Control function	Output relay	Operating range	Designation	Power supply		
• Loss or inversion of one of the phases	1 changeover	3 x 230 to 440 V AC	EWS	3 x 200 to 500 V AC	84 892 299	
	2 changeovers		EWS2		84 873 004	
• Total phase failure • Phase sequence • Voltage drop on one or more phases	2 changeovers	3 x 230 V AC	EW2	3 x 230 V AC	84 873 511	
		3 x 400 V AC		3 x 400 V AC	84 873 512	
• Total phase failure • Phase sequence • Voltage drop on one or more phases • Asymmetry between phases of 5 to 15%	2 changeovers	3 x 230 V AC	EWA2	3 x 230 V AC	84 873 501	
		3 x 400 V AC		3 x 400 V AC	84 873 502	
• Phase sequence • Loss of one or more phases • Undervoltage • Supply voltage setpoint adjustable by potentiometer	2 changeovers	180 to 260 V AC	FW	3 x 230 V AC	84 873 010	
		310 to 440 V AC		3 x 380 V AC	84 873 011	
		320 to 460 V AC		3 x 400 V AC	84 873 012	
		330 to 480 V AC		3 x 415 V AC	84 873 013	
		350 to 510 V AC		3 x 440 V AC	84 873 014	
		380 to 550 V AC		3 x 480 V AC	84 873 015	
		460 to 660 V AC		3 x 575 V AC	84 873 016	
• Asymmetry between phases of 5 to 20 % • Phase sequence • Loss of one or more phases with 95% regenerated supply voltage	1 changeover	0.8 to 1.2 x supply voltage	FWA	3 x 230 V AC	84 873 300	
				3 x 400 V AC	84 873 301	
	2 changeovers		FWA2	3 x 230 V AC	84 873 310	
				3 x 400 V AC	84 873 311	

EWA2
22.5 mm casing

FW
45 mm casing

Supply configuration	Self-powered	Measurement range	Designation	Power supply		
Single-phase	No	0.2 to 60 V DC	EUL	24 V DC	84 872 020	
		0.2 to 60 V AC/DC		24 V AC	84 872 021	
				120 V AC	84 872 023	
				230 V AC	84 872 024	
		15 to 600 V DC	EUH	24 V DC	84 872 030	
		15 to 600 V AC/DC		24 V AC	84 872 031	
				120 V AC	84 872 033	
				230 V AC	84 872 034	
		0.2 to 60 V DC	HDU-L LCD Display	24 V DC	84 872 301	
		0.2 to 60 V AC/DC		24 V AC	84 872 302	
				120 V AC	84 872 304	
				230 V AC	84 872 305	
		15 to 600 V DC	HDU-H LCD Display	24 V DC	84 872 306	
		15 to 600 V AC/DC		24 V AC	84 872 307	
				120 V AC	84 872 309	
				230 V AC	84 872 310	
	Yes	-	EUS	12 V DC	84 872 040	
				20 to 80 V AC/DC	84 872 046	
				65 to 260 V AC/DC	84 872 047	
			EUSF 2 thresholds (high/low)	20 to 80 V AC/DC	84 872 056	
				65 to 260 V AC/DC	84 872 057	
3-phase	Yes	-	F3US - Phase-to-phase control	3 x 230 V AC	84 873 200	
				3 x 400 V AC	84 873 201	
			F3USN - Control between phase and neutral	3 x 230 V AC	84 873 210	
				3 x 400 V AC	84 873 211	

EUL
22.5 mm casing

HDU-L. HDU-H
36 mm casing
LCD Display

F3US
45 mm casing

Control function	Measurement range	Designation	Power supply		
ALTERNATING current	1 to 20 A	MCI	24 V AC/DC - 110 to 240 V AC	84 871 102	 MCI 17.5 mm casing
	10 to 100 A With current transformer (optional)	EIT	24 V DC	84 871 040	
			24 V AC	84 871 041	
			48 V AC	84 871 042	
			120 V AC	84 871 043	
			230 V AC	84 871 044	
DIRECT current	2 to 500 mA	EIL	24 V DC	84 871 020	
		HDI-L LCD Display	24 V DC	84 871 301	 EIH 22.5 mm casing
	0.1 to 10 A	EIH	24 V AC	84 871 030	
		HDI-H LCD Display	24 V DC	84 871 306	
ALTERNATING and DIRECT current	2 to 500 mA	EIL	24 V AC	84 871 021	
			48 V AC	84 871 022	
			120 V AC	84 871 023	
			230 V AC	84 871 024	
		HDI-L LCD Display	24 V AC	84 871 302	
			120 V AC	84 871 304	
			230 V AC	84 871 305	 HDI-L. HDI-H 36 mm casing LCD Display
	0.1 to 10 A	EIH	24 V AC	84 871 031	
			48 V AC	84 871 032	
			120 V AC	84 871 033	
			230 V AC	84 871 034	
		HDI-H LCD Display	24 V AC	84 871 307	
			120 V AC	84 871 309	
			230 V AC	84 871 310	

➜ Motor LOAD control relay (Cos. φ)

Control function	Output relay	Designation	Power supply		
Controlling motor under/overload by measuring the phase shift between the voltage and the current (φ)	2 changeovers (1 per threshold)	FFP Independent adjustment of min. and max. thresholds	3 x 230 V AC	84 873 400	 FFP 45 mm casing
			3 x 400 V AC	84 873 401	
			3 x 440 V AC	84 873 402	
			3 x 480 V AC	84 873 403	
			3 x 575 V AC	84 873 404	

➜ Motor UNDERSPEED control relay

Control function	Output relay	Designation	Power supply		
Control of motor underspeed, stopping, running speed or jamming.	1 changeover	FRL	24 V DC	84 874 300	 FRL 45 mm casing
			24 V AC	84 874 301	
			110 V AC	84 874 303	
			230 V AC	84 874 304	

➜ Motor THERMAL PROTECTION relay

Control function	Output relay	Designation	Power supply		
Control of machine temperatures by integrated PTC probes with line break or probe short-circuit detection.	1 NO contact	ETM	24 V AC/DC	84 874 015	
			120 V AC	84 874 013	
			230 V AC	84 874 014	
	1 changeover	ETM2	24 V AC/DC	84 874 025	
			120 V AC	84 874 023	
			230 V AC	84 874 024	
	2 changeovers	ETM22	24 V AC/DC	84 874 035	 ETM 22.5 mm casing
			120 V AC	84 874 033	
			230 V AC	84 874 034	

Relays for controlling LEVELS of conductive liquids

Control function	Sensitivity	Designation	Power supply	8-pin	11-pin
Filling OR emptying with timing (1 or 2 levels: high/low)	**LOW** sensitivity 250 Ω - 5 kΩ **NORMAL** sensitivity 5 kΩ - 100 kΩ **HIGH** sensitivity 50 kΩ - 1 MΩ	**ENRM**	24 V AC	-	**84 871 211**
			120 V AC		**84 871 213**
			230 V AC		**84 871 214**
Filling OR emptying (2 levels: high/low)	**Without alarm** Sensitivity 5 kΩ - 100 kΩ	**ENR**	24 V AC	-	**84 870 201**
			120 V AC		**84 870 203**
			230 V AC		**84 870 204**
	With alarm (Overflow or running dry) Sensitivity 5 kΩ - 100 kΩ	**FN**	24 V AC		**84 870 501**
			48 V AC		**84 870 502**
			120 V AC		**84 870 503**
			230 V AC		**84 870 504**
Emptying (1 or 2 levels: high/low)	Sensitivity 5 kΩ - 100 kΩ	**LN**	24 V AC	**84 870 301**	**84 870 306**
			120 V AC	**84 870 303**	**84 870 308**
			230 V AC	**84 870 304**	**84 870 309**
				-	**84 870 807**
Combined filling AND emptying (2 levels: high/low)	Sensitivity 5 kΩ - 100 kΩ	**F2N**	24 V AC	-	**84 870 601**
			48 V AC		**84 870 602**
			120 V AC		**84 870 603**
			230 V AC		**84 870 604**
		L2N	24 V AC		**84 870 401**
			120 V AC		**84 870 403**
			230 V AC		**84 870 404**
					84 870 808

ENRM
22.5 mm casing

FN
45 mm casing

LN
45 mm casing

4

Single-phase 300 W variable speed controller

Function	Control voltage	Power supply	Output	Current	
• **Control fan speeds in air-conditioning applications** • **For 150 to 300 W asynchronous motor with permanent dephasing via capacitor**	0 / 10 V	230 VAC	1 relay	8 A	**84 886 019**

VRT 300