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POWER MANAGEMENT



## RAPIDUS 232R

**Stock Keeping Unit (SKU):** 606002

*Power Factor Controller (3Ø-24 level)*

### Commercial Information

Product Sales Code	<b>606002</b>
Package Unit	<b>1 pcs.</b>
Customs Tariff Number	<b>903289000000</b>
Weight Per Unit Including Packaging	<b>0.94 kg.</b>

### Technical Information

#### CONNECTION DATA

Connection Type	<b>3F4T</b>
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#### General

Measurement System	<b>3Ø</b>
Lcd Screen	<b>+</b>
Language Support	<b>Turkish, English, Russian</b>
Password Protection	<b>+</b>
Voltage Transformer Ratio Vtr	<b>1 - 5000</b>
Current Transformer Ratio Ctr	<b>1 - 5.000</b>
Number Of Measurements In One Period	<b>512</b>
Lcdscreen Refresh Rate	<b>1 sn.</b>
Networks	<b>TT, TN, IT</b>
Signal Waveforms	
Battery	

Real Time Clock	
Four Quadrant Measurement	<b>4</b>
Demand Period	<b>1-60 min. adjustable</b>
Phase Diagram	<b>Available</b>
Minmaxdemand Values	<b>+</b>

### Compensation Modes

Rapidus Smart Control Mode	<b>+</b>
Manual	<b>+</b>
Linear	<b>+</b>
Circular	<b>+</b>
Sequential	<b>+</b>

### Step Configurations

Manual Definition	<b>+</b>
Predefined	<b>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</b>
Power Kvar	<b>+</b>
Type	<b>3Ø capacitor, 3Ø shunt reactor adjustable</b>
Dcm	<b>+</b>
Fixed Step Assignment	<b>+</b>

### Power Factor Settings

Target 1 Cos	<b>0.8 cap. to 0.8 ind. adjustable</b>
Target 2 Cos	<b>0.8 cap. to 0.8 ind. adjustable</b>
Dual Cos Target	
4 Quadrant Operation For Generators	

### Energy Measurement

Multiple Sub Tariffs Peak On Peak And Off Peak	<b>1</b>
1 Phase Energy Measurement	
3 Phase Energy Measurement	<b>Available</b>

### Current Measurement Input

Measuring Range	<b>10mA-6A AC</b>
Overvoltage Category	<b>300 V Cat III</b>
Voltage Fluctuation Measurement	<b>2 kV</b>
Power Consumption	<b>&lt;0.2 VA</b>
Intermittent Overload	<b>100A for 1 sec.</b>
Sampling Frequency Between 45 65 Hz	<b>25.6 kHz</b>

### Voltage Measurement Input

Overvoltage Category	<b>300 V Cat III</b>
Measuring Range L N	<b>95-272 VAC ±10%</b>
Measuring Range L L	<b>164-471 VAC ±10%</b>
Frequency Measuring Range	<b>45-65 Hz</b>
Power Consumption	<b>&lt;0.1 VA</b>
Sampling Frequency Between 45 65 Hz	<b>25.6 kHz</b>

### Power Quality Measurements

Thd Voltage As	<b>+</b>
Thd Current As	<b>+</b>
Harmonics For Current And Voltage Phases	<b>Up to 51st</b>

### Measuring Accuracy Iec 61557 12

Total Active Power	<b>Class 0.2</b>
Total Reactive Power	<b>Class 1</b>
Total Reactive Energy	<b>Class 2</b>
Frequency	<b>Class 0.05</b>
Current	<b>Class 0.2</b>
Neutral Current	<b>Class 0.5</b>
Voltage	<b>Class 0.2</b>
Power Factor	<b>Class 0.5</b>
Thdv Thdi	<b>Class 1</b>
Total Apparent Power	<b>Class 0.2</b>
Total Active Energy	<b>Class 0.5</b>

### Measuring Accuracy Iec 62053 22

Total Active Energy	<b>Class 0.2S</b>
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### Measuring Accuracy Iec 62053 23

Total Reactive Energy	
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### Compensation Relay Outputs

Number Of Outputs	<b>24</b>
Type	<b>NO (SPST)</b>
Max Switching Current	<b>2A</b>
Max Switching Voltage	<b>250VAC</b>
Max Switching Power	<b>1250VA</b>
Mechanical Operating Life	<b>= 10.0000000 operations</b>
Electrical Operating Life No Side	<b>5×104(5A@250VAC) 1×105(5A@30VDC)</b>

### Alarm Relay Outputs

Number Of Outputs	<b>2</b>
Type	<b>NO (SPST)</b>
Max Switching Current	<b>4A</b>
Max Switching Voltage	<b>250 VAC</b>
Max Switching Power	<b>1250 VA</b>
Mechanical Operating Life	<b>= 10.0000000 operations</b>
Electrical Operating Life No Side	<b>5×104(5A@250VAC) 1×105(5A@30VDC)</b>

### Generator Day Night Input

Number Of Inputs	<b>1</b>
Frequency	<b>45-65Hz</b>
Input	<b>95-240VAC</b>

### Inputs And Outputs

Digital Outputs	<b>--</b>
Analog Outputs	<b>--</b>

### Power Supply

Backup Supply Input	--
Voltage	<b>L1-N den ±10% 95-272VAC</b>
Frequency	<b>45-65Hz</b>
Consumption	<b>&lt; 10VA</b>

### Mechanical Properties

Weight G	<b>670</b>
Protection Class	<b>Front IP40 / Rear IP20</b>
Mounting Type	<b>Panel Mount</b>
Packaging Quantity	<b>1</b>

### Cable Cross Sections

Voltage Current All Relay Outputs Generator Input	<b>2.5mm<sup>2</sup> - 14AWG with ferrule - 4mm<sup>2</sup> - 12AWG without ferrule, 2x1.5mm<sup>2</sup> - 2x16AWG</b>
Rs485	<b>1.5mm<sup>2</sup> - 16AWG with ferrule - 1.5mm<sup>2</sup> - 16AWG without ferrule, 2x0.75mm<sup>2</sup> - 2x18AWG</b>

### Environmental Conditions

Operating Temperature	<b>-20°C +55°C</b>
Storage Temperature	<b>-30°C +80°C</b>
Relative Humidity Non Condensing	<b>Max. 95%</b>

### Emc Emi

En 61000 6 1	<b>2011</b>
En 61000 6 3 A1 Ac	<b>2013</b>

### Diagrams

Mains Connection	
Step Output Connections	

### Communication

Protocol	<b>Modbus RTU</b>
Baud Rate	<b>2400-115200 bps adjustable</b>
Parity	<b>---</b>

Stop Bit	<b>1</b>
Slave Id	<b>1-247</b>
Isolation	<b>2000V RMS</b>

### Control Process And Functions

Phase Switching Angle	
Average Time	

### Time Recorded Data Storage

Hourly Records	<b>1920 Hours x 68 Different Paramaters</b>
Daily Records	<b>240 Days x 68 Different Paramaters</b>
Monthly Records	<b>36 Months x 68 Different Paramaters</b>
Demand	<b>4 Months x 16 Different Parameters</b>
Alarm Records	<b>50</b>