

NM174.233AA01

Motor-assisted format alignment for external encoder connection, through hollow shaft ø25 mm

Article number: 11726532

Overview

- Two-line backlit LCD display
- Through hollow shaft ø25 mm
- Interface: CANopen®
- 2 x connector M12, male/female, 5-pin;
1 x connector M16, female, 12-pin;
1 x flange connector M12, female, 8-pin
- Protection IP 55
- Connection for external absolute multiturn encoder with SSI interface
- Suitable for DC motor connection with 4 control inputs 24 V (CCW rotation, CW rotation, low speed ≤4 rpm, high speed ≤100 rpm)



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
Spindle pitch	≤23 mm (programmable)
Interface	CANopen®
Profile conformity	CANopen® CiA Communication profile DS 301 LSS profile DSP 305 Device profile DS 406

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
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Motive positioning	Suitable for DC motor connection with 4 control inputs 24 V (CCW rotation, CW rotation, low speed ≤4 rpm, high speed ≤100 rpm)
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Emitted interference	EN 61000-6-4
Interference immunity	EN 61000-6-2

Technical data - electrical ratings

Approval	UL approval / E63076
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Technical data - mechanical design

Shaft type	ø25 mm (through hollow shaft)
Operating speed	≤600 rpm (short-term)
Protection EN 60529	IP 55 (with mounted mating connector)
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	Connector 2xM12, male/female, 5-pin, cable length 300 mm Connector M16, female, 12-pin, cable length 500 mm, for motor Flange connector M12, female, 8-pin
Operation / keypad	Two buttons for format adjustment in jog mode
Dimensions	56 x 106 x 84 mm
Mounting type	Directly by means of grub screw
Weight approx.	450 g
Material	Polycarbonate black, UL 94V-0

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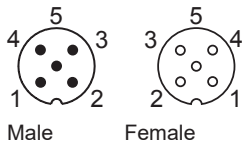
Description

The NM174 spindle position display supports setup engineers in automatic format alignment. The spindle position display is connected to the related DC motor via M16 connector. This connection delivers the rotation signals for "Clockwise" and "Counterclockwise" as well as the speed signals for "fast/creep speed" to the motor without runtime time delay. For initial shaft positioning or repositioning, the spindle position display features two buttons for aligning operations to the left or to the right. A press on one of these two buttons will make the motor rotate in the respective direction. For jog mode, i.e. alignments at defined step width, a short touch is sufficient. This allows the operator to set new shaft positions with up to ±1/100 mm accuracy in his direct field of view. Automatic format alignment allows for saving shaft positions to a controller as parameter profiles that can be easily retrieved at all times. The M12 female flange connector allows for connecting an absolute multi-turn encoder with SSI interface. Such encoder is required for detection and transfer of shaft positions to NM174 since NM174 itself does not integrate any measuring system.

Terminal assignment

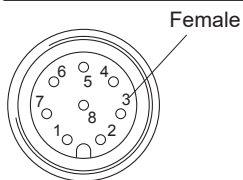
Connector 2xM12, male/female, 5-pin – CANopen®

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



Flange connector M12, female, 8-pin – SSI encoder

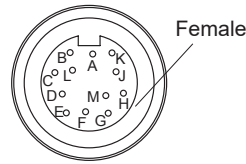
Pin	Assignment
1	GND
2	+Vs
3	Clock+
4	Clock-
5	Data+
6	Data-
7	n.c.
8	n.c.



Terminal assignment

Connector M16, female, 12-pin – 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

Operating modes	Timer-driven (Event-Time) Synchronously triggered (Sync) Asynchronous triggered (change of data)
Node Monitoring	Heartbeat consumer/producer
Programmable parameters	Scaling (spindle pitch) Target value of the spindle position Display parameters (measuring unit, display position, etc.) Parameters for motor-assisted adjustment Spindle tolerance compensation CAN interface parameters
Default	Baud rate 125 kbit/s Node-ID 127 No terminating resistor

