

Monitoring relays review

Type	Analog (A) / Digital (D)	Phases	Modules	Over (max)	Under (min)	Failure	Sequence	Asymmetry	Cos-φ	Type		Function		Supply (V)		Monitored voltage/current range			Delay			Contacts	Function 2nd relay	Memory	Description	
										AC	DC	Window	Hysteresis	Supply voltage	galvanic. separated	Upper level - MAX	Bottom level - MIN		for MAX, MIN	MAX independ.	independ. MIN					
																WINDOW	Hysteresis									
Relay monitoring voltage																										
HRN-33	A	1	1	●	●					●	●		●	●	from monitored	●	160-276V		30-99%	●		1				- normal closed contact, opened when exceeding MAX or MIN and timing
HRN-34	A	1	1	●	●					●	●		●	●	from monitored	●	6-30V		30-99%	●		1				- like HRN-33, but monitoring battery circuits and supply
HRN-35	A	1	1	●	●					●	●		●	●	from monitored	●	160-276V		30-99%	●		2				- like HRN-33, but 2 output contacts, for each level independent
HRN-41	A	1	3	●	●					●	●	●	●	●	AC 230, AC/DC 24V AC 400 V AC 110 V	●	12.5-50V 40-160V 125-500V		30-90% 30-90% 30-90%	●	●	2	●	●	- monitores AC and DC, galvanically separated measured and supply circuits - 3 measuring ranges, Umin adjusted as % of Umax - 2 output independent relays for each level	
HRN-42	A	1	3	●	●					●	●	●	●	●	AC 230, AC/DC 24V AC 400 V AC 110 V	●	12.5-50V 40-160V 125-500V	12.5-50V 40-160V 125-500V		●	●	2	●	●	- like HRN-41, but Umax and Umin adjusted in % acc. to measured range	
HRN-43N	A	3	3	●	●	●	●	●		●	●		●	●	AC 230, 400, AC/DC 24V	●	160-276V		30-99%	●		2	●	●		- in 3-phase mains monitoring voltage, failur, sequence and asymmetry of phases. For 3x400/230V.
HRN-43	A	3	3	●	●	●	●	●		●	●		●	●	AC 230, 400, AC/DC 24V	●	280-480V		30-99%	●		2	●	●		- like HRN-43, but for 3x400V without neutral
HRN-51N	A	3	1			●	●			●			●		from monitored					●		1				- simple and cheap version of HRN-43N, controlling failure, sequence of phases and breach of neutral point
HRN-51	A	3	1			●	●			●			●		from monitored					●		1				- simple and cheap version of HRN-43N, controlling failure and sequence of phases
HRN-52	A	3	1	●	●	●				●	●		●	●	from monitored		160-276V	160-276V		●		1				- single and cheap version of HRN-43N, monitoring over-/undervoltage in 3-phase mains
HRN-54	A	3	1	●	●	●	●			●			●		from monitored		420-500V	300-380V		●		1				- for circuits 3x400 V
HDUI-3	D	3	3	●	●	●	●	●	●	●	●	●	●	●	AC 230, 400, AC/DC 24V	●	280-480V	280-480V	30-99%	●	●	2	●	●		- maximum equipped multifunction monitoring relay for 3-phase mains
Relay monitoring current																										
PRI-31	A	1	1	●						●					AC 24-240, DC 24V		1.6-16A			●		1				- adjustable current value, output contact closes when value exceeded
PRI-32	A	1	1	●						●					AC 24-240, DC 24V		1-20A			●		1				- adjustable current value, output contact closes when value exceeded
PRI-41	A	1	3	●	●					●	●	●	●	●	AC 230, AC/DC 24V AC 400 V AC 110 V	●	0.4-1.6A 1.25-5A 4-16A		30-90% 30-90% 30-90%	●	●	2	●	●	- monitores AC and DC, galvanically separated measured and supply circuits - 3 measuring ranges, Imin adjusted as % of Imax - 2 output independent relays for each level	
PRI-42	A	1	3	●	●					●	●	●	●	●	AC 230, AC/DC 24V AC 400 V AC 110 V	●	0.4-1.6A 1.25-5A 4-16A	0.4-1.6A 1.25-5A 4-16A		●	●	2	●	●	- like PRI-41, but Imax and Imin adjusted in % acc. to measured range	
Relay monitoring power factor cos-φ																										
COS-1	A	3	3	●	●				●	●	●		●	●	AC 230 V, 400 V, AC/DC 24V	●	0.1-0.99	0.1-0.99		●		2	●	●		- monitoring load of motors, thus power factor cos-φ
Level switch																										
HRH-1	A	1	3	●	●					●		●	●	●	AC 110 V, 230 V, 400 V, AC/DC 24V	●	5-100 kΩ	5-100 kΩ		●	●	2	●			- selectable function of pump in / out and sensitivity of sounders acc. to resistance of liquid.
HRH-2	A	1	1	●	●					●		●	●	●	AC 110 V, AC/DC 230 V, AC/DC 24 V	●	5-100 kΩ	5-100 kΩ		●		1				- selectable function of pump in / out and sensitivity of sounders acc. to resistance of liquid.
Thermostats																										
TER-3	A	1	1	●						●					AC 24-240V/DC 24V		-30..+70 °C	-30..+70 °C				1				- simple thermostat with external sensor, hysteresis of switching adjustable.
TER-4	A	1	3	●						●					AC 230, AC/DC 24V	●	-40..+110 °C	-40..+110 °C				2	●			- 2-stage thermostat (2 in one), dependent / independent functions selectable.
TER-6	D	1	3	●	●					●	●		●	●	AC 230, AC/DC 24V	●	-40..+110 °C	-40..+110 °C				2	●			- multifunction digital thermostat (6 functions), weekly programming, 2 inputs, 2 outputs
TER-7	A	1	1	●						●					AC 230V, AC/DC 24-240V		3.3 kΩ	1.8 kΩ				2				- thermostat monitoring overload of motors via PTC thermistor in winding