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Displacement Sensors Using Amorphous Magnetic Alloy, "LINEAR ACE"

Displacement Sensors Using Amorphous Magnetic Alloy, "LINEAR ACE"

Yabe Tadashi, Mizuno Toshiyuki, Ohno Masaaki, Akiyama Takeshi

Abstract: This paper reports on the development of a displacement sensor using an amorphous magnetic alloy (Co-based) wire. The sensor head size is reduced to 0.1g, and the operating temperature is improved to 180°C. The coil current is reduced to 2mA. LINEAR ACE has received favorable responses from users.

Synopsis :

Kawasaki Steel Techno Research Corp, has developed and marketed a displacement sensor, "LINEAR ACE", that uses magnetic core of Co-based amorphous alloy wire. LINEAR ACE is a new type sensor, using a selfexcitation circuit (multi-vibrator), that enables a high-speed response and a very small outline. The authors improved the operating temperature to 180 °C and the sensor head size, in addition to reducing the magnetic core weight only to 0.1g, allowing measurements to be achieved without impressing any load on the target measurement object, and allowing the coil current to be reduced to 2 mA. LINEAR ACE has received favorable responses from users.

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アモルファス磁性合金を利用した変位センサ 「リニアエース」の開発*

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Alloy, "LINEAR ACE"



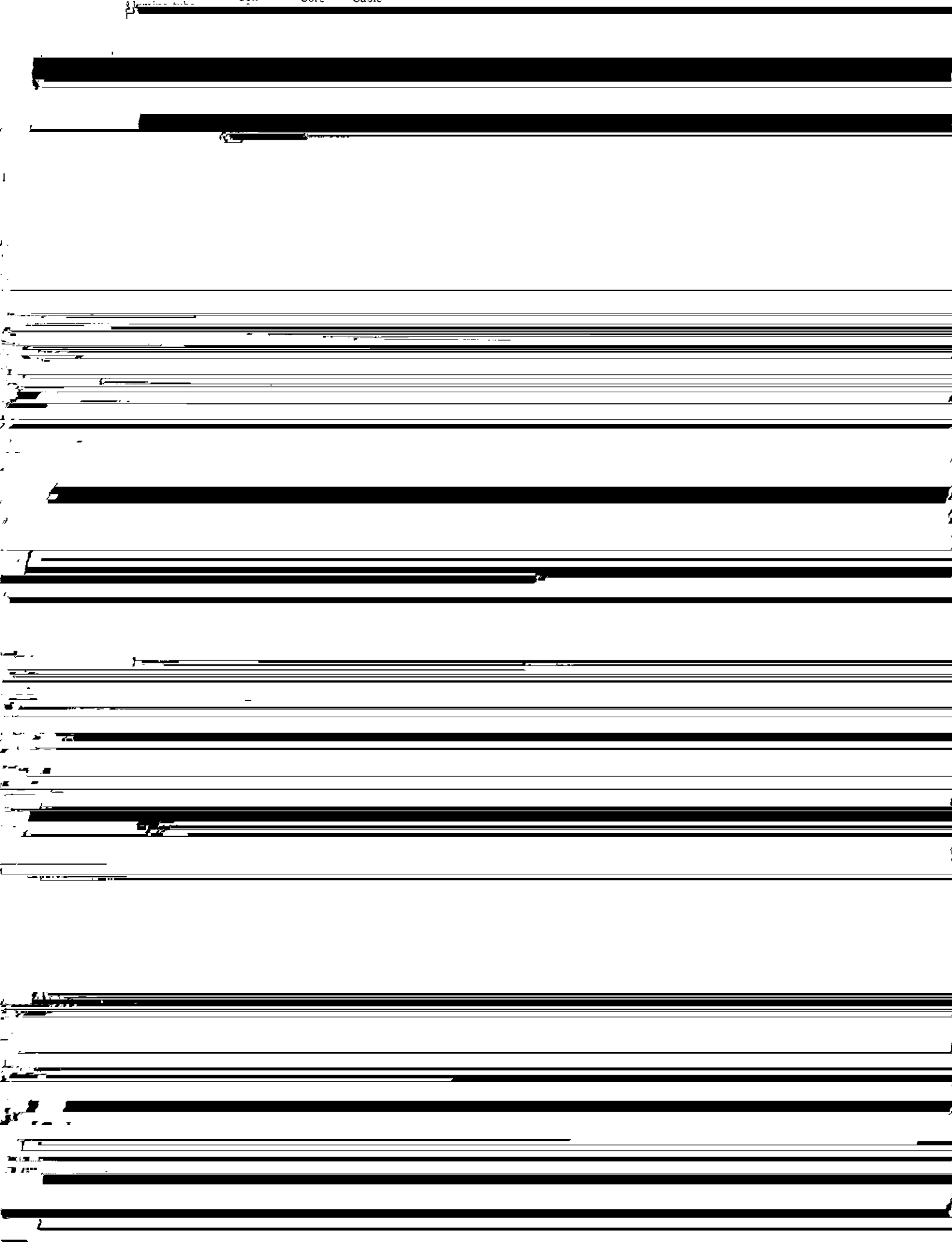
要旨

川鉄テクノリサーチ㈱ではアモルファス磁性合金を使用した高性能の変位センサ「リニアエース」を開発した。リニアエースは Co 基のアモルファス磁性合金ワイヤを磁心に用い、インダクタンスの

Table 1 Characteristics of various magnetic materials

は、かなり以前から安定性・高信頼性を生かした利用¹⁾がなされて

Coil Core Cable



Supply Volt. 7.00 [V]	Error: -0.05 ~ +0.13 [X.F.S.]	Volt. MaxEr
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115

Items	Type	Standard type				High temperature type	
		LC-V5	LC-02	LC-05	LC-10	LC-02H	LC-05H