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Standard transformer application diagrams do not take voltage levels into account:

- the transformer primary winding is always at the top
- the transformer secondary winding is always at the bottom.

The transformer primary and secondary windings need to be protected.

The Sepam proposed can be installed on either the primary or secondary winding of the transformer.

The other winding can be protected by an incomer or feeder type substation application Sepam.

Protection functions	ANSI code	T20	T24 ⁽⁵⁾	T40 T50	T42 T52	T81	T82	T87
Phase overcurrent ⁽¹⁾	50/51	4	4	4	4	8	8	8
Phase overcurrent cold load pick-up	CLPU 50/51		1	4 ⁽⁶⁾	4 ⁽⁶⁾			
Earth fault / Sensitive earth fault ⁽¹⁾	50N/51N 50G/51G	4	4	4	4	8	8	8
Earth fault cold load pick-up	CLPU 50N/51N		1	4 ⁽⁶⁾	4 ⁽⁶⁾			
Breaker failure	50BF		1	1	1	1	1	1
Negative sequence / unbalance	46	1	1	2	2	2	2	2
Broken conductor	46BC			1 ⁽⁶⁾	1 ⁽⁶⁾			
Thermal overload for machines ⁽¹⁾	49RMS	2	2	2	2	2	2	2
Restricted earth fault differential	64REF					2	2	2
Two-winding transformer differential	87T							1
Directional phase overcurrent ⁽¹⁾	67				2		2	2
Directional earth fault ⁽¹⁾	67N/67NC				2	2	2	2
Directional active overpower	32P					2	2	2
Overfluxing (V / Hz)	24							2
Positive sequence undervoltage	27D					2	2	2
Remanent undervoltage	27R					2	2	2
Undervoltage (L-L or L-N)	27			2	2	4	4	4
Overvoltage (L-L or L-N)	59			2	2	4	4	4
Neutral voltage displacement	59N			2	2	2	2	2
Negative sequence overvoltage	47			1	1	2	2	2
Overfrequency	81H			2	2	2	2	2
Underfrequency	81L			4	4	4	4	4
Thermostat / Buchholz ⁽²⁾	26/63	□	□	□	□	□	□	□
Temperature monitoring (16 RTDs) ⁽³⁾	38/49T	□ 8 RTDs	□ 8 RTDs	□ 16 RTDs	□ 16 RTDs	□ 16 RTDs	□ 16 RTDs	□ 16 RTDs
Synchro-check ⁽⁴⁾	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 MET148-2 temperature input modules.

(4) With optional MCS025 synchro-check module.

(5) Applications S24 and T24 perform the functions of applications S23 and T23 respectively.

(6) Only for applications S50, S51, S52, S53, T50, T52.