PRESS RELEASE / NEW PRODUCT INFORMATION 8-27-2013

Cincinnati, Ohio (Aug 29, 2013) – R E Smith Inc. has introduced the new Model SMFCOMX, Fiber Optic Distributed Communications Platform, to their current product line. The SMFCOMX and associated interface modules, can provide a transparent interface solution, for point-to-point or large distributed Fiber Optic "backbone" serial applications. The exceptional flexibility incorporated into this "communications system," takes full advantage of the superior characteristics of both fiber optics, and conventional "copper based" serial communications, and can be used in many commercial, industrial, and consumer applications. The fiber optics have superior noise immunity, distance, and speed characteristics, while the "copper" allows the convenience of easy wiring and connections to user serial devices.

OVERVIEW:

Model SMFCOMX – Single-mode, Multi-mode Fiber Optic Converter/Repeater Platform with "copper tap point" and multiple interface options, for distributed serial communications systems, using RS485, RS232(3-wire), USB, or TTL/CMOS, at data rates up to 921.6Kbps, with 20+ configurations available. This product is a "true distributed multi-port repeater system," with galvanic isolation, that can be utilized, to form small or very large, bi-directional distribution networks, to remote or local serial devices. Half-duplex systems are the easiest to implement, and with an external converter low speed Ethernet data (up to 921.6Kbps) can be accommodated, with minor limitations. The SMFCOMX is an important "building block tool," for implementing robust, galvanically isolated, high-speed, bi-directional, data distribution networks, with high noise immunity, for 2 nodes up to several thousand nodes. Input data on one port is available for output on all other ports on the data highway.

PRODUCT FEATURES:

- Standard/nonstandard data rates up to 921.6Kbps with virtually any CommSpec(start, data, parity, stop bits) that is only limited by external UARTs, USB, etc.

- One fiber for single-mode modules(type A & B) with SC or LC connectors for distances up to 12 miles. Duplex fiber for multi-mode modules with ST connectors for distances up to 0.62 miles (1.0Km). No attenuators required for short distances.

- Factory system design assistance for small and large systems

- The main board is a platform with a single user serial interface socket "X" and two fiber optic sockets "Y" & "Z"

- The serial interface socket "X" accepts RS485, RS232(3-wire), USB and TTL/CMOS modules

- The two fiber interface sockets "Y" & "X" accept single-mode or multi-mode fiber modules

- Units can be easily cascaded to form very large networks ("Flexible/transparent communications glue")

- LED indicators for each module show Power(YEL), TXD(RED) activity, RXD(GRN) activity, and a "Connect"(GRN) indicator for single-mode modules

- Efficient switching regulator for 9-35VDC operation with 5 Watts maximum dissipation for full configuration implementations

- Operating temperature range: -40C to 85C

- Relative humidity 10% to 90% non-condensing

- Optional enclosure and conformal coated units available

CONFIGURATIONS:

- RS485, RS232(3-wire), TTL/CMOS Modules have 2.0KV Galvanic Isolation

- Single-mode fiber ⇔ RS485, RS232(3-wire), USB, TTL/CMOS

- Multi-mode fiber ⇔ RS485, RS232(3-wire), USB, TTL/CMOS

- Single-mode fiber ⇔ Single-mode fiber repeater/extender

- **Multi-mode fiber ⇔ Multi-mode fiber repeater/extender**

- **Single-mode fiber ⇔ Multi-mode fiber repeater/converter**

- **Any repeater configuration ⇔ RS485, RS232(3-wire), USB, TTL/CMOS "Tap point"**

- **Over 20 configurations as a converter, and/or repeater, with or without a "tap point"**

- **All configurations will operate in a half-duplex mode and several implementations can full-duplex mode**

PRODUCT DESCRIPTION:

The SMFCOMX provides transparent conversion between fiber optic devices and traditional "copper" serial communication interfaces. This flexible "building block" was designed to solve problems in a large variety of industrial, commercial, and consumer applications, and can be used in conjunction with a wide variety of additional communications products available from R E Smith Inc. The fiber optic repeater section will regenerate signal strength, and can be used to extend operating distances while maintaining the ability to interchange between single-mode and multi-mode fiber at will. Each repeater node in a network can have a "tap point" for an easy interface to distributed serial devices. Single master, multi-master or token ring operation, can be implemented by user software using any asynchronous protocol. The SMFCOMX can be viewed as magic and transparent "communications glue" that does NOT require any configuration for data rate(Baud) or commspec(start, data, parity, stop bits) selected by the user. Onboard jumpers are limited to configuring the hardware for the "X copper interface module" operation for bias, termination and transient protection. No handshaking is required or implemented.

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A transformer is the most widespread example of galvanic isolation.

Galvanic isolation is a principle of isolating functional sections of electrical systems to prevent current flow; no direct conduction path is permitted. Energy or information can still be exchanged between the sections by other means, such as capacitance, induction or electromagnetic waves, or by optical, acoustic or mechanical means.

Galvanic isolation is used where two or more electric circuits must communicate, but their grounds may be at different potentials. It is an effective method of breaking ground loops by preventing unwanted current from flowing between two units sharing a ground conductor. Galvanic isolation is also used for safety, preventing accidental current from reaching ground through a person's body.