

April 29, 2005

SUBJECT: DSM Digital Speed Matching Synchronizer Product Support plan

The DSM digital speed matching synchronizer product line has been very important to Woodward. However, due to the lack of obtainable components and the successful introduction of the SPM-D digital synchronizer line, Woodward is announcing a phase-out of production of all DSM products. Woodward will continue to offer service and repair support for the long term.

For new or replacement digital synchronizer applications, please refer to the matrix below to understand how the SPM-D synchronizer can be applied in place of the DSM synchronizer. With increased functionality, improved synchronization and a lower list price, the SPM-D synchronizer is an outstanding alternative to the DSM synchronizer in most applications. For details or related application questions, please contact Woodward or one of Woodward's independent sales and service channel organizations located worldwide.

Keeping in mind that Woodward marked DSM products a "non-preferred" item several years ago and most customers have migrated to the SPM-D synchronizer for new projects, Woodward will continue to accept orders for spare or replacement units from now until June 30, 2006. However, the DSM list price will increase on July 1, 2005 to \$5500.

For long-term support, Woodward will provide repair services and replacement exchange units according to the following schedule:

Now through June 30, 2011:

- Repairs based on parts availability
- Replacement Exchange from available Woodward Service Stock

July 1, 2011 through June 30, 2021:

- Replacement Exchange from available Woodward Service Stock

Parts obsolescence from electronic manufacturers can present a challenge to these post-life support plans. Woodward strives to hold inventory or look for alternative parts when components become obsolete. However, there are times when components simply can not be obtained and where sufficient last-time buys can not be made. In these cases, Woodward can not always guarantee that we can maintain the product support plan.

Regards,

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SPM-D as a DSM Replacement

	DSM	SPM-D
	Digital Speed Matching Synchronizer 9905-204, small synch window 9905-346, large synch window Plus related items 8239-069; 9905-203; 9905-347; 9906-125; 9906-126	Digital Synchronizing Unit 8440-1434: SPM-D1010B/NYB SPM-D synchronizers are available in a wide variety of configurations. Please consult Woodward or one of Woodward's Independent Sales and Service organizations for details.
Description	Single-phase, slip-frequency, digital synchronizing with optional voltage matching functionality.	Three-phase, slip-frequency, digital synchronizing, with voltage matching and expanded dead-bus functionality. Suitable for generator or mains synchronization. Class 1 accuracy.
Control outputs	<ul style="list-style-type: none"> • Frequency raise and lower • Voltage raise and lower (opt.) • Breaker close command 	<ul style="list-style-type: none"> • Frequency raise and lower • Voltage raise and lower • Breaker close command
Modes	<ul style="list-style-type: none"> • Run (control V and f, send breaker close command when synched) • Check (control V and f, but no breaker close command) • Permissive (breaker relay closes if synched, but no V or f control) • Off (monitor only) 	Functions very similar to Run, Check, Permissive, and Off functionality: <ul style="list-style-type: none"> • Automatic Run (control V and f, send breaker close command when synched) • Automatic No-Load (control V and f if breaker is open, and no close breaker if "Enable" input is open) • Synch-check (breaker relay closes if synched, but no V or f control) • Dead Bus (or "Black Start") (control V and f, even if bus voltage is zero, no breaker closure) • Off
Display	<ul style="list-style-type: none"> • Three LED lights – synchronized, voltage matched, operational 	<ul style="list-style-type: none"> • LCD numerical display of voltages and frequencies, phase angles • Synchroscope LED display • Four status LED indicators • Four raise/lower LED indicators • Input keys
Configuration	<ul style="list-style-type: none"> • DIP switch settings 	<ul style="list-style-type: none"> • PC software
Other notable features	<ul style="list-style-type: none"> • Phase and voltage offset potentiometers to adjust for differences in bus and generator PTs 	<ul style="list-style-type: none"> • Breaker status inputs (CB open and enable CB) • Dead bus operation • Synchronization time monitoring • Password-protected configuration • Readiness relay output • Relay output for two-channel relay control • Suitable for power station slip synchronization with multiple dead bus

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Mounting	<ul style="list-style-type: none"> • Back panel mount 	<ul style="list-style-type: none"> • Front panel [B] or • DIN-rail rear panel [M] with optional brackets 8923-1023
Power Supply	<ul style="list-style-type: none"> • 115 or 230 Vac 	<ul style="list-style-type: none"> • Wide range supply (N option) 90-265 Vac or Vdc • 24Vdc supply available as item 5448-906.
Dimensions H x W X D	210.4 x 314.6 x 55.6 mm	72 x 179 x 167 mm (inc. DIN mount)
Customer Publications	Manual 85100	Manual 37134 Product spec 37298
Compliance	UL-listed	CE marked 24Vdc version is UL/cUL listed
Price	US\$4000 list through June 30, 2005 US\$5500 list through June 30, 2006	US\$1881 list