



FEATURES	DEVICE	MIG	W650	G650	489	G30	G60	
<b>PROTECTION</b>	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 (3rd 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			Optional			
	Under/Overfrequency	81U/O		3U & 3O	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								
<b>CONTROL</b>	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		
<b>MONITORING &amp; METERING</b>	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								
<b>COMMUNICATIONS</b>	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](http://www.GEMultilin.com/selector/generator.pdf)