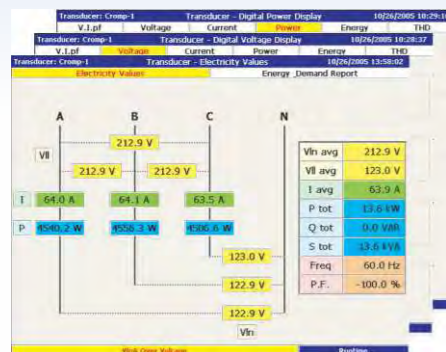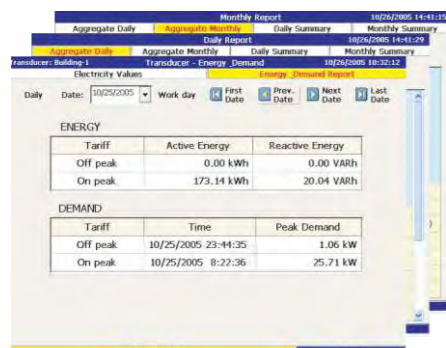# Software Function

▣ Electricity Measurement Monitoring

- ◆ Display various real time measures for each transducer
- ◆ View electricity data in digits and bars

▣ Report Generation System

- ◆ Daily and monthly aggregate reports for the main loop
- ◆ Daily and monthly detail reports for each sub-loop
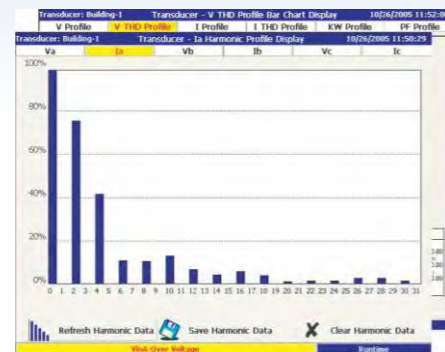
▣ Alarm and Event Report

- ◆ Displays alarms and events in different colors
- ◆ The status of alarms will be updated dynamically.
- ◆ Sends instantaneous alarm message by e-mail.
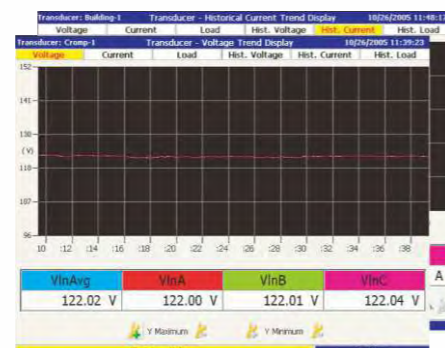
▣ Remote Monitoring

- ◆ Use web browsers to view real time electricity data
- ◆ Sends daily and monthly report automatically via e-mail.
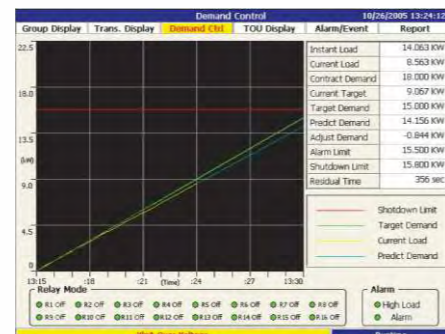
▣ Power Quality Monitoring

- ◆ Displays the voltage THD and the current THD in digits and bars
- ◆ 32 levels of harmonic display(depends on power meter)

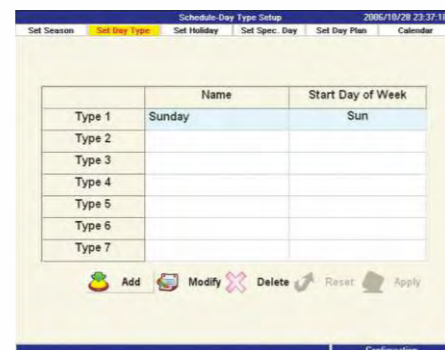## ▣ Historical and Real Time Trend

- ◆ Displays the voltage, the current and the load in different color for each phase
- ◆ Specify the time period to show historical data

▣ Demand Control

- ◆ Well covering of parameters of demand control and measures
- ◆ Show important control parameters in different colors.

▣ Scheduling Control

- ◆ Scheduling the switch sequence of each relay according to the season type and day type.

Specification

Software Specification	Function
Power demand control	• Provide both blocking and rolling mode to calculate demand control. • Provide shedding modes with a combination of sequence and priority load shedding. • Real time display of :(a)contract capacity, (b)selected control mode, (c)current demand, (d)average demand,(e)demand control parameters,(f)status of demand control, (g)manual load shedding
Monitoring of power measurement	• Display of real time values for each meters including：Voltage, current, power…etc. up to 54 real-time values. • Digital or bar chart display for each real-time measurement data.
Monitoring of power quality	• Instant monitoring of harmonic distribution, THD, power factor and voltage variation for each channel.
Extended I/O monitoring	• Display of remote I/O(ie,PA3000) in values or trend graphics • Use PM3000 or PC to control the remote devices through meters (PA3000) I/O ports

Real-time and historic trend	• Real-time trend display：to display trend of power information set by users.
	• Historic display trend：
	  ▪ to display historic trends of power consummation set by users.
	  ▪ From 270 days to 5.6years of recorded data based on 15minuts data rate（up to DOC capacity option）

Report inquiry	• Main Meter：
	  ▪ Various power information at different tariff can be recorded separately.
	  ▪ Recorded information includes：kWh, kvah, maximum demand, and time occurred, average and standard deviation of phase voltage and max min. power factor with time occurred.
	  ▪365 days of daily report storage.
	  ▪24 months of monthly report storage.
	• Sub-meter：
	  ▪ Various power information at different tariff can be recorded separately.
	  ▪ Recorded information include：kWh, kvah, maximum demand, and happening time, average demand and load ratio.
	  ▪ 365 days of daily report storage.
	  ▪ 24 months of monthly report storage.
	• auto e-mail daily and/or monthly report(in excel format) to designated address

Alarm and event record	• Up to 30 different type of alarm such as：over voltage, over demand, phase imbalance, THD…etc. • Time duration of each DO and system power on and off • Up to 6553 alarm on event record • Auto email to designated person while alarm take place
Controller function	Build in 4 Set-point Controller
Schedule control	Devices can be controlled according to the pre-set season, date and hours.
System setup	(a)Communication setup, (b)Network setup, (c)Email setup, (d)System time and screen protection time set up
Meter setup	(a)Setup of meter address and tag name, (b)CT,PT ratio setup, (c)Wiring setup, (d)Table setup for recording information, (e)Alarm and output setup
Setup for multiple tariff TOU management	(a)Start and end date setup for each season, (b)Date type setup, (c)Setup for recurring and non-recurring holidays, (d)Start and end time setup for different rate type (ie peak, non-peak rate)
Demand control setup	• According to the rate type of TOU to set up：(a)Contracted demand capacity, (b)Target demand, (c)Alarm limit, (d)Load shedding limit • Setup of demand control parameters：(a)calculation algorithm, (b)time interval of calculation, (c)load shedding mode (sequence or priority mode) • Determination of load shedding devices and their shedding mode
Schedule control setup	(a)Start and end time for each season, (b)Date type, (c)recurring holidays, (d)calendar, (e)on/off time for each designated Do
Extended I/O controlled devices setup	(a)Basic Information, (b)Alarm, (c)Controller parameters
Information backup	Historic date, reports, alarm and event records all can be back upped through USB flash drive
Remote monitoring and setup	• Through web browser, real time values of each meter can be monitored and modified remotely(No additional software is required) • Through web browser, system parameters can be configured • Through web browser, historic data, reports, alarm and event records can be downloaded and saves. • Build in Modbus over TCP/IP protocol, easily to connected with 3rd party monitoring system