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**GENERAL LETTER GL19 145
 Smart Mesh Wireless and Additional I/O
 Upgrade paths for Scanner 2000 Series Flow Computers**

The Scanner 2000 series offers a strong business case when used as a chart recorder alternative. The opportunity to imbedded low powered Smart Mesh wireless communication to facilitate automatic data collection business can drive a second very compelling business case. This document describes the wireless alternatives and upgrade considerations for the Scanner 2000 Series.

Scanner 2100

The Scanner 2100 is a Scanner 2000 in a larger enclosure. The 2100 should be chosen over the model 2000 in the following circumstances:

1. Where there is future interest to incorporate the Smart Mesh wireless capability. Wireless capability is not possible for the model 2000 as the enclosure is too small.

To upgrade a model 2100 to include wireless requires the following parts; they are easy to install in the field:

Part Number	Description
50279728	Smart Mesh wireless board. Plugs in to the back of the 2000 main board.
76533628	A coupler that is similar to a conduit seal that creates the transition of the explosion-proof housing to the intrinsically safe rating of the antenna. Occupies one of the upper 3/4" NPT conduit ports. Incorporates an antenna coax cable for inside the housing. A type "N" coaxial connection is on the exterior of the coupler
2350869-01	Short antenna, attaches to the coupler. Remote mount antennas and cables are also available to obtain line-of-sight to another Smart Mesh equipped Scanner.
9A-30099004	Single use lithium long-life battery. The 2100 can house two of these. They may be already in place.

Currently a firmware upgrade is not needed. If in the future new firmware is required, a special PC-to-Scanner interface tool can be rented or purchased to flash new firmware. There is no cost to the firmware itself.

2. Where a wireless capability is not contemplated but installation of an input and output (I/O) expansion board is. While I/O expansion is available in the model 2000, the 2100 features four ¾" conduit ports and more space inside the enclosure for ease of wiring.

The I/O board can be easily added in the field.

Scanner 2105

The 2105 features all new circuitry but the user interface is identical to the other Scanner 2000 series models. The 2105 should be chosen over the other Scanner 2000 models in the following circumstances:

1. Where rechargeable sealed lead acid batteries with or without integral solar charge controllers. The use of long-life lithium single use batteries is an alternative.
2. Where a loop powered flow computer would be ideal.
3. Where Smart Mesh wireless is contemplated together with or without two 1-5 V inputs and a second pulse or frequency input. An analog output is standard. The inputs can be powered from the solar-charged battery.

Scanner 2000

The model Scanner 2000 cannot house wireless technologies. If Smart Mesh wireless is desired for an existing Scanner 2000 it would have to be upgraded to a model 2100 at the factory. In this process the MVT and circuitry would be harvested and installed in a new housing and given a new model number. The practicality of this process is influenced by the age and condition of the unit, the cost related to having the unit out of service, quantity to be upgraded and shipping cost.

The model Scanner 2000 is frequently coupled to externally housed and powered communication technologies.

Scanner 2200

The Scanner 2200 is a Division 2 certified device that can house and power a wide range of communication technologies other than Smart Mesh.

Yours truly,
Cameron, a Schlumberger company

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