

# Echoking® Ultrasonic Level Transmitter



measuring  
•  
monitoring  
•  
analyzing

NEO



- Measuring Range up to 24.5 ft
- Compact, Easy Installation
- Automatic Temperature Compensation
- Non-contact Sensor
- Compatible with Viscous, Sticky, or Aggressive Media
- 4-20 mA Transmitter
- Easy Calibration via On-board Display
- Loop Powered and Intrinsically Safe Models Available
- Bi-stable Switch Option for Pump or Valve Control



KOBOLD companies worldwide:

ARGENTINA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CHILE, CHINA, COLOMBIA, CZECH REPUBLIC, EGYPT, FRANCE, GERMANY, GREAT BRITAIN, HUNGARY, INDIA, INDONESIA, ITALY, MALAYSIA, MEXICO, NETHERLANDS, PERU, POLAND, ROMANIA, SINGAPORE, SOUTH KOREA, SPAIN, SWITZERLAND, TAIWAN, THAILAND, TUNISIA, TURKEY, USA, VIETNAM

KOBOLD Instruments, Inc.  
1801 Parkway View Drive  
Pittsburgh, PA 15205  
☎ Main Office:  
1.800.998.1020  
1.412.788.4890  
✉ info@koboldusa.com  
www.koboldusa.com

**Description**

The KOBOLD NEO is a full featured level system suitable for monitoring liquid levels and some dry-bulk materials. Through sophisticated signal processing, it delivers accuracy and dependability. The powerful internal microprocessor uses a form of artificial intelligence to learn about the process surroundings. This on-going learning process helps it to distinguish between real echos, reflections, and background noise. The sensor also adapts constantly to on-site conditions. In air environments, the NEO adjusts for temperature variations by using an internal thermal sensor and compensation table. A built-in relay may be used to control tank fill/empty operations, as an alarm for level detection, or for fault detection. Span, setpoint limits, and all necessary information is stored digitally in a non-volatile memory. There are no sensitive analog potentiometers to adjust. It is easily programmable via an on-board touch pad. All process parameters can be easily entered into the system at the installation site. For use in hazardous conditions, pair model NEO-5001IS with an approved I.S barrier, sold seperately.



**Technical Data**

**Range**

- NEO-5001, -5001IS:** 18 ft. from Sensor Face
- NEO-5003:** 24.5 ft. from Sensor Face

**Dead Band:** 0.5 ft. (6")

**Span**

- NEO-5001, -5001IS:** 17.5 ft.
- NEO-5003:** 24 ft.

**Accuracy:** ± 0.25% of Full Scale

**Repeatability:** ± 0.125"

**Fitting:** 2" NPT

**Display**

- NEO-5001, -5001IS:** 4 Digit LCD, Units in in/cm
- NEO-5003:** LED

**Materials of Construction**

- Probe:** PVDF
- Enclosure:** PP (UL 94VO)

**Temperature Range:** -40...140 °F

**Temp. Compensation:** Over Entire Range

**Order Details (Example: NEO-5003)**

Output Type	Model
Standard 4-20mA, 2-wire	<b>NEO-5001</b>
Standard 4-20mA, 2-wire Intrinsically Safe	<b>NEO-5001IS</b>
Sourcing 4-20mA, 3-wire with SPDT Bi-stable Relay	<b>NEO-5003</b>

**Pressure Rating:** 30 PSI @ 75 °F

**Beam Angle:** ± 8% off Vertical

**Sensor Frequency:** 50 KHz

**Supply Voltage:** 14-36 VDC  
(NEO-5003)

**Current Draw:** 200 mA Max.

**Signal Output**

**NEO-5001, -5001IS:** 4-20 mA DC (2-wire) into 350 ohms Max.

**NEO-5003:** 4-20 mA DC (3-wire) into 350 ohms Max.

**Relay (NEO-5003 Only):** SPDT 12 amps @ 240 VAC/120 VDC

**Protection**

**NEO-5003:** NEMA 4X

**NEO-5001, -5001IS:** NEMA 4X Case

**IS Ratings (NEO-5001IS Only)**

**CSA/NRTL/C:** Class I, Div 1, Groups ABCD  
Class II, Div 1, Groups EFG  
Class III, Temp. Code: T3C

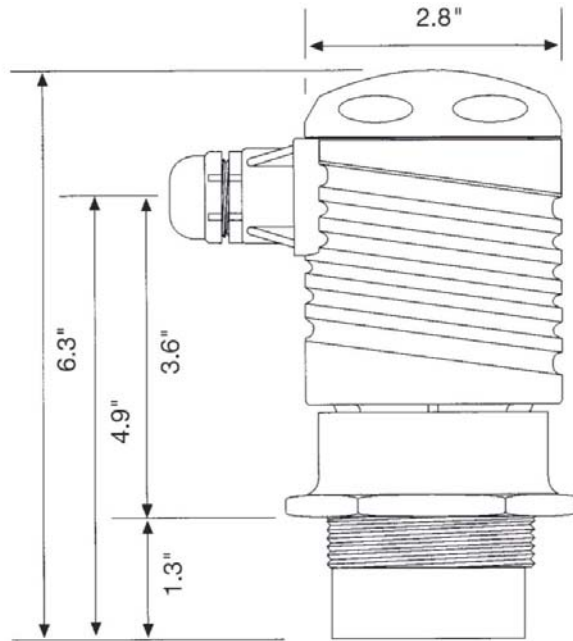
**V<sub>max</sub>:** 32.0 VDC

**I<sub>max</sub>:** 130 mA

**C<sub>i</sub>:** 0 microFarads

**L<sub>i</sub>:** 0 microHenries

**Dimensions**



**Beam Divergence**

Range (ft)	Radius (in)	Range (ft)	Radius (in)
1	2.6	14	23.1
2	4.2	15	24.7
3	5.7	16	26.3
4	7.3	17	27.8
5	8.9	18	29.4
6	10.5	19	31.0
7	12.1	20	32.6
8	13.6	21	34.2
9	15.2	22	35.7
10	16.8	23	37.3
11	18.4	24	38.8
12	20.0	25	40.5
13	21.5		

