

PART 1 - GENERAL

1.1 RELATED WORK .1 Section 26 05 00 - Common Work Results - for Electrical.

1.2 REFERENCES .1 American National Standard Institution (ANSI)
.1 ANSI C12.1-2008, Code for Electricity Metering.
.2 ANSI C12.20-2010, 0.2% & 0.5% Accuracy Class Meters.

PART 2 - PRODUCTS

2.1 CUSTOMER METERING SYSTEM .1 To consist of Measurement Canada Approved electronic meters, current transformers, and communications system as shown on drawings and described herein.
.2 The meters will be capable of remote communication, utilizing Modbus Transport Control Protocol (TCP).
.3 Provide a software package to install in the owner's remote computer for meter reading and data storage via Ethernet LAN/WAN.
.4 System shall have backup storage power to key components so that no data is lost during power outages. The system shall continue to function after resumption of power.
.5 Failure of the building electrical normal power system shall not result in loss of data and will not require manual restarting of the metering system.

2.2 SYSTEM MEASUREMENT .1 Meters shall be complete with a Liquid Crystal Display (LCD) to access all measurements and phase diagnostics.
.2 ANSI energy accuracy class: 0.5%.
.3 Measurement Parameters:
.1 KWHR real consumption.
.2 KW average demand.

2.2 SYSTEM MEASUREMENT (Cont'd) .3 Measurement Parameters:(Cont'd)
.3 KW instantaneous demand.
.4 KVAH apparent consumption.
.5 KVA apparent demand.
.6 Harmonics measurement up to 15th harmonic.

2.3 HOUSING .1 Draw-out meter chassis, suitable for mounting in main switchboard, flush with front face.

2.4 METER COMMUNICATIONS .1 Modbus protocol for data communications.
.2 Ethernet LAN/WAN communications.
.3 RS232, port for modem connections.

2.5 METER SOFTWARE .1 Meter Interface Software shall be Windows compatible and able to export meter data into database and spreadsheet programs.
.2 Software shall be capable of providing locked levels of access to various users.

PART 3 - EXECUTION

3.1 WIRING AND CONNECTIONS .1 Refer to manufacturer's installation drawings for wiring details.
.2 Provide metering points as shown on Drawings.
.3 Provide circuit breakers for power feeding the meters.

3.2 FIELD VERIFICATION, ACCEPTANCE & TRAINING .1 Manufacturer's representative shall verify, adjust and test the system. Verification to be carried out with the assistance of the electrical contractor. Upon completion, the manufacturer shall issue a "CERTIFICATE OF ACCEPTANCE" to the owner, electrical consultant and contractor.

3.2 FIELD
VERIFICATION,
ACCEPTANCE &
TRAINING
(Cont'd)

- .2 Manufacturer's representative shall demonstrate operation of the system as follows:
 - .1 Meter readings at the meter
 - .2 Provide training and software manual for operating staff.