SERIES Z59

2/3 Axis Position Indicator

- Power down memory
- Switch over for absolute or relative- measurement
- Digital Display brightness control
- Reference value
- mm/Inch switch over
- Pulse scaling factor
- Selectable decimal place

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Doku Art. Nr. 799000091

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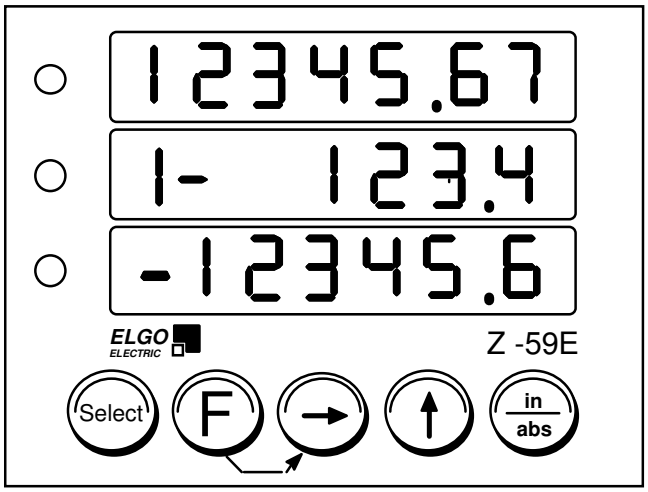
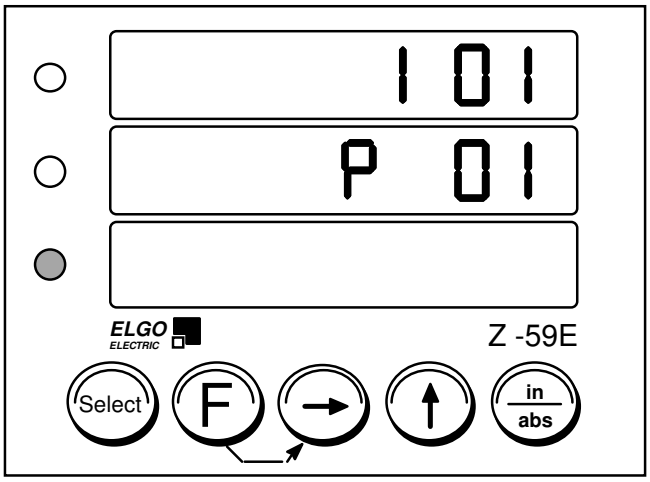
1. Operation



Select	To select Axis by pressing sequentially. LED of selected axis illuminates
F	1. To select desired Parameter 2. To store edited value
→	To select the digit to be changed
↑	To increment the digit between 0 and 9
in/abs	To change from absolute to incremental measurement. The Axis must be selected at first
F + →	To set Datum position of selected axis
F + → + ↑ + in/abs	Press together for 3 seconds: mode of selected axis is activated

2. Setting of Parameters



1. Select axis X, Y or Z by pressing "Select"

2. Press "F, →, ↑, in/abs" together for 3 seconds
   Second display shows "P01" for Parameter 01

3. Press "F". First display shows value of the Parameter (ie 101)

4. Press "→" and "↑" to select and to increment the Digit

5. By pressing "F" new value will be stored and second display goes to next Parameter (P03)
   Repeat step 3. to 5. for each Parameter.

6. Press "F, →, ↑ , in/abs" together for 3 seconds. Parameter mode is relocked and actual values appear

7. Press "select" until no LED`s are illuminated

3. Parameters

(available for each axis)

Parameter	Function	Function	Defailt
P 01	X X X	0 = Counting direction (+ve) 1 = Counting direction (-ve) 0 = mm 1 = Inch 0 = Axis not activated 1 = Axis activated	101
P 03	Decimal point	0 to 3 = 0 / 0.0 / 0.00 / 0.000	1
P 04	Memory	0 = Memory for actual value is activated 1 = Memory for actual value is not activated	0
P 05	Buttons	X X 0 = „F“ and → for setting Datum is activated 1 = „F“ and → for setting Datum is not activated 0 = „in/abs“ is activated 1 = „in/abs“ ist not activated	00
P 06	Edge Multiplier	0 = One edge mulitplier 1 = Two edge multiplier 2 = Four edge multiplier	0
P 08	Pulse Multiplication	0.0001 to 9.9999	1.0000
P 09	Datum value	0.0 to 999999.9	0.0
P 14	Display brightness	0...9 = 0 = dark, 9 = bright	5
P 15	Function of Input ST 1/4 (5,6)	0 = Set Datum 1 = Reset	0
P 16	Configuration	1 = Loading of Default Parameters (all three axis will be defaulted again)	0
P 24	Tool Offset	activated by Input/ST5 (under development)	0.0
P 99	Software Version	shows Software Number and Version	

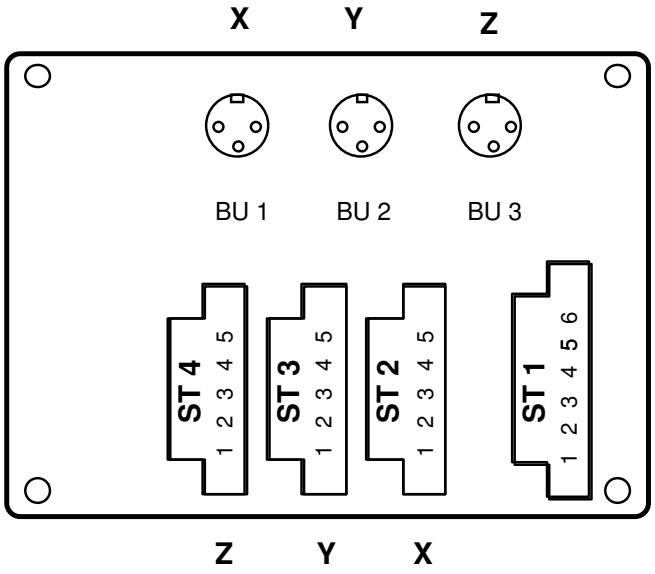
4. Connections

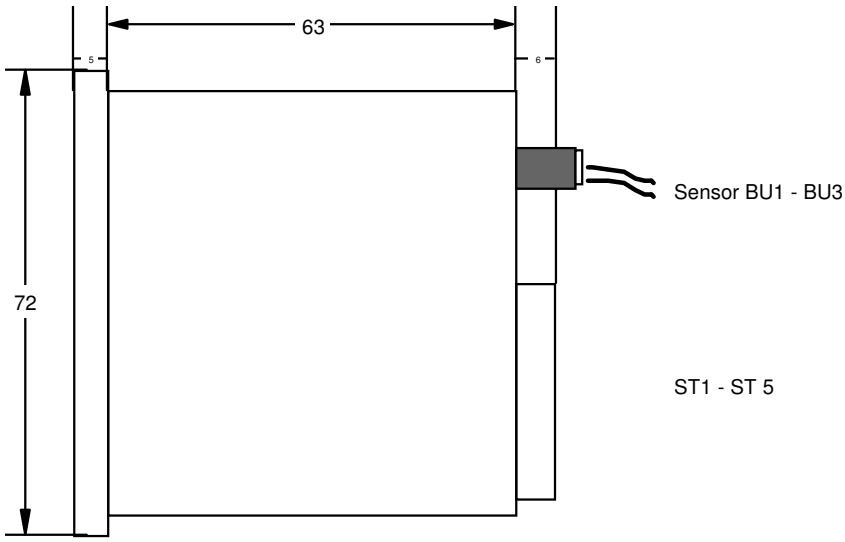
ST 1 (PNP)
Power supply/Inputs
Pin 1 = PE
Pin 2 = 0 V
Pin 3 = + 24 V DC
Pin 4 = Input Axis X
Pin 5 = Input Axis Y
Pin 6 = Input Axis Z

ST 2...4 (PNP)
Encoder
Pin 1 = 0 V
Pin 2 = + 12 - 30 V DC
Pin 3 = A
Pin 4 = B
Pin 5 = PE

BU 1...3
Magnetic sensor

ST 5 (under Development)
Options
Tool offset
RS 232
CAN-Bus





5. Technical specifications

Display	:	7 digits red, 10 mm high
Power supply	:	24 V DC, +/- 10%
Consumption without measuring systems	:	max. 50 mA
Ambient Temperature	:	0° to + 50° C
Encoder supply	:	24 V DC
Counting frequency/Encoder (incl. edge multiplier)	:	20 KHz
Maximum speed with Magnetic Sensor	:	2.5 m/sec
Resolution/Magnetic Sensor	:	0.1 mm
Input Signals (Connector ST1)	:	PNP
Encoder Inputs (Connectors ST2,3,4)	:	PNP
Enclosure	:	Black metal, for fitting into control panel
Dimensions	:	w x h = 96 x 72 mm
Depth	:	75 mm with Encoder Connector 95 mm with Magnetic-Sensor Cnec-tor
Cut-out	:	w x h = 92 x 66 mm
Protection class	:	IP 43

6. Magnetic Linear Encoders

Essential Features

The flexible tape is precisely calibrated with north and south poles. These divisions are picked up by a Sensor. The space between poles on the tape provides an analogue sinusoidal voltage output for the sensor.

High Accuracy

With a maximum cumulative error of 0,01 mm/m and resolution of 0,1 mm this type of measuring system can achieve a longer length (up to 32 m) with better accuracy.
Blacklash, slip, screw pitch, gearbox or other mechanical errors are eliminated with this direct measurement system.

Simple Mounting

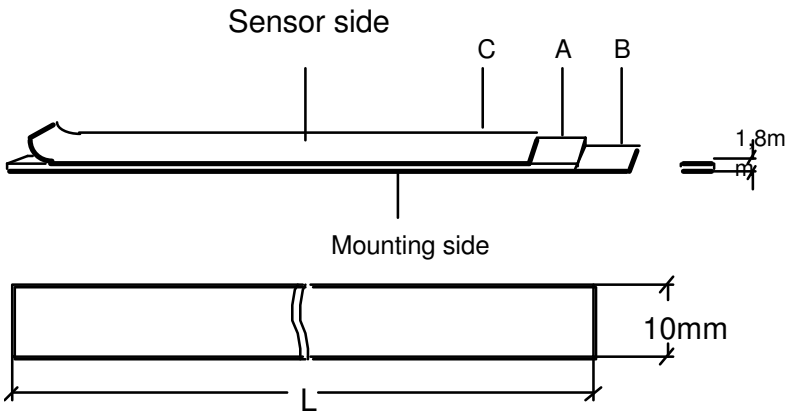
The tape is simple to attach to the machine (eg by means of double sided sticky tape). Due to its high flexibility it can cope with uneven surfaces or radi without affecting accuracy. A second steel tape is fitted on top of the magnetic tape, to protect it. The equipment will operate satisfactorily with a measuring gap of 0,1 to 2,0 mm.

High Enviromental Protection Class

The magnetic measuring system offers the greatest protection against hostile enviroments. The Sensor is protected to IP67.

Magnetic Tape MB 20.50

The complete tape comprises 3 components.



Can be supplied in lengths from0,5 to 32 m.

A The magnetised highly flexibletape, whose underside is bonded to:

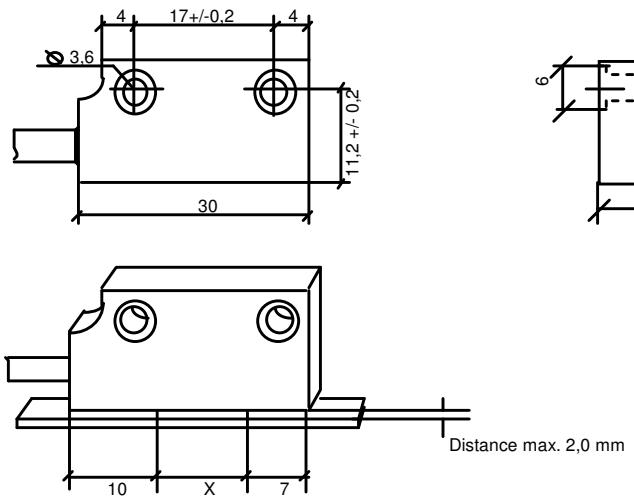
B A ferrous flexible steel tape. This tape shields the rubber tape from mechanical damage and at the same time forms the magnetic path. This provides security against external magnetic influences. A and B are supplied factory bonded.

C To enable the above tape to be flexible for transport and mounting, the third steel tape (nonferrous) is supplied separately. This is used to protect the magnetic tape from mechanical damage and is fitted over the tape.

Sensor MS 20.59

The Sensing Head provides the signal from which the pulse output is created by the electronic system.

Dimensions:



Over the distance X, the gap between sensor and measuring tape must fall between 0,1 and 2,0 mm.

Sensor Cable Length - signal processing
The sensor is available in the following standard-length: 1 m, 3 m, 5 m, 8 m, 10 m, 15 m. Special lengths can be manufactured to order.

7. Type designation

Z 59 – 000- 024 – XYZ –XXXXXX

Z = Display/Counter

2 or 3 axis display

Construction
000 = standard
001 = 1st special version
etc

Supply voltage
024 = 24 V DC +/10%

Encoder input
0 = A/B 24V/24V 20KHz PNP
1 = A/B/0 24V24V 20KHz PNP
* 2 = A /A B /B 100KHz
9 = Magnetic sensor 0,1 mm resolution
M = high speed counting for MIX/EMIX/LMIX system
N = high speed counting for MIX/EMIX/LMIX system with maker input
X = Axis mot active

Special Features
E = External input

*under construction

Accessories

Magnetic tape :MB 20.50.25,0

MB 20.50.25.0

Incremental Magnetic tape

Pole distance 2,0 mm

Length of tape

Magnetic Sensor MS 20.59.xx,x

MS 20.59.XX.X

Incremental Magnetic sensor

Length of cable

Power supply 400mA 24Vdc din rail mounting version — **NG13.0**