

ANSI Table

#	Description	IEC 61850 LOGICAL NODE
1	Master Element	LPHD
2	Time Delay Starting or Closing Relay	
3	Checking or Interlocking Relay	CILO
4	Master Contactor	
5	Stopping Device	
6	Starting Circuit Breaker	
7	Rate of Change Relay	PFRC
8	Control Power Disconnecting Device	
9	Reversing Device	
10	Unit Sequence Switch	
11	Multifunction Device	LLNO
12	Overspeed Device/Protection	POVS
13	Synchronous-Speed Device	ZSMC
14	Under speed Device	PZSU
15	Speed or Frequency Matching Device	PFRQ
16	Communication Networking Device	
17	Shunting or Discharge Switch	
18	Accelerating or Decelerating Device	
19	Motor Starter / Starting-to-Running Transition Contactor	
20	Electrically-Operated Valve	KVLV
21	Distance Relay	PDIS
21G	Ground Distance	PDIS
21P	Phase Distance	PDIS
22	Equalizer Circuit Breaker	
23	Temperature Control Device	STMP
24	Volts-per-Hertz Relay / Overfluxing	PVPH
25	Synchronizing or Synchronism-Check Device	RSYN
26	Apparatus Thermal Device	PTTR
27	Undervoltage Relay	PTUV
27P	Phase Undervoltage	PTUV
27TN	Third Harmonic Neutral Undervoltage	PTUV
27X	Auxiliary Undervoltage	PTUV
27 AUX	Undervoltage Auxiliary Input	PTUV
27/27X	Bus/Line Undervoltage	PTUV
28	Flame Detector	
29	Isolating Contactor	
30	Annunciator Relay	CALH
31	Separate Excitation Device	
32	Directional Power Relay	PDPR
32L	Low Forward Power	
32N	Wattmetric Zero-Sequence Directional	
32P	Directional Power	
32R	Reverse Power	
33	Position Switch	TPOS
34	Master Sequence Device	MSQI
35	Brush-Operating or Slip-ring Short Circuiting Device	ZBSH
36	Polarity or Polarizing Voltage Device	
37	Undercurrent or Underpower Relay	PTUC / PDUP
37P	Underpower	
38	Bearing Protective Device / Bearing Rtd	
39	Mechanical Condition Monitor	TTNS
40	Field Relay / Loss of Excitation	PUEX
41	Field Circuit Breaker	XCBR/XSWI
42	Running Circuit Breaker	XCBR/XSWI
43	Manual Transfer or Selector Device	
44	Unit Sequence Starting Relay	PMSU
45	Atmospheric Condition Monitor	NMET
46	Reverse-Phase or Phase Balance Current Relay or Stator Current Unbalance	PPBR/PTOC
47	Phase-Sequence or Phase Balance Voltage Relay	PPBV
48	Incomplete Sequence Relay / Blocked Rotor	PMSU
49	Machine or Transformer Thermal Relay / Thermal Overload	PTTR
49RTD	RTD Biased Thermal Overload	
49R	Rotor thermal overload	
49S	Stator thermal overload	
50	Instantaneous Overcurrent Relay	PIOC
50BF	Breaker Failure	RBRF
50DD	Current Disturbance Detector	
50G	Ground Instantaneous Overcurrent	
50N	Neutral Instantaneous Overcurrent	
50P	Phase Instantaneous Overcurrent	
50_2	Negative Sequence Instantaneous Overcurrent	
50/27	Accidental Energization	
50/74	Ct Trouble	
50/87	Instantaneous Differential	
50EF	End Fault Protection	
50IG	Isolated Ground Instantaneous Overcurrent	
50LR	Acceleration Time	
50NBF	Neutral Instantaneous Breaker Failure	
50SG	Sensitive Ground Instantaneous Overcurrent	

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50SP	Split Phase Instantaneous Current	
51	Ac Time Overcurrent Relay	PTOC
51	Overload	
51G	Ground Time Overcurrent	
51N	Neutral Time Overcurrent	
51P	Phase Time Overcurrent	
51V	Voltage Restrained Time Overcurrent	PVOC
51R	Locked / Stalled Rotor	
51_2	Negative Sequence Time Overcurrent	
52	Ac Circuit Breaker	XCBR/XSWI
53	Exciter or Dc Generator Relay	
54	Turning Gear Engaging Device	
55	Power Factor Relay	PPFR
56	Field Application Relay	
57	Short-Circuiting or Grounding Device	
58	Rectification Failure Relay	
59	Relé de sobretensão	PTOV
59B	Bank Phase Overvoltage	PTOV
59P	Phase Overvoltage	PTOV
59N	Neutral Overvoltage	PTOV
59NU	Neutral Voltage Unbalance	PTOV
59X	Auxiliary Overvoltage	PTOV
59_2	Negative Sequence Overvoltage	PTOV
60	Voltage or Current Balance Relay	PVCB
60N	Neutral Current Unbalance	
60P	Phase Current Unbalance	
61	Density Switch or Sensor	
62	Time-Delay Stopping or Opening Relay	
63	Pressure Switch Detector (Buchholz)	SPTR
64	Ground Protective Relay	PHIZ
64F	Field Ground Protection	
64S	Sub-harmonic Stator Ground Protection	
64R	Rotor earth fault	PREF
64S	Stator earth fault	PSEF
64W	Interturn fault	PITF
64TN	100% Stator Ground	
65	Governor	
66	Notching or Jogging Device/Maximum Starting Rate/Starts Per Hour/Time Between Starts	PMSU
67	Ac Directional Overcurrent Relay	PDOC
67G	Ground Directional Overcurrent	
67N	Neutral Directional Overcurrent	PDEF
67P	Phase Directional Overcurrent	
67SG	Sensitive Ground Directional Overcurrent	
67_2	Negative Sequence Directional Overcurrent	
68	Blocking Relay / Power Swing Blocking	RPSB
69	Permissive Control Device	
70	Rheostat	TTMP
71	Liquid Switch	TLVL
72	Dc Circuit Breaker	
73	Load-Resistor Contactor	
74	Alarm Relay	
75	Position Changing Mechanism	TMVM
76	Dc Overcurrent Relay	PDCO
77	Telemetry Device	
78	Phase Angle Measuring or Out-of-Step Protective Relay	PPAM/RPSB
78V	Loss of Mains	
79	Ac Reclosing Relay / Auto Reclose	RREC
80	Liquid or Gas Flow Relay	TFLW
81	Frequency Relay	PFRQ
81O	Over Frequency	PTOF
81R	Rate-of-Change Frequency	PFRC
81U	Under Frequency	PTUF
82	Dc Reclosing Relay	
83	Automatic Selective Control or Transfer Relay	
84	Operating Mechanism	SOPM
85	Carrier or Pilot-Wire Receiver Relay	RCPW
86	Locking-Out Relay	
87	Differential Protective Relay	PDIF
87B	Bus Differential	PBDF
87G	Generator Differential	PGDF
87GT	Generator/Transformer Differential	
87LG	Ground Line Current Differential	
87S	Stator Differential	
87S	Percent Differential	
87L	Segregated Line Current Differential	PLDF
87M	Motor Differential	PMDF
87O	Overall Differential	
87PC	Phase Comparison	
87RGF	Restricted Ground Fault	
87T	Transformer Differential	PTDF

#	Description	IEC 61850 LOGICAL NODE
87V	Voltage Differential	
88	Auxiliary Motor or Motor Generator	
89	Line Switch	XSWI
90	Regulating Device	AVCO
91	Voltage Directional Relay	
92	Voltage And Power Directional Relay	PDPR
93	Field-Changing Contactor	
94	Tripping or Trip-Free Relay	
95	Used for generic functions	GGIO
96	Busbar blocking auxiliary relay	
97-99	For specific applications	
150	Earth fault indicator	PTEF
50/74	Ct Supervision	
27/50	Accidental Generator Energization	
27TN/59N	100% Stator Earth Fault	

Suffixes	Description	
S	Synchronizing, Secondary, Strainer, Sump, or Suction (Valve)	
SOTF	Switch On To Fault	
T	Transformer or Thyatron	
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	

Acronyms	Description	IEC 61850 LOGICAL NODE
AFD	Arc Detector	PAFD
CLK	Clock	STIM
CLP	Cold Load Pickup	
DDR	Dynamic Disturbance storage system	RDRE
DFR	Fault Storage System	RDRS
ENV	Environment Data	NMET
HIZ	High Impedance detector	RFLO
HMI	Human Machine Interface	IHMI
HST	Historic	GLOG
LGC	Logic Scheme	
MET	Substation Measuring	MMXU
PDC	Phasor Data Concentrator	
PMU	Phasor Measurement Unit	
PQM	Power monitoring scheme	
RIO	Remote I/O	ITCI
RTD	Resistance Temperature Detector	
RTU	Remote Terminal Unit	ITMI
SER	Sequence of Events Recorder	
TCM	Trip Monitoring Scheme	
VTFF	Vt Fuse Fail	

Suffixes	Description	
_1	Positive-Sequence	
_2	Negative-Sequence	
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,	
CA	or Compressor	
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	
O	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	

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