# PRESS RELEASE

**Würth Elektronik introduces the CAN Box 8FR6**

Programmable solution for power distribution

# Niedernhall (Germany), 7 September 2021 – Würth Elektronik ICS is an established provider of system solutions for power distribution and control of functions for mobile machines and commercial vehicles. By combining its solution concepts in both areas, the manufacturer has now developed the CAN Box 8FR6, a compact and smart solution for power distribution and function control. The CAN Box 8FR6 can be fully programmed and it offers various diagnostic options. Along with this new product, Würth Elektronik ICS is also introducing the new software tools WEcontrol Designer and WE Flasher.

The CAN Box 8FR6 features an NXP 32-bit Cortex M4 microprocessor, offers 128 kB of RAM and a 512 KB flash memory as well as 2 kB F-RAM. The 17 × 14 × 7 cm IP64-rated box has eight fuse and relay outputs and six high-side outputs and is used for power distribution to multiple loads. In addition, there are eight analogue inputs, four digital or frequency inputs with switchable pull-up resistors and two CAN bus interfaces. Each relay output can accommodate a load of up to 15 A, and each high-side output up to 2 A. The high-side outputs are all PWM-capable, meaning they can also be used for dimming lighting systems.

All outputs, including the eight relay outputs, are current-sensing. The relays provide digital feedback of each output (NO/NC), allowing diagnosis of defective fuses or monitoring of relay status.

# Robust in operation

The current load of the box is yielded by the number of activated relays and the values of the built-in fuses. Würth Elektronik ICS recommends programming an application limitation and a system warning via CAN communication to avoid having the temperature inside the box rise above 100 °C. Two temperature sensors are built into the box for temperature measurement.

Current is distributed to the relays and electronic outputs of the module via an M6 power supply terminal. The CPU and the electronic parts of the box are powered by one of the pins of the 39-pin LeavySeal connector. The separation in the supply also enables separated fuse protection of the power and logic lines.

# Versatile applications

The CAN Box 8FR6 offers a wide range of diagnostic options and can actively send warning and maintenance messages. Activation cycles and operating hours

can be stored in the FRAM, when appropriately programmed, and provide a comprehensive overview of vehicle usage.

The CAN Box 8FR6 is also able to take control of most consumers such as lighting systems, so freeing up the inputs and outputs on the other controllers for sensor handling or machine-specific tasks.

The large number of inputs and outputs means that several boxes can be integrated into a decentralised system, enabling you to easily retrofit existing systems.

The CAN Box 8FR6 allows a reduction of the cable cross-section, which in turn reduces weight and offers cost savings. Conventional solutions usually check the load current and select a fuse with the rated value of at least 25% above the load current when defining the protected power lines. Taking all these parameters into account, you then calculate the cable diameter. The cable can be designed with a smaller buffer when used with the CAN Box 8FR6 because the box provides current measurement at each output. The current measurement enables the overloaded output to be switched off if the current exceeds the normal load by 10% for more than 5 minutes, for example.

# Freely programmable

Together with WEcontrol Designer, the CAN Box 8FR6 is freely programmable. The editor in WEcontrol Designer contains numerous function block libraries that simplify and accelerate programming. With the IEC 61131-3 compliant programming environment, standardised protocols such as J1939 or a simple raw CAN can be used. You can easily integrate the device into the software environment of the machine manufacturers by implementing the UDS bootloader. Würth Elektronik ICS offers WE Flasher to support the UDS protocol. This tool can communicate with UDS via CAN and search the CAN network for the CAN Box 8FR6 in order to then upload applications or firmware updates. It is easy to adapt the CAN Box 8FR6 to different types of consumers or functions because it is freely programmable.

The CAN 8FR6 Box is a standard product. The relays and fuses can be selected according to the customer’s application, but we recommend using 10/15-A relays. Würth Elektronik ICS is happy to offer its support to help you optimally configure the box. The Field Application Engineers at Würth Elektronik ICS are also available for programming the box or for software training.

**Available images**

The following images can be downloaded from the Internet in printable quality: <https://kk.htcm.de/press-releases/wuerth-ics/>

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| Image source: Würth Elektronik ICS  **The CAN Box 8FR6 is freely programmable and offers a wide range of diagnostic options.** | Image source: Würth Elektronik ICS  **CAN Box 8FR6 – a compact and smart solution for power distribution and function control.** |

# About Würth Elektronik ICS GmbH & Co. KG

Würth Elektronik ICS is a system supplier for electromechanical and electronic solutions for signal and power distribution, control, and display and operating solutions. ICS has been on the market as a member of the Würth Elektronik Group since 1984, and currently has about 400 employees, who generate an annual turnover of over €75 million. Its company headquarters are located in Niedernhall, Germany. There are subsidiaries of the company in France, UK, the U.S., and India. Its main customers include well-known manufacturers of construction and agricultural machinery, as well as commercial vehicles. Sectors such as industrial technology or renewable energies also benefit from products and services provided by ICS.

Würth Elektronik: more than you expect!

**Further info at** [**www.we-online.com/ics**](http://www.we-online.com/ics)

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| **More information:**  Würth Elektronik ICS GmbH & Co. KG Sandra Herter  Gewerbepark Waldzimmern Würthstrasse 1  74676 Niedernhall Germany  Phone: +49 7940 9810-1503  E-mail: [sandra.herter@we-online.de](mailto:sandra.herter@we-online.de) [www.we-online.com/ics](http://www.we-online.com/ics) | **Press contact:**  HighTech communications GmbH Brigitte Basilio  Brunhamstrasse 21  81249 Munich Germany  Phone: +49 89 500778-20  Telefax: +49 89 500778-77  E-mail: [b.basilio@htcm.de](mailto:b.basilio@htcm.de) [www.htcm.de](http://www.htcm.de/) |