Substation applications
Feeder protection

Protection functions	ANSI code	S20	S24 (5)	B22	S40 S50	S41 S51	S42 S52	S43 S53	S44 S54	S60	S62	S80	S81	S82	S84
Phase overcurrent (1)	50/51	4	4		4	4	4	4	4	4	4	8	8	8	8
Phase overcurrent cold load pick-up	CLPU 50/51		1		4(6)	4(6)	4(6)	4(6)	4(6						
Earth fault / Sensitive earth fault (1)	50N/51N 50G/51G	4	4		4	4	4	4	4	4	4	8	8	8	8
Earth fault cold load pick-up	CLPU 50N/51N		1		4(6)	4(6)	4(6)	4(6)	4(6						
Breaker failure	50BF		1		1	1	1	1	1	1	1	1	1	1	1
Negative sequence / unbalance	46	1	1		2	2	2	2	2	2	2	2	2	2	2
Broken conductor	46BC				1(6)	1(6)	1(6)	1(6)	1(6)						
Thermal overload for cables	49RMS										1		2	2	2
Directional phase overcurrent (1)	67						2				2			2	2
Directional earth fault (1)	67N/67NC					2	2	2			2		2	2	2
Directional active overpower	32P					1	1	1			2		2	2	2
Directional active underpower	37P														2
Positive sequence undervoltage	27D			2						2	2	2	2	2	2
Remanent undervoltage	27R			1						2	2	2	2	2	2
Undervoltage (L-L or L-N)	27			2/1 (4)	2	2	2		2	2	2	4	4	4	4
Overvoltage (L-L or L-N)	59			2	2	2	2		2	2	2	4	4	4	4
Neutral voltage displacement	59N			2	2	2	2			2	2	2	2	2	2
Negative sequence overvoltage	47				1	1	1		1	2	2	2	2	2	2
Overfrequency	81H			1	2	2	2			2	2	2	2	2	2
Underfrequency	81L			2	4	4	4			4	4	4	4	4	4
Rate of change of frequency	81R			1						2	2				2
Recloser (4 cycles) (2)	79	□	□		□	□	□	□	□	□	□	□	□	□	□
Synchro-check (3)	25									□	□	□	□	□	□

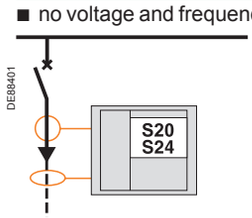
The figures indicate the number of units available for each protection function
■ *standard,* □ *options.*
(1) *Protection functions with 2 groups of settings.*
(2) *According to parameter setting and optional input/output modules.*
(3) *With optional MCS025 synchro-check module.*
(4) *2 undervoltage (L-L) and 1 undervoltage (L-N).*
(5) *Applications S24 and T24 perform the functions of applications S23 and T23 respectively.*
(6) *Only for applications S50, S51, S52, S53, S54, T50, T52.*

Feeder protection

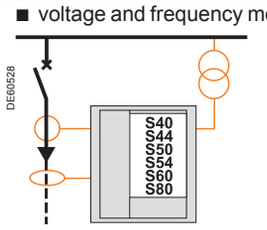
■ feeder short-circuit and overload protection.

Protection of low-capacitance feeders in impedance earthed or solidly earthed neutral systems: Sepam S20, S24, S40, S44, S50, S54, S60 or S80

■ no voltage and frequency monitoring.

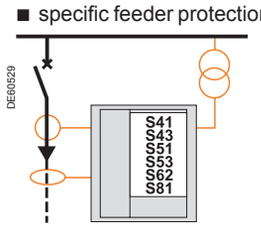


■ voltage and frequency monitoring.



Protection of high-capacitance feeders in impedance earthed or compensated or isolated neutral systems: Sepam S41, S43, S51, S53, S62 or S81

■ specific feeder protection: 67N/67NC.

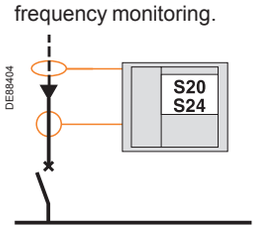


Substation applications
Incomer protection

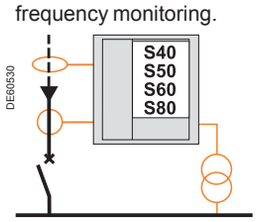
Incomer protection
■ busbar short-circuit protection.

Incomer protection: Sepam S20, S24, S40, S50, S60 or S80

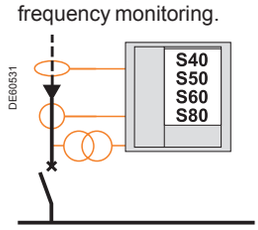
■ no voltage and frequency monitoring.



■ busbar voltage and frequency monitoring.

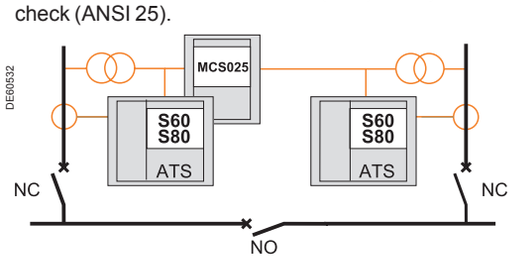


■ line voltage and frequency monitoring.



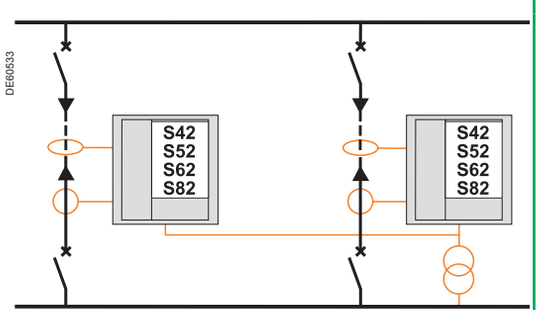
Protection of 2 incomers: Sepam S60 or S80

■ with automatic source transfer (ATS) and synchro-check (ANSI 25).



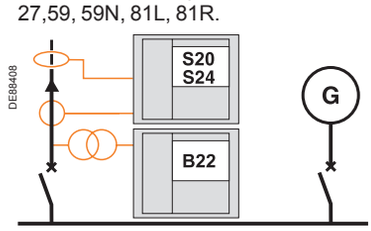
Parallel incomer protection: Sepam S42, S52, S62 or S82

■ specific line or source protection: 67, 67N/67NC.

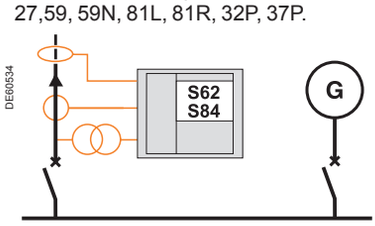


Parallel-incomer protection with disconnection function: Sepam S20 + B22, S62 or Sepam S84

■ disconnection-specific functions: 27,59, 59N, 81L, 81R.

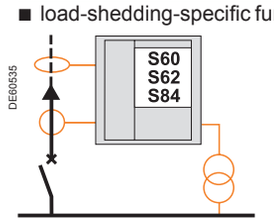


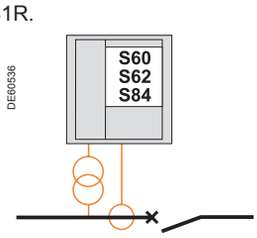
■ disconnection-specific functions: 27,59, 59N, 81L, 81R, 32P, 37P.



Protection of an incomer or coupling circuit breaker with load shedding based on frequency variations: Sepam S60, S62 or S84

■ load-shedding-specific functions: 81L, 81R.





Ring-incomer protection: Sepam S42, S52, S62 or S82

■ line or source protection: 67, 67N/67NC
■ directional logic discrimination.