INGUN USA, Inc.
252 Latitude Ln Ste 105+106
Lake Wylie, SC 29710

Phone: 803-831-1200
E-mail: mailbox@ingun.us
www.ingun.us

INGUN and Göpel cooperate for the complete test of high speed digital interfaces – 100% Made in Germany

Joint design and development of customer specific test solutions for high-speed interfaces

In today's complex electronic design world, it becomes more and more important to fully characterize electrical connections and transmission lines and go beyond simple "go-no go" and continuity tests. Thorough signal integrity tests are required for high data rates and high frequency applications. Göpel electronic, a leading company in the field of test solutions for electronic devices and INGUN – no.1 in the field of mechanical contacting solutions for end-of line tests on printed circuit boards and connectors entered into a partnership to design and develop test solutions for high speed interfaces. Such solutions can be used both in the design phase of a product as well as in the production line.

INGUN designs and develops test & probes and test fixtures in Konstanz, Germany – since 1971. Göpel electronic is a pioneer in the field of electrical test through JTAG/boundary scan according to IEEE standard 1149.x and develops systems for Bit Error Rate test. JTAG solutions offer the possibility to test and validate circuit boards without bed-of-nails probing on individual test pads – but instead evaluating the test parameters at its interconnects. Probing on such interfaces has its own challenges and it takes a lot of experience to provide reliable contacting solutions that not only make good contact at DC but also at high frequencies and data rates. Both companies now bundle their expertise to provide "made in Germany test solutions".

The first joint development is a USB 3.0 type A flex adapter board. This add-on module for Göpel's ChipVORX Module FXT X32/HSIO4 is connected to an INGUN USB 3.0 contacting module through a flexible circuit board. Through a floating arrangement the rugged contactor can be inserted into the USB 3.0 interface of the device under test – either manually by hand, semi-automated with a lever mechanism such as INGUN's SAM series side approach units or fully automated in a mechanical or pneumatic test fixture.

Using Göpel's ChipVORX Technology, the device under test can then be characterized for signal integrity through the measurement of the bit error rate (BER) and resulting eye patterns.

Both systems (the ChipVORX card and the INGUN adaptor) can also be used individually which offers best flexibility for integration in your test process. The stand-alone contactor

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version has a USB 3.0 connector to connect to the test system and a tolerance-compensating float mount feature.

The contactor can be used in excess of 100,000 contacting cycles and by that far exceeds the life time of a USB mating connector. With such a high life cycle, the contacting module is perfectly suited for the harsh production line environment and pays for itself by avoiding the need to constantly swap test cables and by eliminating false errors which often arise due to over-usage of mating connectors instead of using a dedicated probing or contacting solution. The INGUN contactor is rated at 5 GBit/s.

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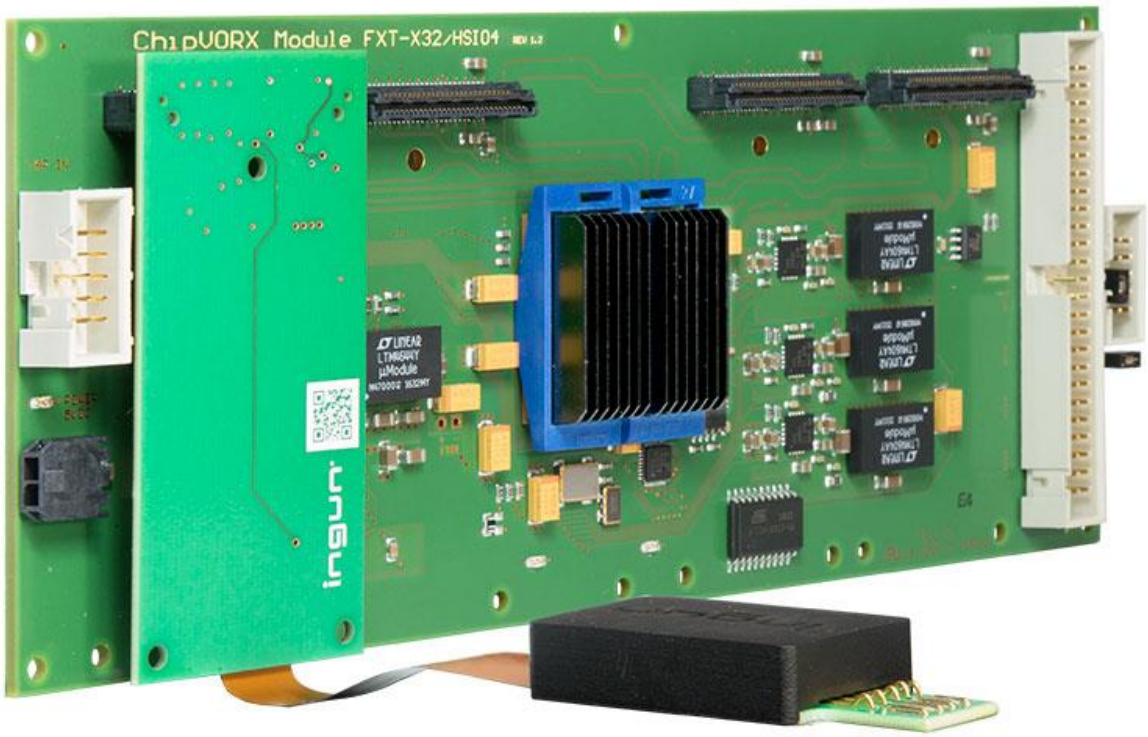

Göpel ChipVORX Module with USB 3.0 Contactor from INGUN

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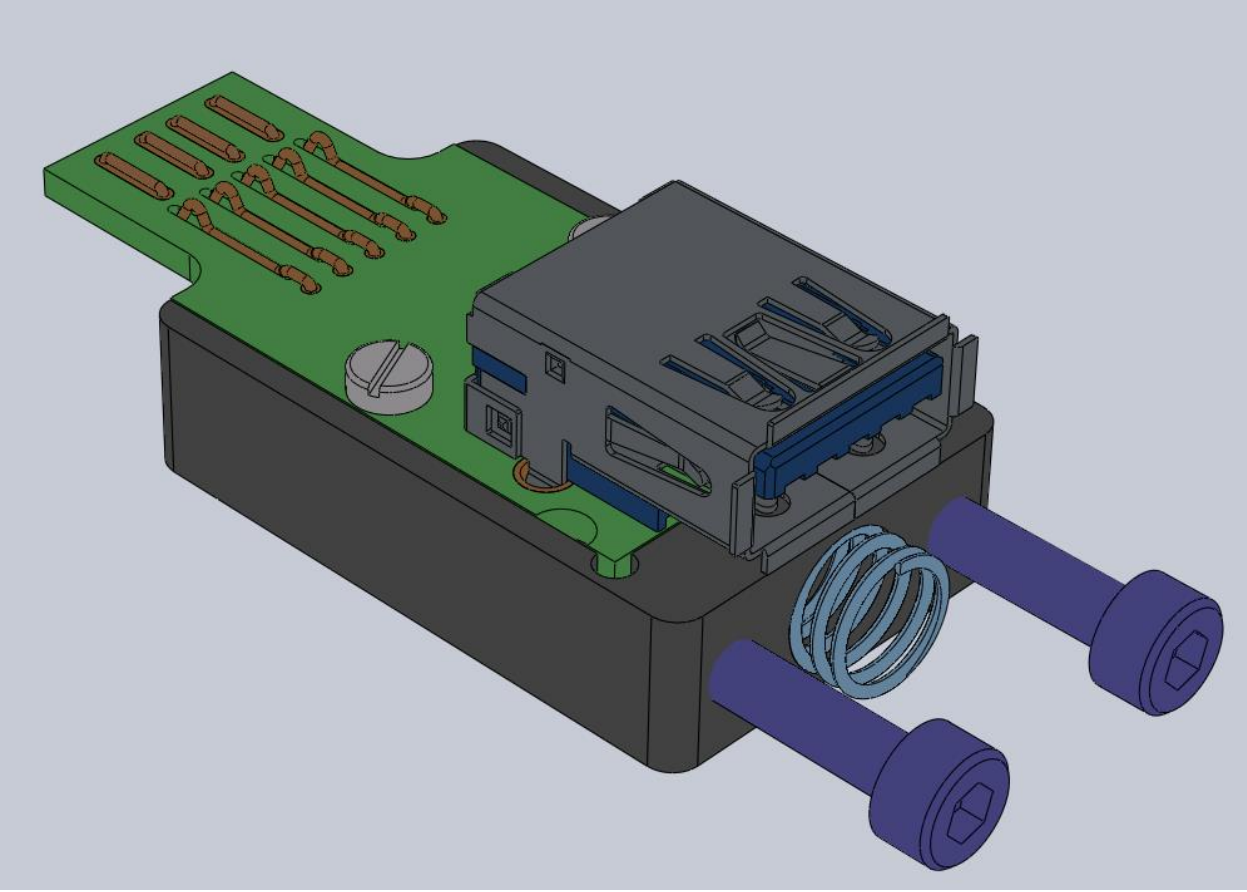

Contactor from INGUN with USB 3.0 Input