PRODUCT SPECSHEET

PRODUCT: **TSi RAPTOR EYE MONITOR (REM)**
CATEGORY: **POWER QUALITY & ENERGY MONITOR**
MODEL: **REM-1000**

TSi Power (P) Ltd, 154-55, Siddhi Industrial Infra Park, Waghodia,
Vadodara-391760, Gujarat, India | +91-8000455999 | info@tsipower.in

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The **Raptor Eye Power Monitor (REM-1000)** is a highly sophisticated Power Quality and Energy Monitor developed by the power quality expert team at TSi Power.

This is a one-of-a-kind device that is designed from the ground up with input from industrial application users. The aim is to provide users with a practical, easy to use monitor for all their power and energy monitoring needs.

Features & Benefits -

- ➔ Easy-to-use, intuitive user interface via touchscreen and remote client software.
- ➔ Monitors all essential voltage, current, and power parameters.
- ➔ No software license fee or annual subscription required. Software updates are supported free of charge.
- ➔ Local data retrieval via SD card or local area network download.
- ➔ Large LCD screen enables easy viewing and configuration. Remote client software provides the option of remotely viewing and setting.
- ➔ Local data storage for assured privacy and security.
- ➔ Flexibility to be used as a temporary or permanent monitor with various mounting kits.
- ➔ Raptor Eye Power Quality Reporter software generates reports on demand.

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The TSi Philosophy - Powering Happiness

TSi Power is a renowned and a trusted name in the power conditioning industry. Since 2011, we have built a workplace that *nurtures* happy employees to *create* great products, in turn, making *happy customers*. Our founders strongly believe and have cultivated this within the company. There's a reason why we have become one of the *world's most trusted* power conditioners.

Powering Happiness is both our business goal and our work culture.

Our Facility in Vadodara, India

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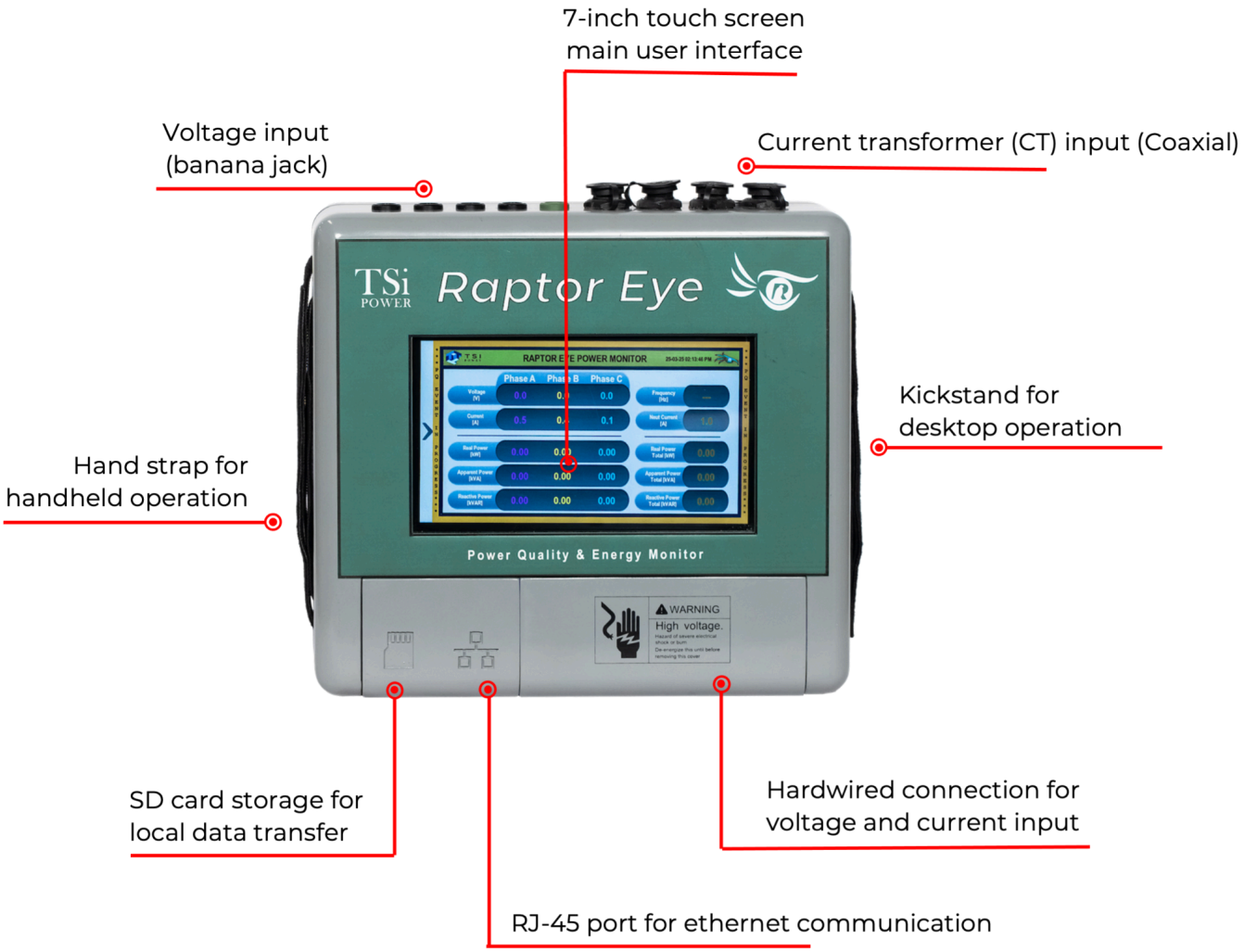
Raptor Eye Power Monitor at a Glance



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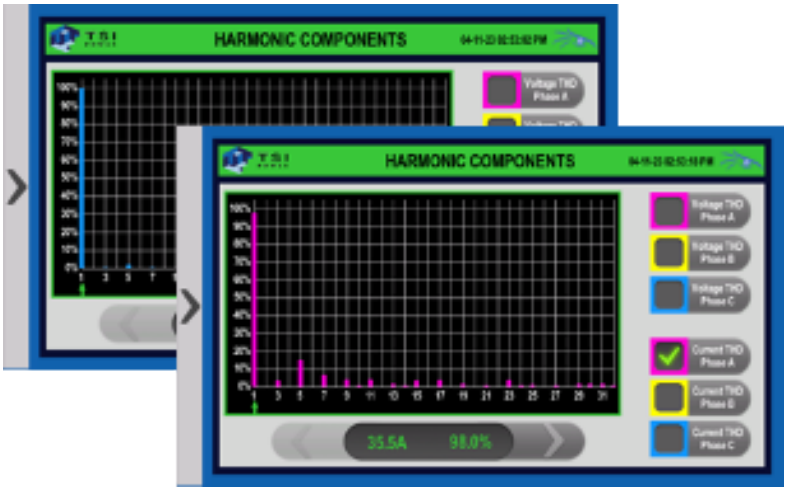
Monitoring Screens

RMS Chart

➔ The historical RMS charts of three-phase voltage and current can be displayed.

➔ Exact RMS values of the voltage and current can be shown by scrolling through the chart.



Harmonic Spectrum Chart

➔ Instantaneous harmonic spectrum for three-phase voltage and current can be displayed.

➔ Various order of harmonic distortion values can be shown by scrolling through the chart.

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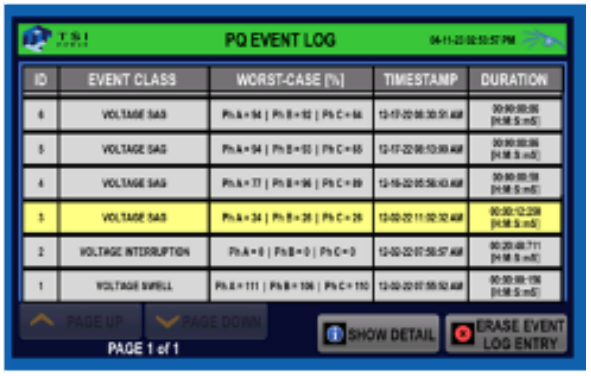
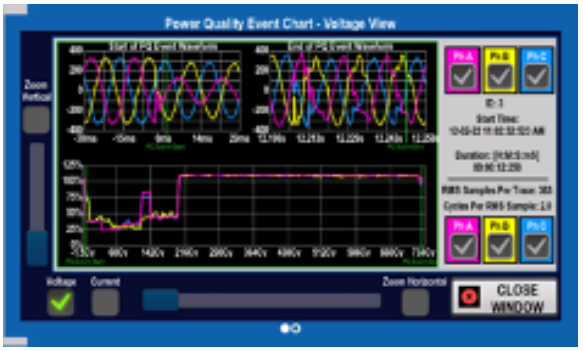
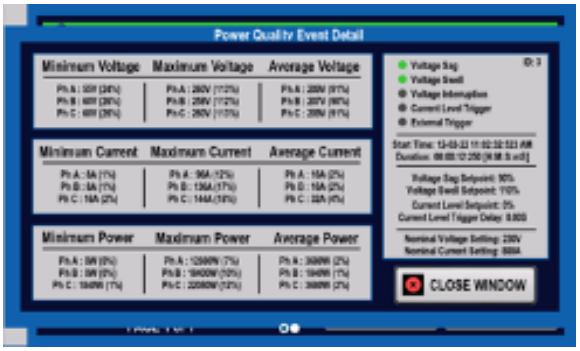
Event Logs



➔ All power quality events are displayed in the Event Logs table, showing a summary of the voltage values, duration of the event, event description, and date & time stamp





➔ Each event has further details in numerical form as well as waveform/ RMS chart display for both voltage and current data recorded during the event.

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Model Number and Accessories

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MODEL NUMER	DESCRIPTION
REM - 1000	Raptor Eye Monitor base unit
CURRENT TRANSDUCER	
CP1001-1	Set of four Rogowski coils, 1000 A Nominal Input, 120 mV Nominal Output (60 Hz), 100 mV Nominal Output (50 Hz), with standard circular connector (Default Current Transducer Set), Range = 10 A to 5400 A
CP101-1	Set of four split-core current transformers with burden resistors, 100 A Input, 333 mV Output, with standard circular connector, Range = 10 A to 120 A
CP201-1	Set of four split-core current transformers with burden resistors, 200 A Input, 333 mV Output, with standard circular connector, Range = 20 A to 240 A
CP401-1	Set of four split-core current transformers with burden resistors, 400 A Input, 333 mV Output, with standard circular connector, Range = 40 A to 480 A
CT101-1	Set of four split-core current transformers with burden resistors, 100 A Input, 333 mV Output, for hardwire connection, Range = 10 A to 120 A
CT201-1	Set of four split-core current transformers with burden resistors, 200 A Input, 333 mV Output, for hardwire connection, Range = 20 A to 240 A
CT401-1	Set of four split-core current transformers with burden resistors, 400 A Input, 333 mV Output, for hardwire connection, Range = 40 A to 480 A
VOLTAGE PROBE	
VP-1	Five 59.1" (1500 mm) corded voltage probes terminated with sheathed banana plugs and voltage probe clips. Rated at 1000V.
ACCESSORIES	
PS1	24 V 12 W AC/DC external power supply, NEMA 1-15P fixed blade plug.
PS2	24 V 19 W AC/DC external power supply, interchangeable fixed blade adapters for North America, Europe, UK, Australia, and China
RS1	MicroSD Memory Card

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VOLTAGE				
Number of Inputs	4 (L1, L2, L3, N), with reference to Ground			
Three-Phase with Neutral System, Maximum Voltage	347 V / 600 Vrms (+15%)			
Three-Phase without Neutral System, Maximum Voltage	600 Vrms (+15%)			
Maximum Voltage	±1000 V peak			
Overvoltage Category	1000 V CAT II, 600 V CAT III, 300 V CAT IV			
Voltage Magnitude	RMS refreshed 1 second			
Frequency	50/60 Hz (user configurable)			
Voltage Harmonic Component	0.0% - 399% (1st – 32nd)			
Total Harmonic Distortion (THD)	0.0% - 399%			
Crest Factor	1.6 (related to 600 Vrms)			
Impedance	1.69 MΩ			
Sampling Rate	8 kHz sample/phase			
Waveform Capture Rate	133 (60 Hz), 160 (50 Hz) sample/cycle			
Voltage Level Event Triggers	½-cycle RMS voltage less than sag detection or greater swell detection setting			
Nominal Voltage Deviation Event Triggers	**Phase**	**Minimum**	**Maximum**	**Default**
	One	109V	382V	120V
	Split	216V	264V	240V
	3, 3-Wire	172V	660V	480V
	3, 4-Wire	99V	380V	277V
Percentage Voltage Deviation Event Trigger Settings	**Event**	**Minimum**	**Maximum**	**Default**
	Sag	65%	95%	85%
	Swell	105%	130%	110%
Voltage Level Event Internal Storage	200 non-volatile events, oldest events overwritten after event 200			
RMS Data Trend Logging	1,440 data points per chart page (one day's worth of minute data points). Each data point shows minimum, maximum, and average values of voltage ½ cycle RMS samples, aggregated over a 1-minute period.			
RMS Data Trend Internal Storage	Non-volatile RMS trend file storage up to 30 days, oldest trend files overwritten after 30 days			

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CURRENT		
Number of Inputs	Four (L1, L2, L3, N)	
Current Sensor	See "Current Transducer" table for available options	
Current Magnitude	RMS refreshed 1 second	
Nominal Current Feedback Voltage	Rogowski Coils: 120 mVrms (60 Hz), 100 mVrms (50 Hz)	Current Transformers: 333 mVrms
Minimum Current Feedback Voltage	Rogowski Coils: 1.2 mVrms (60 Hz), 1.0 mVrms (50 Hz)	Current Transformers: 33.3 mVrms
Maximum Current Feedback Voltage	Rogowski Coils: 648 mVrms (60 Hz), 540 mVrms (50 Hz)	Current Transformers: 400 mVrms
Current Harmonics Component	0.0% - 399% (1st – 32nd)	
Total Harmonic Distortion (THD)	0.0% - 399%	
Crest Factor	1.6 (related to 5 A)	
Sampling Rate	8 kHz sample/phase	
Waveform Capture Rate	133 (60 Hz), 160 (50 Hz) sample/cycle	
Power Consumption	1.25VA	
Current Level Event Triggers	½-cycle RMS current greater than" Detection Pct setting, for "Detection Delay" setting period of time.	
Voltage Level Event Internal Storage	200 non-volatile events, oldest events overwritten after event 200	
RMS Data Trend Logging	1,440 data points per chart page (one day's worth of minute data points). Each data point shows minimum, maximum, and average values of current ½ cycle RMS samples, aggregated over a 1-minute period.	
RMS Data Trend Internal Storage	Non-volatile RMS trend file storage up to 30 days, oldest trend files overwritten after 30 days	

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POWER	
Number of Channels	Three (3)
Real Power	kW (per phase and total)
Apparent Power	kVA (per phase and total)
Reactive Power	kVAR (per phase and total)
Power Factor	Per phase and total

ENERGY	
Number of Channels	Three (3)
Real Energy	kWh (per phase and total)
Apparent Energy	kVAh (per phase and total)
Reactive Energy	kVARh (per phase and total)
MECHANICAL	
Enclosure Construction	Photoresin plastic
Enclosure Protection Ratings	NEMA 1 / IP 20 (for use in protected indoor environments)
Net Weight (With Connectors)	5.5 lbs. (2.5 kg)
Device Dimensions	3.5" (90 mm) D x 10.0" (254 mm) W x 9.1" (230 mm) H
Battery (Real Time Clock)	Li-Mn CR2032, 3 V
ENVIRONMENT	
Operating Temperature Range	32 to 104°F (0 to 40°C)
Operating Humidity Range	0 to 90% relative humidity (non-condensing)
COMMUNICATION	
Communication Protocol	Ethernet IEEE 802.3 100 Base-T (RJ45) modular connector TCP/IP port 11030, 11031 – Optional Remote client connection TCP/IP port
Removable Storage Media	microSD card socket
Removable Storage Restrictions	microSDHC or microSDXC, format FAT32 or exFAT
Display	7" LCD capacitive touch screen
DESIGN STANDARDS	
Standards Organizations	UL, IEC
Note: For continuous product improvement, specifications are subject to change without notice.	

DIMENSION DIAGRAMS

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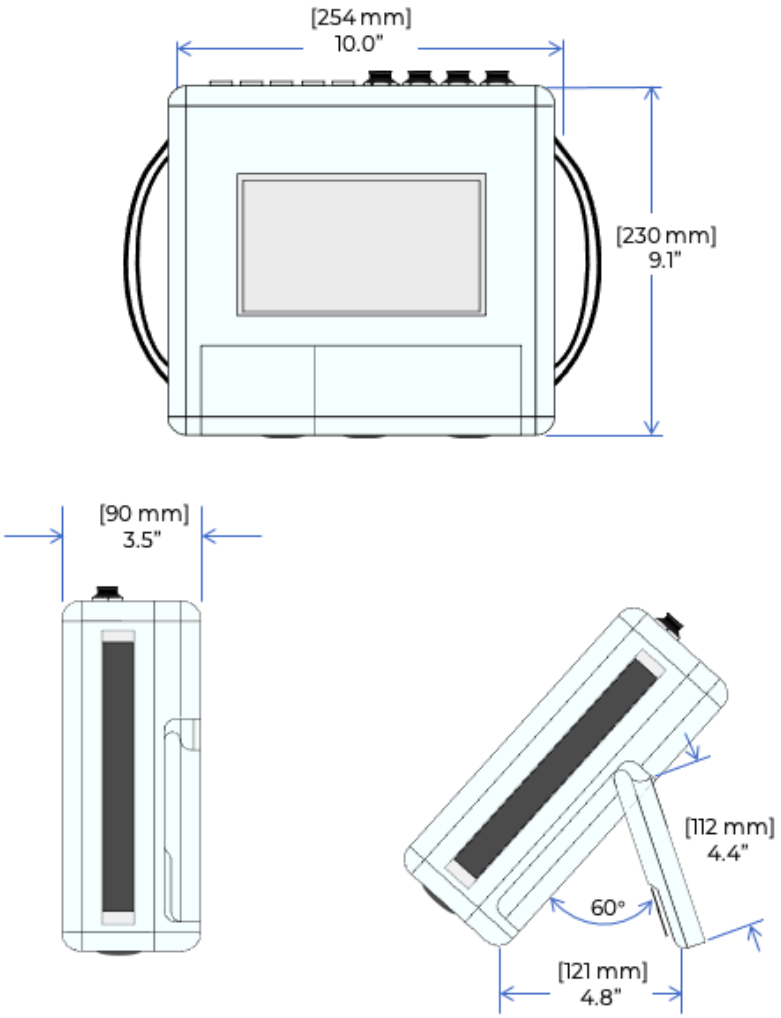

Contact us for a **free demo trial** or a **customised quote** or just a hello!

🎧+91-8000455999 | 📞+91-7567722666 | ✉️info@tsipower.in

📍TSi Power Pvt Ltd, 154-155, Siddhi Industrial Infra Park, Waghodia, Vadodara, Gujarat 391760, India | 🌐www.tsipower.in