

Scanivalve

DSA[®]3200 Series and DSA[®]3200-PTP Series

White Paper

Overview

The DSA3000 series pressure scanner has been popular throughout pressure scanning applications since its original release in 1995. The new features of the DSA3200-PTP series scanners include:

- IEEE 1588-2008 v2 PTP compatible
- Drop in replacement feature for legacy DSA scanners
- Improved scan rate (now up to 850Hz)
- Improved method to modify IP address
- New 100Base-T Ethernet cable for DSA3218/3207/3307-PTP scanners
- Legacy compatible Serial/Trigger and Power cables
- User-friendly firmware and coefficient update procedure



DSA3217-PTP/16Px (shown above)



DSA3200 (DSA3218 shown)

- Maximum scan rate: 500Hz
- Available in differential, absolute, dual-range, true differential, and individual reference.
- Requires serial connection to change IP
- Is **not** IEEE 1588-2008 v2 PTP compatible
- DSA3218/3207/3307 utilizes Mil-Spec style 10Base-T Ethernet connector
- Firmware and coefficient upload through software

DSA-PTP (DSA3218-PTP shown)

- Maximum scan rate: 850Hz
- Available in differential, absolute, dual-range, true differential, and individual reference
- IP address change through serial or Ethernet
- IEEE 1588-2008 v2 PTP compatible
- DSA3218/3207/3307-PTP utilizes an M-12 style 100Base-T Ethernet connector
- Firmware and coefficient upload via FTP
- Compatible with Legacy DSA3200 scanners

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DSA® Comparisons

DSA3200-PTP Series Upgrades

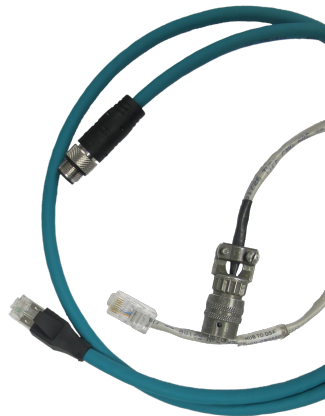
Replacing a Legacy

The DSA3200-PTP series was developed to provide users with a drop in replacement for the legacy DSA3200 series scanners. The size, shape, and durability was maintained from the DSA3200 series, but with more advanced functionality. If a user is required to upgrade to the new DSA-PTP scanner, replacing the legacy scanner would allow for a simple replacement process.

The most important external change made to the DSA-PTP line of scanners is the Ethernet connection on the DSA3218/3207/3307-PTP scanners. The connector for these DSA-PTP scanners is a D Code M-12 connector rated for 100Base-T Ethernet communication to allow for the new PTP functionality. The legacy Mil-spec style connector on the legacy DSA's are only rated for 10Base-T. In the event that you would like to replace a legacy DSA3218 with a new PTP version, we do offer an adapter cable (PN: 156120-01) which will allow you to connect the Mil-spec style connector to the M-12 connector. The DSA3217-PTP is still manufactured with an RJ45 Ethernet port to allow for a standard Ethernet RJ45 cable.



New Ethernet Cable
Blue - New D Code M-12
Grey - legacy Bendix



New Ethernet connector (DSA3218-PTP shown)

Precision Time Protocol Features

Integrating Precision Time Protocol (IEEE 1588-2008v2) into our scanners has given the DSA line of scanners a robust technological upgrade. In applications with multiple scanners and equipment, it is often desired that all instrumentation is working to gather and transfer data at the same time. PTP allows communications to be synchronized with very high precision.

This process is achieved in a master-slave hierarchy system. For example: a grandmaster clock will send out sync commands to all slave devices. These commands are time and date stamped. This allows all slave devices to read

the time and date stamp and offset their own internal clock to achieve synchrony with the grandmaster. Alternatively, a single DSA-PTP scanner can be programmatically configured to act as a PTP master. This will allow other Scanivalve PTP scanners to be programmed as slaves without the use of a grandmaster clock. Other compatible scanners include the MPS4264, DTS4050, and DSM4000. The PTP communication's settings in the scanner can be accessed using a **LIST PTP** command.

Software Upgrades

Like the DSA-PTP's predecessor, the DSA3200-PTP scanners will communicate with the host computer by the same means: Serial and Ethernet connection. While the DSA-PTP is meant to primarily communicate over Ethernet, a serial connection is still available to access the DSA-PTP through the "back door". This allows an alternative connection to change boot parameters, scan settings, and access other information.

An improved feature of the DSA-PTP is the ease of changing boot parameters. With the DSA-PTP, you will no longer have to interrupt the boot process to access the boot parameters. When connected to a DSA-PTP with a serial cable, the boot parameters are accessible at anytime after the scanner has booted.

New Configuration Methods

Configuring the DSA-PTP scanner's IP address can now be achieved using either a serial or Ethernet connection. When connected via Ethernet, the scanner will now include a **LIST IP** variable set in order to change the IP settings of the scanner without having to access this configuration via serial connection.

This new upgrade has also integrated FTP file transfer into the DSA-PTP software. This provides a user-friendly procedure to upload new coefficient files, along with updating the firmware on the DSA-PTP. Now, you can simply drag-and-drop these files onto the DSA-PTP memory.

Software Packages

Communications can be made through several software packages including:

- PC - TCP/IP
- PC - UDP
- PC - FTP
- PC - ScanTel (Scanivalve PN: 155406-01)
- PC - LabVIEW Configuration Utility (Scanivalve

PN: 155384-01)

• PC - LabVIEW Development Kit (Scanivalve PN: 155385-01)

- PC- DSALink4
- PC - OPC Server
- PC - Windows HyperTerminal®