

DATE: August 24, 2012

SUBJECT: ESV with EM Digital Driver System

Woodward recognizes that excellent and long term product support is critical to customers in our compressor, steam turbine and gas turbine markets. Woodward continues to invest heavily in product lines for these markets to ensure our market success and longevity. As long as our customers are buying significant quantities of any product line, they will continue to be fully supported.

Woodward has a long and successful track record of keeping product lines available for 10-15 years and longer, even though many of the original electronic components have gone obsolete in that same time period. In many cases we introduce new models with additional functionality to extend the life of a product line. In other cases we invest in inventory of obsolete parts or minor product redesigns to use alternate components.

There are times when Woodward will eliminate certain product line part numbers. This may be due to the availability of higher performance alternatives, or simple unavailability of electronic components. In these situations, Woodward supports its customers with either direct replacements or functional replacements.

- Direct replacements drop into older systems with no modifications.
- Functional replacements offer similar functionality but may require additional modifications such as software updates or replacement of additional modules.

When a product is "Rationalized" (end of life for new applications) with no direct replacement, Woodward provides an extended support plan for its customers. Typically Woodward announces the Rationalization a year in advance to give time to design the new component into new applications. Upon this notification, the following support plan will be followed:

- Years 0-1 = Unlimited product line sales, spare units, related components/modules, and repairs
- Years 1-5 = Unlimited spare units, related components/modules, and repairs
- Years 5-10 = Limited repairs based on parts availability, product Replacement/Exchange with available service stock units

Due to the nature of electronic components, Woodward is often notified of last time buys for various components. Woodward strives to hold inventory or find alternative parts when electronic components are discontinued. However, there are times when components can simply not be obtained and where sufficient last-time buys cannot be made. In these cases, Woodward cannot always guarantee the rationalization support plan.

Woodward's EM Digital Driver and ESV (Electric Sonic Valve) System have experienced a limited market success since its introduction in 2002. In 2005, Woodward offered an improved version of this metering system in the LESV and DVP combination. This 2nd generation electrically actuated SonicFlo valve and driver combination offers increased performance as well as an expanded valve offering from 2" through 6" sizes.

While Woodward strives to offer our customers extended product support for older generation products, we are sometimes limited by availability of components. In this case, both the driver and valve have fallen out of general production and in to a product support part of their life cycles.

EM Digital Driver Support Plan -

Woodward introduced the next generation driver, the Digital Valve Positioner (DVP) in 2005 to support new communications options and to control higher voltage electric actuators. Since June 2010, Woodward has released additional DVP configurations to support the preferred actuators/valves previously supported by the EM Digital Driver. The EM140 Actuators are one of the last remaining products to be qualified with the DVP Driver. Once this final qualification occurs, the EM Digital Drivers will be inactivated and not subject for new sales.

The transition from EM Digital Driver to DVP Driver in new turbine OEM packages is straightforward in most situations. DVP Driver information can be found in product specification 03376, or by contacting your account manager. The DVP Driver requires no changes to the supported valves themselves. Gas Turbine packagers currently utilizing the EM Digital Driver in their packages should plan the transition to the DVP Driver to meet these dates.

The transition from the EM Digital Driver to DVP in existing applications should be evaluated carefully to verify that the interface from the control system to the DVP is not affected. There are differences in communication options between the driver platforms. DVP Driver information can be found in product specification 03376, or by contacting your account manager.

Woodward understands the EM Digital Drivers are used in critical turbine packages and will support these field units with spares and repairs for an extended period. Although some electronic components of the EM Digital Driver are no longer available from the component manufacturers, Woodward holds inventory of these components to support the fielded units.

The support plan for the EM Digital Driver is set based on the expected transition to DVP and demand for spares.

- Through 2013 = Spare items available for last time buy*. Repairs (based upon available parts)
- 2014 – 2022 = Repairs (based upon available parts)
- 2023 – 2032 = Replacement/Exchange with Service Stock if available

For reference, the transition from EM Digital Drivers to DVP will primarily affect the following EM Digital Driver designations:

| WG Part Number | Description | Primary Usage |
|----------------|---|--|
| 8200-177 | EM Digital Driver, Single Feedback | EM35MR/3103 Gas Valves, EML100/3151A Water Valves EM35MR/3171 Gas Valves |
| 8200-176 | EM Digital Driver, Dual Feedback | EM35MR/3103 Dual Resolver Gas Valves EM35MR/3171 Gas Valves |
| 8200-314 | LQ Digital Driver, Dual/Single Feedback | LQ25, LQ25T, LQ25BP Liquid Valves |
| 8200-169 | EM Digital Driver (120 VDC) | EM140 Actuators Electronic Sonic Valves (ESV) |

NOTE - This announcement does not affect the older drivers previously rationalized (e.g., EM35 Digital Driver, EM35 Analog Drivers). Separate support statements are available for these products.

NOTE - The GS/LQ Driver (9907-135) has already been inactivated and replaced with the DVP for those applications.

Electric Sonic Valve (ESV) Support Plan –

In 2005, Woodward developed the 2nd generation SonicFlo gas metering valve family (LESV) to replace the ESV's. While the ESV's were only 2" and 3" valves, the new generation product is higher performance with extended valve sizes from 2" through 6" to cover a wider variety of applications. The LESV uses a similar valve body as the ESV's however, the actuator is larger and capable of operating the larger valve sizes. LESV also utilizes the newer DVP driver/positioner. Manual 26419 provides information on the LESV product line.

In 2008, a support letter was released by Woodward stating that the ESV product had entered a support phase and was no longer available for new applications. Customers with ESV valves will be supported as described below. Alternatively, the LESV may be applied as an upgrade for the ESV. Please verify valve dimensions and DVP interface options as part of the upgrade process to determine the appropriate scope of work.

To further meet our customer's needs, Woodward is offering the following adjustments to the support plan for the ESV.

| | |
|--------------|---|
| Through 2013 | = Spare items available for last time buy*. Repairs and Overhauls |
| 2014 – 2022 | = Repairs and Overhauls (based upon available parts) |
| 2023 – 2032 | = Replacement/Exchange with Service Stock if available |

*NOTE – Any new assembly shipped as a spare item will not have the following Hazardous Location Listings:

LCIE 02 ATEX 6154X - Zone 1, Category 2, Group IIG EEx d IIB T3

Affected part numbers:

The item numbers affected by this statement include any valves utilizing the 1328-1022, 1328-1023 or 1328-1005 actuators. These assemblies include the following designations:

| | |
|----------|----------|
| 9904-538 | 9904-760 |
| 9904-553 | 9904-761 |
| 9904-720 | 9904-762 |
| 9904-721 | 9904-763 |
| 9904-722 | 9904-850 |
| 9904-723 | 9904-951 |
| 9904-752 | 9904-952 |
| 9904-758 | 9904-953 |
| 9904-759 | |

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