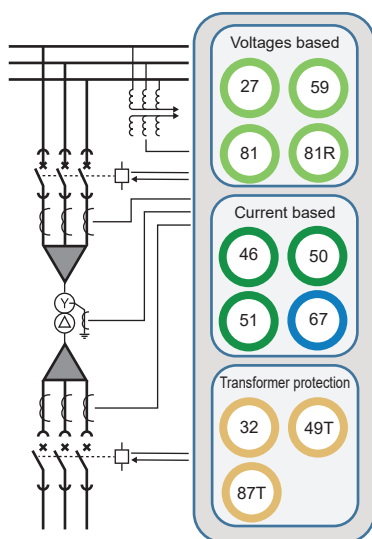


# MVR-200 series Transformer and Busbar protection

## Transformer (MVR-T2xx) and Busbar (MVR-V211) protection



MVR-21x series



MVR-25x series

Feature	Transformer				Bus
	T215	T216	T256	T257	V211
5 x AC current measurement	•				
10 x AC current measurement (differential current included)		•	•	•	
4 x AC voltage measurement	•			•	•
3 x DI, 5 x relay output, 1 x System fault (Watchdog) output	•	•	•	•	•
<b>HW Option B:</b> 8 x Isolated (2 groups) digital inputs, 10 to 200 V DC	•	•	•	•	•
<b>HW Option C:</b> 5 x NO digital outputs, 220 V AC / 3 A or 220 V DC / 0.3 A	•	•	•	•	•
<b>HW Option I:</b> 5 x analogue outputs 0(4) to 24 mA out, 1 x mA in*	•	•	•	•	•
<b>HW Option J:</b> Double Fiber Ethernet interface**	•	•	•	•	•
<b>HW Option L:</b> RS 232 interface + Serial fiber Plastic - Plastic (PP)**	•	•	•	•	•
<b>HW Option M:</b> RS 232 interface + Serial fiber Plastic - Glass (PG)**	•	•	•	•	•
<b>HW Option N:</b> RS 232 interface + Serial fiber Glass - Plastic (GP)**	•	•	•	•	•
<b>HW Option O:</b> RS 232 interface + Serial fiber Glass - Glass (GG)**	•	•	•	•	•
<b>SW Option:</b> Measuring class 0.25 (0.55 standard)	•			•	
<b>SW Option:</b> Active synchronizer with relay outputs for speed/voltage control					•
<b>SW Option:</b> AVR control (Tap changer)				•	
Number of option slots	3	2	10	9	5

\* Max. 2 modules per relay.

\*\* Only one communication option per relay.

# Transformer and Busbar protections

Protection	Codes		Transformer				Bus
	IEC	ANSI	T215	T216	T256	T257	V211
Under-impedance protection	Z<	21	•			•	
Over-excitation protection	V/Hz	24	•				
Synchrocheck	DV/DA/DF	25				•	•
Synchroniser		25					•
Under-voltage protection stages INST, DT or IDMT	U< to U<<<<	27	•			•	•
Positive/negative sequence under-/over-voltage protection stages, INST, DT or IDMT	U1</> (4)	27P/47/59P	•				•
Reverse-/under-/over-power protection stages INST, DT or IDMT	P</> (4)	32				•	
Current unbalance/broken conductor protection stages, INST, DT or IDMT	I2 (I2/I1)	46 /R/L	•	•	•	•	
Transformer thermal overload protection	T>	49T		•	•	•	
Three-phase over-current protection stages INST, DT or IDMT	I> to I>>>>	50	•	•	•	•	
Harmonic over-current protection/inrush blocking stages, INST, DT or IDMT	IXH> to IXH>>>>	50H/51H/68	•	•	•	•	
(Sensitive) Earth-fault protection stages INST, DT or IDMT	I0> to I0>>>>	50N/51N(S)	•	•	•	•	
Breaker failure protection	CBFP	50BF	•	•	•	•	•
Three-phase over-current protection stages INST, DT or IDMT	I> to I>>>>	51	•	•	•	•	
Over-voltage protection stages INST, DT or IDMT	U> to U>>>>	59	•			•	•
Residual voltage protection stages INST, DT or IDMT	U0> to U0>>>>	59N	•			•	•
Fuse failure	VTS	60	•			•	•
Directional three-phase over-current protection stages DT or IDMT	IDIR> to IDIR>>>>	67	•			•	
Directional (sensitive) residual over-current protection stages DT or IDMT	I0DIR> to I0DIR>>>>	67N	•			•	
Vector jump/surge		78					•
Frequency protection stages	F>/ F< (8)	810/U				•	•
Rate of change of frequency	dt/dt (8)	81R				•	•
Restricted earth-fault protection (low-imp)	I0D>	87N	•	•	•	•	
Cable-end differential protection		87	•	•	•	•	
Transformer, motor or generator differential protection, 2 winding	IDX>, IDX>>	87T/G/M		•	•	•	
Programmable stage		99	•	•	•	•	•
Voltage memory						•	
Current transformer supervision	CTS		•	•	•	•	
Switch onto fault logic	SOTF		•	•	•	•	
Disturbance recorder, 60 MB (for example, 100 disturbance records of 10 s, 15,000 events)	DR		•	•	•	•	•

## For more information, please contact:

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