

Notice about replacing SVD (or LSD) with SVF

Dec. 9, 2015

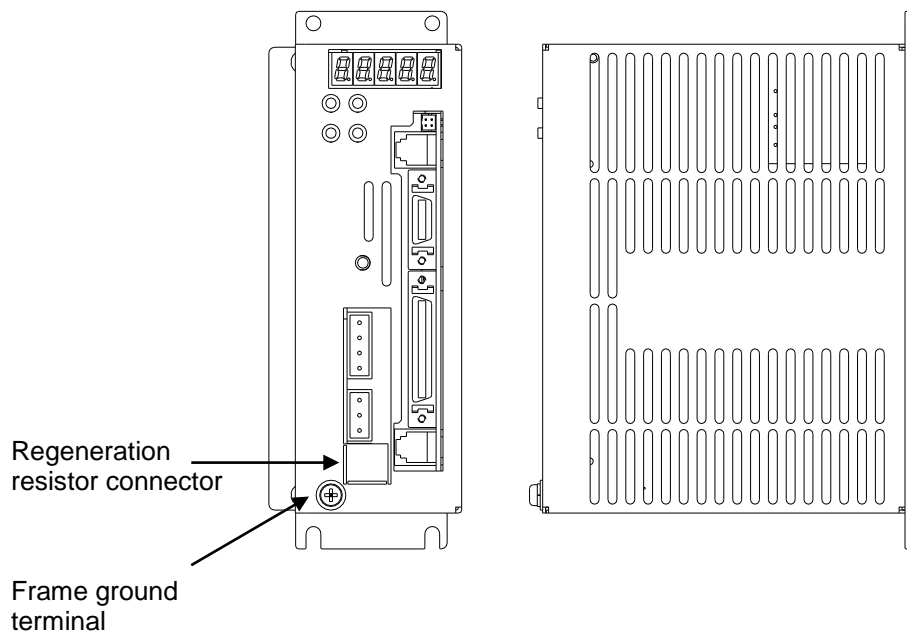
Although SVF series have many improved, developed functions, what described in this document is limited to the contents which can be a problem when replacing.

Item	No.	Content															
Mounting dimension	1	<p>Mounting dimensions of SVDH10, 20, 40 are not changed.</p> <p>Other models have been drastically downsized.</p> <p>For more details, please refer to the reference manual.</p>															
Parameter	2	<p>If parameters are set up properly for a target motor, it is not necessary for a user to change it.</p> <p>Following are parameters which need attention, and please refer to the reference manual for all other parameters.</p> <p>Setting for linear type motors has become simple.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">#0</td><td style="text-align: center;">Resolution</td><td> <p>For linear motors:</p> <p>Number of pulse before multiplication per pole installation range of linear type motor</p> </td></tr> <tr> <td style="text-align: center;">#1</td><td style="text-align: center;">Reference length</td><td> <p>For linear motors:</p> <p>The length equivalent to the parameter #0</p> </td></tr> <tr> <td style="text-align: center;">#2</td><td style="text-align: center;">Number of poles</td><td> <p>For linear motors:</p> <p>Number of poles in the length of #1</p> </td></tr> <tr> <td style="text-align: center;">#19</td><td style="text-align: center;">Acceleration loop gain</td><td> <p>Coefficient has been changed.</p> <p>For rotary motors:</p> <p>SVF-X: 1/2</p> <p>SVF-DSP: 1/6</p> <p>For linear motors, when #38 is 4 for SVD:</p> <p>SVF-X: 1/4</p> <p>SVF-DSP: 1/16</p> <p>Negative input value is treated as a fraction like:</p> <p>-10=1/10</p> </td></tr> <tr> <td style="text-align: center;">#38</td><td style="text-align: center;">Motor type</td><td> <p>For linear motors:</p> <p>102: Linear type AC motor</p> </td></tr> </table>	#0	Resolution	<p>For linear motors:</p> <p>Number of pulse before multiplication per pole installation range of linear type motor</p>	#1	Reference length	<p>For linear motors:</p> <p>The length equivalent to the parameter #0</p>	#2	Number of poles	<p>For linear motors:</p> <p>Number of poles in the length of #1</p>	#19	Acceleration loop gain	<p>Coefficient has been changed.</p> <p>For rotary motors:</p> <p>SVF-X: 1/2</p> <p>SVF-DSP: 1/6</p> <p>For linear motors, when #38 is 4 for SVD:</p> <p>SVF-X: 1/4</p> <p>SVF-DSP: 1/16</p> <p>Negative input value is treated as a fraction like:</p> <p>-10=1/10</p>	#38	Motor type	<p>For linear motors:</p> <p>102: Linear type AC motor</p>
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		#64 ~#66	Current control gain	Parameters which have not been contained in SVD need to be set before adjusting #19. They can be tuned automatically or manually, depending on ten's digit of #32.
		#69	Excessive error setting	Sets the amount of positioning error activating the excessive error alarm.
		#84	Pulse filter	Applies a filter to the encoder and command pulse.
DI / DO (CN11)	3	Inputs and outputs are isolated with photo-couplers. External voltage source is required for signals. For TTL (5V) inputs, additional diodes are need to be attached on PCB (*NIS option is required) and SW8 should be changed.		
	4	Encoder branch output is sent via pin 41 to 46 as differential output.		
	5	There is no hardware filter (CR) for reference pulse input (pin 7 to 11). Software filter can be set by #84		
	6	Differential input is standard of reference pulse (pin 7 to 11). TTL (5V) input can be selected with SW 2, 3 and 7 as well.		
Encoder (CN12)	7	Branch output of scale via pin 15 to 20 have been abolished, and CN11 is used instead.		
	8	TTL input is not standard. TTL (5V) or open collector input can be selected with SW 5 and 6.		
	9	There is no hardware filter (CR) for scale pulse. Software filter can be selected by #84.		
	10	5V supply via pin 13 and 14 is now limited to 0.3A strictly.		
Regeneration terminal	11	External regeneration unit is a mere resistor. Although SVDH 10, 20 and 40 have regeneration terminals A1 and A2, a regeneration unit for SVD cannot be utilized for SVF.		
FG terminal	12	Not only SVFH 10, 20 and 40 but other models have FG terminal directly to the frame.		
Analog monitor (CN10)	13	For non-DSP model, a cable for this function is an option. External monitor board is not required. It has two channels of 0 to 5V output (not +/-10V).		
7 segment LED	14	Displayed with 5 digits.		
Varistor	15	All models have varistors (470V) between FG and line.		
External IO	16	SVF has no option board for extending DIDO ports of CN11 such as 8I8O(H) or 16I16O(H).		

		<p>DIDO ports of SVD is TTL type and not isolated with photo-coupler, but standard DIDO ports of SVF is isolated. Therefore if the external board is used for isolation of DIDO ports, it is not required any more. (As shown in number 3 of this chart)</p> <p>If more DIDO ports are required, SVF has 16I8O option to extend DIDO ports.</p>
Mailbox HMB	17	<p>HMB option which enables to execute a custom program is available as HMB2 option which has been advanced for SVF.</p> <p>Although HMB2 is compatible with HMB, difference of processing speed between those models may cause incompatibility.</p> <p>Please check the operation when an old program is copied to SVF.</p>



SVF (Single phase type) external view