Tenant and Submetering

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Oct 23, 2009

Schneider Electric

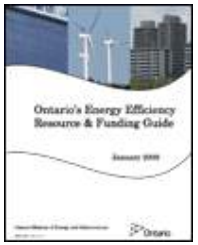
Ontario Energy Board - *driving energy efficiency*

Ontario's Bold New Plan for a Green Economy

McGuinty Government To Boost Renewable Energy, Economic Growth And Create A Culture of Conservation

Ontario's has sweeping new legislation to attract new investment, create new green economy jobs and better protect the climate. The Green Energy Act (GEA), will help the government ensure Ontario's green economic future by: building a stronger, greener economy with new investment, creating well-paying green jobs and more economic growth for Ontario – a projected 50,000 jobs in the first three years; better protecting our environment, combating climate change and creating a healthier future for generations to come. [More about the Green Energy Act]

- **Ontario Energy Efficiency Resource Guide . . .**



Ontario Energy Board – *talking points*

- **Create 50k new jobs in first 3 years**
- **Better management of energy expenditures**
- **Implement 21st century “smart” power grid**
- **Making energy efficiency a key purpose of Ontario’s building code**
- **Lead North America in energy efficiency standards**
- **Creating new financing tools to help manage upfront costs**
- **Setting electricity conservation targets**
- **Requiring targeted conservation measures**

Tenant Metering in Ontario

- **April 2009 - government stopped tenant metering projects**
- **August 2009 – government again opened the door for tenant metering:**
  - This legislation applies to multi-tenant residential as well as commercial / retail property, requirements are lower for commercial properties
    - Property owner / manager is required to complete an Energy Audit on the building and the tenant must be made aware of energy costs prior to metering start (residential)
    - Landlords are not allowed to “make money” on energy sale
    - Commercial property agreements are handled via the lease for the space
- **Previous requirements for metering by end of 2010 removed**
- **Commercial property managers seem to be focusing more on managing pending Carbon Liability vs. energy cost allocation (2 clear benefits)**
- **KEY > Commercial submetering is now very easy and well defined by the Ontario Energy Board**

Overview

- **PowerLogic™ E4800 - provides simple, reliable, revenue-accurate tenant or departmental electricity metering**

- **Low installation cost-per-point:**
  - compact, requires no floor space
  - hi-density, supports up to 24 circuits
  - connect to existing panels, no rewiring
  - transmit data over existing Ethernet or phone network, no dedicated service
  - combine multiple meters to support an unlimited number of suites
  - maintenance-free design
  - **E4880 Measurement Canada approved**

Applications

Ideal for installation in:

- office towers / multi-use buildings
- condominiums / apartments
- health care facilities
- shopping centers
- campuses
- commercial / retail

Benefits

- **Accurately allocate Energy usage and cost**
- **Help tenants manage energy consumption**
- **Reduce operational expenses and offer more competitive lease rates**
- **Measure and manage carbon footprint / credits**
- **Verify utility charges**
- **Identify saving opportunities within your facilities**
- **Establish “green” image, qualify for LEED rating**

Measurements

- **Real and reactive (bi-directional) energy, apparent energy**
- **Energy accuracy:**
  - total system accuracy = 0.5%
    (when using 0.3% class CTs, or better)
  - complies with ANSI and IEC standards
- **Voltage and current per phase**
- **Real, reactive and apparent power**
- **Power factor**

Ordering options

- **For easy installation in building retrofits or new construction, the meter can be ordered:**
  - stand-alone for retrofit applications
  - as part of *integrated power centers* (IPC) for new construction, including switchboards and panelboards

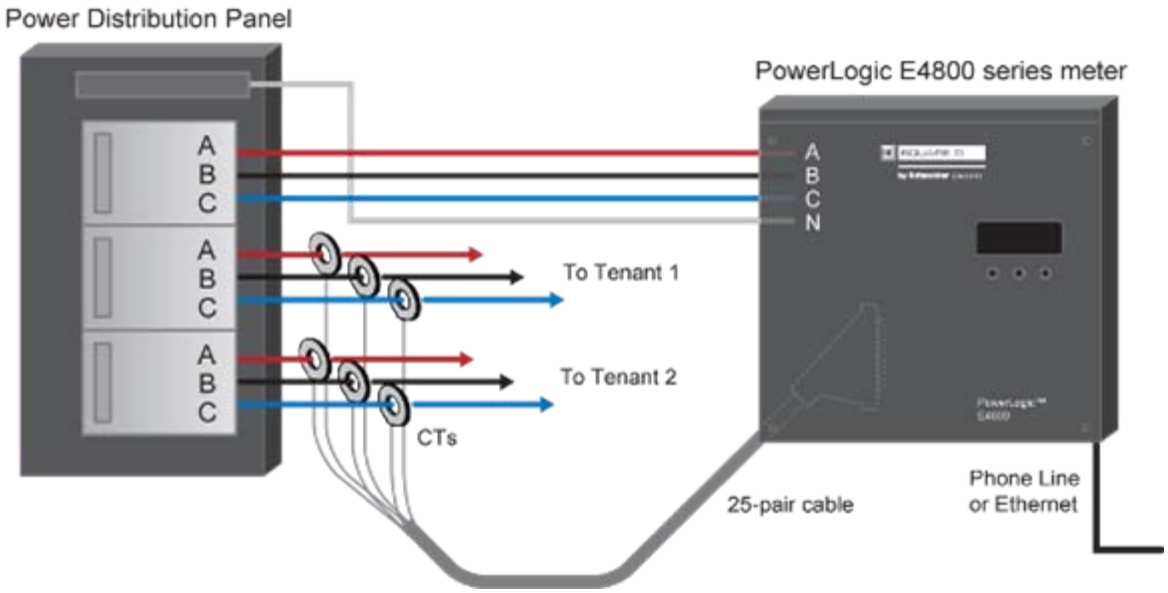
Retrofit in existing bldg

New construction

Flexible connection options

- **Connect to up to:**
  - 24 single-phase, one-CT circuits
  - 12 single-phase, two-CT circuits
  - 8 three-phase (wye), three-CT circuits

- **2 digital pulse inputs to accumulate readings from electric, water or gas meters**



Choice of CT types

- **Three different models offer a choice of CT secondary ratings and installation options:**

PowerLogic E4805

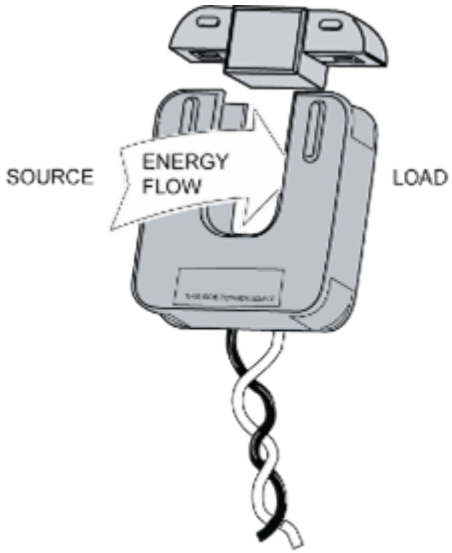
- 5 A
- split-core or solid-core

PowerLogic E4833

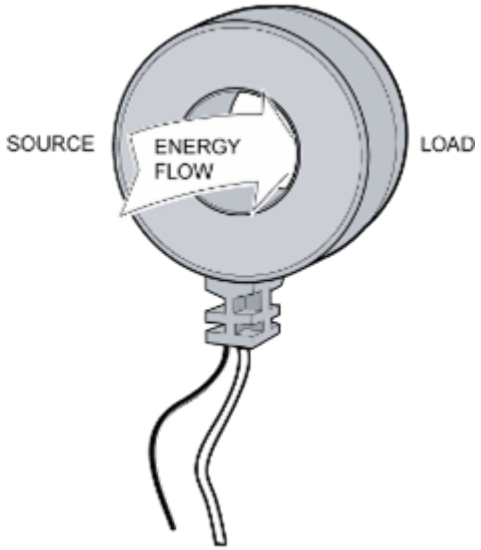
- 0.333 V
- split-core or solid-core

PowerLogic E4880

- 80 mA
- solid-core



SPLIT-CORE CT



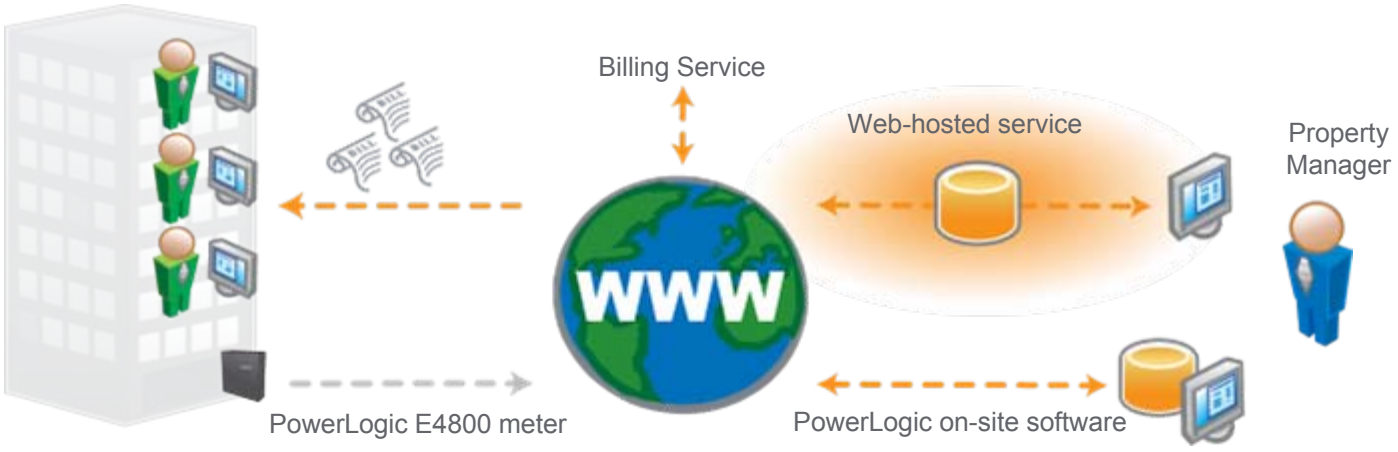
SOLID-CORE CT

Data storage

- **Programmable interval data (1 to 60 minutes)**
- **Stored on-board in non-volatile memory**
- **Capacity of 2.4 years at 1-hr intervals, or over 200 days at 15 min.**
- **Data is “pushed” on user defined schedule from 5-minutes to once daily**
- **Provides status info to help identify potential system issues**

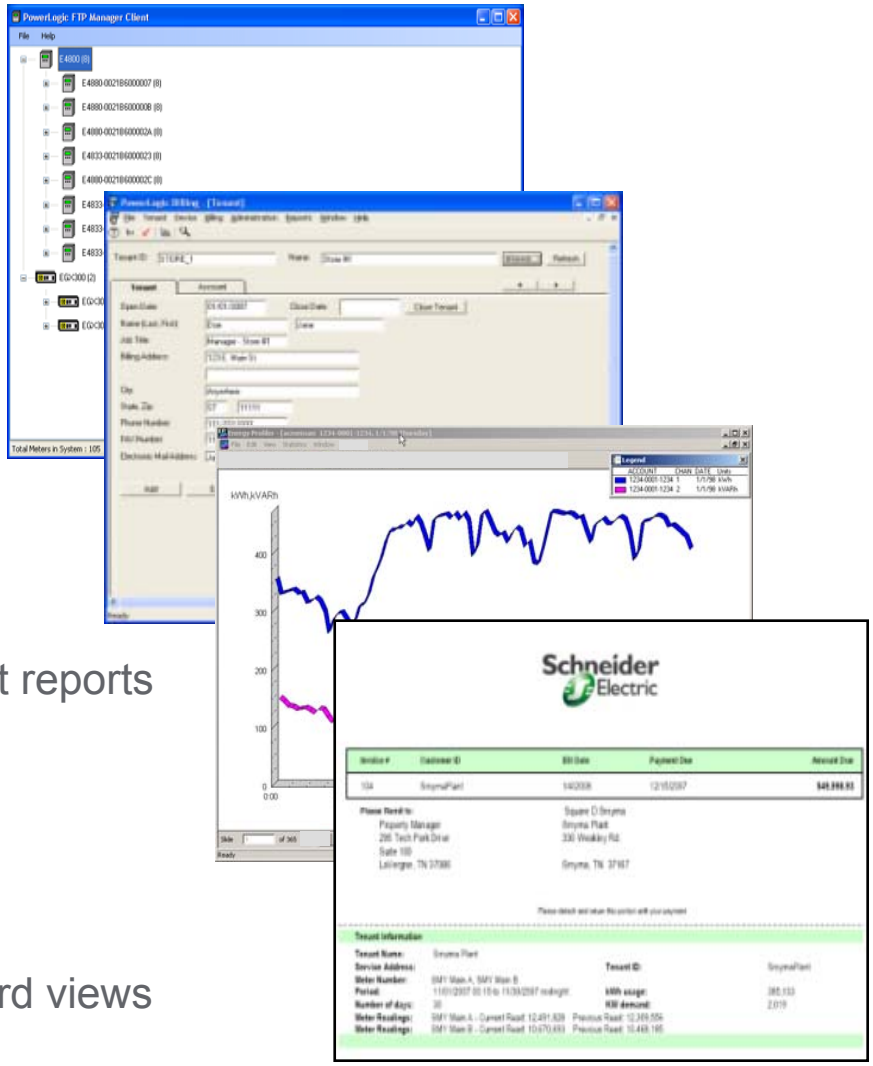
Communications

- **Physical interface:**
  - 10/100BaseTX Ethernet (supports real-time monitoring)
  - V.90 telephone modem (requires about 5 min/day for reporting)
- **Industry-standard protocol support:**
  - FTP (interval data export, status, configuration, firmware updates)
  - Modbus TCP/IP (real-time monitoring)
  - HTTP (web browser access to real-time and status data)
  - PPP (modem)
  - NTP/SNTP (time sync)



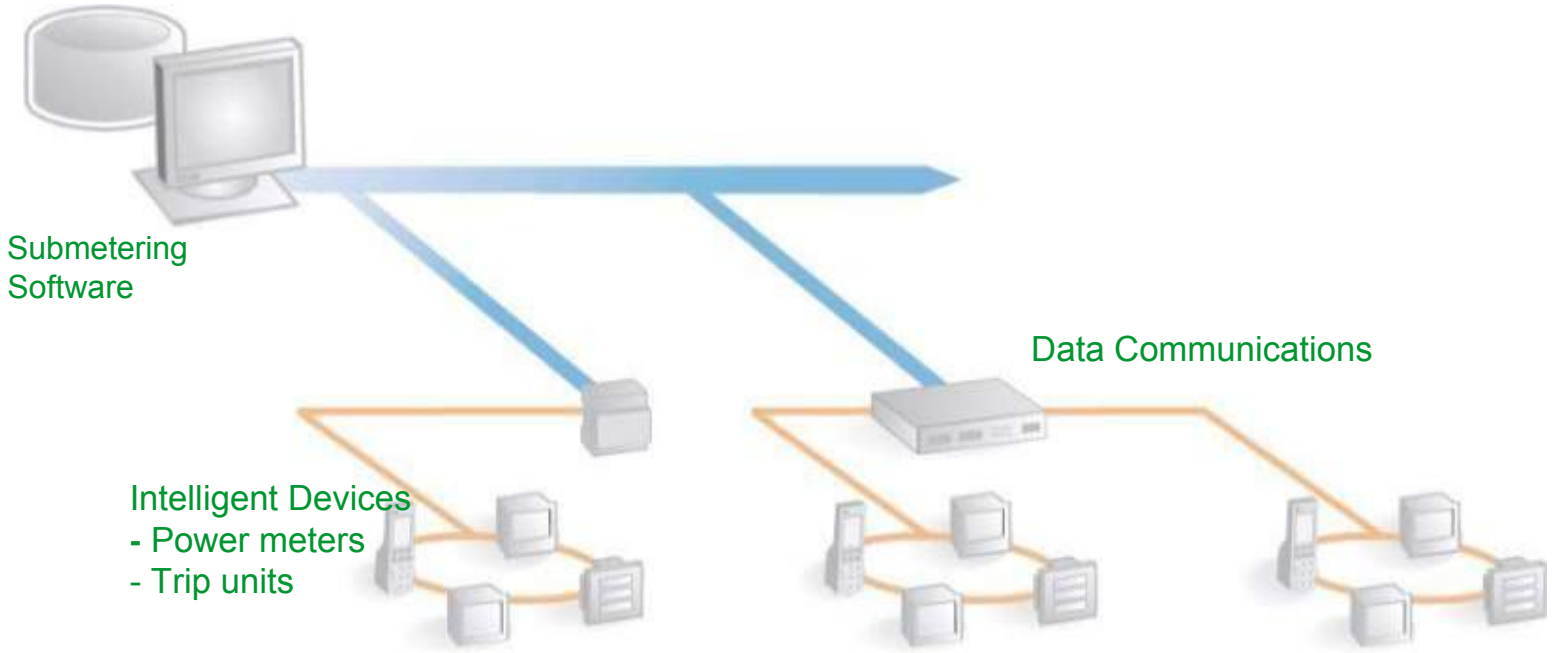
Software integration

- **PowerLogic™ TMSCE:**
  - on-site installation
  - energy analysis
  - bill preparation
  - data export to CSV or Excel
- **PowerLogic File Transfer Utility**
- **PowerLogic ION Enterprise:**
  - on-site installation
  - web interface
  - reporting services with cost allocation, shift reports
- **Enterprise Energy Manager:**
  - remote and/or on-site installation
  - web interface
  - carbon tracking / reporting
  - advanced reporting services with dashboard views

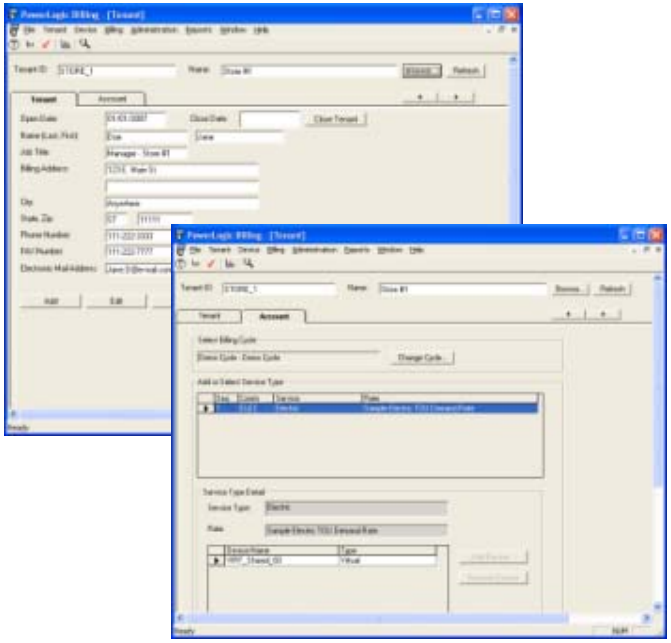


Tenant Metering Commercial Edition (TMSCE)

- **PC-based data logging + auto upload for devices with onboard logging**
- **ModbusTCP/IP (Ethernet) and ModbusRTU (RS485 serial) comms**
- **Tenant / account management**
- **Configurable billing cycles**
- **Comprehensive RateWizardTM tool**
- **Billing / Invoicing generator**

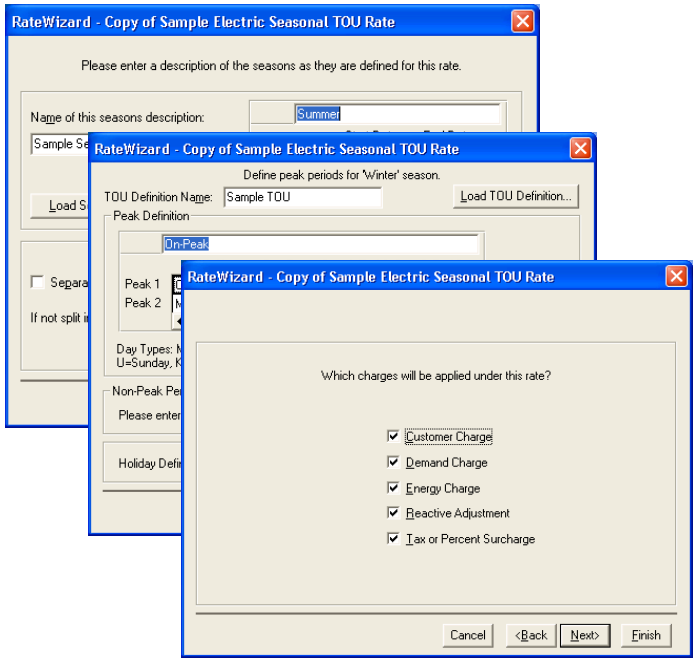


PowerLogic TMSCE software *(continued)*



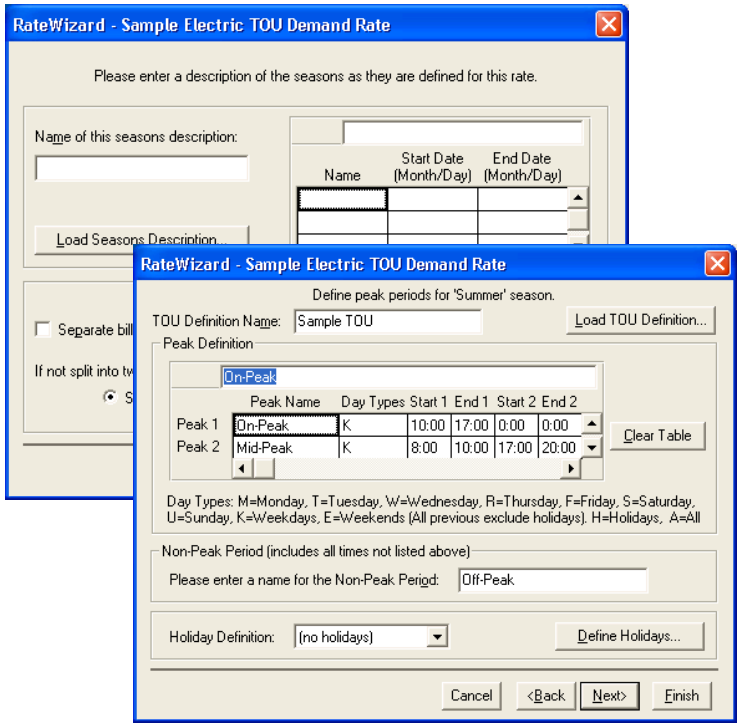
- **Billing software supports:**
  - Tenants and accounts names and site information
  - Tenant and account searches
  - WAGES for multiple commodity billing
  - Assignment of multiple meters to an account
  - % allocation of meters to multiple accounts
  - Single account for electric, gas, water, steam, & air devices

PowerLogic TMSCE software *(continued)*



- **RateWizard® walks you through the steps of setting up a tariff**
- **Enter tariff information such as tariff name, utility (WAGES) type**
- **Choose the structure of the tariff:**
  - Seasonal
  - Time of Use
- **Choose the charges in the tariff:**
  - Customer Charge
  - Demand
  - Energy
  - Power Factor
  - Taxes
- **Default / sample rates provided**

PowerLogic TMSCE software *(continued)*

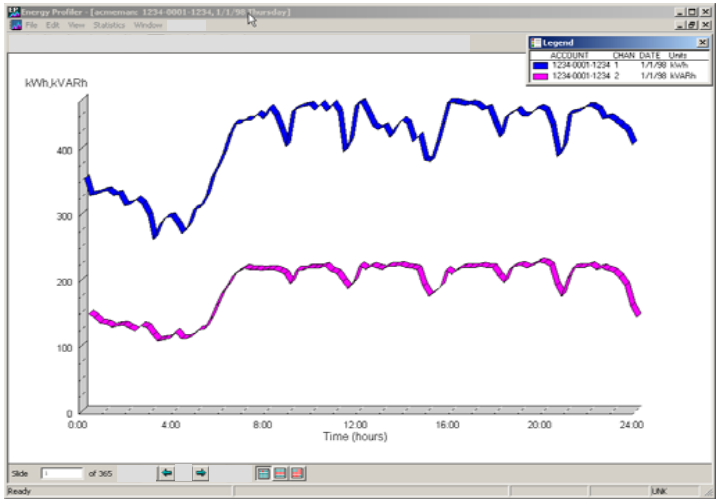


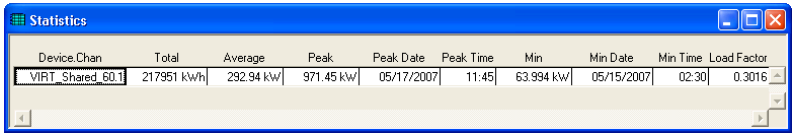
- **Enter the season information:**
  - Supports 12 seasons
- **Enter the Time Of Use information:**
  - Supports 6 pricing periods
  - Supports up to 4 time periods per pricing period + Off-peak
- **Save and re-use seasonal and time of use schedules for other tariffs**

PowerLogic TMSCE software *(continued)*

- **Billing processes allow for:**
  - Billing of multiple batches via user defined bill cycles
  - Reviewing and correction of bills online before issuing to tenants
  - Viewing load data associated with an invoice
  - Invoicing via paper and/or PDF format
  - Customizable logos & remit-to information
- **Five years of posted invoices are preserved**

PowerLogic TMSCE software *(continued)*





- **One year of interval data is available for load profiles**
- **Load data can be viewed in a graphical chart:**
  - Daily
  - Weekly
  - Monthly
- **Statistical analysis of data provided**

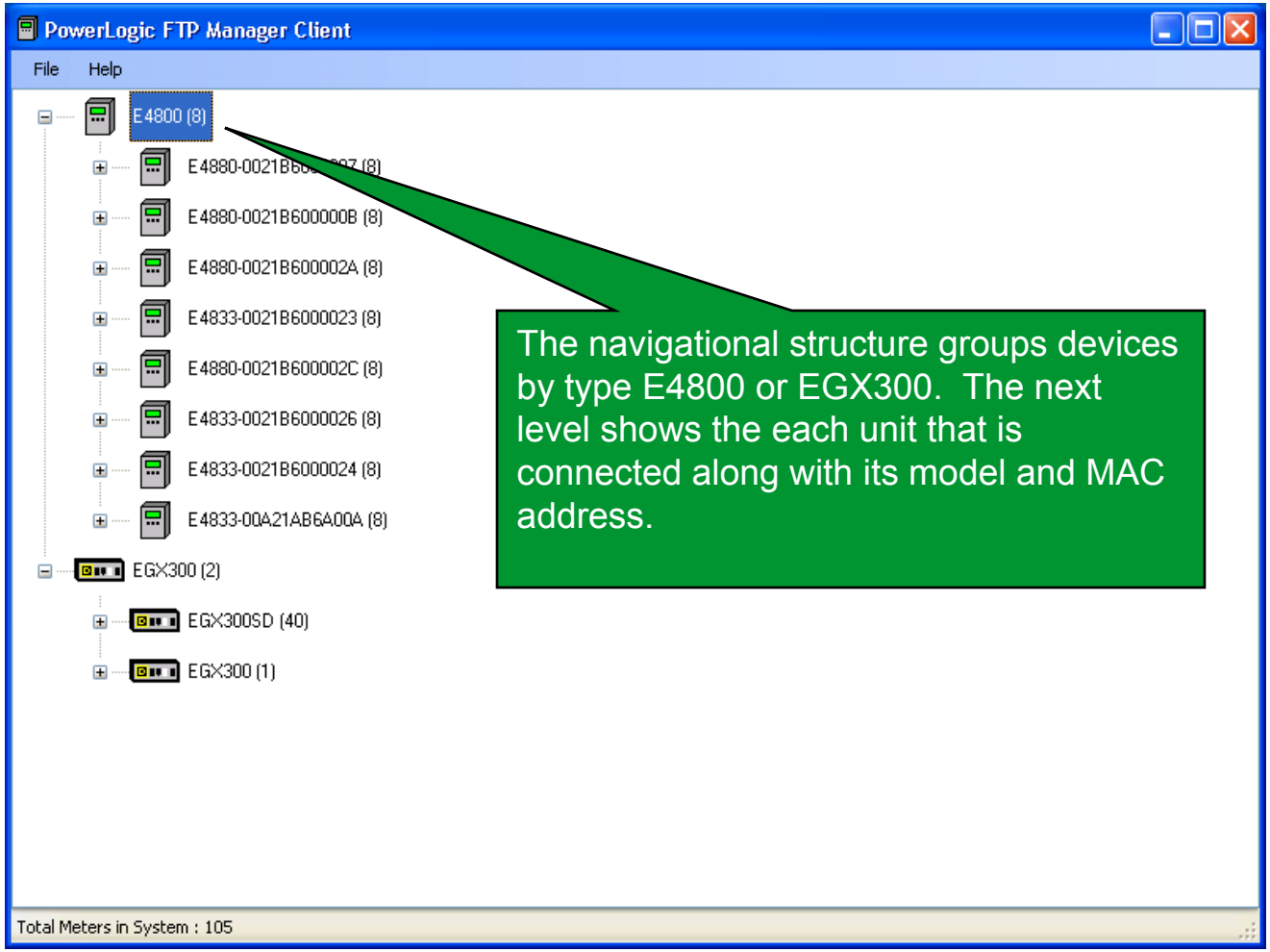
FTP File Manager

- **Simple is the key feature of the the PowerLogic FTP Manager . . .**

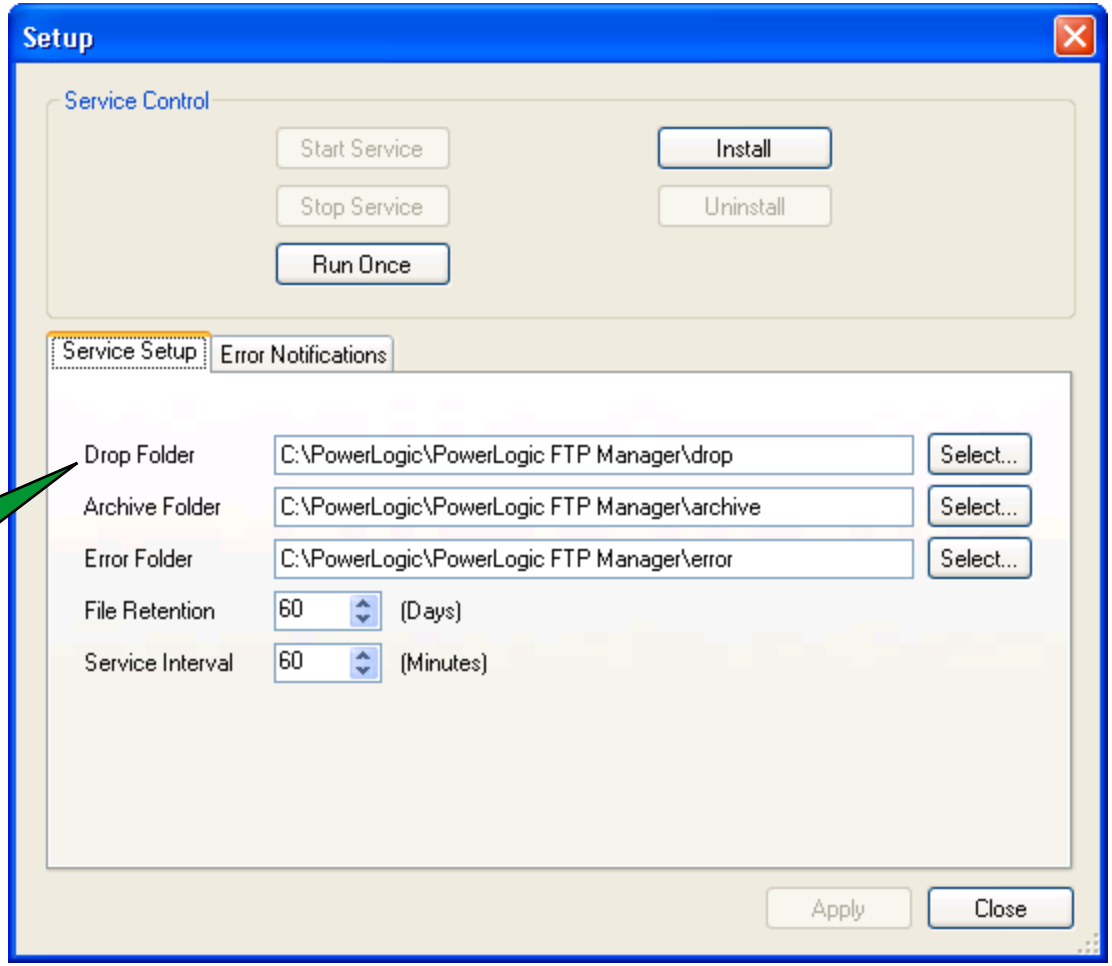
- **The PowerLogic FTP Manager is an add-on module to PowerLogic Tenant Metering Commercial Edition software (TMSCE).**
- **This module creates and monitors a drop folder for files FTP'ed to a local server and inserts them into the AR staging database.**
- **Once the data is inserted into the AR staging database, the data flows through an ETL component into the Billing component of TMSCE.**

- **Installation is very simple using Install Shield – no reboot required!**

FTP File Manager *(continued)*

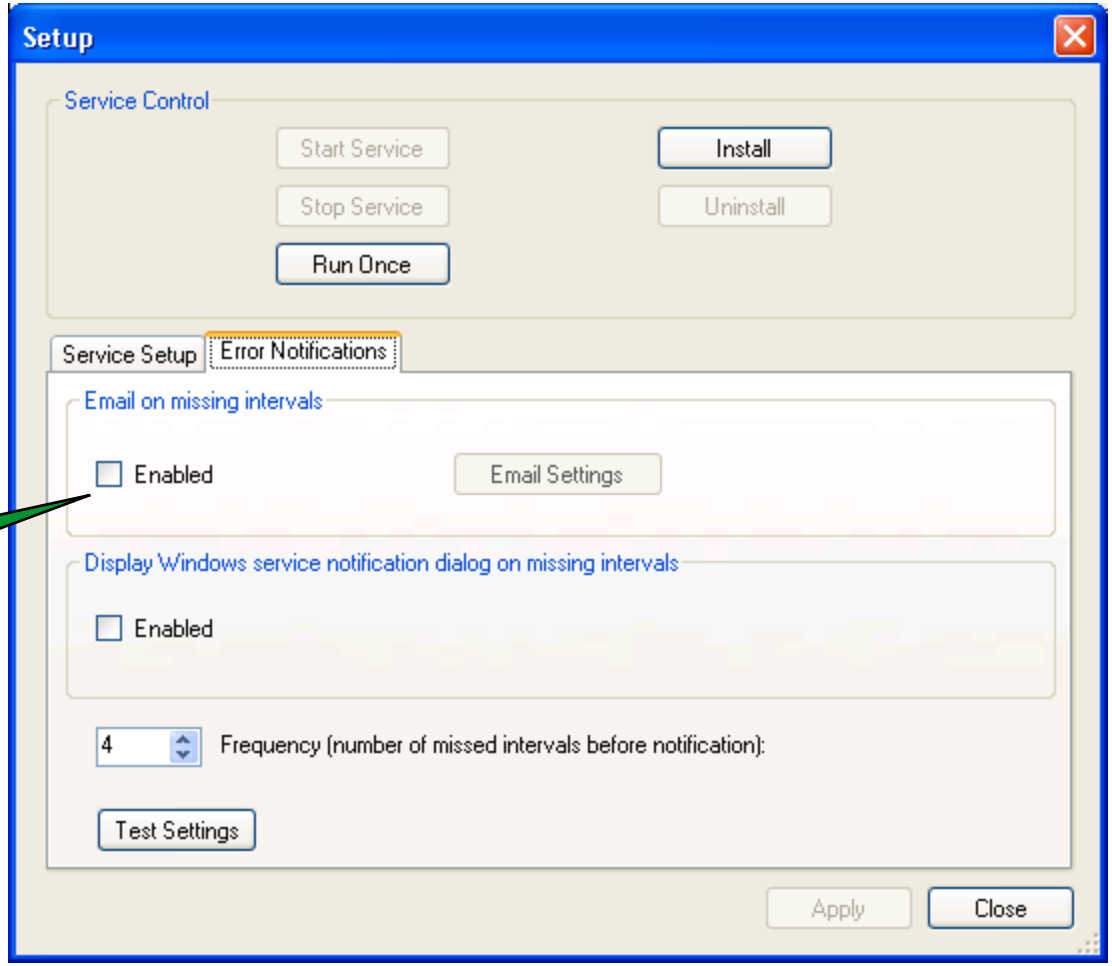


FTP File Manager *(continued)*



The Setup screen allows the user to define the location of the files and the length of time to retain the files.

FTP File Manager *(continued)*



The Setup screen allows the user to Enable Notification of devices not sending files and the threshold of the number of missed intervals prior to notification.

For more information, visit **www.powerlogic.com**

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