➢ ANSI standards (protection)

❖ ANSI Common Acronyms

- A - Alarm, Auxiliary Power
- AC - Alternating Current
- AN - Anode
- B - Bus, Battery, or Blower
- BF - Breaker Failure
- BK - Brake
- BL - Block (Valve)
- BP - Bypass
- BT - Bus Tie
- BU - Backup
- C - Capacitor, Condenser, Compensator, Carrier Current, Case or Compressor
- CA - Cathode
- CH - Check (Valve)
- D - Discharge (Valve)
- DC - Direct Current
- DCB - Directional Comparison Blocking
- DCUB - Directional Comparison Unblocking
- DD - Disturbance Detector
- DUTT - Direct Underreaching Transfer Trip
- E - Exciter
- F - Feeder, Field, Filament, Filter, or Fan
- G - Ground or Generator
- GC - Ground Check
- H - Heater or Housing
- L - Line or Logic
- M - Motor or Metering
- MOC - Mechanism Operated Contact
- N - Neutral or Network
- - Over
- P - Phase or Pump
- PC - Phase Comparison
- POTT - Pott: Permissive Overreaching Transfer Trip
- PUTT - Putt: Permissive Underreaching Transfer Trip
- R - Reactor, Rectifier, or Room
- S - Synchronizing, Secondary, Strainer, Sump, or Suction (Valve)
- SOTF - Switch On To Fault
- T - Transformer or Thyratron
- TD - Time Delay
- TDC - Time-Delay Closing Contact
- TDDO - Time Delayed Relay Coil Drop-Out
- TDO - Time-Delay Opening Contact
- TDPU - Time Delayed Relay Coil Pickup
- THD - Total Harmonic Distortion
- TH - Transformer (High-Voltage Side)
- TL - Transformer (Low-Voltage Side)

- TM - Telemeter
- TT - Transformer (Tertiary-Voltage Side)
- U - Under or Unit
- X - Auxiliary
- Z – Impedance

- ANSI Standard Device Numbers
- 1 - Master Element
- 2 - Time-delay Starting or Closing Relay
- 3 - Checking or Interlocking Relay
- 4 - Master Contactor
- 5 - Stopping Device
- 6 - Starting Circuit Breaker
- 7 - Rate of Change Relay
- 8 - Control Power Disconnecting Device
- 9 - Reversing Device
- 10 - Unit Sequence Switch
- 11 - Multifunction Device
- 12 - Overspeed Device
- 13 - Synchronous-Speed Device
- 14 - Underspeed Device
- 15 - Speed or Frequency Matching Device
- 16 - Data Communications Device
- 17 - Shunting or Discharge Switch
- 18 - Accelerating or Decelerating Device
- 19 - Starting-to-Running Transition Contactor
- 20 - Electrically-Operated Valve
- 21 - Distance Relay
- 21G - Ground Distance
- 21P - Phase Distance
- 22 – Equalizer circuit breaker
- 23 – Temperature control device
- 24 – Volts per hertz relay
- 25 – Synchronizing or synchronism-check device
- 26 – Apparatus thermal device
- 27 – Undervoltage relay
- 27P - Phase Undervoltage
- 27S - DC undervoltage relay
- 27TN - Third Harmonic Neutral Undervoltage
- 27TN/59N - 100% Stator Earth Fault
- 27X - Auxiliary Undervoltage
- 27 AUX - Undervoltage Auxiliary Input
- 27/27X - Bus/Line Undervoltage
- 27/50 - Accidental Generator Energization
- 28 - Flame Detector
- 29 - Isolating Contactor
- 30 - Annunciator Relay
- 31 - Separate Excitation Device
- 32 - Directional Power Relay

- 32L - Low Forward Power
- 32N - Wattmetric Zero-Sequence Directional
- 32P - Directional Power
- 32R - Reverse Power
- 33 - Position Switch
- 34 - Master Sequence Device
- 35 - Brush-Operating or Slip-ring Short Circuiting Device
- 36 - Polarity or Polarizing Voltage Device
- 37 - Undercurrent or Underpower Relay
- 37P - Underpower
- 38 - Bearing Protective Device / Bearing Rtd
- 39 - Mechanical Condition Monitor
- 40 - Field Relay / Loss of Excitation
- 41 - Field Circuit Breaker
- 42 - Running Circuit Breaker
- 43 - Manual Transfer or Selector Device
- 44 - Unit Sequence Starting Relay
- 45 - Atmospheric Condition Monitor
- 46 - Reverse-Phase or Phase Balance Current Relay or Stator Current Unbalance
- 47 - Phase-Sequence or Phase Balance Voltage Relay
- 48 - Incomplete Sequence Relay / Blocked Rotor
- 49 - Machine or Transformer Thermal Relay / Thermal Overload
- 49RTD - RTD Biased Thermal Overload
- 50 - Instantaneous Overcurrent Relay
- 50BF - Breaker Failure
- 50DD - Current Disturbance Detector
- 50EF - End Fault Protection
- 50G - Ground Instantaneous Overcurrent
- 50IG - Isolated Ground Instantaneous Overcurrent
- 50LR - Acceleration Time
- 50N - Neutral Instantaneous Overcurrent
- 50NBF - Neutral Instantaneous Breaker Failure
- 50P - Phase Instantaneous Overcurrent
- 50SG - Sensitive Ground Instantaneous Overcurrent
- 50SP - Split Phase Instantaneous Current
- 50Q - Negative Sequence Instantaneous Overcurrent
- 50/27 - Accidental Energization
- 50/51 - Instantaneous / Time-delay Overcurrent relay
- 50Ns/51Ns - Sensitive earth-fault protection
- 50/74 - Ct Trouble
- 50/87 - Instantaneous Differential
- 51 - AC Time Overcurrent Relay
- 51 - Overload
- 51G - Ground Time Overcurrent
- 51LR - AC inverse time overcurrent (locked rotor) protection relay
- 51N - Neutral Time Overcurrent
- 51P - Phase Time Overcurrent
- 51R - Locked / Stalled Rotor
- 51V - Voltage Restrained Time Overcurrent
- 51Q - Negative Sequence Time Overcurrent

- 52 – AC circuit breaker
- 52a - AC circuit breaker position (contact open when circuit breaker open)
- 52b - AC circuit breaker position (contact closed when circuit breaker open)
- 53 - Exciter or Dc Generator Relay
- 54 - Turning Gear Engaging Device
- 55 - Power Factor Relay
- 56 - Field Application Relay
- 57 - Short-Circuiting or Grounding Device
- 58 - Rectification Failure Relay
- 59 - Overvoltage Relay
- 59B - Bank Phase Overvoltage
- 59P - Phase Overvoltage
- 59N - Neutral Overvoltage
- 59NU - Neutral Voltage Unbalance
- 59P - Phase Overvoltage
- 59X - Auxiliary Overvoltage
- 59Q - Negative Sequence Overvoltage
- 60 - Voltage or Current Balance Relay
- 60N - Neutral Current Unbalance
- 60P - Phase Current Unbalance
- 61 - Density Switch or Sensor
- 62 - Time-Delay Stopping or Opening Relay
- 63 - Pressure Switch Detector
- 64 - Ground Protective Relay
- 64F - Field Ground Protection
- 64R – Rotor earth fault
- 64REF – Restricted earth fault differential
- 64S – Stator earth fault
- 64S - Sub-harmonic Stator Ground Protection
- 64TN - 100% Stator Ground
- 65 - Governor
- 66 - Notching or Jogging Device/Maximum Starting Rate/Starts Per Hour/Time Between Starts
- 67 - AC Directional Overcurrent Relay
- 67G - Ground Directional Overcurrent
- 67N - Neutral Directional Overcurrent
- 67Ns – Earth fault directional
- 67P - Phase Directional Overcurrent
- 67SG - Sensitive Ground Directional Overcurrent
- 67Q - Negative Sequence Directional Overcurrent
- 68 - Blocking Relay / Power Swing Blocking
- 69 - Permissive Control Device
- 70 - Rheostat
- 71 - Liquid Switch
- 72 - DC Circuit Breaker
- 73 - Load-Resistor Contactor
- 74 - Alarm Relay
- 75 - Position Changing Mechanism
- 76 - DC Overcurrent Relay
- 77 - Telemetering Device
- 78 - Phase Angle Measuring or Out-of-Step Protective Relay

- 78V - Loss of Mains
- 79 - AC Reclosing Relay / Auto Reclose
- 80 - Liquid or Gas Flow Relay
- 81 - Frequency Relay
- 81O - Over Frequency
- 81R - Rate-of-Change Frequency
- 81U - Under Frequency
- 82 - DC Reclosing Relay
- 83 - Automatic Selective Control or Transfer Relay
- 84 - Operating Mechanism
- 85 - Pilot Communications, Carrier or Pilot-Wire Relay
- 86 - Lock-Out Relay, Master Trip Relay
- 87 - Differential Protective Relay
- 87B - Bus Differential
- 87G - Generator Differential
- 87GT - Generator/Transformer Differential
- 87L - Segregated Line Current Differential
- 87LG - Ground Line Current Differential
- 87M - Motor Differential
- 87O - Overall Differential
- 87PC - Phase Comparison
- 87RGF - Restricted Ground Fault
- 87S - Stator Differential
- 87S - Percent Differential
- 87T - Transformer Differential
- 87V - Voltage Differential
- 88 - Auxiliary Motor or Motor Generator
- 89 - Line Switch
- 90 - Regulating Device
- 91 - Voltage Directional Relay
- 92 - Voltage And Power Directional Relay
- 93 - Field-Changing Contactor
- 94 - Tripping or Trip-Free Relay
- 95 – *For specific applications where other numbers are not suitable*
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