

ISOBUS and AEF – for cross-manufacturer compatibility

ISOBUS is a data bus for agricultural applications. It is based on international ISO standard 11783 and defines the „language“ between implements, tractors and terminals from different manufacturers. However, even though agricultural technology manufacturers have agreed on a global ISOBUS standard, not all machines are compatible. In practice, „plug and play“ is still some way off in a number of areas. Why? The ISO standard was not clear and unambiguous enough in several points. Although manufacturers were launching ISOBUS systems, these did not function across equipment from different manufacturers.

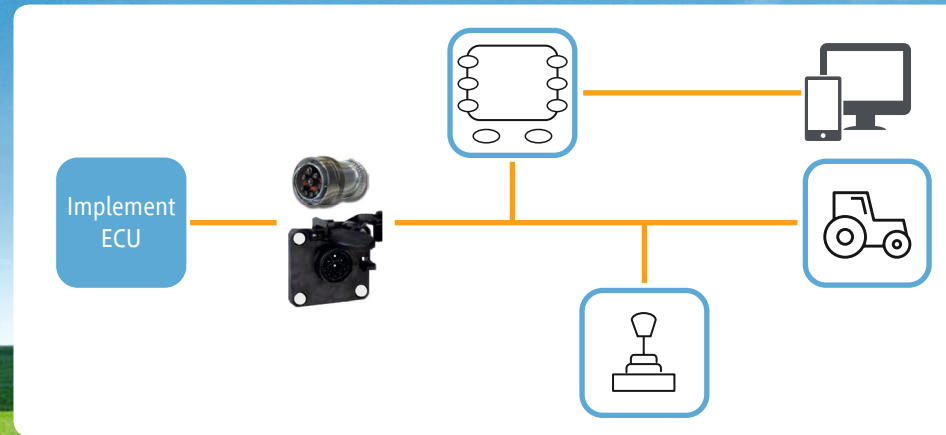
This is why AEF has introduced additional guidelines for individual functionalities. AEF members work according to these guidelines when developing new products. And that works!



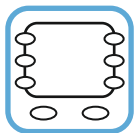
The functionality concept – so that everyone can understand and draw comparisons

Whether tractor, implement or terminal – every product offers a series of features. It can, however, be very confusing when manufacturers use different names or descriptions for these features. The technical definition can also vary considerably. When deciding what equipment to buy, it is therefore difficult to understand and compare different products in detail. And it is even more difficult to find out what tractor-implement-terminal combination actually supports a specific function.

This is why AEF has developed the functionality concept. It describes each feature as an independent „module“ on the ISOBUS. It is important to note that it is always the lowest common denominator that determines whether equipment works together properly. Only functionalities that are supported by all components can actually be used by the driver.



Universal Terminal (UT)



This functionality can be used to operate an ISOBUS implement on any terminal. Or an individual terminal controls different ISOBUS implement. In this way, an ISOBUS Universal Terminal can render numerous implement-specific terminals superfluous.

Auxiliary Control (AUX)



This is used to connect additional elements, such as a joystick or switchbox to the ISOBUS, making it easier to operate the implement. Once connected, the functions of the implement can be operated by the AUX implement instead of having to use the ISOBUS Universal Terminal.



Tractor ECU (TECU)



The TECU represents the „job computer“ of the tractor on the ISOBUS. As a data hub, it provides tractor data for the other ISOBUS participants, such as forward speed or PTO speed or rear hitch position. In this way, for example, an implement can apply fertiliser or crop protection depending on the driving speed signal.

ISOBUS Shortcut Button (ISB)



ISB can be used to deactivate functions of a device that are activated via an ISOBUS terminal. This can be helpful when the device is not currently in the foreground, as several devices are being operated using an ISOBUS terminal. The implement manufacturer defines which functions can be deactivated.



Task-Controller basic (TC-BAS)



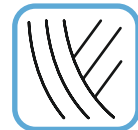
This functionality documents specific values of the work that has been carried out, provided by the ISOBUS implement. Data is exchanged between the farm management information system and task controller via ISO-XML. This is also a standard that has been developed for data exchange. This allows jobs to be imported into the task controller and documentation to be exported.

Task-Controller geo-based (TC-GEO)



TC-GEO can additionally be used to collect location-dependent data. This is especially advantageous when partial areas of fields are processed. Job planning can be location-specific, for example using application maps.

Task-Controller Section Control (TC-SC)

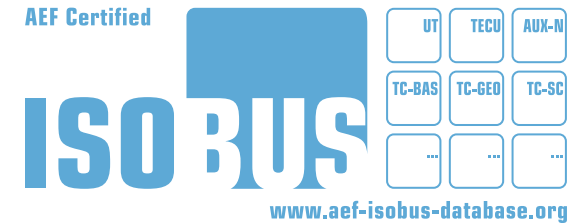


This controls automatic activation of partial widths, for example for crop protection spraying, depending on the GPS position and the desired degree of overlap.

AEF ISOBUS certification – a label for functionality

AEF has developed the AEF ISOBUS conformance test to guarantee operational reliability for dealers and farmers. The test by independent institutes confirms that the certified functionalities can actually be used in practice.

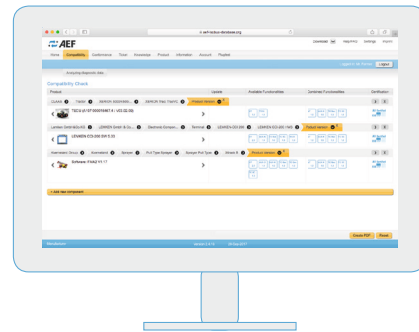
If a product has successfully passed the test, the manufacturer can use the AEF ISOBUS label as proof. It documents conformity of the ISOBUS components with the ISO 11783 standard and AEF guidelines.



AEF ISOBUS Database – reliable information for dealers and farmers

AEF ISOBUS-certified products not only receive the label, they are also listed in the AEF ISOBUS Database. The Database can be searched to provide quick and easy information on which machines support which functionalities and to check compatibility with other machines. This is very helpful when selecting equipment. It saves a lot of time and money on researching other sources and making inquiries with manufacturers. Service also benefits from the AEF ISOBUS Database with analysis and solutions.

The AEF ISOBUS Database enables dealers and farmers to access all the information in one place. They can also use the AEF Mobile app to call up information on a smartphone or tablet.



www.aef-isobus-database.org

