

Electronic Products

RAPIDUS Series Power Factor Controllers



Type			RAPIDUS 231R-E	RAPIDUS 211R	RAPIDUS 232R-E	RAPIDUS 212R
Definiton			Power Factor Controller (30-12steps)	Power Factor Controller (10-12steps)	Power Factor Controller (30-24steps)	Power Factor Controller (10-24steps)
Order Number			606005	606011	606007	606014
General	Measuring system		3Ø	1Ø	3Ø	1Ø
	LCD Sreen		Available	Available	Available	Available
	Language Support		Turkish, English, Russian	Turkish, English, Russian	Turkish, English, Russian	Turkish, English, Russian
	Battery		Available	Available	Available	Available
	Real Time Clock		Available	Available	Available	Available
	Password Protection		Available	Available	Available	Available
	Current Transformer Ratio		1-5000	1-5000	1-5000	1-5000
	Voltage Transformer Ratio		1-5000	1-5000	1-5000	1-5000
	Demand Period		1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable
	Connection Type		3P4W	Single phase(L-L or L-N) voltage connection with 1 CT	3P4W	Single phase(L-L or L-N) voltage connection with 1 CT
	Measurement in Quadrants		4	4	4	4
	Number of Measurement in a period		512	512	512	512
	LCD/Display Refresh Period		1 sec	1 sec	1 sec	1 sec
	Networks		TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT
	Phasor Diagram		Available	Available	Available	Available
	Signal Waveforms		-	-	-	-
	Min/Max/Demand Values		Available	Available	Available	Available
Control Operations and Functions	Compensation Modes	Rapidus (Intelligent control mode)	Available	Available	Available	Available
		Sequential	Available	Available	Available	Available
		Linear	Available	Available	Available	Available
		Circular	Available	Available	Available	Available
		Manual	Available	Available	Available	Available
	Step Config urations	Manually Assign	Available	Available	Available	Available
		Predef ined	1-1-1-1, 1-1-2-2, 1-2-2-4, 1-2-3-3, 1-2-4-4, 1-1-2-4, 1-2-3-4, 1-2-4-8, 1-1-2-3	1-1-1-1, 1-1-2-2, 1-2-2-4, 1-2-3-3, 1-2-4-4, 1-1-2-4, 1-2-3-4, 1-2-4-8, 1-1-2-3	1-1-1-1, 1-1-2-2, 1-2-2-4, 1-2-3-3, 1-2-4-4, 1-1-2-4, 1-2-3-4, 1-2-4-8, 1-1-2-3	1-1-1-1, 1-1-2-2, 1-2-2-4, 1-2-3-3, 1-2-4-4, 1-1-2-4, 1-2-3-4, 1-2-4-8, 1-1-2-3
		DCM	Available	Available	-	-
		Fixed Step Assignment	Available	Available	Available	Available
		Power(kVAr)	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable
	Type	3Ø capacitor,3Ø shunt reactor,1Ø capacitor or 1Ø shunt reactor adjustable		3Ø capacitor, 3Ø shunt reactor adjustable	3Ø capacitor,3Ø shunt reactor,1Ø capacitor or 1Ø shunt reactor adjustable	3Ø capacitor, 3Ø shunt reactor adjustable
	Power factor settings	Target 1 cosØ	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable
		Target 2 cosØ	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable
	Learning Step Powers and Connections		Available	Available	Available	Available
	Dual cosØ target		Available	Available	Available	Available
	4 Quadrant operation for generators		Available	Available	Available	Available
	Time delays	Step activation time	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
		Step deactivation time	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
		Step discharge time	3-1000 sec adjustable	3-1000 sec adjustable	3-1000 sec adjustable	3-1000 sec adjustable
	Phase shift angle		±45 degree adjustable	±45 degree adjustable	±45 degree adjustable	±45 degree a adjustable
	Averaging time		Off, 5sec, 10sec, 20sec, 30sec, 40sec, 50sec, 60sec adjustable	Off, 5sec, 10sec, 20sec, 30sec, 40sec, 50sec, 60sec adjustable	Off, 5sec, 10sec, 20sec, 30sec, 40sec, 50sec, 60sec adjustable	Off, 5sec, 10sec, 20sec, 30sec, 40sec, 50sec, 60sec adjustable
Energy Meters	Number of Tariffs		1	1	1	1
	Multi Sub-Tariffs(Peak, Day and Off-Peak)		-	-	-	-
	1Ø Phase Energy Meter		-	-	-	-
	3Ø Phase Energy Meters		Available	Available	Available	Available
	4 Quadrant Reactive Energy Meters		-	-	-	-

Electronic Products

RAPIDUS Series Power Factor Controllers



RAPIDUS 218R	RAPIDUS 114	RAPIDUS 114R	RAPIDUS 116	RAPIDUS 116R	RAPIDUS 118
Power Factor Controller (10-8steps)	Power Factor Controller (10-4steps)	Power Factor Controller (10-4steps)	Power Factor Controller (10-6steps)	Power Factor Controller (10-6steps)	Power Factor Controller (10-8steps)
606021	606060	606061	606062	606063	606064
10	10	10	10	10	10
Available	Custom LCD	Custom LCD	Custom LCD	Custom LCD	Custom LCD
Turkish, English, Russian	Turkish, English	Turkish, English	Turkish, English	Turkish, English	Turkish, English
Available	-	-	-	-	-
Available	-	-	-	-	-
Available	Available	Available	Available	Available	Available
1-5000	1 - 5.000	1 - 5.000	1 - 5.000	1 - 5.000	1 - 5.000
1-5000	1 - 999.9	1 - 999.9	1 - 999.9	1 - 999.9	1 - 999.9
1-60 minutes adjustable	-	-	-	-	-
Single phase(L-L or L-N) voltage connection with 1 CT	L-L/L-N	L-L/L-N	L-L/L-N	L-L/L-N	L-L/L-N
4	-	-	-	-	-
512	512	512	512	512	512
1 sec	<0.5 sec.	<0.5 sec.	<0.5 sec.	<0.5 sec.	<0.5 sec.
TT, TN, IT	TT, TN	TT, TN	TT, TN	TT, TN	TT, TN
Available	-	-	-	-	-
-	-	-	-	-	-
Available	-	-	-	-	-
Available	Available	Available	Available	Available	Available
Available	-	-	-	-	-
Available	-	-	-	-	-
Available	-	-	-	-	-
Available	Available	Available	Available	Available	Available
Available	Available	Available	Available	Available	Available
1-1-1-1, 1-1-2-2, 1-2-2-4, 1-2-3-3, 1-2-4-4, 1-1-2-4, 1-2-3-4, 1-2-4-8, 1-1-2-3	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4
Available	-	-	-	-	-
Available	-	-	-	-	-
0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable
30 capacitor, 30 shunt reactor adjustable	30 capacitor or 10 capacitor	30 capacitor or 10 capacitor	30 capacitor or 10 capacitor	30 capacitor or 10 capacitor	30 capacitor or 10 capacitor
0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
Available	-	-	-	-	-
Available	Available	Available	Available	Available	Available
Available	-	-	-	-	-
1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
3-1000 sec adjustable	3-600 sec adjustable	3-600 sec adjustable	3-600 sec adjustable	3-600 sec adjustable	3-600 sec adjustable
±45 degree adjustable	-	-	-	-	-
Off, 5sec, 10sec, 20sec, 30sec, 40sec, 50sec, 60sec adjustable	-	-	-	-	-
1	1	1	1	1	1
-	-	-	-	-	-
-	Available	Available	Available	Available	Available
Available	-	-	-	-	-
-	-	-	-	-	-

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RAPIDUS Series Power Factor Controllers

Type			RAPIDUS 231R-E	RAPIDUS 211R	RAPIDUS 232R-E	RAPIDUS 212R
Current Measurement Input	Measurement Range		10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC
	Overvoltage Category		300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II
	Measurement Surge Voltage		2 kV	2 kV	2 kV	2 kV
	Power Consumption		<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA
	intermittent overload		100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec
	Sampling Freq.between 45-65 Hz		25,6 kHz	25,6 kHz	25,6 kHz	25,6 kHz
Voltage Measurement Input	Overvoltage Category		300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III
	Measured Range L-N		95-272 VAC ±10%	95-410VAC ±10%	95-272 VAC ±10%	95-410VAC ±10%
	Measured Range L-L		164-471 VAC ±10%	95-410VAC ±10%	164-471 VAC ±10%	95-410VAC ±10%
	Measured Frequency Range		45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
	Power Consumption		<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA
	Sampling Freq.between 45-65 Hz		25,6 kHz	25,6 kHz	25,6 kHz	25,6 kHz
Power Quality Measurements	Harmonics / current and voltage		Upto 51st	Upto 51st	Upto 51st	Upto 51st
	THD-Voltage in %		Available	Available	Available	Available
	THD-Current in %		Available	Available	Available	Available
Measurement Accuracy	According to IEC 61557-12	Total Active Power	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Total Reactive Power	Class 1	Class 1	Class 1	Class 1
		Total Apparent Power	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Total Active Energy	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Total Reactive Energy	Class 2	Class 2	Class 2	Class 2
		Frequency	Class 0.05	Class 0.05	Class 0.05	Class 0.05
		Current	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Neutral Current	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Voltage	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Power factor	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		THDV, THDI	Class 1	Class 1	Class 1	Class 1
	According to IEC 62053-22	Total Active Energy	Class 0.2S	Class 0.2S	Class 0.2S	Class 0.2S
	Accoding to IEC 62053-23	Total Reactive Energy	Class 2	Class 2	Class 2	Class 2
Input and Outputs	Compensation Relay Outputs	Number of outputs	12 pcs.	12 pcs.	24 pcs.	24 pcs.
		Type	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)
		Max. Switching Current	2 A	2 A	2 A	2 A
		Max. Switching Voltage	250 VAC	250 VAC	250 VAC	250 VAC
		Max. Switching Power	500 VA	500 VA	500 VA	500 VA
		Mechanical life time	≥ 10 ⁷ operations	≥ 10 ⁷ operations	≥ 10 ⁷ operations	≥ 10 ⁷ operations
		Electrical life time operations (for NO side)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
	Alarm Relay Outputs	Number of outputs	2 pcs.	2 pcs.	2 pcs.	2 pcs.
		Type	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)
		Max. Switching Current	4 A	4 A	4 A	4 A
		Max. Switching Voltage	250 VAC	250 VAC	250 VAC	250 VAC
		Max. Switching Power	1000 VA	1000 VA	1000 VA	1000 VA
		Mechanical life time	≥ 10 ⁷ operations	≥ 10 ⁷ operations	≥ 10 ⁷ operations	≥ 10 ⁷ operations
		Electrical life time operations (for NO side)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
	Generator/ Day-Night Input	Number of inputs	1 pc.	1 pc.	1 pc.	1 pc.
		Frequency	45-65Hz	45-65Hz	45-65Hz	45-65Hz
		Input Present or Not	95-240VAC	95-240VAC	95-240VAC	95-240VAC
	Digital Outputs		-	-	-	-
	Analog Outputs		-	-	-	-

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10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC
300 V Cat II	510V CAT II	510V CAT II	510V CAT II	510V CAT II	510V CAT II
2 kV	2 kV	2 kV	2 kV	2 kV	2 kV
<0.2 VA	<0.3 VA	<0.3 VA	<0.3 VA	<0.3 VA	<0.3 VA
100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec
25,6 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz
300 V Cat III	510V CAT III	510V CAT III	510V CAT III	510V CAT III	510V CAT III
95-410VAC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%
95-410VAC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%
45-65 Hz	45...65 Hz	45...65 Hz	45...65 Hz	45...65 Hz	45...65 Hz
<0.1 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA
25,6 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz
Upto 51st	-	-	-	-	-
Available	Available	Available	Available	Available	Available
Available	Available	Available	Available	Available	Available
Class 0.2	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
Class 0.2	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 2	Class 2	Class 2	Class 2	Class 2	Class 2
Class 0.05	Class 0.1	Class 0.1	Class 0.1	Class 0.1	Class 0.1
Class 0.2	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
Class 0.2S	Class 0.5S	Class 0.5S	Class 0.5S	Class 0.5S	Class 0.5S
Class 2	Class 2	Class 2	Class 2	Class 2	Class 2
8+2(If alarm relay outputs are used for compensation) pcs.	4	4	6	6	8
NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)
2 A	2A	2A	2A	2A	2A
250 VAC	250VAC	250VAC	250VAC	250VAC	250VAC
500 VA	500 VA	500 VA	500 VA	500 VA	500 VA
≥ 10 ⁷ operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations
5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
2 pcs.	2	2	2	2	2
NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)
4 A	4A	4A	4A	4A	4A
250 VAC	250 VAC	250 VAC	250 VAC	250 VAC	250 VAC
1000 VA	1000 VA	1000 VA	1000 VA	1000 VA	1000 VA
≥ 10 ⁷ operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations
5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
1 pc.	1	1	1	1	1
45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz
95-240VAC	95-240VAC	95-240VAC	95-240VAC	95-240VAC	95-240VAC
-	-	-	-	-	-
-	-	-	-	-	-

Electronic Products

RAPIDUS Series Power Factor Controllers

Type			RAPIDUS 231R-E	RAPIDUS 211R	RAPIDUS 232R-E	RAPIDUS 212R
Supply	Auxiliary supply input		No	No	No	No
	Voltage		95-272VAC ±10% from L1-N	95-410VAC ±10% from La-Lb	95-272VAC ±10% from L1-N	95-410VAC ±10% from La-Lb
	Frequency		45-65Hz	45-65Hz	45-65Hz	45-65Hz
	Consumption	AC	< 10VA	< 10VA	< 10VA	< 10VA
DC		-	-	-	-	
Data Logging with timestamp	Min/max/avg Values	Hourly records	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters
		Daily records	240 days x 68 different paramaters	240 days x 68 different paramaters	240 days x 68 different paramaters	240 days x 68 different paramaters
		Monthly records	36 hours x 68 different paramaters	36 hours x 68 different paramaters	36 hours x 68 different paramaters	36 hours x 68 different paramaters
		Demand	4 months x 16 different parameters	4 months x 16 different parameters	4 months x 16 different parameters	4 months x 16 different parameters
	Alarm records		50	50	50	50
	Communication	Protocol		Modbus RTU	Modbus RTU	Modbus RTU
Baud rate		2400-115200 bps adjustable	2400-115200 bps adjustable	2400-115200 bps adjustable	2400-115200 bps adjustable	
Parity number		None	None	None	None	
Stop bit		1	1	1	1	
Address		1-247 adjustable	1-247 adjustable	1-247	1-247	
Isolation		2000V RMS	2000V RMS	2000V RMS	2000V RMS	
Mechanical Properties	Weight(g)		670	663	765	750
	Protection Class		Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
	Assembly Type		Panel Mount	Panel Mount	Panel Mount	Panel Mount
Cable Cross Sections	Voltage, Current, All Relay Outputs, Gen Input	Stranded:	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG
		Solid:	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG
	RS 485	Stranded:	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG
		Solid:	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG
Ambient Conditions	Operating Temperature	-20 to +55 °C	-20 to +55 °C	-20 to +55 °C	-20 to +55 °C	-20 to +55 °C
	Storage Temperature	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C
	Relative Humidity (no condensation)	Max.95%	Max.95%	Max.95%	Max.95%	Max.95%
Accessories		Type	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)
		Definition	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER
		Order Number	250 001	250 001	250 001	250 001
		Packaging unit	2	2	2	2

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RAPIDUS 218R	RAPIDUS 114	RAPIDUS 114R	RAPIDUS 116	RAPIDUS 116R	RAPIDUS 118
No	-	-	-	-	-
95-410VAC $\pm 10\%$ from La-Lb	120...510V AC $\pm 10\%$ from L1-N	120...510V AC $\pm 10\%$ from L1-N	120...510V AC $\pm 10\%$ from L1-N	120...510V AC $\pm 10\%$ from L1-N	120...510V AC $\pm 10\%$ from L1-N
45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz
< 10VA	< 10VA	< 10VA	< 10VA	< 10VA	< 10VA
-	-	-	-	-	-
1920 hours x 68 different parameters	-	-	-	-	-
240 days x 68 different parameters	-	-	-	-	-
36 hours x 68 different parameters	-	-	-	-	-
4 months x 16 different parameters	-	-	-	-	-
50	-	-	-	-	-
Modbus RTU	-	Modbus RTU	-	Modbus RTU	-
2400-115200 bps adjustable	-	1200-38400 bps adjustable	-	1200-38400 bps adjustable	-
None	-	Odd, Even, None	-	Odd, Even, None	-
1	-	1	-	1	-
1-247	-	1-247	-	1-247	-
2000V RMS	-	2000V RMS	-	2000V RMS	-
415	309	314	319	324	329
Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount
2,5 mm ² - 14AWG	2.5mm ² - 14AWG	2.5mm ² - 14AWG	2.5mm ² - 14AWG	2.5mm ² - 14AWG	2.5mm ² - 14AWG
4mm ² -12 AWG, 2x1.5 mm ² -2x16 AWG	4mm ² - 12AWG, 2x1.5mm ² - 2x16AWG	4mm ² - 12AWG, 2x1.5mm ² - 2x16AWG	4mm ² - 12AWG, 2x1.5mm ² - 2x16AWG	4mm ² - 12AWG, 2x1.5mm ² - 2x16AWG	4mm ² - 12AWG, 2x1.5mm ² - 2x16AWG
1,5 mm ² -16AWG	-	1.5mm ² - 16AWG	-	1.5mm ² - 16AWG	-
1.5 mm ² -16 AWG, 2x0.75 mm ² -2x18 AWG	-	1.5mm ² - 16AWG, 2x0.75mm ² - 2x18AWG	-	1.5mm ² - 16AWG, 2x0.75mm ² - 2x18AWG	-
-20 to +55 °C	-20°C +55°C	-20°C +55°C	-20°C +55°C	-20°C +55°C	-20°C +55°C
-30 to +80 °C	-30°C +80°C	-30°C +80°C	-30°C +80°C	-30°C +80°C	-30°C +80°C
Max.95%	Maks. 95%	Maks. 95%	Maks. 95%	Maks. 95%	Maks. 95%
IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)
SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER
250 001	250 001	250 001	250 001	250 001	250 001
2	2	2	2	2	2

Electronic Products

RAPIDUS Series Power Factor Controllers



Type			RAPIDUS 118R	RAPIDUS 110	RAPIDUS 110R
Definiton			Power Factor Controller (10-8steps)	Power Factor Controller (10-10steps)	Power Factor Controller (10-10steps)
Order Number			606065	606070	606071
General	Measuring system		10	10	10
	LCD Sreen		Custom LCD	Custom LCD	Custom LCD
	Language Support		Turkish, English	Turkish, English	Turkish, English
	Battery		-	-	-
	Real Time Clock		-	-	-
	Password Protection		Available	Available	Available
	Current Transformer Ratio		1 - 5.000	1 - 5.000	1 - 5.000
	Voltage Transformer Ratio		1 - 999.9	1 - 999.9	1 - 999.9
	Demand Period		-	-	-
	Connection Type		L-L/L-N	L-L/L-N	L-L/L-N
	Measurement in Quadrants		-	-	-
	Number of Measurement in a period		256	256	256
	LCD/Display Refresh Period		<0.5 sec.	<0.5 sec.	<0.5 sec.
	Networks		TT, TN	TT, TN	TT, TN
	Phasor Diagram		-	-	-
	Signal Waveforms		-	-	-
	Min/Max/Demand Values		-	-	-
Control Operations and Functions	Compensation Modes	Rapidus (Intelligent control mode)	Available	Available	Available
		Sequential	-	-	-
		Linear	-	-	-
		Circular	-	-	-
		Manual	Available	Available	Available
	Step Conf igiturations	Manually Assign	Available	Available	Available
		Predef ined	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4
		DCM	-	-	-
		Fixed Step Assignment	-	-	-
		Power(kVAr)	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable
	Power factor settings	Type	30 capacitor or 10 capacitor	30 capacitor or 10 capacitor	30 capacitor or 10 capacitor
		Target 1 cos0	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
		Target 2 cos0	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
	Learning Step Powers and Connections		-	-	-
	Dual cos0 target		Available	Available	Available
	4 Quadrant operation for generators		-	-	-
	Time delays	Step activation time	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
		Step deactivation time	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
		Step discharge time	3-600 sec adjustable	3-600 sec adjustable	3-600 sec adjustable
	Phase shift angle		-	-	-
	Averaging time		-	-	-
Energy Meters	Number of Tariffs		1	1	1
	Multi Sub-Tariffs(Peak, Day and Off-Peak)		-	-	-
	10 Phase Energy Meter		Available	Available	Available
	30 Phase Energy Meters		-	-	-
	4 Quadrant Reactive Energy Meters		-	-	-
Current Measurement Input	Measurement Range		10mA-6A AC	10mA-6A AC	10mA-6A AC
	Overvoltage Category		510V CAT II	510V CAT II	510V CAT II
	Measurement Surge Voltage		2 kV	2 kV	2 kV
	Power Consumption		<0.3 VA	<0.3 VA	<0.3 VA
	intermittent overload		100A for 1 sec	100A for 1 sec	100A for 1 sec
	Sampling Freq.between 45-65 Hz		12,8 kHz	12,8 kHz	12,8 kHz
Voltage Measurement Input	Overvoltage Category		510V CAT III	510V CAT III	510V CAT III
	Measured Range L-N		120-510V AC $\pm 10\%$	120-510V AC $\pm 10\%$	120-510V AC $\pm 10\%$
	Measured Range L-L		120-510V AC $\pm 10\%$	120-510V AC $\pm 10\%$	120-510V AC $\pm 10\%$
	Measured Frequency Range		45...65 Hz	45...65 Hz	45...65 Hz
	Power Consumption		<0.2 VA	<0.2 VA	<0.2 VA
	Sampling Freq.between 45-65 Hz		12,8 kHz	12,8 kHz	12,8 kHz

Electronic Products

RAPIDUS Series Power Factor Controllers



RAPIDUS 111	RAPIDUS 111R
Power Factor Controller (10-12steps)	Power Factor Controller (10-12steps)
606072	606073
10	10
Custom LCD	Custom LCD
Turkish, English	Turkish, English
-	-
-	-
Available	Available
1 - 5.000	1 - 5.000
1 - 999.9	1 - 999.9
-	-
L-L/L-N	L-L/L-N
-	-
512	512
<0.5 sec.	<0.5 sec.
TT, TN	TT, TN
-	-
-	-
-	-
Available	Available
-	-
-	-
-	-
Available	Available
Available	Available
1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4
-	-
-	-
0.00-1000 adjustable	0.00-1000 adjustable
30 capacitor or 10 capacitor	30 capacitor or 10 capacitor
0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
-	-
Available	Available
-	-
1-600 sec adjustable	1-600 sec adjustable
1-600 sec adjustable	1-600 sec adjustable
3-600 sec adjustable	3-600 sec adjustable
-	-
-	-
1	1
-	-
Available	Available
-	-
-	-
10mA-6A AC	10mA-6A AC
510V CAT II	510V CAT II
2 kV	2 kV
<0.3 VA	<0.3 VA
100A for 1 sec	100A for 1 sec
12,8 kHz	12,8 kHz
510V CAT III	510V CAT III
120-510V AC $\pm 10\%$	120-510V AC $\pm 10\%$
120-510V AC $\pm 10\%$	120-510V AC $\pm 10\%$
45...65 Hz	45...65 Hz
<0.2 VA	<0.2 VA
12,8 kHz	12,8 kHz

Electronic Products

RAPIDUS Series Power Factor Controllers

Type			RAPIDUS 118R	RAPIDUS 110	RAPIDUS 110R
Power Quality Measurements	Harmonics / current and voltage		-	-	-
	THD-Voltage in %		Available	Available	Available
	THD-Current in %		Available	Available	Available
Type			RAPIDUS 118R	RAPIDUS 110	RAPIDUS 110R
Measurement Accuracy	According to IEC 61557-12	Total Active Power	Class 0.5	Class 0.5	Class 0.5
		Total Reactive Power	Class 1	Class 1	Class 1
		Total Apparent Power	Class 0.5	Class 0.5	Class 0.5
		Total Active Energy	Class 0.5	Class 0.5	Class 0.5
		Total Reactive Energy	Class 2	Class 2	Class 2
		Frequency	Class 0.1	Class 0.1	Class 0.1
		Current	Class 0.5	Class 0.5	Class 0.5
		Neutral Current	Class 0.5	Class 0.5	Class 0.5
		Voltage	Class 0.2	Class 0.2	Class 0.2
		Power factor	Class 0.5	Class 0.5	Class 0.5
	THDV, THDI	Class 1	Class 1	Class 1	
	According to IEC 62053-22	Total Active Energy	Class 0.5S	Class 0.5S	Class 0.5S
According to IEC 62053-23	Total Reactive Energy	Class 2	Class 2	Class 2	
Input and Outputs	Compensation Relay Outputs	Number of outputs	8	10	10
		Type	NO (SPST)	NO (SPST)	NO (SPST)
		Max. Switching Current	2A	2A	2A
		Max. Switching Voltage	250VAC	250VAC	250VAC
		Max. Switching Power	500 VA	500 VA	500 VA
		Mechanical life time	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations
		Electrical life time operations (for NO side)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
	Alarm Relay Outputs	Number of outputs	2	2	2
		Type	NO (SPST)	NO (SPST)	NO (SPST)
		Max. Switching Current	4A	4A	4A
		Max. Switching Voltage	250 VAC	250 VAC	250 VAC
		Max. Switching Power	1000 VA	1000 VA	1000 VA
		Mechanical life time	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations
		Electrical life time operations (for NO side)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
	Generator/ Day-Night Input	Number of inputs	1	1	1
		Frequency	45-65Hz	45-65Hz	45-65Hz
		Input Present or Not	95-240VAC	95-240VAC	95-240VAC
	Digital Outputs		-	-	-
Analog Outputs		-	-	-	
Supply	Auxiliary supply input		-	-	-
	Voltage		120...510V AC ±10% from L1-N	120...510V AC ±10% from L1-N	120...510V AC ±10% from L1-N
	Frequency		45-65Hz	45-65Hz	45-65Hz
	Consumption	AC	< 10VA	< 10VA	< 10VA
Data Logging with timestamp	Min/max/avg Values	DC	-	-	-
		Hourly records	-	-	-
		Daily records	-	-	-
	Demand	Monthly records	-	-	-
		-	-	-	-
		Alarm records	-	-	-
Communication	Protocol		Modbus RTU	-	Modbus RTU
	Baud rate		1200-38400 bps adjustable	-	1200-38400 bps adjustable
	Parity number		Odd, Even, None	-	Odd, Even, None
	Stop bit		1	-	1
	Address		1-247	-	1-247
	Isolation		2000V RMS	-	2000V RMS
Mechanical Properties	Weight(g)		334	365	369
	Protection Class		Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
	Assembly Type		Panel Mount	Panel Mount	Panel Mount
Cable Cross Sections	Voltage, Current, All Relay Outputs, Gen Input	Stranded:	2.5mm² - 14AWG	2.5mm² - 14AWG	2.5mm² - 14AWG
		Solid:	4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG
	RS 485	Stranded:	1.5mm² - 16AWG	-	1.5mm² - 16AWG
		Solid:	1.5mm² - 16AWG, 2x0.75mm² - 2x18AWG	-	1.5mm² - 16AWG, 2x0.75mm² - 2x18AWG
Ambient Conditions	Operating Temperature	-20 to +55 °C	-20°C +55°C	-20°C +55°C	-20°C +55°C
	Storage Temperature	-30 to +80 °C	-30°C +80°C	-30°C +80°C	-30°C +80°C
	Relative Humidity (no condensation)	Max.95%	Maks. 95%	Maks. 95%	Maks. 95%

Electronic Products

RAPIDUS Series Power Factor Controllers

RAPIDUS 111	RAPIDUS 111R
-	-
Available	Available
Available	Available
RAPIDUS 111	RAPIDUS 111R
Class 0.5	Class 0.5
Class 1	Class 1
Class 0.5	Class 0.5
Class 0.5	Class 0.5
Class 2	Class 2
Class 0.1	Class 0.1
Class 0.5	Class 0.5
Class 0.5	Class 0.5
Class 0.2	Class 0.2
Class 0.5	Class 0.5
Class 1	Class 1
Class 0.5S	Class 0.5S
Class 2	Class 2
12	12
NO (SPST)	NO (SPST)
2A	2A
250VAC	250VAC
500 VA	500 VA
≥ 10.0000000 operations	≥ 10.0000000 operations
5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
2	2
NO (SPST)	NO (SPST)
4A	4A
250 VAC	250 VAC
1000 VA	1000 VA
≥ 10.0000000 operations	≥ 10.0000000 operations
5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
1	1
45-65Hz	45-65Hz
95-240VAC	95-240VAC
-	-
-	-
-	-
120...510V AC ±10% from L1-N	120...510V AC ±10% from L1-N
45-65Hz	45-65Hz
< 10VA	< 10VA
-	-
-	-
-	-
-	-
-	-
-	-
-	Modbus RTU
-	1200-38400 bps adjustable
-	Odd, Even, None
-	1
-	1-247
-	2000V RMS
374	379
Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
Panel Mount	Panel Mount
2.5mm² - 14AWG	2.5mm² - 14AWG
4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG
-	1.5mm² - 16AWG
-	1.5mm² - 16AWG, 2x0.75mm² - 2x18AWG
-20°C +55°C	-20°C +55°C
-30°C +80°C	-30°C +80°C
Maks. 95%	Maks. 95%