**LIST OF SYMBOLS**

The symbols used in the text have been defined at appropriate places. However, for easy references a list of some principal symbols used is provided here.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Definition</th>
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<tr>
<td>$\xi$</td>
<td>Control parameter in SSSC Controller</td>
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<td>$\alpha$</td>
<td>Firing angle</td>
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<tr>
<td>$V_q$</td>
<td>SSSC injected voltage</td>
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<tr>
<td>$V_{cnv}$</td>
<td>Converter output voltage</td>
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<td>$V_T$</td>
<td>Generator terminal voltage</td>
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<td>$V_B$</td>
<td>Infinite-bus voltage</td>
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<td>$\delta$</td>
<td>Generator rotor power angle</td>
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<tr>
<td>$\omega_r$</td>
<td>Rotor angular velocity</td>
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<td>$\theta$</td>
<td>Rotor angular position</td>
</tr>
<tr>
<td>$p_m$</td>
<td>Generator mechanical power input</td>
</tr>
<tr>
<td>$P_e$</td>
<td>Generator electrical power output</td>
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<td>$J$</td>
<td>Generator inertia</td>
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<td>$F$</td>
<td>Friction of rotor</td>
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<td>$P_a$</td>
<td>Generator accelerating power</td>
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<td>$V_{ref}$</td>
<td>Reference voltage</td>
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<td>$V_S$</td>
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<td>Current</td>
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<td>DC voltage source of converter</td>
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<td>$p_L$</td>
<td>Real power flow in the transmission line</td>
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<tr>
<td>$R_S$</td>
<td>Stator resistance</td>
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<td>$R'<em>{kd}, R'</em>{kq}$</td>
<td>d-axis and q-axis damper winding resistances</td>
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<td>$L_{md}, L_{mq}$</td>
<td>d-axis and q-axis magnetizing inductances</td>
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<tr>
<td>$L_d, L_q$</td>
<td>d-axis and q-axis stator inductances</td>
</tr>
</tbody>
</table>
\( i_{d}, i_{q} \) \( d \)-axis and q-axis component current

\( V'_{fd}, V'_{kd} \) d-axis field and damper winding voltages

\( i'_{fd}, i'_{kd} \) d-axis field and damper winding currents

\( V_d, V_q \) d-axis stator voltage and q-axis stator voltage

\( \varphi'_{fd}, \varphi'_{kd} \) d-axis field and damper winding fluxes

\( L'_{fd}, L'_{kd} \) d-axis field and damper winding inductances

\( \varphi_q, \varphi_d \) Stator q-axis and d-axis fluxes

\( R'_{fd} \) d-axis field winding resistance

\( i'_{kq} \) q-axis damper current

\( \varphi_{kq} \) q-axis damper winding fluxes

\( L'_{kq} \) q-axis damper winding inductance

\( \tau \) transport delay of transmission line

\( V_{dcm}, V_{qcnv} \) d-axis and q-axis components of converter voltage