



### Main

Relay application	Motor
Range of product	Sepam series 80 NPP Sepam series 80
Device short name	M88
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	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) Phase current I'1, I'2, I'3 RMS Rotation speed (option) Neutral point voltage Vnt Measured residual current I0, calculated I'0Σ Calculated residual current I'0Σ
Network and machine diagnosis type	Unbalance ratio/negative sequence current Ii Disturbance recording Thermal capacity used Remaining operating time before overload tripping Waiting time after overload tripping Running hours counter/operating time Starting current and time Start inhibit time, number of starts before inhibition

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

	Tripping context Phase fault and earth fault trip counters Harmonic distortion (THD), current and voltage Ithd, Uthd Apparent positive sequence impedance Zd Apparent phase-to-phase impedances Z21, Z32, Z13 Differential current Idiff1, Idiff2, Idiff3 Through current It1, It2, It3 Current phase displacement $\theta$ Phase displacement Datalog (DLG) Motor start report (MSR) Motor start trend (MST)
Switchgear diagnosis type	Cumulative breaking current 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)

## Complementary

Type of measurement	Power factor Peak demand power Energy Power (P,Q) Temperature Harmonic distortion (I THD & U THD) Current Frequency Rotation speed Voltage
Protection type	Thermostat / buchholz ANSI code: 26/63 (option) Phase undercurrent ANSI code: 37 Starts per hour ANSI code: 66 Neutral voltage displacement ANSI code: 59N Breaker failure ANSI code: 50BF Directional earth fault ANSI code: 67N/67NC Overvoltage (L-L or L-N) ANSI code: 59 Temperature monitoring (16 RTDs) ANSI code: 38/49T (option) Thermal overload for machines ANSI code: 49RMS Two-winding transformer differential ANSI code: 87T Excessive starting time, locked rotor ANSI code: 48/51LR Field loss (underimpedance) ANSI code: 40 Pole slip ANSI code: 78PS Overspeed (2 set points) ANSI code: 12 (option) Underspeed (2 set points) ANSI code: 14 (option) Directional reactive overpower ANSI code: 32Q Negative sequence/unbalance ANSI code: 46 Overfrequency ANSI code: 81H Underfrequency ANSI code: 81L Positive sequence undercurrent ANSI code: 27D Remanent undervoltage ANSI code: 27R Undervoltage (L-L or L-N) ANSI code: 27 Negative sequence overvoltage ANSI code: 47 Phase overcurrent ANSI code: 50/51 Earth fault/sensitive earth fault ANSI code: 50N/51N Earth fault/sensitive earth fault ANSI code: 50G/51G Directional active overpower ANSI code: 32P
Communication port protocol	Measurement readout ( option ) : Modbus Remote indication and time tagging of events ( option ) : Modbus Remote control orders ( 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 61850 IEC 60870-5-103 DNP3 Modbus TCP/IP IEC 61850 goose message Modbus RTU
User machine interface type	Remote Mimic-based Advanced

Without

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### Packing Units

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Package 1 Weight	0.001 kg
Package 1 Height	0.010 dm
Package 1 width	0.010 dm
Package 1 Length	0.020 dm

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