

# Recently assigned CANopen vendor-IDs

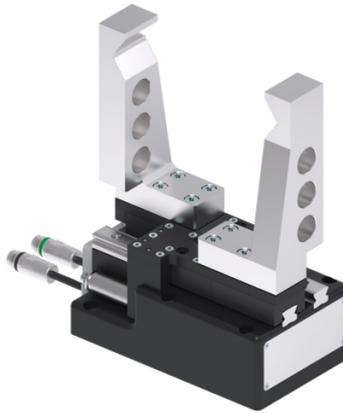
*The CANopen vendor-ID must be implemented in any commercial CANopen device. CiA assigns uniquely a 32-bit identifier to the requesting company. This service is free of charge for CiA members.*

The CANopen vendor-ID is mandatory since CiA 301 version 4.0.0 equivalent to the EN 50325-4 standard. CiA has assigned in 25 years more than 1600 CANopen vendor-IDs. They are necessary for some dedicated functions such as the CiA 305 layer-setting services and protocols and the CANopen node-claiming procedure. Additionally, the CANopen vendor-ID is useful to identify the device. By means of SDO (service data object) services other CANopen device can read the CANopen vendor-ID, the product code, the revision number, and the serial number. All these parameters are in the CANopen object dictionary accessible by means of SDO read services to the index  $1018_h$  and the related sub-index ( $01_h$  to  $04_h$ ).

Last year, CiA has assigned 52 CANopen vendor-IDs. The business of these companies is widely spread ranging from device manufacturers for the open market and for in-house use. Vitibot is one of them. The French company established in 2016 has designed autonomous driving robots for vineyards. The former owner Cédric Bach is an engineer and son of a vintner. The company has used products from ifm electronics and develops its own CANopen devices. In 2022, Vitibot was acquired by the Same Deutz-Fahr (SDF) group employing over 4000 people.

Autonomous off-road and electric-powered vehicles often use embedded CANopen networks. Green Power Design headquartered in Hongkong, another new vendor-ID owner, offers battery chargers and inverters for electric-powered vehicles such as forklifts, road cleansers, golf caddies, and stand-alone area-working platforms. MTA Innovation requested the CANopen vendor-ID for its drives and motion controllers dedicated for AGV/AMR vehicles. The German company's products are also used in conveyor systems for logistics in warehouses. Suzhou Anchi Control Systems located in China needs the CANopen vendor-ID for its devices integrated into the platform for electric-powered vehicles.

The CiA 402 device profile for drives and motion controllers is the dominating specification not only in industrial applications. CiA has assigned a CANopen vendor-ID to National Aperture (U.S.A.) offering miniature and ultra-miniature motion control products including multi-axes control units. Maxon's subsidiary Zub Machine Control offering motion



*Figure 1: The GEH8000 2-jaw gripper series is optionally available with CANopen connectivity (Source: Zimmer Group)*



*Figure 2: The IO643 device features CANopen NMT manager functions and is designed for prototyping purposes supporting Matlab and Simulink (Source: Speedgoat)*

controllers with CANopen connectivity has requested its own CANopen vendor-ID. The Swiss company also offers development services for machine builders.

Zimmer Group has developed the 2-jaw parallel grippers for robots coming with CANopen interfaces. Therefore, the German company got a CANopen vendor-ID. Telma situated in Switzerland supplies sensors, displays, and other devices for water treatment. To support in the future CANopen connectivity, the company has requested a CANopen vendor-ID. The Dutch IT consulting company Avineas likes to use the vendor-ID for its PLC (programmable logic controllers) devices, featuring optionally CANopen connectivity.

Other new vendor-ID owners are NKE Marine Electronics (France) developing a CANopen gateway for its maritime navigation systems and displays as well as Betamont (Slovakia) providing modular in-motion measurement systems for road and rail vehicles. Furthermore, CANopen vendor-IDs have been assigned to the chipmaker AMD and Sika producing sensors measuring flow, temperature, and pressure. The company also offers calibration instruments for pressure and temperature.

Speedgoat, a German company, uses its CANopen vendor-ID for the launched IO643 I/O module with NMT (network management) manager functionality. The product handles the message exchange between the connected CANopen devices with NMT server functionality, for example, the IO644 I/O module. The data exchange is processed via a dual-port memory. The module acts as one CANopen NMT manager exclusively. This I/O module is designed for rapid control prototyping of industrial devices such as programmable logic controllers (PLC) and hardware-in-the-loop simulations using Matlab and Simulink for testing industrial equipment such as motor controllers. The IO643 module is compatible with the Simulink Real-Time workflow. The CANopen interface is realized by means of the NetX multi-protocol chip by Hilscher.

Dentsply Sirona headquartered in North Carolina (U.S.A.) is a dental solutions company. It manufactures, among other equipment, dentist chairs. The German subsidiary has requested recently a CANopen vendor-ID.

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