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# Abbreviations, Trademarks

## 12.1 Abbreviations

A	
AAC	All-aluminum conductor
AC	Alternating current
ACB	Air circuit breaker
ACSR	Aluminum conductor, steel-reinforced
ADC	Analog-to-digital-converter
ADM	Asynchronous digital multiplexer
AF	Air-forced; (cooling type [of cast-resin] transformers)
Al	Aluminum
AN	Air-natural
AIS	Air-insulated switchyard
AMI	Automated meter infrastructure
AMIS	Automated consumption data acquisition and information system
ANSI	American National Standards Institute
AR	Auto-reclosure
ASC	Arc suppression coil
ASCII	American Standard Code for Information Interchange
ATM	Asynchronous transfer mode
ATM-IMA	Inverse multiplexing over ATM
AVR	Automatic voltage regulator
B	
BCU	Bay control unit
BF (protection)	Breaker failure (protection)
BFI (time)	Breaker failure initiation (time)
BFT (time)	Breaker failure tripping (time)
BIL	Basic impulse level
BIPV	Building-integrated photovoltaic system
BOSL	Block oriented simulation language
BPL	Broadband over powerlines
B2B	a) Building-to-building; b) Business-to-business
BS	British Standard
C	
CAD/CAE	Computer aided design/computer aided engineering
CAPEX	Capital expenditure
CB	Circuit-breaker
CCS	Cubicle for customized solutions
CERT	Computer emergency response team
CFC	Continuous Function Chart
CFM	Communication front end
CHP	Combined heat and power
CIM	Common information model
CIP	Continuous improvement process
CIT	Combined instrument transformer
CO <sub>2</sub>	Carbon dioxide
CSA	Canadian Standards Association
CVT	Capacitor voltage transformer

CT	Current transformer
Cu	Copper
D	
DAC	Digital-to-analog converter
DAU	Data acquisition unit
DC	Direct current
DEMS	Decentralized energy management system
DER	Distributed energy resources
DG	Distributed generation
DIN	germ.: Deutsches Institut für Normung e. V.; German Institute for Standardization
DINEMO	Digital network model
DIP	Distributed interface processor
DisCo	Distribution company
DMAIC	Define-measure-analyse-improve-control
DMS	Distribution management system
DMZ	Demilitarized zone
DN	Damping network
DNP	Distributed network protocol
DQS	germ.: Deutsche Gesellschaft zur Zertifizierung von Managementsystemen; German registrar for management systems
DSL	Digital subscriber line
DT	Distribution transformer
DTC	Dead tank compact
E	
E&M interface	Ear and month interface
EAF	Electric arc furnace
ECANSE	Environment for Computer Aided Neural Software Engineering
ECR (glass fiber)	Electrical grade corrosion resistant (glass fiber)
EDP	Electronic data processing
EHV	Extra high voltage
EIB	European Installation Bus
EIRP	Effective isotropic radiated power
ELCOM	Electricity utilities communication
EM	Environmental management
EMC	Electromagnetic compatibility
EMS	Energy management system
EN	germ.: Europa-Norm; European Standard
EPC (contract)	Engineering, procurement, construction (contract)
EPROM	Erasable programmable read-only-memory
ERIP (design)	Epoxy resin impregnated paper (design)
ETSI	European Telecommunications Standards Institute
ETU	Electronic trip unit
EU	European Union

F	
FACTS	Flexible AC transmission system
FCITC	First contingency incremental transfer capability
Fe	Iron
FEM	Finite element method
FMS	Fieldbus message specification
FO	Fiber optic
FR	Filter reactor
FRP	Fiber glass reinforced polyester
FSC	Fixed series capacitor
FTP	File transfer protocol
G	
GA	Generator connection cabinet
GenCo	Generation company
GFP	Generic framing procedure
GID	Generic interface definition
GIL	Gas-insulated transmission line
GIS	Gas-insulated switchgear
GMB	Graphical model builder
GMS	Generation management system
GOOSE	Generic object oriented substation event
GPFC	Grid power flow controller
GPS	a) General power supply; b) Global positioning system
GPRS	General packet radio service
GSM	Global system for mobile communications (originally from French: groupe spécial mobile)
GSU transformer	Generator step-up transformer
G-tripping	Ground-fault tripping
GUI	Graphical user interface
H	
HF	High frequency
HIGS	Highly integrated generator switchgear
HIS	Highly integrated switchgear
HMI	Human machine interface
HRC (fuse)	High-rupturing-capacity (fuse)
HTTP/HTTPS	Hypertext transfer protocol/ hypertext transfer protocol secure
HTV (silicone rubber)	High-temperature-vulcanizing (silicone rubber)
HV	High voltage
HVDC	High voltage direct current
HVDCT	High voltage direct current transmission
I	
IAC	Internal arc classification
ICCP	Inter-control center communication protocol
IDS	Intrusion detection system
IEC	International Electrotechnical Commission

IED	Intelligent electronic device
IEEE	Institute of Electrical and Electronics Engineers
IGBT	Insulated gate bipolar transistor
ILSA (protocol)	Industrial link state advertisement (protocol)
IMM	Information model management
IP (code)	Ingress protection (code)
IP	Internet Protocol
IPP	Independent power provider
IRIG timecodes	Inter Range Instrumentation Group timecodes
ISCM	Integrated Services and Support Condition Monitoring
ISDN	Integrated services digital network
ISO	a) International Organization for Standardization; b) independent system operator
IT	Information technology
I-tripping	Instantaneous short-circuit protection
J	
K	
KNX	Konnex
L	
LAN	Local area network
LCAS	Link Capacity Adjustment Scheme
LCD	Liquid crystal display
LED	Light emitting diode
LF	Ladle furnace
LI	Lightning impulse
LPVTG	Low power voltage transducer for medium-voltage GIS systems
LSC (category)	Loss of service continuity (category)
LTT	Light-triggered thyristors
LV	Low voltage
LVMD	Low-voltage main distribution
M	
MBR	Management Business Review
MCB	Miniature circuit-breaker
MCCB	Molded-case circuit-breaker
MD	Main distribution
MFC	Microsoft foundation class
MMC	Modular multilevel converter
MO	Metal oxide
MOD	Model on demand
MOV	Metal oxide varistor
MPCB	Motor protection circuit breaker
MPDSL	Maximum permissible dynamic service load
MPSL	Maximum permissible service load
MSC	Mechanically switched capacitor
MSCDN	Mechanically switched capacitor bank with damping network
MSP	Motor starter protector

# Abbreviations, Trademarks

## 12.1 Abbreviations

MSPP	Multi-service provisioning platform
MSR	Mechanically switched reactor
(2F-) MS-SPRing	(2 fiber) Multiplex section-shared protection ring
MTBF	Meantime between failures
MUX	Multiplexer
MV	Medium voltage
<b>N</b>	
N (conductor)	Neutral (conductor)
N <sub>2</sub>	Nitrogen
NERC	North American Electric Reliability Corporation
NEVA	Eigenvalue analysis
NIP	Network interface processor
NLTC	No-load tap changer
NTP	Network time protocol
N-tripping	Neutral conductor protection
<b>O</b>	
OASIS	Open Access Same Time Information System
ODBC	Open DataBase Connectivity
ODMS	Operational database maintenance system
OHL	Overhead power line
OIP (design)	Oil impregnated paper design (of transformer bushings) (-> ERIP)
OLE (-> OPC)	Object linking and embedding
OLTC	On-load tap changer
ONAF	Oil-natural/air-forced; cooling type of transformers
ONAN	Oil-natural/air-natural; cooling type of transformers
OPF	Optimal power flow
OPEX	Operational expenditure
OPGW	Optical ground wire
OSI	Open Systems Interconnection Basic Reference Model
<b>P</b>	
PABX	Private Automatic Branch Exchange
PCI	Peripheral Component Interconnect
PCM	Pulse code modulation
PDH	Plesiochrone digital hierarchy; an international multiplexing standard
PD value	Partial discharge value
PE	Polyethylene;
PE (conductor)	Protective earth (conductor)
PEHLA	germ.: Prüfung elektrischer Hochleistungsapparate; an association of owners of high-power testing laboratories in Germany and Switzerland
PEN (conductor)	combined -> PE and -> N conductor
PLC	a) Power-line carrier; b) programable logic controller
POD	Power oscillation damping
POTT	Permissive overreach transfer trip
PP	Polypropylene

PQ	Power quality
PROFIBUS	Process Fieldbus
PROFIBUS DP	PROFIBUS for Decentralized Peripherals
PROFIBUS FMS	PROFIBUS with -> FMS protocol
PST	Phase-shifting transformer
PTC (thermistor)	Positive temperature coefficient (thermistor)
PT	Potential transformer
PTI	-> Siemens PTI
PUTT	Permissive underreach transfer trip
PV	Photovoltaics
PV/QV (analysis)	Power/voltage var/voltage (analysis)
PVC	Polyvinyl chloride
<b>Q</b>	
QM (system)	Quality management (system)
<b>R</b>	
R&D process	Research and development process
RCAM	Reliability-centered asset management
RCD	Residual current protective device
RC voltage divider	Resistive-capacitive voltage divider
RES	Renewable energy sources
RMS; rms	Root mean square
RMU	Ring main unit
RPS	Redundant power supply
RSTP	Rapid spanning tree protocol
RTD	Resistance temperature device/detector
RTU	Remote terminal unit
<b>S</b>	
SAIDI	System average interruption duration index;
SAS	Station automation system
SCADA	Supervisory control and data acquisition
SCCL	Short circuit current limiter
SCL	Substation configuration description language
SD	Switch-disconnector
SDF	Switch-disconnector-fuse
SDH	Synchronous digital hierarchy; multiplexing protocol for transferring multiple bit streams over the same optical fiber
SFC	Sequential function chart
SF <sub>6</sub>	Sulphur hexafluoride
SiC	Silicium carbide
Siemens PTI	Siemens Power Technologies International
SIM	Serial module interface
SIP	Serial interface processor
SLD	Single-line diagram
SNCP	Sub-network connection protection
SNMP	Simple network management protocol



SONET	Synchronous optical network
SPS	Safety power supply
SQL	Structured Query Language
SSR	Subsynchronous resonance
STATCOM	Static synchronous compensator
STM	Synchronous transport module
STL	Short-circuit Testing Liaison
S-tripping	Short-time delay short-circuit protection
SVC	Static var compensator
<b>T</b>	
TAI	Technical applications integration
TCP	Transmission control protocol
TCR	Thyristor-controlled shunt reactor
TCSC	Thyristor controlled series capacitor
THD	Total harmonic distortion
(Siemens) TLM	(Siemens) Transformer Lifecycle Management
TM (tripping)	Thermal-magnetic (tripping)
TM (bus)	Terminal module (bus)
TPSC	Thyristor-protected series capacitor
TransCo	Transmission company
TRV	Transient recovery voltage
TSC	Thyristor-switched capacitor reactor
TSR	Thyristor-switched reactors
TSSC	Thyristor-switched series capacitor
TTA	Type-tested low voltage switchgear assembly
<b>U</b>	
UCTE	Union for the Co-ordination of Transmission of Energy
UHF	Ultra high frequency
UHVDC	Ultra-high-voltage direct-current
UI	User interface
UML	Unified modeling language
UMTS	Universal Mobile Telecommunications System
USB	Universal serial bus; serial bus standard to interface devices
UPS	Uninterruptible power supply
<b>V</b>	
VBA	Visual Basic for Applications
VCAT	Virtual concatenation
VDE	germ.: Verband der Elektrotechnik, Elektronik und Informationstechnik; German association for electrical, electronic and information technologies
VDU	Visual display unit
VF	Voice frequency
VHF	Very high frequency
VPP	Virtual power plant
VSC	Voltage-sourced converter
VT	Voltage transformer

<b>W</b>	
WAN	Wide area network
WDM	Wavelength division multiplex
WLAN	Wireless local area network
WiBro	Wireless broadband
WiMAX	Worldwide interoperability for microwave access
<b>X</b>	
XML	Extensible markup language
<b>Y</b>	
<b>Z</b>	
ZnO	Zinc oxide

# Abbreviations, Trademarks

## 12.2 Trademarks

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NETOMAC® (Network torsion machine control)

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PSS®MUST (Managing and Utilizing System Transmission)

PSS®NETOMAC® (Network Torsion Machine Control)

PSS®ODMS (Operational Database Maintenance System)

PSS®O (... for Operations)

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