+ Communication port pass-through functionality

How It Works

Sensia is building a reputation on smart measurement technology that is easy to install and operate. With the launch of the Scanner* 3100 flow computer, the company offers the oil and gas industry the first true wireless electronic flow measurement (EFM) solution.

The Scanner 3100 flow computer combines four devices in one: a flow computer, a controller, a network manager, and, critically, a remote terminal unit (RTU). It is the RTU functionality that provides an inherent ability, through data tunnelling, to deliver remote connectivity to devices previously accessible only through costly site visits.

In a classic installation, a host office location is connected to the Scanner 3100 flow computer, which, in turn, is connected to many field automation devices. The information that the Scanner 3100 flow computer gathers and transmits enables a diverse variety of measurement and control functions, the results of which are communicated to the host office.

Today's smart field automation devices are often equipped with a serial port and special software that allow the user to access important diagnostic information, configure the device, and acquire valuable supplementary process data. Conventionally, performing these interactions required a site visit. But it is now possible to use the Scanner 3100 flow computer in a port pass-through mode to create serial communication between the host office and a field device. Essentially, the user can remotely direct the Scanner 3100 flow computer to make a permanent or temporary virtual connection between any two communication ports. This enables the Scanner 3100 flow computer port pass-through functionality to effectively interrupt routine communications to allow for a special communication session.

Because there are five communication ports on a Scanner 3100 flow computer, it is possible to utilize any port format to connect to any other port format, e.g., an Ethernet port can connect to an RS-232 port, an -485 port, or another Ethernet port. Moreover, multiple port pass-throughs can occur simultaneously using separate ports.

The port pass-through feature is designed to function without limitation to field device brands and communication protocols. As an example, a Scanner 2000 flow computer is being referenced herein. A Scanner 2000 flow computer connected by the RS-485 port to the Scanner 3100 flow computer can be fully reconfigured without requiring a field visit.

Functionality

1. The user logs into the Scanner 3100 flow computer remotely and configures the pass-through. This associates the host to the port with the Scanner 2000 flow computer on it, thereby interrupting communications while in pass-through mode. If there are several multi dropped Scanner 2000 flow computers on that RS-485 port, all the communications will be interrupted.
2. Next, the user at the remote PC host location changes to a different software application supplied by the manufacturer of the field device. In the case that the field device was another Sensia product and the user wanted to upgrade the configuration, Sensia ModWorx Pro software would be used.
3. When the configuration tasks are complete, the port pass-through is deactivated and normal communication resumes. Should the user forget to revert the port setting to the standard task, a defined inactivity setting will deactivate the port pass-through automatically.

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