

Spindle Position Displays

Hollow shaft up to $\varnothing 14$ mm, manual format alignment

Display LCD two lines, interface RS485

 adparts

N 150



N 150 with connector output

Features

- Manual spindle position display
- Absolute multiturn measuring system
- Display: LCD backlit, two lines
- Actual value and target display
- Hollow shaft up to $\varnothing 14$ mm
- Interface RS485
- Resolution: 1440 steps/revolution ± 4096 revolutions

Technical data - electrical ratings

Supply voltage range	24 VDC $\pm 20\%$
Current consumption	< 30 mA
Display	LCD, 7-segment display, 2-lines, backlit
Measuring principle	Absolute multiturn measuring system
Measuring range	-99.99...+999.99 mm -9.999...+99.999 inch
Steps per turn	1440
Number of turns	4096 / 12 bit
Spindle pitch	< 14.4 mm
Interface	RS485 (ASCII protocol)
Data memory	Parameter buffer: EEPROM Current value buffer: > 10 years by integrated 3 V lithium battery
Programmable parameters	Display position horizontal/ vertical Measuring unit mm/inch Spindle pitch Counting direction Spindle tolerance Positioning direction Direction arrows Tolerance window Round up/down
Standard DIN EN 610101	Protection class II Overvoltage category II Pollution degree 2
Emitted interference	DIN EN 61000-6-3
Interference immunity	DIN EN 61000-6-2
Approval	UL/cUL

Technical data - mechanical design

Hollow shaft	$\varnothing 14$ mm
Operating speed	≤ 600 rpm (short-term)
Protection DIN EN 60529	IP 65
Operating temperature	$-10 \dots +50$ °C
Storing temperature	$-20 \dots +70$ °C
Relative humidity	80 % non-condensing
Torque support	Torque pin provided at housing
E-connection	Male/female connector M8, 4-pins Cable output (30/15 cm) with male/female connector M8, 4-pins Cable output (30/15 cm) with male/female connector M16, 5-pins
Housing type	Surface-mount with hollow shaft
Dimensions W x H x L	37 x 75 x 45 mm
Mounting	Surface-mount with hollow shaft
Weight approx.	120 g
Material	Polyamide black, UL 94V-0

Ordering part number

N 150.

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	<u>Hollow shaft</u>
	A Hollow shaft ø14 mm
	<u>Display</u>
	A Inclined
	B Horizontal at front
	<u>Supply voltage</u>
	3 24 VDC
	<u>E-connection</u>
	0 Cable 21 cores, 1 m radial
	1 Cable output M8
	2 Cable output M16
	<u>Interface</u>
	1 RS485

Description

N 150 spindle position display supports the editing engineer in manual spindle positioning. The principal benefits of the new electronic spindle position display are saving time in machine setup and editing as well as eliminating errors when aligning formats to new position values. The absolute measuring system captures any change in position even in powerless state. The backlit LCD display provides the editing engineer with all necessary information for efficient editing of new spindle positions. The two-line display shows both current value and target. A little arrow signalizes the editing engineer the direction the spindle must be turned to get to the new position.

RS485 serial interface enables network of maximum 32 spindle position displays to PC or PLC. For complete solutions also memory controllers serving as decentralized operating and memory terminals are available. Up to 100 format profiles can be stored by teach-in. Upon request the desired profile is recalled upon pressing a button and retransmitted to every spindle position display and shown as target.

Accessories

Mating connectors

Z 178.AW1	Cable connector M8 without cable, 4-pins with integrated terminating resistor 120 Ω
Z 178.B01	Mating connector M8 without cable, 4-pins
Z 178.D05	Data and supply cable M8, Master to N 150 and N 155, 5 m length
Z 178.S01	Cable connector M8 without cable, 4-pins
Z 178.V01	Coupling cable 1 m between M8 and M8

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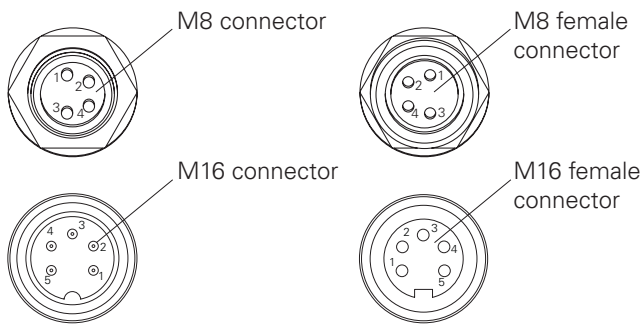
Display LCD two lines, interface RS485



N 150

Terminal assignment

M8 connector	M16 connector	Assignment
Pin 1	Pin 5	Tx/Rx-, RS485
Pin 2	Pin 4	Tx/Rx+, RS485
Pin 3	Pin 1	Sensor supply +24 V
Pin 4	Pin 2	Sensor supply 0 V



Dimensions

