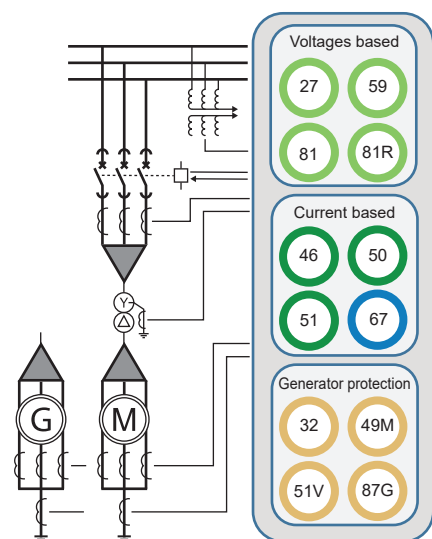


MVR-200 series Machine/Motor and Generator protection

Machine/Motor (MVR-M2xx) and Generator (MVR-G2xx) protection



MVR-21x series



MVR-25x series

Feature	Machine/Motor				Generator	
	M210	M215	M255	M257	G215	G257
5 x AC current measurement	x	x	x		x	
10 x AC current measurement (differential current included)				x		x
4 x AC voltage measurement		x	x	x	x	x
3 x DI, 5 x relay output, 1 x System fault (Watchdog) output	x	x	x	x	x	x
HW Option B: 8 x Isolated (2 groups) digital inputs, 10 to 200 V DC	x	x	x	x	x	x
HW Option C: 5 x NO digital outputs, 220 V AC / 3 A or 220 V DC / 0.3 A	x	x	x	x	x	x
HW Option I: 5 x analogue outputs 0(4) to 24 mA out, 1 x mA in*	x	x	x	x	x	x
HW Option J: Double Fiber Ethernet interface**	x	x	x	x	x	x
HW Option L: RS 232 interface + Serial fiber Plastic - Plastic (PP)**	x	x	x	x	x	x
HW Option M: RS 232 interface + Serial fiber Plastic - Glass (PG)**	x	x	x	x	x	x
HW Option N: RS 232 interface + Serial fiber Glass - Plastic (GP)**	x	x	x	x	x	x
HW Option O: RS 232 interface + Serial fiber Glass - Glass (GG)**	x	x	x	x	x	x
SW Option: Measuring class 0.25 (0.55 standard)		x	x	x	x	x
SW Option: Selection between types: synchronous/asynchronous/synchronous with excitation				x		
SW Option: Active synchronizer with relay outputs for speed/voltage control						x
Number of option slots	4	3	11	9	3	9

* Max. 2 modules per relay.

** Only one communication option per relay.

Machine/Motor and Generator protection

Protection	Codes		Machine/Motor				Generator	
	IEC	ANSI	M210	M215	M255	M257	G215	G257
Motor start-up supervision element	IST>	14	x	x	x	x		
Under-impedance protection	Z<	21					x	x
Over-excitation protection	V/Hz	24					x	x
Synchrocheck	DV/DA/DF	25					x	x
Synchroniser		25						x
Under-voltage protection stages INST, DT or IDMT	U< to U<<<<	27		x	x	x	x	x
Inadvertent energising		27						x
Reverse-/under-/over-power protection stages INDT, DT or IDMT	P</> (4)	32		x	x	x	x	x
Under-current monitor	I<	37	x	x	x	x		
Loss of field	X<	40					x	x
Current unbalance/broken conductor protection stages INST, DT or IDMT	I2 (I2/I1)	46 L/R	x	x	x	x	x	x
Positive/negative sequence under-/over-voltage protection stages INST, DT or IDMT	U1</> (4)	27P/47/59P		x	x	x	x	x
Motor start-up supervision element	IST>	48	x	x	x	x		
Machine thermal overload protection	T>	49M	x	x	x	x	x	x
Inadvertent energising		50						x
Harmonic over-current protection/inrush blocking stages INST, DT or IDMT	IXH> to IXH>>>>	50H/51H/68	x	x	x	x	x	x
(Sensitive) Earth fault protection stages INST, DT or IDMT	I0> to I0>>>>	50N/51N(S)	x	x	x	x	x	x
Breaker failure protection	CBFP	50BF	x	x	x	x	x	x
Three-phase over-current protection stages INST, DT or IDMT	I> to I>>>>	50	x	x	x	x	x	x
Load jam monitor	IM>	51M	x	x	x	x		
Voltage controlled/dependent over-current protection	IV>	51V					x	x
Three-phase over-current protection stages INST, DT or IDMT	I> to I>>>>	51	x	x	x	x	x	x
Power factor		55		x	x	x	x	x
Over-voltage protection stages INST, DT or IDMT	U> to U>>>>	59		x	x	x	x	x
Residual voltage protection stages INST, DT or IDMT	U0> to U0>>>>	59N		x	x	x	x	x
Fuse failure	VTS	60		x	x	x	x	x
100 % stator Earth fault protection	U0F3<	64F3					x	x
Restart inhibit/frequent starts	N>	66	x	x	x	x		
Directional three-phase over-current protection stages DT or IDMT	IDIR> to IDIR>>>>	67		x	x	x	x	x
Directional (sensitive) residual over-current protection stages DT or IDMT	I0DIR> to I0DIR>>>>	67N		x	x	x	x	x
Vector jump/surge		78					x	x
Out of Step (pole slip)		78					x	x
Auto-reclose	0->1	79			x	x	x	x
Frequency protection stages	F>/F< (8)	81O/U		x	x	x	x	x
Rate of change of frequency	df/dt (8)	81R		x	x	x	x	x
Restart inhibit/frequent starts	N>	86	x	x	x	x		
Restricted earth fault protection (low-imp)	I0D>	87N	x	x	x	x	x	x
Cable-end differential protection		87	x	x	x	x	x	x
Motor or generator differential protection, 2-winding	IDX>, IDX>>	87M/G				x		x
Programmable stage		99	x	x	x	x	x	x
Current transformer supervision	CTS		x	x	x	x	x	x
Voltage memory				x	x	x	x	x
Disturbance recorder, 60 MB (for example, 100 disturbance records of 10 s, 15,000 events)	DR		x	x	x	x	x	x

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