

VAMP 230

DIRECTIONAL OVERCURRENT AND EARTH FAULT RELAY



- Suitable for parallel lines and ring network
- Event handling and fault registration
- Disturbance recorder
- Various communication protocols including TCP/IP
- Configurable mimic
- Supports local and remote control

Main technical data/ VAMP 230

Auxiliary voltage, U _{aux}	40...265 V ac / dc (optionally 18...36Vdc)	Voltage protection	
Rated phase current I _n	1A or 5A	Overvoltage stage	U> 59
- current measuring range	0...50 x I _n	Overvoltage stage	U>> 59
Rated neutral current I _{on}	1A or 5A	Overvoltage stage	U>>> 59
- current measuring range	0...5 x I _n	Undervoltage stage	U< 27
Thermal Withstand	4 x I _n (continuous), 100 x I _n (for 1 s)	Undervoltage stage	U<< 27
Rated voltage U _n	50 – 120 V (configurable)	Undervoltage stage	U<<< 27
- voltage measuring range	0 – 175 V (100 / 110 V)	Frequency protection stages	
Voltage withstand (continuous)	250 V	Over/ underfrequency stage	f>/f< 81H/L
Rated frequency f _n	45...65 Hz	Over/ underfrequency stage	f>>/f<< 81H/L
- frequency measuring range	16...75 Hz	Underfrequency stage	f< 81L
Digital inputs	6 pcs	Underfrequency stage	f<< 81L
- internal operating voltage	+48 V dc	Auto-reclosure function	
Trip contacts	2 pcs	AR function	0 ----> 1 79
Alarm contacts	5 pcs	- five (5) shots	
Tests and environment		Second harmonic stage	
Emission	EN 55022	Inrush current detector	68
Immunity	IEC 60255-22-1, IEC 60255-11, EN 61000-4-6, EN 61000-4-5, EN6100-4-4, EN 61000-4-3, EN6100-4-2	Arc protection (option)	
Insulation test	IEC 60255-5	Arc protection stage	ArcI> 51L>
Surge voltage	IEC 60255-5	Arc protection stage	Arc I _o > 51NL>
Vibration shock	IEC 60255-21-1	Other	
Operating temperature	10...+55° C	Disturbance recorder	All analogue channels and binary inputs / outputs
Relative humidity	<95 %, no	Circuit breaker failure protection	CBFP 50BF
condensation allowed		Trip circuit supervision	TCS
Degree of protection (IEC 60529)	IP54, flush mounted	Voltage sag and swell	
Weight	4,2 kg	Distance to short circuit fault	
Dimension (w x h x d)	209 x 155 x 225 mm	Transducer	Four mA outputs for any relevant signals (option)
Protection stages		Measurements	
Overcurrent protection		Phase currents	IL1, IL2, IL3, IL
Directional /	I _{dir} > / I>	Residual current	I ₀ (A)
non-directional overcurrent stage	67 / 50 / 51	Current unbalance	I ₂ /I ₁
Directional /	I _{dir} >> / I>>	Phase and line voltages	U ₁₂ , U ₂₃ , U ₃₁ , U _{L1} , U _{L2} , U _{L3}
non-directional overcurrent stage	67 / 50 / 51	Residual voltage	U ₀
Directional /	I _{dir} >>> / I>>>	Frequency	f
non-directional overcurrent stage	67 / 50 / 51	Power	P, Q, S
Directional /	I _{dir} >>>> / I>>>>	Power factor	PF
non-directional overcurrent stage	67 / 50 / 51	PQ diagram ⁽¹⁾	
Non-directional overcurrent stage	I> 50 / 51	Note: ⁽¹⁾ with VAMPSET software	
Non-directional overcurrent stage	I>> 50 / 51	Harmonics from phase currents:	
Non-directional overcurrent stage	I>>> 50/51	THD, harmonics 2 nd to 15 th by phase	
Unbalance protection	I ₂ > 46	Harmonics from voltages:	
Thermal overload stage	T> 49	THD of voltage, harmonics 2 nd to 15 th by phase	
Residual overcurrent protection		Frequency	f
Directional /	I _{0q} > / I ₀	Power	P, Q, S
non-directional earth fault stage	67N / 50N / 51N	Energy	E+, E-, E _{q+} , E _{q-}
Directional /	I _{0q} >> / I ₀	Power factor	PF
non-directional earth fault stage	67N / 50N / 51N	Short-circuit fault reactance	X _{fault}
Non-directional earth fault stage	I ₀ > 50N / 51N	Voltage and current angle diagram ⁽¹⁾	
Non-directional earth fault stage	I ₀ >> 50N / 51N	Note: ⁽¹⁾ with VAMPSET software	
Residual overvoltage protection		Communication protocols	
Residual voltage stage	U ₀ > 59N	IEC 60 870-5-103	
Residual voltage stage	U ₀ >> 59N	Transparent TCP/IP	
		Modbus TCP	
		Modbus RTU	
		Profibus DP	
		SPA	

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