



Main

Relay application	Generator
Range of product	Sepam series 60
Device short name	G60
Control and monitoring type	Circuit breaker/contactor control ANSI code: 94/69 (option) Latching/Acknowledgement ANSI code: 86 Logic discrimination ANSI code: 68 (option) Switching of groups of settings Annunciation ANSI code: 30 Automatic transfer (AT) (option) Logic equation editor 200 operators
Metering type	Measured residual current I_0 , calculated $I_0\Sigma$ Positive sequence voltage V_d /rotation direction Frequency Calculated active and reactive energy (+/- W.h, +/- VAR.h) Active and reactive energy by pulse counting (+/- W.h, +/- VAR.h) (option) Phase current I1, I2, I3 RMS Demand current I1, I2, I3 Peak demand current IM1, IM2, IM3 Voltage U21, U32, U13, V1, V2, V3 Residual voltage V_0 Negative sequence voltage V_i Active power P, P1, P2, P3 Reactive power Q, Q1, Q2, Q3 Apparent power S, S1, S2, S3 Peak demand power PM, QM Power factor Temperature (16 RTDs) (option) Rotation speed (option)
Network and machine diagnosis type	Datalog (DLG) Unbalance ratio/negative sequence current I_i Disturbance recording Thermal capacity used Remaining operating time before overload tripping Waiting time after overload tripping Running hours counter/operating time Tripping context Phase fault and earth fault trip counters Harmonic distortion (THD), current and voltage I_{thd} , U_{thd} Difference in amplitude, frequency and phase of voltages with synchro-check (option) Apparent positive sequence impedance Z_d Apparent phase-to-phase impedances Z21, Z32, Z13 Third harmonic voltage, neutral point residual Cable arcing fault detection

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

	Phase displacement
Switchgear diagnosis type	CT/VT supervision ANSI code: 60FL Trip circuit supervision ANSI code: 74 (option) Nb of operations, operating time, charging time, nb of racking out operations (option) Cumulative breaking current

Complementary

Type of measurement	Power (P,Q) Voltage Harmonic distortion (I THD & U THD) Current Peak demand power Frequency Temperature Energy Power factor Rotation speed
Protection type	Synchro-check (option) ANSI code: 25 Overvoltage (L-L or L-N) ANSI code: 59 Directional active underpower ANSI code: 37P Temperature monitoring (16 RTDs) (option) ANSI code: 38/49T Thermal overload for machines ANSI code: 49RMS Field loss (underimpedance) ANSI code: 40 Overspeed (2 set points) (option) ANSI code: 12 Underspeed (2 set points) (option) ANSI code: 14 Directional reactive overpower ANSI code: 32Q Underimpedance ANSI code: 21B Earth fault/sensitive earth fault ANSI code: 50N/51N Earth fault/sensitive earth fault ANSI code: 50G/51G Negative sequence/unbalance ANSI code: 46 Remanent undervoltage ANSI code: 27R Overfrequency ANSI code: 81H Underfrequency ANSI code: 81L Rate of change of frequency ANSI code: 81R Negative sequence overvoltage ANSI code: 47 Directional active overpower ANSI code: 32P Voltage-restrained overcurrent ANSI code: 50V/51V Positive sequence undercurrent ANSI code: 27D Undervoltage (L-L or L-N) ANSI code: 27 Breaker failure ANSI code: 50BF Neutral voltage displacement ANSI code: 59N Phase overcurrent ANSI code: 50/51 Thermostat / buchholz (option) ANSI code: 26/63
Communication port protocol	Measurement readout (option) : Modbus Remote control orders (option) : Modbus Remote indication and time tagging of events (option) : Modbus Remote protection setting (option) : Modbus Transfer of disturbance recording data (option) : Modbus
Input output max capacity	28 inputs + 16 outputs
Communication compatibility	DNP3 IEC 61850 Modbus TCPIP IEC 61850 goose message Modbus RTU IEC 60870-5-103
User machine interface type	Remote Mimic-based Advanced Without