

Honeywell

E-Mon[®] Class 6000 Pulse Meter CE

SYSTEM ENGINEERING GUIDE

SECTION 26 27 13 LOW VOLTAGE ELECTRIC METERING 2020-05-04

Copyright 2020-2021 Honeywell International.
All rights reserved.

NOTE: Honeywell Building Control Systems; building management systems.

This section is based on the products of Honeywell Building Control Systems, which is located at:

1985 Douglas Dr. N.
Minneapolis, MN 55422

Toll Free Tel: 800-334-3666

Email (request info): buildingcontrols@honeywell.com

Web: buildingcontrols.honeywell.com

Honeywell Building Control Solutions provides integrated product solutions in heating and heating processes, ventilation, cooling and refrigeration, air purification, zoning, humidification, air conditioning, water controls and processes, electrical devices and systems, lighting control, switches, sensors and controllers. Our technologies are found in more than 10 million buildings and a multitude of manufacturing plants around the world. Customers include original equipment manufacturers, commercial, contractors, retail, trade building managers, consulting engineers and distributors.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Low voltage energy monitoring submeters of the following types:

NOTE: Delete items below not required for project.

1. E-Mon Class 6000 Pulse output single phase meters.
2. E-Mon Class 6000 Pulse output three phase meters.
3. E-Mon Class 6000 Pulse output Multiple Meter Units.

1.2 RELATED SECTIONS

NOTE: Delete any sections below not relevant to this project; add others as required.

A. Section 23 09 00 - Instrumentation and Control for HVAC.

B. Section 23 09 13 - Instrumentation and Control Devices for HVAC.

1.3 REFERENCES

NOTE: Delete references from the list below that are not actually required by the text of the edited section.

A. ANSI C12.20 - American National Standard for Electricity Meters - 0.5 Accuracy Classes.

B. Federal Communications Commission (FCC).

C. Underwriters Laboratories (UL).

D. Underwriters Laboratories Canada (cUL).

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Manufacturer's printed installation instructions, showing required preparation and installation procedures.
2. Storage and handling requirements and recommendations.
3. Installation methods.
4. Cleaning and maintenance instructions.

C. Closeout Submittals: Documentation of manufacturer's warranty.



38-00094M-01

1.5 QUALITY ASSURANCE

A. Installer: Minimum 2 years' experience with metering system installations.

B. Pre-Installation Meetings: Conduct pre-installation meetings to verify project requirements, substrate conditions, construction documents, details and manufacturer's warranty requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials in manufacturer's original, unopened, undamaged rolls/pallets with identification labels intact.

B. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

1.7 PROJECT CONDITIONS

A. Environmental Conditions: Maintain conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 WARRANTY

A. Manufacturer's Warranty: Manufacturer's standard warranty document executed by authorized company official.

1.9 PRODUCTS

1.10 MANUFACTURERS

A. Acceptable Manufacturer: E-Mon Honeywell Building Control Systems, which is located at: 1985 Douglas Dr. N.; Minneapolis, MN 55422; Toll Free Tel: 800-334-3666; Email (request info): buildingcontrols@honeywell.com; Web: buildingcontrols.honeywell.com

NOTE: Delete one of the following two paragraphs; coordinate with requirements of Division 01 section on product options and substitutions.

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

NOTE: Delete article if not required.

1.11 THREE PHASE OR SINGLE PHASE METERS

A. Basis of Design: E-Mon Class 6000 Pulse Submeter by Honeywell. Provides kW and kWh data for three-phase or single-phase power, revenue-grade accuracy, and self-power supply maintains reading in the event of power failure.

1. Standards Compliance: UL 61010 and cUL listed and ANSI C12.20 Class 0.5.

NOTE: Delete voltages not required.

2. Voltage (L-N/L-L): 120/NA
3. Voltage (L-N/L-L): 277/NA.
4. Voltage (L-N/L-L): 100/110/120/208-240.
5. Voltage (L-N/L-L): 277/480.

NOTE: Delete currents not required.

6. Current (Amps): 25.
7. Current (Amps): 50.
8. Current (Amps): 100.
9. Current (Amps): 200
10. Current (Amps): 400
11. Current (Amps): 800
12. Current (Amps): 1600.
13. Current (Amps): 3200
14. Current (Amps): 5000

NOTE: Delete enclosure types not required.

15. Enclosure Types: NEMA1 JIC steel indoor.
16. Enclosure Types: NEMA 4X polycarbonate outdoor.
17. Enclosure Types: MMU NEMA 4 steel outdoor.
18. Communications: Pulse output 1 pulse per 1 kWh.
19. Current Sensor Output: 0 - .333 millivolts A/C.
20. Current Sensors: split core one piece.

NOTE: Delete sensors not required.

- a. Split Core (Amps): 25.
 - b. Split Core (Amps): 50.
 - c. Split Core (Amps): 100.
 - d. Split Core (Amps): 200.
 - e. Split Core (Amps): 400.
 - f. Split Core (Amps): 800.
 - g. Split Core (Amps): 1600.
 - h. Split Core (Amps): 3200.
 - i. Split Core Rope Style includes 3 current sensors, 1 integrator and 120-volt power supply (Amps) 5000.
21. Data Recorder: N/A.
 22. External Inputs: N/A.
 23. Pulse Outputs: 1.
 24. Modem: N/A.
 25. Display: 4-line high contrast backlit LCD display.
 26. On-Board setup: current range 25 through 5000 amps / date and time
 27. Bluetooth (Android) setup: current range 25 through 5000 amps, date, time, meter kWh & kW readings
 28. Phase Loss Alarm (N.O. Contact): N/A.
 29. Power Quality Measurement: Yes U/I/P/F/PF.
 30. Peak Demand Measurement: Yes.
 31. Circuit Single Phase, 2-Wire: Yes.
 32. Circuit Single Phase, 3-Wire: Yes.

- 33. Circuit 3-Phase, 3-Wire (Delta): Yes.
- 34. Circuit 3-Phase, 4-Wire (Wye): Yes.
- 35. CE Approval: N/A.

NOTE: Delete article if not required.

NOTE: Allows for easy and centralized reading of meters in apartment buildings, campuses, healthcare facilities and industrial applications.

A. Multiple Meter Unit (MMU) Cabinets by Honeywell. Allow for easy and centralized reading. Interval data recorders can be factory installed inside MMU enclosure cabinets along with the meters, allowing easy interface with E-Mon Energy software. May contain meters of different voltage configurations.

NOTE: Delete configurations not required.

- 1. Configuration: 8 meters. 2 meters across, 4 meters down.
- 2. Configuration: 16 meters. 4 meters across, 4 meters down.
- 3. Configuration: 25 meters. 5 meters across, 5 meters down.

1.12 ACCESSORIES

NOTE: Delete accessories not required.

A. Interval Data Recorder (IDR) by Honeywell. Collects and stores meter information at specified time intervals, allowing profiling of metering data and detailed comparative analysis or billing. The IDR collects kWh and kW demand information from meters in field selectable 5, 15, 30 or 60-minute interval periods from up to 8 separate meters/channels of information. Up to 72 days of 15-minute interval data is stored in onboard memory. Data (in EZ7 communication option) may be used to interface with E-Mon energy automatic meter reading and billing software, building automation systems or other energy software. Retains data in case of power outage.

- 1. Standards Compliance: FCC approval.
- 2. Power Supply: 120V required and included.

NOTE: Delete number of meters not required.

- 3. Number of Meters: 8.

NOTE: Delete enclosure type not required.

- 4. Enclosure Type: JIC steel enclosure.
- 5. Enclosure Type: MMU style meter.
- 6. Protocol:

NOTE: Delete protocols not required.

- a. EZ-7, EZ-7 Ethernet.
- b. Modbus RTU, EZ-7 Ethernet.
- c. BACnet MS/TP, EZ-7 Ethernet.
- d. EZ-7, Modbus TCP/IP.
- e. EZ-7, BACnet IP.
- f. Modbus RTU, Modbus TCP/IP.
- g. EZ-7, EZ-7 Ethernet with Modem.
- h. EZ-7, Modbus TCP/IP with Modem.
- i. EZ-7, BACnet IP with Modem.

7. Connections:

NOTE: Delete connection not required.

- a. Screw Terminal Connections (only available for EIDR-8 ST models).

B. E-Mon Energy Monitoring Software by Honeywell. Generates and prints itemized electric bills using related peak demand date and time. Customer-owned software fully automates the system to generate bills, create pdf files, print bills or send e-mails based on user-specified parameters.

NOTE: Delete number of meters not required.

- 1. Number of Meters: 1 to 50.
- 2. Number of Meters: 51 to 100.
- 3. Number of Meters: 101 to 250.
- 4. Number of Meters: 251 plus.

C. Communication Keys by Honeywell E-Mon:

NOTE: Delete communication keys not required.

- 1. EKM-E - Ethernet Key/Modem.
- 2. USBK - USB Key.

EXECUTION

1.13 EXAMINATION AND PREPARATION

A. If preparation is the responsibility of another installer, notify Engineer/Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.

B. Do not proceed with installation until substrates have been properly prepared and deviations from manufacturer's recommended tolerances are corrected. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Commencement of installation constitutes acceptance of conditions.

1.14 INSTALLATION

A. Install products in strict accordance with manufacturer's instructions, approved submittals. Test for proper operation as recommended by manufacturer.

1.15 CLEANING AND PROTECTION

A. Protect installed meters from damage during for remainder of construction period, in accordance with manufacturer's recommendations.

END OF SECTION

Honeywell Building Technologies

In the U.S.:

Honeywell

715 Peachtree Street NE

Atlanta, GA 30308

customer.honeywell.com

® U.S. Registered Trademark
©2020 Honeywell International Inc.
38-00094M-01 M.S. 07-20
Printed in United States

Honeywell