# NOMENCLATURE AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Expansion</th>
</tr>
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<tbody>
<tr>
<td>AC/ac</td>
<td>Alternating Current</td>
</tr>
<tr>
<td>ADC</td>
<td>Analog to Digital Converter</td>
</tr>
<tr>
<td>ASD</td>
<td>Adjustable Speed Drive</td>
</tr>
<tr>
<td>BJT</td>
<td>Bipolar Junction Transistor</td>
</tr>
<tr>
<td>CM</td>
<td>Common Mode</td>
</tr>
<tr>
<td>$C_{snub}$</td>
<td>Snubber capacitance</td>
</tr>
<tr>
<td>CT</td>
<td>Current transformer</td>
</tr>
<tr>
<td>d</td>
<td>Direct axis</td>
</tr>
<tr>
<td>DC/dc</td>
<td>Direct Current</td>
</tr>
<tr>
<td>dB$\mu$V</td>
<td>$20\log_{10}\mu$V (Decibel Micro-volts)</td>
</tr>
<tr>
<td>dBV</td>
<td>$20\log_{10}$V (Decibel volts)</td>
</tr>
<tr>
<td>$d^c$-$q^c$</td>
<td>Rotating reference frame variables(2 phase)</td>
</tr>
<tr>
<td>DM</td>
<td>Differential Mode</td>
</tr>
<tr>
<td>DSO</td>
<td>Digital storage oscilloscope</td>
</tr>
<tr>
<td>DSP</td>
<td>Digital signal processing</td>
</tr>
<tr>
<td>$d^s$-$q^s$</td>
<td>Stationary reference frame variables(2-phase)</td>
</tr>
<tr>
<td>EMC</td>
<td>Electromagnetic Compatibility</td>
</tr>
<tr>
<td>EMI</td>
<td>Electromagnetic Interference</td>
</tr>
<tr>
<td>EUT</td>
<td>Equipment Under Test</td>
</tr>
<tr>
<td>$f_0$</td>
<td>Fundamental output frequency</td>
</tr>
</tbody>
</table>
Fig  
Figure

gnd  
Ground

I_c  
Common mode current

I_D  
Differential mode current

IGBT  
Insulated Gate Bipolar Transistor

IM  
Induction Motor

I_m  
Peak fundamental inverter load current

I_out  
Fundamental inverter output current

i_{sa}(t), i_{sb}(t)  
Real and imaginary components of the current

i_s(t)  
Stator current space vector for 3 phase motor

i_{sa}(t), i_{sb}(t), i_{sc}(t)  
Three phase stator currents of Induction motor

L-C  
Inductive-Capacitive

LISN  
Line Impedance Stabilization Network

L_i, L_L  
Load inductance

mmf  
Magneto motive force

MOSFET  
Metal-Oxide-Semiconductor Field Effect Transistor

MSO  
Mixed Signal oscilloscope

n  
Number of inverter phases / poles

NPC  
Neutral point clamped

Ns  
Number of turns per phase

P_{cond}  
Inverter conduction loss

PIC  
Peripheral interface controller
\( P_{\text{out}} \)  
Power output of inverter

PWM  
Pulse Width Modulation

\( q \)  
Quadreture axis

R-C  
Resistive-Capacitive

RF  
Radio Frequency

\( R_L \)  
Load resistance

SPWM  
Sinusoidal Pulse Width Modulation

SVM  
Space vector modulation

\( t \)  
Time variable

\( T_0, T_1, T_2 \)  
Time duration for inverter vector forming a triangular sector during the sampling interval

\( t_d \)  
Dead time delay

THD  
Total harmonic distortion

\( T_s \)  
Sampling interval

\( V_{AN}, V_{BN}, V_{CN} \)  
Motor phase to neutral voltage

\( V_{AO}, V_{BO}, V_{CO} \)  
Inverter pole voltages (2-level)

\( V_{cm} \)  
Common mode voltage applied to the load

\( V_{dc} \)  
DC bus voltage

\( V_{\text{fwd}} \)  
Device forward voltage drop

\( V_{\text{il}} \)  
Inverter input line voltage

\( V_m \)  
Peak fundamental output voltage of inverter

\( V_M \)  
Pole voltage for poly phase inverter

\( V_{\text{out}} \)  
Fundamental inverter output voltage
VSI  
Voltage Source Inverter

\( v_\alpha(t), v_\beta(t) \)  
Real and imaginary components of the voltage

%  
Percentage

\( \omega_0 \)  
Fundamental output angular frequency

\( \alpha \)  
Alpha (real axis)

\( \beta \)  
Beta (perpendicular to real axis)

\( \Theta \)  
Angle of advance

\( \Phi \)  
Power factor angle

<table>
<thead>
<tr>
<th>Regulatory Bodies</th>
<th>Expansion</th>
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<tbody>
<tr>
<td>ACEF</td>
<td>Active Common Mode EMI Filter</td>
</tr>
<tr>
<td>CISPR</td>
<td>International Special Committee on Radio</td>
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<tr>
<td></td>
<td>Interference</td>
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<tr>
<td>CE102</td>
<td>Conducted Emissions Requirement 102 of</td>
</tr>
<tr>
<td></td>
<td>MIL=STD-461D</td>
</tr>
<tr>
<td>ESR</td>
<td>Equivalent Series Resistance</td>
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<tr>
<td>FCC</td>
<td>Federal Communications commission</td>
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<tr>
<td>IEC</td>
<td>International Electro technical Commission</td>
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<tr>
<td>PFC</td>
<td>Power Factor Correctors</td>
</tr>
<tr>
<td>VDE</td>
<td>Verband Deutscher Elektrotechniker</td>
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