

Press Release

A new era begins with TWIIST, the multi-variable position sensor by GEFRAN

Provaglio d'Iseo, 25 October 2022. **Gefran** – Italian multinational specialising in the design and production of sensors, instrumentation for industrial process control, and automation systems – presents **TWIIST**, the innovative multi-variable position transducer.

TWIIST has a particularly compact steel case that, in a **diameter** of just **16 mm**, encloses the technological heart of the sensor, a **patented system** for measuring position based on the **3-dimensional Hall Effect**. TWIIST is capable of simultaneously measuring **position, linear acceleration, angular velocity**, and sensor **temperature**. It also implements **virtual speed** and **inclination sensors** based on a summary of position and acceleration measurements. Thanks to its **water resistance** and **shock** and **vibration absorption**, TWIIST is the ideal solution for measuring position in various **industrial sectors** and in **mobile hydraulics**.

TWIIST is the perfect example of a smart sensor: thanks to its powerful integrated CPU it is in fact able to analyse and correlate the data collected in order to ensure **monitoring** and **analysing the processes** and **machines** to which it is applied. TWIIST supports the development of **application-specific proprietary algorithms**, which open up completely new horizons in the world of sensors.

Thanks to **IO-Link** (LM-L model) and **CANopen** (LM-C model) digital outputs, measurements relating to process variables, such as **position** and **speed** or **angle of inclination**, are transmitted digitally for up to **1,000 times** per second. At the same time, the sensor is capable of processing and making available acyclic information such as **vibration peaks, maximum temperature reached, hours of work**, and **number of km** travelled by the cursor, useful for analysing and further understanding the machine's behaviour. It is possible to calculate and transmit additional acyclic variables depending on the proprietary algorithms implemented.

Another new feature is the possibility of **updating** the firmware via **bus**, thanks to a **Boot Loader** that ensures updates directly on site. For customers, this feature translates into a sensor that is always up-to-date and that may be expanded with new functions over time.

“TWIIST is a transducer that will revolutionise the very concept of measurement” says **Davide Alghisi**, Innovation Manager and Head of R&D Linear Sensors at **Gefran**, who continues *“TWIIST goes beyond the aggregation of multiple primary measurement elements within a single device: the interaction between real and virtual sensors and the ability to correlate the evolution of measurements over time is an absolute novelty. Depending on the specific customer applications, it is possible to enable unprecedented self-diagnosis, self-correction, and machine and process behaviour detection features, including predictive maintenance”*.

The whole range is available in strokes (FS) from **50 to 900 mm**, has a typical linearity of **0.15% FS** and typical repeatability of **0.05% FS**, and is capable of operating in a temperature range going

GEFRAN SPA

Via Sebina, 74
25050 Provaglio d'Iseo (BS)
Italy

Tel. +39 030 9888.1
Fax +39 030 9839063
www.gefran.com
info@gefran.com

Cap. Soc. € 14.400.000 i.v.
Reg. Imprese Brescia
03032420170
R.E.A. 313074 BS
Mecc. BS 016227

C.F. 03032420170
P.IVA (TVA-VAT-MWS)
IT03032420170
n. iscrizione Registro
AEE: IT18080000010658

from **-40** to **+85°C**. Several mechanical connections to the process are available, including self-aligning joints for maximum ease of installation.

The range is completed by the LS-A versions with mono-variable analogue output (current, voltage or ratiometric), as well as the redundant ratiometric version to support safety applications.

Gefran

*With headquarters in Provaglio di Iseo, Gefran is an Italian multinational group specialised in the design and production of sensors, industrial process control instruments and automation systems. Competence, flexibility and process quality are the distinguishing features of Gefran in the realization of tools and integrated systems for specific applications in different industrial fields, with a consolidated know-how in the fields of plastics, metal, paper and heat treatment. Technology, innovation and versatility represent the value-added features of Gefran solutions: sensors, automation platforms, regulators and power controllers designed to increase the efficiency of production processes, also in terms of energy saving. The Company has over **650** employees, including almost **400** in Italy and consolidated collaborations with national and international research centers and universities. Gefran operates on the main international markets through **10 production sites** in Italy, Brazil, China, India, Switzerland and the United States. In addition, there are **14** sales organisations and over **80 international distributors** for global sales support.*

Gefran is listed on the Milan Stock Exchange in the FTSE Italia STAR segment.

For more information:

Lbdi Communication

Deborah Amato – email: damato@lbdi.it

Ginevra Fossati - email: gfossati@lbdi.it

Tel. 02/43910069 - Mobile [+39 3662694449](tel:+393662694449)

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