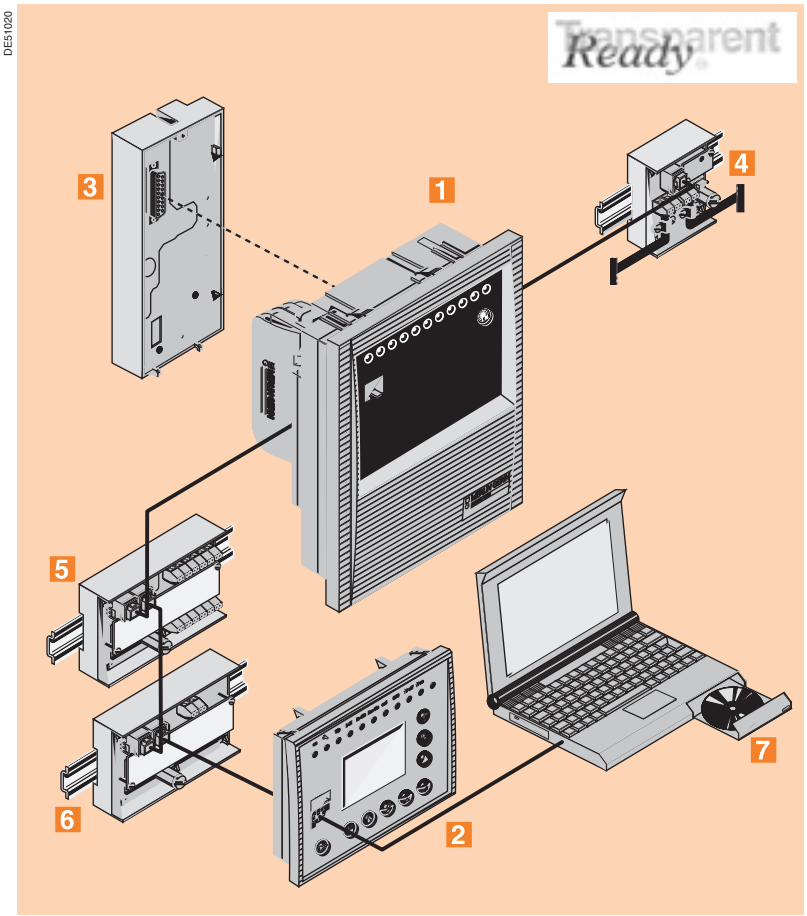
Technical data sheet
2005

Electrical network protection

Sepam series 20

Sepam *series 20* is a family of digital units used for *current* or *voltage* protection, in any medium or low voltage distribution system.

Sepam series 20 and its optional modules



1 ***Base unit, with various User Machine Interface levels (UMI):***
- *basic UMI*
- *advanced UMI with graphical LCD screen.*

2 ***Remote advanced UMI.***

3 ***10 logic inputs and 8 output relays,*** *4 outputs on the base unit + 1 optional module providing 10 inputs and 4 outputs.*

4 ***1 Modbus communication port:***
- *direct connection to 2-wire RS 485, 4-wire RS 485 and fibre optic networks*
- *connection to Ethernet TCP/IP network via PowerLogic Ethernet server (Transparent Ready™).*

5 ***Processing of temperature data from 8 sensors,*** *Pt100, Ni100, or Ni120.*

6 ***1 low level analogue output,*** *0-10 mA, 4-20 mA or 0-20 mA.*

7 ***Software tools:***
- *Sepam parameter and protection setting, control logic customisation*
- *local installation operation*
- *recovery and display of disturbance recording data.*

Characteristics

Conformity to standards	
IEC 60255 – Protection relays	
IEC 60529 – Degree of protection	IP52 on front panel
IEC 60068 – Operating temperature	-25 °C to +70 °C
Certifications	
CE, UL508, CSA C22.2	
Auxiliary power supply	
24-250 V DC and 110-240 V AC	
Overall size of base units (H x W x D)	
222 x 176 x 130 mm	

Selection guide

The Sepam series 20 family includes 5 types to offer the right solution for each common application:

■ **3 current applications:**
- □ **S20,** substation incomers and feeders protection
- □ **T20,** transformer protection
- □ **M20,** motor protection

■ **2 voltage applications:**
- □ **B21,** busbar protection
- □ **B22,** loss of mains protection.

a brand of Schneider Electric

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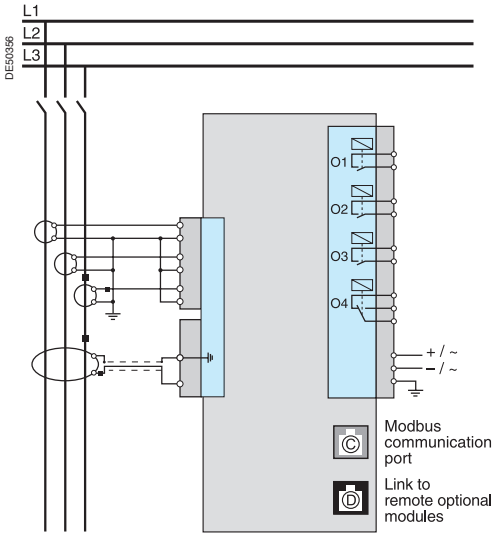
Sepam *series 20*, 3 *current* applications

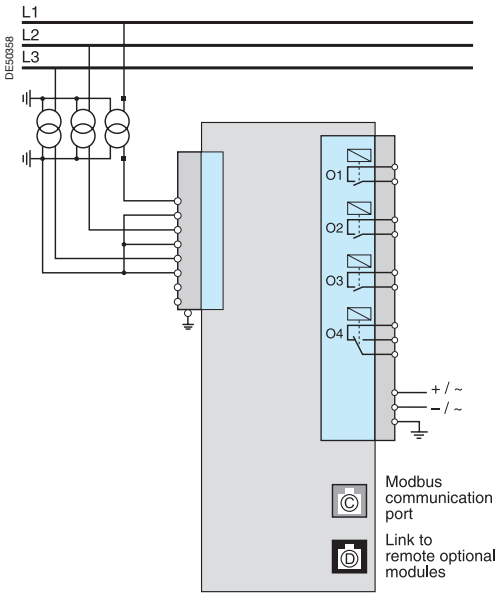
■ **S20**: substation incomers and feeders protection
■ **T20**: transformer protection
■ **M20:** motor protection.



Protections	ANSI code	S20	T20	M20
Phase overcurrent	50/51	4	4	4
Earth fault, sensitive earth fault	50N/51N 50G/51G	4	4	4
Unbalance/negative sequence	46	1	1	1
Thermal overload	49 RMS		2	2
Phase undercurrent	37			1
Excessive starting time, locked rotor	48/51LR/14			1
Starts per hour	66			1
Recloser (4 cycles)	79	□		
Thermostat / Buchholz	26/63		□	
Temperature monitoring	38/49T		□	□
Metering				
Phase current I1,I2,I3 RMS		■	■	■
Residual current I0		■	■	■
Average current I1, I2, I3		■	■	■
Peak demand phase current IM1,IM2,IM3		■	■	■
Temperature			□	□
Network and machine diagnosis				
Tripping current TripI1,TripI2,TripI3, TripI0		■	■	■
Unbalance ratio/negative sequence current		■	■	■
Running hours counter/operating time			■	■
Thermal capacity used			■	■
Remaining operating time before overload tripping			■	■
Waiting time after overload tripping			■	■
Starting current and time / overload				■
Start inhibit time delay, number of starts before inhibition				■
Disturbance recording		■	■	■
Switchgear diagnosis				
Cumulative breaking current		■	■	■
Trip circuit supervision		□	□	□
Number of operations		□	□	□
Operating time		□	□	□
Charging time		□	□	□
Control and monitoring				
Circuit breaker / contactor control	94/69	□	□	□
Latching / acknowledgment	86	■	■	■
Logic discrimination	68	□	□	□
Switching of groups of settings		■	■	■
Annunciation	30	■	■	■

Sepam *series 20*, 2 *voltage* applications

■ **B21** : busbar protection
■ **B22** : loss of mains protection.



Protections	ANSI code	B21	B22
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
Metering			
Line voltage U21, U32, U13		■	■
Phase-to-neutral voltage V1, V2, V3		■	■
Residual voltage V0		■	■
Positive sequence voltage / rotation direction		■	■
Frequency		■	■
Network diagnosis			
Disturbance recording		■	■
Control and monitoring			
Circuit breaker / contactor control	94/69	□	□
Latching / acknowledgment	86	■	■
Annunciation	30	■	■

■ *standard,* □ *according to parameter settings and optional modules.*

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