = Open collector TTL compatible, low level

C = open emitter Darlington

(optional)

(optional)

Code sense : Increasing code for movement

in direction of reading head: "1"
Decreasing code for
movement in direction of

movement in direction of reading head: "2"

Sense signal (optional): Log1 = movement in direction

Log0 = movement in opposite direction (vice versa on request)

of reading head

■ Enable : Outputs blocked from 12 V to

24 V, active when less than 6V

or open

■ Latch: Information stored from 12 V

to 24 V, not stored when less

than 6 V or open

■ Parity alarm : With reading error outputs A

and B switch to Log1, output

C to Log0

Zero mark for Additional signal of 0.1 mm in

adjustment: the zero position
Supply voltage range: + 10 to + 24 VDC

Supply voltage range : + 10 to + 24 VDCSupply current : approx. 400 mA

Operating

temperature range: 0°C to +60°C

Storage

temperature range: -20°C to +80°C

Mass: 1000 g

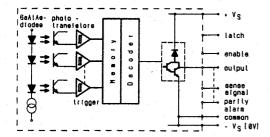
+ 250 g per 100 mm stroke

Protection: IP 65 to DIN 40050

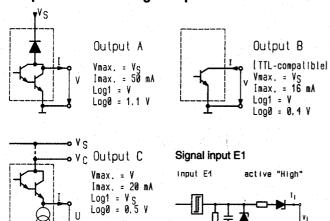


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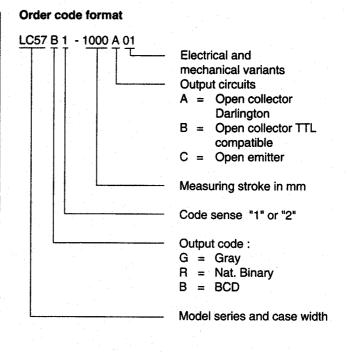
Basic Block diagram



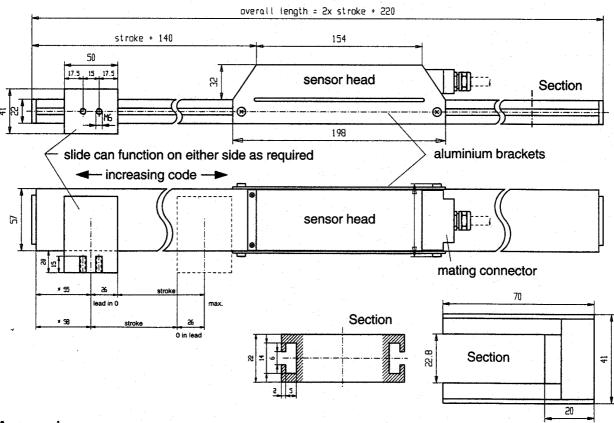
Output circuits and signal input



Current source [pull-down current]



Dimensions in mm



Accessories

Depending on the stroke 4 to 8 M5 fastening nuts are provided for insertion into the longitudinal groove.

The mating connector is included in the supplied items.