# Isobus and Agritechnica news

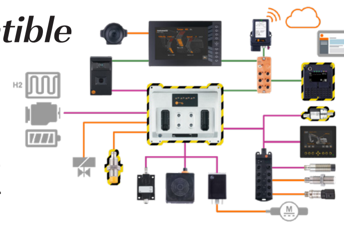
(Source: Adobe Stock)

## Isobus protocol stack for Codesys

Neuser Elektrotechnik (Germany) offers the Myisobus protocol stack compliant with the ISO 11783 series, which can be integrated into the Codesys control software environment. It is suitable for host controllers from ifm, Intercontrol, STW, and other companies, implementing the Codesys 3.5 runtime system. This covers also programmable human machine interface products from ifm. The runtime software by Codesys (Germany) complies with the IEC 61131 series, supporting different programming options. It is often used in mobile machinery in conjunction with CANopen and J1939 protocol stacks.

The Isobus protocol stack supports functions such as virtual terminal (ISO 11783-6), task controller including section control (ISO 11783-10), etc. The task controller functionality is similar to a fleet management system. *hz*

## Isobus-compatible controllers



(Source: ifm)

CiA member ifm (Germany) presented in Hanover on the Agritechnica trade show several products compliant with ISO 11783-3 (Isobus application layer). The updated and revised CR403S and CR413S host controllers provide functional-safe control functions, including functional-safe CAN communication. The safety control function is achieved by means of two control units running in parallel. They are intended for mobile machines with a limited level of complexity. They come in an IP20-rated enclosure. These products are suitable for an operating temperature range from -40 °C to +85 °C. They have been E1-type approved, so they can also be used in road traffic. The controllers can be programmed in Codesys 3. *hz*

## Spreader with TIM

(Source: Ludwig Bergmann)

Ludwig Bergmann (Germany) has announced the Xpert agriculture spreader series of manure and universal spreaders, featuring Isobus connectivity and supporting TIM (tractor-implement management) functionality. The spreader implement is available with milling unit passages of 1,55 m, 1,70 m, and 1,90 m, enabling higher throughput rates, along with sufficient cargo space lengths and load heights for more uniform loading.

A new feature for spreaders is the Isobus-TIM option, meaning the trailer controls the tractor. There are three different applications. Some of these applications can also be combined:

- TIM – Speed-control: adjustment of the spread rate by varying the tractor driving speeds with a constant scraper floor speed (= constant spreading pattern);
- TIM – PTO-control: switching the PTO (power take off) shaft on and off coupled with the scraper floor; PTO speed control to match the working width; automatic deactivation of the PTO if the spreader disks or beaters are blocked;
- TIM – Hydraulic-control: operation without control block via the control units of the tractor with an Isobus terminal.

Another feature in terms of convenience is the electronic forced steering without a drawbar angle sensor. All one has to do is “Hitch and go”. Adapting cylinders or steering rods (as is the case with conventional hydraulic or electronic forced steering systems) is not necessary because no additional elements are installed. This also increases the maneuverability of the tractor-implement combination. The spreaders are EU type approved (category R) for public roads. *hz*

# AI-based baler with TIM function

At Agritechnica trade show, Claas (Germany) presented in Hanover (Germany) its 70-t baler with an Isobus interface. Via this CAN-based link, the implement controls the speed of the towing tractor (tractor-implement management).

The concept of the awarded baler (Gold Agritechnica Innovation Award) that has been redeveloped by the supplier is designed for a combination of high throughputs with constantly high bale densities and secure binding. The machine concept is based on a main gearbox that is integrated into the frame, which enables a linear power flow as well as the use of a slender drawbar and a short propeller shaft. Two flywheels rotating at 1650 1/min that are arranged longitudinally to the direction of travel and each weights 202 kg store a great deal of energy and stabilize the compaction process. They are positioned on the left and right sides of the machine respectively. As these are switched on in succession on starting, followed by the piston and then the rotor, the technical effort required for starting is less than that of previous solutions. In the event of overloading, the flywheels are abruptly decoupled via an electro-hydraulically activated multi-plate clutch and are therefore separated from the main drive. The piston is actively braked in this process, which removes the need for shear bolts and cam clutches. Since the entire drive train consists of power bands and enclosed gearboxes, maintenance effort is significantly reduced: besides the drive propeller shaft, only one other shaft leading to the knotter mechanism has to be maintained.

The load data recorded via the sensors is displayed on the Isobus terminal and provides the driver with information on the current operating rate status of the baler. The TIM (tractor-implement management) system so far familiar from round and big balers is used. After entering the corresponding driving strategy, such as maximum throughput or high bale density, the system adjusts the driving speed of the tractor depending on the machine load and material behavior. The speed parameter request is communicated via the CAN-based Isobus. The AI-based evaluations of the sensor values enable the optimum performance level to be maintained automatically, even with changing crop types or windrows.

*The baler implement can control the speed of the tractor via its CAN-based Isobus interface (Source: Claas)*

Another AI-supported assistance system regulates the length and weight of the bale in synchronization with the baling process according to individual specifications. This enables a very high level of bale weight and length homogeneity. The driver only has to set the length and weight; the system undertakes all other adjustments automatically. In addition, the algorithm uses an internal memory to continuously evolve. Regulation is therefore anticipatory rather than subsequently corrective. With weight deviations of only ±2 %, this concept sets new standards in terms of quality and cost-effectiveness, and all without an integrated weighing device. *hz*

# Isobus cable

TKD Kabel (Germany) has launched the Induline Isobus cable suitable for agriculture machinery. The product contains the CAN-High and CAN-Low lines as well as two power-supply lines. They are twisted. The cable complies with ISO 11783-2 requirements. It is resistant against oil, ultraviolet light, and ozone. Additionally, it can withstand coolants and lubricants. The product is flame- and abrasion-resistant. The cable coating is designed for outdoor applications. There is also a PVC cable variant available dedicated for Isobus networks not used in harsh environments. It is intended for cost-sensitive applications. *hz*


(Source: TKD)

# Cooperation on Isobus products


*From the left: Stefan Zellner and Harald Bügel (B-Plus) with Madhusudan Giri and Harish Rajan (CAN Automotion) (Source: B-Plus, CAN Automotion)*

B-Plus, system partner for the automation of mobile machinery, continues to pursue international expansion in regions with growing demand for robust, Isobus-enabled control systems. Thus, it cooperates with CAN Automotion based in Melbourne (Australia). The company's key distribution partner for Australia and New Zealand brings strong engineering expertise in Isobus, precision farming, and complex control systems. "We are seeing increasing demand in Australia for reliable and compact control solutions for Isobus applications – particularly in smart farming and precision agriculture," said Madhusudan Giri, CEO of CAN Automotion. "With B-Plus products, we have the right tools to support our customers in digitizing their machinery fleets." *of*

## Implement ECU with Isobus interface


(Source: MRS Electronic)

CiA member MRS Electronic (Germany) has announced for its CAN I/O – CC16WP host controller to support Isobus (ISO 11783) connectivity. The ECU (electronic control unit) is suitable to control agriculture implements.

Agriculture implements can be directly attached to tractors on the front or on the rear. The CAN-based Isobus network enables communication between tractor and implement. The introduced implement ECU is also suitable for price-sensitive implements. It can communicate with the Isobus virtual terminal (VT) mounted on the tractor, enabling the implement control by means of the VT. As AEF-certified hardware, it guarantees Isobus compatibility. It features multi-functional inputs and eight PWM-capable outputs for controlling current-regulated hydraulic valves.

The ECU is used in a seed-drill implement, for example. For metering drive, it controls the speed for precise seed output, adapted to the speed and desired seed pattern. The controller manages blower power by controlling the air volume to transport the seed evenly through the hoses to the seed coulters, with DC motors or hydraulic drives used depending on the model. Sensor integration is achieved through the connection of speed sensors to record the actual driving speed and calibration function for calibration tests before use. With this range of functions, the host controller ensures that seed drills work more precisely, can be flexibly adjusted to different operating conditions, and at the same time significantly simplifies operation via the VT.

A side note: To date, MRS has sold over 15 million of its controllers worldwide. *hz*

## Electric driver seat for retrofitting

At Agritechnica 2025 in Hanover (Germany), Grammer introduced the Maximo XT, a fully electric driver seat designed for tractors and agricultural machinery. The seat offers advanced comfort features including active suspension, massage system, dual-motion backrest, and automatic weight adjustment. It supports retrofit installation on common agricultural machines with Isobus and other CAN-based connectivity for digital operation. Five equipment variants provide customizable options such as memory settings, active damping, and adjustable backrest contours to enhance driver comfort and functionality. *of*

## Near-infrared sensor with Isobus interface


(Source: Samson)

Samson Agro has introduced the NIRScan sensor system developed in close collaboration with Zeiss. It is intended to be used to precisely and sustainably apply liquid manure. It comes with a CAN-based Isobus interface.

The sensor system integrates a near-infrared (NIR) spectroscopy with real-time data processing to continuously analyze the nutrient content of liquid manure during application. This enables automatic adjustment of the application rate to match the actual nutrient composition, ensuring optimal distribution across the field. Based on years of experience in agricultural analysis with NIR-sensor technology, Zeiss has developed the Halos high-precision mobile laboratory as the heart of the NIRScan system for the Samson slurry tankers.

Data from the sensor system can be transferred to the tractor via the Isobus network for creating as-applied documentation based on applied nitrogen, phosphorus, and potassium in kg/ha. In the Samson SlurryMaster 8000 control system, the driver can choose the parameters by which to regulate the application rate. This can be a traditional application by cubic meters, where the nutrient content is simply recorded and documented, an application based on the content of either nitrogen, phosphorus, or potassium in kg/ha, or the slurry tanker can regulate the application according to a variable rate map through an Isobus virtual terminal (VT). *hz*

(Source: Case IH/Steyr)

At the Agritechnica fair, Case IH has showcased the Optum tractor series, featuring CAN-based Isobus connectivity and TIM (tractor/implement management) functionality. The size and the power of the tractors are suitable for a wide range of applications, from tillage and seeding, to baling or transport. With updated power take off (PTO) and rear 3-point linkage with increased lift capacity, operators can seamlessly swap implements between tasks, minimizing downtimes. *hz*