



GENERATOR PROTECTION

G60 GENERATOR PROTECTION SYSTEM

Comprehensive protection for AC generators.

17

The G60 Generator Protection System, a member of the UR Family of protection relays, provides protection for AC generators. It may be used on any size of generator driven by steam, gas, hydraulic or other turbines.

G30 GENERATOR PROTECTION SYSTEM

Cost effective protection of small to medium sized generators, includes unit transformer protection.

24

The G30 Generator Protection System, part of the UR family of protection relays, provides protection for small to medium sized generators and for applications needing combined generator and transformer protection.

489 GENERATOR PROTECTION SYSTEM

Economical protection, monitoring and metering for generators.

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The 489 Generator Protection System, a member of the SR Family of protection relays, provides economical protection, monitoring, and metering functions. It can be used as primary or backup protection on synchronous or induction generators of 25, 50, or 60 Hz. It may be applied in primary, backup and co-generator applications.

G650 GENERATOR PROTECTION SYSTEM

High performance generation protection relay.

39

The G650 Generator Protection System, a member of the 650 Family of protection relays, provides protection and management capabilities for small to medium sized generators. It combines protection with external communications and a distributed I/O capability.

W650 GENERATOR PROTECTION SYSTEM

Advanced wind turbine protection and control system.

47

The W650 Generator Protection System, a member of the 650 Family of protection relays, is a machine controller management device. It may be used to protect and control wind generating machines, and can operate as a packaged generator sets mains failure detector.

MIGII GENERATOR PROTECTION SYSTEM

Three-phase protection for small generators.

55

The MIGII, a member of the M II Family of protection relays, provides protection for small generators.



FEATURES	DEVICE	MIG	W650	G650	489	G30	G60	
PROTECTION	Overspeed	12						
	Speed Switch	14						
	Distance Backup	21						
	Overexcitation	24						
	Synchronism check	25						
	Phase/Auxiliary Undervoltage	27P/A		P	P	P	P/A	P/A
	Stator Ground (3rt Harmonic)	27TN						
	Ground Undervoltage (Fundamental)	27GN						
	Sensitive Directional Power (F/R/LF)	32						
	Bearing RTD	38						
	Loss of Excitation Impedance or React. Power	40						
	Current Unbalance	46						
	Negative Sequence Overcurrent	50_2/51_2						
	Voltage phase reversal	47						
	Inadvertent/Accidental Energization	50/27						
	IOC, Ground/Neutral/Phase/Negative Sequence	50G/N/P/Q	P/N	G/N/P	G/N/P/Q	G/N/P/Q	G/N/P	G/N/P
	IOC, Sensitive Ground	50SG						
	TOC, Ground/Neutral/Phase/Negative Sequence	51G/N/P/Q	P/N	G/N/P	G/N/P	G/N/P	G/N/P	G/N/P
	TOC, Sensitive Ground	51SG						
	Split Phase	50SP						
	Voltage Restraint Overcurrent	51V						
	Breaker Failure	50BF						
	Phase/Auxiliary/Neutral Overvoltage	59P/A/N		P/A/N	P/N	P	P/A/N	Logic P/A/N
	Ground Overvoltage	59GN						
	100% Stator Ground	64G						
	Current Directional, Ground/Neutral/Phase/Neg. Seq.	67P/G/N/Q		P/G/N		G	P/N/Q	P/N/Q
	Out of Step Blocking	68						
	Out of Step Tripping	78						
	Voltage Transformer Fuse Failure	VTFF						
	Under/Overfrequency	81U/O		3U & 3O	Optional 3U & 3O	2U & 2O		
Anti-Islanding Protection/Rate of Change of Frequency	81R							
Lockout Functionality	86							
Ground Differential	87N							
Differential	87S							
Group Differential	87T							
Monitoring of Reactive Power								
CONTROL	Remote Display							
	Redundant Power Supply		Optional	Optional			Option	
	Non-volatile latches							
	Programmable Elements							
	Programmable Logic							
	FlexElements™							
	Digital Inputs	2	Up to 32	Up to 32	7	80	80	
	Contact Outputs	5	Up to 16	Up to 16	6	64	64	
	Virtual Inputs/Outputs		Up to 32	Up to 32		32/64	32/64	
	Direct Inputs/Outputs		Up to 512	Up to 512		32	32	
	Trip/Close Coil Supervision		Optional	Optional	Trip	Trip/Close	Trip/Close	
	User-Programmable LEDs							
	User-Programmable Push Buttons							
	User-Programmable Self Test							
	Selector Switch							
Digital Counters								
Digital Elements								
IRIG-B Input								
Analog Inputs/Outputs								
RTD Inputs				12	8	8		
MONITORING & METERING	Power Factor							
	Current							
	Voltage							
	Voltage 3rd Harmonic							
	Power - Apparent, Real, Reactive							
	Current, MW, MVA, Mvar Demand							
	Energy							
	Frequency							
	Temperature							
	User Programmable Fault Reports							
	Event Recorder - Number of Events	24	479	479	40	1024	1024	
	Oscillography - Cycles/Sampling Rate	24	128/64	128/64	64/12	93.5/16	93.5/16	
Trip Counters								
Data Logger								
COMMUNICATIONS	RS232/RS485 Ports							
	Ethernet Communications							
	Fiber Optic Port		Optional	Optional				
	GE Modem							
	ModBus Protocol							
	ModBus User Map							
	DNP3 Protocol							
	EGD Protocol							
	Peer-to-peer communication (Goose)							
	IEC 60870-104							
	IEC 61850 Protocol							
Simple Network Time Protocol								

* For the most current comparison list, access us online at: www.GEMultilin.com/selector/generator.pdf

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