



Main

Relay application	Substation
Range of product	Sepam series 80 NPP Sepam series 80
Device short name	S84
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) Logipam programming (ladder language) (option) Logic equation editor 200 operators
Metering type	Measured residual current I ₀ , calculated I' ₀ Σ 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 I ₁ , I ₂ , I ₃ RMS Demand current I ₁ , I ₂ , I ₃ Peak demand current IM ₁ , IM ₂ , IM ₃ Measured residual current I' ₀ Voltage U ₂₁ , U ₃₂ , U ₁₃ , V ₁ , V ₂ , V ₃ Residual voltage V ₀ Negative sequence voltage V _i Active power P, P ₁ , P ₂ , P ₃ Reactive power Q, Q ₁ , Q ₂ , Q ₃ Apparent power S, S ₁ , S ₂ , S ₃ Peak demand power PM, QM Power factor
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 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 Z ₂₁ , Z ₃₂ , Z ₁₃ Phase displacement
Switchgear diagnosis type	CT/VT supervision ANSI code: 60FL

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

Trip circuit supervision ANSI code: 74 (option)
 Auxiliary power supply monitoring
 Nb of operations, operating time, charging time, nb of racking out operations (option)
 Cumulative breaking current

Complementary

Type of measurement	Peak demand power Current Power factor Power (P,Q) Voltage Frequency Energy
Protection type	Directional earth fault ANSI code: 67N/67NC Directional phase overcurrent ANSI code: 67 Synchro-check (option) ANSI code: 25 Overvoltage (L-L or L-N) ANSI code: 59 Thermal overload for cables ANSI code: 49RMS Directional active underpower ANSI code: 37P 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 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 Recloser (4 cycles) (option) ANSI code: 79
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	42 inputs + 23 outputs
Communication compatibility	Modbus TCP/IP IEC 61850 goose message IEC 61850 DNP3 IEC 60870-5-103 Modbus RTU
User machine interface type	Remote Without Mimic-based Advanced