

NM174

Through hollow shaft up to ø25 mm

Automated format adjustment, external SSI sensor, CANopen®

Preliminary

Overview

- Automated format adjustment
- Two keys for format adjustment touch by touch
- Through hollow shaft up to ø25 mm
- Display: LCD backlit, two lines
- Absolute multiturn measuring system
- Actual value and target display
- Connection for external SSI sensor
- Interface CANopen®



Technical data

Technical data - electrical ratings

Voltage supply	24 VDC ±10 %
Current consumption	≤30 mA (without external load)
Current load	≤1 A (connection cable)
Display	LCD, 7-segment display, 2-lines, backlit
Number of digits	6-digits
Measuring principle	Absolute multiturn measuring system
Measuring range	-999,99...+9999,99 mm - 99.999...+999.999 inch
Spindle pitch	≤23 mm (programmable)
Interface	CANopen®
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 Counting direction Spindle pitch Spindle tolerance Positioning direction Direction arrows Tolerance window Round up/down
Motive positioning	2x softkeys for format alignment Direct motor connection to NM174 by mo- tor cable
Standard DIN EN 61010-1	Protection class II Overvoltage category II Pollution degree 2
Emitted interference	EN 61000-6-4

Technical data - electrical ratings

Interference immunity	EN 61000-6-2
Approval	UL approval / E63076
Technical data - mechanical design	
Shaft type	ø20 mm (through hollow shaft) ø25 mm (through hollow shaft)
Operating speed	≤600 rpm (short-term)
Protection EN 60529	IP 55 (housing) IP 40 (connector male/female)
Operating temperature	-10...+50 °C
Storage temperature	-20...+70 °C
Relative humidity	80 % non-condensing
Resistance	EN 60068-2-6 Vibration ±3.5 mm - 5-26.9 Hz 10 g - 26.9- 500 Hz EN 60068-2-27 Shock 5 g, 30 ms
Torque support	Torque pin provided at housing
Connection	Cable with male/female connector 2xM12, 5-pin Cable with female connector M16, 12- pins for motor Flange connector M12, 8-pin
Operation / keypad	Membrane with two keys
Housing type	Surface-mount with hollow shaft
Dimensions	56 x 106 x 84 mm
Mounting type	Directly at shaft end by means of grub screw
Weight approx.	450 g
Material	Polycarbonate black, UL 94V-0

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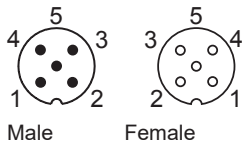
Description

NM174 spindle position display supports the editing engineer in automatic format adjustment. Thereby the spindle position displays communicate directly with EC motors. Every spindle position display is connected to the corresponding motor by a separate cable output providing the motor without delay with the signals "clockwise", "counterclockwise", "rotation speed" for switchover to high/low speed. The spindle position display provides two keys for clockwise and counterclockwise direction used during the first editing operation. The key makes the motor moving into the requested direction. A soft touch results in a defined STEP. Thus, new spindle positions can be edited under direct visual check of the operator with an accuracy of $\pm 1/100$ mm. Shaft position parameters once set can be filed as profile in the control. The CANopen® interface allows the connection of 120 participants to the CAN bus. The maximum number of devices is also limited by the maximum current load of the connecting cables and must be considered separately for each application.

Terminal assignment

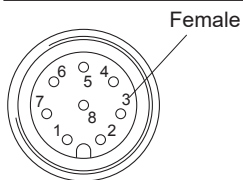
Connector 2xM12, 5-pins – CANopen®

Pin	Assignment
1	Shield
2	+Vs
3	GND
4	CAN_H
5	CAN_L



Connector M12, 8-pins – SSI sensor

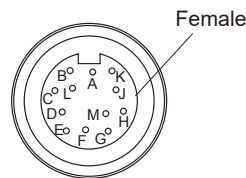
Pin	Assignment
1	GND
2	+Vs
3	Clock+
4	Clock-
5	Data+
6	Data-
7	n.c.
8	n.c.



Terminal assignment

Connector M16, 12-pins – motor

Pin	Assignment
A	–
B	Motor left
C	Motor right
D	Speed
E	–
F	Key 1 external
G	Key 2 external
H	–
J	–
K	Error signal
L	Speed
M	GND



CANopen® features

Bus protocol	CANopen®
Device profile	CiA DS 406
Communication profile	CiA DS 301
Layer Setting Service (LSS)	CiA DS 305
Default	Baud rate 125 kbit/s Node ID 127

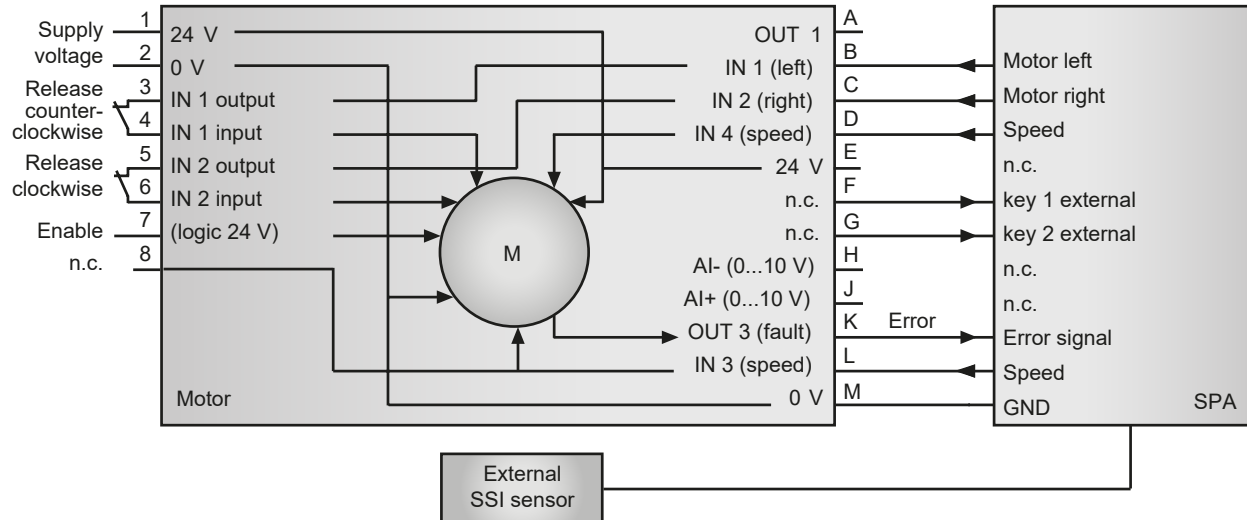
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Circuit diagram



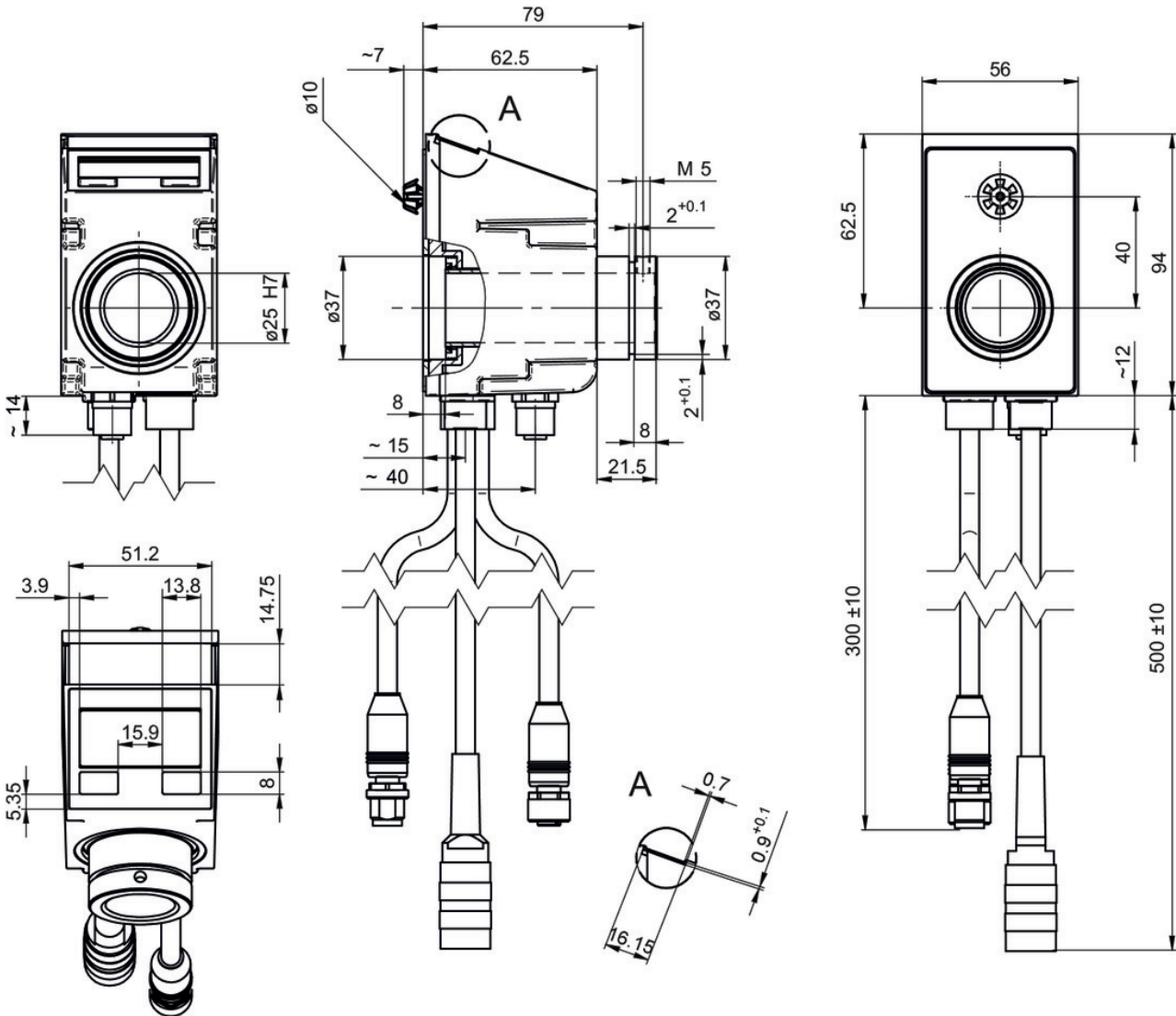
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Dimensions



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Ordering reference

		NM174	.	2	3	3	A	#	01
Product		NM174							
Interface									
	CANopen®			2					
Connection									
	Cable 0.3 m with male/female connector 2xM12, 5-pins Cable 0.5 m with female connector M16, 12-pins for motor Flange connector M12, 8-pins for external sensor				3				
Voltage supply									
	24 VDC					3			
Display									
	Inclined						A		
Through hollow shaft									
	ø25 mm							A	
	ø20 mm							B	
Software									
	Standard								01