



## Voltage relays

Type	Connection	Power voltage	Monitored quantities									
			Phase	Adjustable range (min - max)	AC undervoltage	AC overvoltage	DC undervoltage	DC overvoltage	Phase failure	Phase order	Asymmetry	
HRN-33 HRN-35 HRN-37 HRN-63 HRN-67	1-M	from the monitored voltage	↔	AC 48 - 276 V AC 48 - 276 V AC 24 - 150 V AC 48 - 276 V AC 24 - 150 V	✓	✓	X	X	X	X	X	
HRN-34 HRN-64	1-M	from the monitored voltage	↔	DC 6 - 30 V DC 6 - 30 V	X	X	✓	✓	X	X	X	
HRN-41/230V HRN-41/110V HRN-41/400V HRN-41/24V	3-M	AC 230 V AC 110 V AC 400 V AC/DC 24 V	↔	AC/DC 3 - 50 V AC/DC 10 - 160 V AC/DC 30 - 500 V	✓	✓	✓	✓	X	X	X	
HRN-42/230V HRN-42/110V HRN-42/400V HRN-42/24V	3-M	AC 230 V AC 110 V AC 400 V AC/DC 24 V	↔	AC/DC 10 - 50 V AC/DC 32 - 160 V AC/DC 100 - 500 V	✓	✓	✓	✓	X	X	X	
VROU1-28/69 VROU1-28/139 VROU1-28/277	3-M	AC/DC 24 .. 240 V	↔	AC 43 - 86 V AC 75 - 173 V AC 165 - 346 V	✓	✓	X	X	X	X	X	
VRU1-28/69 VRU1-28/139 VRU1-28/277	3-M	AC/DC 24 .. 240 V	↔	AC 43 - 69 V AC 75 - 139 V AC 165 - 277 V	✓	X	X	X	X	X	X	
VRO1-28/69 VRO1-28/139 VRO1-28/277	3-M	AC/DC 24 .. 240 V	↔	AC 57 - 86 V AC 100 - 173 V AC 220 - 346 V	X	✓	X	X	X	X	X	
VRM1-28/240 VRM1-28/24	3-M	AC/DC 24 .. 240 V DC 12 .. 24 V	↔	DC 0 - 60 mV DC 0 - 90 mV DC 0 - 120 mV	X	X	✓	✓	X	X	X	
HRN-43/230V HRN-43/110V HRN-43/400V HRN-43/24V	3-M	AC 230 V AC 110 V AC 400 V AC/DC 24 V	# (3-wired)	AC 3 x 84 - 480 V	✓	✓	X	X	✓	✓	✓	
HRN-43N/230V HRN-43N/110V HRN-43N/400V HRN-43N/24V	3-M	AC 230 V AC 110 V AC 400 V AC/DC 24 V	# (4-wired)	AC 3 x 48 - 276 V	✓	✓	X	X	✓	✓	✓	
HRN-55	1-M	from the monitored voltage	# (3-wired)	undervoltage: AC 3 x 300 V overvoltage: AC 3 x 500 V	✓	✓	X	X	✓	✓	X	
HRN-55N	1-M	from the monitored voltage	# (4-wired)	undervoltage: AC 3x 173 V overvoltage: AC 3x 288 V	✓	✓	X	X	✓	✓	X	
HRN-57	1-M	from the monitored voltage	# (3-wired)	AC 3 x 300 - 500 V	✓	✓	X	X	✓	X	X	
HRN-57N	1-M	from the monitored voltage	# (4-wired)	AC 3 x 173 - 288 V	✓	✓	X	X	✓	X	X	
HRN-54	1-M	from the monitored voltage	# (3-wired)	AC 3 x 300 - 500 V	✓	✓	X	X	✓	✓	X	
HRN-54N	1-M	from the monitored voltage	# (4-wired)	AC 3 x 173 - 288 V	✓	✓	X	X	✓	✓	X	
HRN-56/120 HRN-56/208 HRN-56/240 HRN-56/400	1-M	from the monitored voltage	# (3-wired)	AC 3 x 84 - 114 V AC 3 x 146 - 198 V AC 3 x 168 - 228 V AC 3 x 280 - 380 V	✓	X	X	X	✓	✓	X	
HRN-56/480 HRN-56/575	3-M	from the monitored voltage	# (3-wired)	AC 3 x 336 - 456 V AC 3 x 403 - 546 V	✓	X	X	X	✓	✓	X	
VROU3-28/120 VROU3-28/240 VROU3-28/480	3-M	AC/DC 24 .. 240 V	# (3-wired)	AC 3 x 75 - 150 V AC 3 x 130 - 300 V AC 3 x 285 - 600 V	✓	✓	X	X	X	X	X	
VRU3-28/120 VRU3-28/240 VRU3-28/480	3-M	AC/DC 24 .. 240 V	# (3-wired)	AC 3 x 75 - 120 V AC 3 x 130 - 240 V AC 3 x 285 - 480 V	✓	X	X	X	X	X	X	
VRO3-28/120 VRO3-28/240 VRO3-28/480	3-M	AC/DC 24 .. 240 V	# (3-wired)	AC 3 x 100 - 150 V AC 3 x 173 - 300 V AC 3 x 380 - 600 V	X	✓	X	X	X	X	X	
VROU3N-28/120 VROU3N-28/240 VROU3N-28/480	3-M	AC/DC 24 .. 240 V	# (4-wired)	AC 3 x 40 - 90 V AC 3 x 70 - 180 V AC 3 x 154 - 360 V	✓	✓	X	X	X	X	X	
VRU3N-28/120 VRU3N-28/240 VRU3N-28/480	3-M	AC/DC 24 .. 240 V	# (4-wired)	AC 3 x 40 - 69 V AC 3 x 70 - 139 V AC 3 x 154 - 277 V	✓	X	X	X	X	X	X	
VRO3N-28/120 VRO3N-28/240 VRO3N-28/480	3-M	AC/DC 24 .. 240 V	# (4-wired)	AC 3 x 57 - 86 V AC 3 x 100 - 173 V AC 3 x 220 - 346 V	X	✓	X	X	X	X	X	
VRSF3-18/120 VRSF3-18/240 VRSF3-28/480	1-M 1-M 3-M	from the monitored voltage	# (3-wired)	AC 3 x 85 - 102 V AC 3 x 147 - 204 V AC 3 x 323 - 408 V	✓	X	X	X	✓	✓	X	
VRSF3N-18/120 VRSF3N-18/240 VRSF3N-28/480	1-M 1-M 3-M	from the monitored voltage	# (4-wired)	AC 3 x 49 - 58 V AC 3 x 85 - 118 V AC 3 x 187 - 235 V	✓	X	X	X	✓	✓	X	
VRBU3-18/120 VRBU3-18/240 VRBU3-28/480	1-M 1-M 3-M	from the monitored voltage	# (3-wired)	AC 3 x 50 - 102 V AC 3 x 86 - 204 V AC 3 x 190 - 408 V	✓	X	X	X	✓	✓	✓	
VRBU3N-18/120 VRBU3N-18/240 VRBU3N-28/480	1-M 1-M 3-M	from the monitored voltage	# (4-wired)	AC 3 x 29 - 58 V AC 3 x 50 - 118 V AC 3 x 110 - 235 V	✓	X	X	X	✓	✓	✓	



## Signaling relays

Type	Connection	Power voltage	Monitored quantities									
			Phase	Signaled range (min - max)	AC undervoltage	AC overvoltage	DC undervoltage	DC overvoltage	Phase failure	Phase order	Asymmetry	
MPS-1	1-M	from the signaled voltage	(4-wired)	AC 3 x 50 - 276 V	✓	✓	X	X	X	X	X	



## Current relays

Type	Connection	Power voltage	Monitored quantities							
			Phase	Adjustable range (min - max)	AC undercurrent	AC overcurrent	DC undercurrent	DC overcurrent		
PRI-32	1-M	AC 24 .. 240 V DC 24 V	↔	AC 1 - 20 A	X	✓	X	X		
PRI-41/230V PRI-41/110V PRI-41/400V PRI-41/24V	3-M	AC 230 V AC 110 V AC 400 V AC/DC 24 V	↔	AC/DC 0.1 - 1.6 A AC/DC 0.3 - 5 A AC/DC 1 - 16 A	✓	✓	✓	✓		
PRI-41/230V PRI-41/110V PRI-41/400V PRI-41/24V	3-M	AC 230 V AC 110 V AC 400 V AC/DC 24 V	↔	AC/DC 0.32 - 1.6 A AC/DC 1 - 5 A AC/DC 3.2 - 16 A	✓	✓	✓	✓		
PRI-51/0.5 PRI-51/1 PRI-51/2 PRI-51/5 PRI-51/8 PRI-51/10 PRI-51/16	1-M	AC 24 .. 240 V DC 24 V	↔	AC 0.05 - 0.5 A AC 0.1 - 1 A AC 0.2 - 2 A AC 0.5 - 5 A AC 0.8 - 8 A AC 1 - 10 A AC 1.6 - 16 A	X	✓	X	X		
PRI-52	1-M	AC 24 .. 240 V DC 24 V	↔	AC 0.5 - 25 A	X	✓	X	X		
PRI-53/1 PRI-53/5	6-M	AC/DC 24 .. 240 V	#	AC 3 x 0.4 - 1.2 A AC 3 x 2 - 6 A	✓	✓	X	X		
CROU1-28/1 CROU1-28/5	3-M	AC/DC 24 .. 240 V	↔	AC 0.4 - 1.2 A AC 2 - 6 A	✓	✓	X	X		
CRU1-18/1 CRU1-18/5	1-M	AC/DC 24 .. 240 V	↔	AC 0.4 - 1.2 A AC 2 - 6 A	✓	X	X	X		
CRO1-18/1 CRO1-18/5	1-M	AC/DC 24 .. 240 V	↔	AC 0.4 - 1.2 A AC 2 - 6 A	X	✓	X	X		
CRMA1-28/240 CRMA1-28/24	3-M	AC/DC 24 .. 240 V DC 12 .. 24 V	X	DC 0 - 1.2 mA DC 0 - 12 mA DC 0 - 24 mA	X	X	✓	✓		



## Other monitoring relays

Type	Connection	Power voltage	Monitored quantities							
			Phase	Adjustable range	Ground fault	Revers power	Synchroni- zation	Speed sensing	Frequency monitoring	Power factor monitoring
CRGF1-18/240 CRGF1-18/24	3-M	AC/DC 24 .. 240 V DC 12 .. 24 V	X	current: 100; 150; 200; 250; 300; 450; 600; 750; 800; 1200 A	✓	X	X	X	X	X
CRRP1-28/120 CRRP1-28/240 CRRP1-28/480	6-M	U <sub>LN</sub> = 57 .. 69 V U <sub>LN</sub> = 100 .. 139 V U <sub>LN</sub> = 220 .. 277 V	↔ (2-wired) # (4-wired)	of rated current: I <sub>n</sub> = 2, 3, 4, 5, 8, 10 A	X	✓	X	X	X	X
CRRP3-28/120 CRRP3-28/240 CRRP3-28/480	6-M	U <sub>LL</sub> = 3 - 100 .. 120 V U <sub>LL</sub> = 3 - 173 .. 240 V U <sub>LL</sub> = 3 - 380 .. 480 V	# (3-wired)	of rated current: I <sub>n</sub> = 2, 3, 4, 5, 8, 10 A	X	✓	X	X	X	X
VRSCI-28/69 VRSCI-28/139 VRSCI-28/277	6-M	U <sub>LN</sub> = 57 .. 69 V U <sub>LN</sub> = 100 .. 139 V U <sub>LN</sub> = 220 .. 277 V	↔ (2-wired) # (4-wired)	synchronization: 10-30 %	X	X	✓	X	X	X
FRSS1-38/130	3-M	DC 12 .. 24 V	X	of rated speed: (calibration) 1-10 kHz	X	X	X	✓	X	X
HRF-10	3-M	AC 161 .. 346 V	↔	frequency: 40 - 60 Hz 48 - 72 Hz 320 - 480 Hz	X	X	X	X	✓	X
COS-2/230V COS-2/110V COS-2/400V COS-2/24V	3-M	AC 230 V AC 110 V AC 400 V AC/DC 24 V	↔ (2-wired) # (3-wired)	power factor: 0.1 - 0.99	X	X	X	X	X	✓

# Quick overview of monitoring relays

