



Main

Relay application	Motor
Range of product	Sepam series 80 NPP Sepam series 80
Device short name	M87
Control and monitoring type	Circuit breaker/contactors 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 Logipam programming (ladder language) (option) Logic equation editor 200 operators Load shedding/automatic restart
Metering type	Phase current I'1, I'2, I'3 RMS Measured residual current I0, calculated I'0Σ Calculated residual current I'0Σ Positive sequence voltage Vd/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 Measured residual current I'0 Voltage U21, U32, U13, V1, V2, V3 Residual voltage V0 Negative sequence voltage Vi 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) Neutral point voltage Vnt
Network and machine diagnosis type	Datalog (DLG) Current phase displacement θ Motor start report (MSR) Motor start trend (MST) Unbalance ratio/negative sequence current Ii Disturbance recording Thermal capacity used Remaining operating time before overload tripping Waiting time after overload tripping

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

	Running hours counter/operating time Starting current and time Start inhibit time, number of starts before inhibition Tripping context Phase fault and earth fault trip counters Harmonic distortion (THD), current and voltage I _{thd} , U _{thd} Apparent positive sequence impedance Z _d Apparent phase-to-phase impedances Z ₂₁ , Z ₃₂ , Z ₁₃ Differential current I _{diff1} , I _{diff2} , I _{diff3} Through current I _{t1} , I _{t2} , I _{t3} Phase displacement
Switchgear diagnosis type	CT/VT supervision ANSI code: 60FL 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	Frequency Rotation speed Voltage Power factor Energy Power (P,Q) Temperature Peak demand power Current Harmonic distortion (I THD & U THD)
Protection type	Directional earth fault ANSI code: 67N/67NC Overvoltage (L-L or L-N) ANSI code: 59 Temperature monitoring (16 RTDs) (option) ANSI code: 38/49T Thermal overload for machines ANSI code: 49RMS Excessive starting time, locked rotor ANSI code: 48/51LR Field loss (underimpedance) ANSI code: 40 Pole slip ANSI code: 78PS Overspeed (2 set points) (option) ANSI code: 12 Underspeed (2 set points) (option) ANSI code: 14 Directional reactive overpower ANSI code: 32Q Machine differential ANSI code: 87M 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 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 Phase undercurrent ANSI code: 37 Starts per hour ANSI code: 66
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	IEC 60870-5-103 IEC 61850 goose message DNP3 Modbus TCP/IP IEC 61850 Modbus RTU
User machine interface type	Remote Mimic-based Advanced Without