

Selection table Sepam series 20

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Protection	ANSI code	Substation		Transformer		Motor	Busbar	
		S20	S24 ⁽⁴⁾	T20	T24 ⁽⁴⁾	M20	B21 ⁽³⁾	B22
Phase overcurrent	50/51	4	4	4	4	4		
Phase overcurrent cold load pick-up/blocking	CLPU 50/51		1		1			
Earth fault / Sensitive earth fault	50N/51N 50G/51G	4	4	4	4	4		
Earth fault cold load pick-up/blocking	CLPU 50/51N		1		1			
Breaker failure	50BF		1		1			
Negative sequence / unbalance	46	1	1	1	1	1		
Thermal overload	49RMS			2	2	2		
Phase undercurrent	37					1		
Excessive starting time, locked rotor	48/51LR/14					1		
Starts per hour	66					1		
Positive sequence undervoltage	27D/47						2	2
Remanent undervoltage	27R						1	1
Phase-to-phase undervoltage	27						2	2
Phase-to-neutral undervoltage	27S						1	1
Phase-to-phase overvoltage	59						2	2
Neutral voltage displacement	59N						2	2
Overfrequency	81H						1	1
Underfrequency	81L						2	2
Rate of change of frequency	81R							1
Recloser (4 cycles)	79	□	□					
Thermostat / Buchholz	26/63			□	□			
Temperature monitoring (8 RTDs)	38/49T			□	□	□		
Metering								
Phase current I1, I2, I3 RMS, residual current I0		■	■	■	■	■		
Demand current I1, I2, I3, peak demand current IM1, IM2, IM3		■	■	■	■	■		
Voltage U21, U32, U13, V1, V2, V3, residual voltage V0							■	■
Positive sequence voltage Vd / rotation direction							■	■
Frequency							■	■
Temperature				□	□	□		
Network and machine diagnosis								
Tripping current TripI1, TripI2, TripI3, TripI0		■	■	■	■	■		
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						■		
Cable arcing fault detection		■	■	■	■	■	■	■
Switchgear diagnosis								
Cumulative breaking current		■	■	■	■	■		
Trip circuit supervision		□	□	□	□	□	□	□
Number of operations, operating time, charging time		□	□	□	□	□		
Control and monitoring								
	ANSI code							
Circuit breaker / contactor control ⁽¹⁾	94/69	□	□	□	□	□	□	□
Latching / acknowledgement	86	■	■	■	■	■	■	■
Logic discrimination	68	□	□	□	□	□		
Switching of groups of settings		■ ⁽²⁾	■ ⁽²⁾	■ ⁽²⁾	■ ⁽²⁾	■ ⁽²⁾		
Annunciation	30	■	■	■	■	■	■	■
Additional modules								
8 temperature sensor inputs - MET148-2 module				□	□	□		
1 low level analog output - MSA141 module		□	□	□	□	□	□	□
Logic inputs/outputs - MES114/MES114E/MES114F (10I/4O) module		□	□	□	□	□	□	□
Communication interface - ACE949-2, ACE959, ACE937, ACE969TP-2, ACE969FO-2, ECI850		□	□	□	□	□	□	□

■ standard, □ according to parameter setting and MES114/MES114E/MES114F or MET148-2 input/output module options.
 (1) For shunt trip unit or undervoltage trip unit.
 (2) Exclusive choice between logic discrimination and switching from one 2-relay group of settings to another 2-relay group.
 (3) Performs Sepam B20 functions.
 (4) Applications S24 and T24 perform the functions of applications S23 and T23 respectively.