

DE51 | Electronic position indicators

absolute reading, direct drive, technopolymer



BASE AND CASE

1 Polyamide based (PA) technopolymer certified self-extinguishing UL94 V-0.

2 Black base.
2 Black case, glossy finish.

DISPLAY

3 - Backlit LCD display showing two values: target position and current position.

4 - Adjustable reading (upper and lower).
4 - Cursor to indicate the rotation direction (clockwise/anti-clockwise) to reach the target position.

5 - Values displayed in mm or inches.
5 The visualization parameters can be set and modified by software at the installation of the machine.

FRONT MEMBRANE

6 Polyester. Resistant to solvents, alcohol, acids, alkali.

INTERNAL GASKET

7 O-ring front sealing in NBR synthetic rubber, between the case and the bushing.

REAR GASKET

8 Polyurethane, supplied.

BOSS

9 Black-oxide steel with $\varnothing 14$ mm H7 reamed hole, fitting to shaft by means of a supplied grub screw with hexagon socket and cup end UNI 5929-85.

STANDARD EXECUTIONS

- 10 - **DE51-F**: front display, output with connectors.
- 11 - **DE51-F-Cable**: front display, output with cable and connectors.
- 12 - **DE51-A**: inclined display, output with connectors.
- 13 - **DE51-A-Cable**: inclined display, output with cable and connectors.

IP PROTECTION

12 Completely sealed indicator with IP 65 protection class, see table IEC 529 (on page A-19).

FEATURES AND APPLICATIONS

13 DE51 indicators can be used on passing through spindles in any position to give absolute reading of the current position and of the target one of a machine component.

14 DE51 indicator is a sophisticated measuring system based on an absolute multi-turn encoder and it is not affected by magnetic fields. Therefore it is able to guarantee perfect operation, even in the presence of electric motors.

15 Thanks to the long-life lithium battery (more than 10 years of life-expectancy) spindle positioning variations can be registered even when the power supply is off and it prevents the loss of the preset values in case of an electrical power failure.

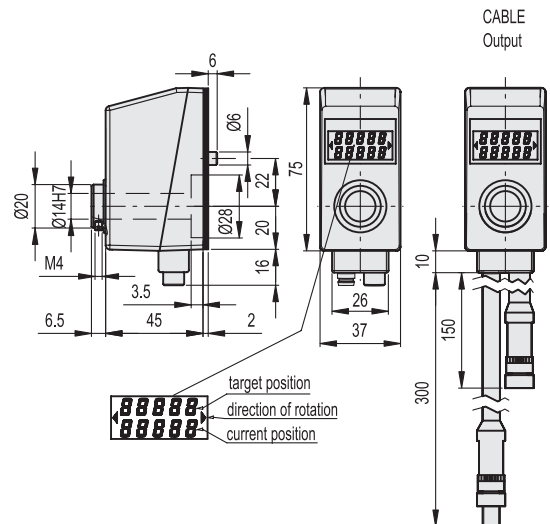
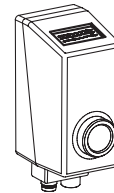
RH DE51 indicators must be networked to the central memory unit (call Elesa Customer Care) or directly to the PLC.

The connection of DE51 electronic indicators directly to the PLC of the machine functions also as a safety system. In fact, in case of mismatch for the target position of even one DE51, the PLC prevents the machine from starting working, thereby avoiding inaccurate work.



DE51-F

DE51-A



Code	Description	⚖️
CE.99111	DE51-F-F.14	125
CE.99121	DE51-A-F.14	125
CE.99112	DE51-F-F.14-Cable	125
CE.99122	DE51-A-F.14-Cable	125

Mechanical and electrical characteristics

Input	24 Vdc \pm 20%, 30mA 3V lithium battery
Buffer memory	min. guaranteed life expectancy 10 years for recording current and target values
Interface	RS485
Connection	M8 - 4PIN
MAX RPM number	600 RPM
Weight	120 g
Working temperature	0 \div 50 °C
Storing temperature	-20 \div +70 °C
Relative humidity	80% at 25°C without condensation
Protection class	IP 65 according to IEC 529 Protection class II
General classification according to EN 61010 part 1	Overvoltage protection category II Contamination factor 2
Immunity to interference	According to EN 61000-6-2
Interference emission	According to EN 50081-1

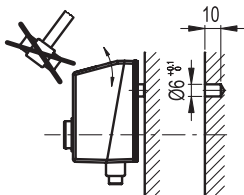
ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)

- **Connection cables** between PLC or central memory unit and DE51 or between two DE51 with different lengths (see table).
- **Terminal resistor** to avoid noises and interferences on the net (see table).

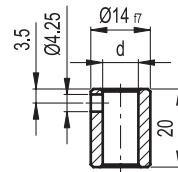
Code	Description	
CE.99136	CABLE-M8-SC-5mt	Connection cable between central memory to DE51
CE.99141	CABLE-M8-1mt	Connection cable for DE51 (length 1m)
CE.99143	CABLE-M8-3mt	Connection cable for DE51 (length 3m)
CE.99145	CABLE-M8-5mt	Connection cable for DE51 (length 5m)
CE.99146	CABLE-M8-6mt	Connection cable for DE51 (length 6m)
CE.99156	RE-M8-120ohm	Terminal resistor (resistance value 120ohm)

ASSEMBLY INSTRUCTIONS

1. Drill a \varnothing 6 mm by 10 mm hole in the body of the machine with a 22 mm centre distance from the spindle to fit the rear referring pin.
2. Set the spindle to the start or referring position.
3. Fit the indicator onto the spindle and make sure that the referring pin fit the hole.
4. Clamp the bushing to the spindle by tightening the grub screw with hexagon socket and cup end, according to UNI 5929-85.
5. Network the indicator using cables with connectors type M8-4PIN (see table "Mechanical and electrical characteristics").



- **RB51**: black-oxide steel reduction sleeves (see table).

**RB51**

Code	Description	dH7
CE.85940	RB51-6	6
CE.85950	RB51-8	8
CE.85955	RB51-10	10
CE.85960	RB51-12	12

- **MD51** (see page 509): polyamide based (PA) technopolymer fluted grip control knob.

