

SECTION 25 36 16 – MONITORING TRANSDUCERS

PART 1 - GENERAL (NOT USED)

PART 2 - PRODUCTS

2.1 GENERAL

- A. Signal Output: Outputs shall be current regulated 4-20 mA DC capable of driving 0 to 600 ohms.
- B. All instruments shall be FM-approved, or equal.

2.2 ELECTRONIC POWER MONITOR

- A. The electronic power monitor shall measure 3-phase power, power factor, current, voltage, voltage unbalance, frequency, demand, and Volt-Amp-reactive power. The meter shall have a two-element connection, a two-and-one-half-element connection, and a three-element connection. The meter shall provide an EtherNet output and a door-mounted display module. Power supply shall be 24 VDC. The meter shall be an **Allen-Bradley Bulletin 1404-M505B-ENT Power Monitor 3000 with 1404-DM Display Module**, or equal.
- B. The electronic power monitor shall measure 3-phase power, power factor, current, voltage, voltage unbalance, frequency, demand, and Volt-Amp-reactive power. The meter shall have a two-element connection, a two-and-one-half-element connection, and a three-element connection. The meter shall provide an EtherNet output and a door-mounted display module. Power supply shall be 24 VDC. The monitor package shall include (3) split ring CTs for single-phase service and (4) split ring CTs for three-phase services. The meter shall be an **Allen-Bradley Bulletin 1404-M505B-ENT Power Monitor 3000 with 1404-DM Display Module**, or equal.
- C. Provide the following power monitors:

Tag No.	Location

2.3 POWER (KW) TRANSDUCER

- A. The power transducer shall combine a microprocessor based transducer with a high accuracy split-core instrument grade current transformer (CT) in a single unit. Performance requirements are:

1. High accuracy +/-1 percent
2. 4-20 mA output
3. Loop supply power 24 VDC
4. Single or three phase

B. The transducers shall be from the **H8040 series, three CT models, from Veris Industries**, or equal.

C. Provide the following transducers:

Tag No.	Location	Voltage	Max. Amps	Phase

2.4 DC SYSTEM VOLTAGE TRANSDUCER

A. The DC system voltage transducer shall provide a 4-20 mA output, fully isolated from input, proportional to a 0-50 VDC input. Supply voltage shall be 24 VDC. The transducer shall provide accuracy of 0.5% of span with a 250 ms response time.

B. Manufacturer: **CR Magnetics CR5320-50**, or equal.

C. Install DC system voltage transducers as shown on the panel wiring diagrams.

2.5 PHASE FAILURE MONITOR

A. Single-phase monitors are to be **Entrelec ESS mecotron model 2.430.831.12 voltage monitoring relay**, or equivalent. Supply voltage range shall be 220-240 VAC. Voltage measuring range shall be 50-500 VAC. Provide the following single-phase monitor:

Tag No.	Location

PART 3 - EXECUTION

3.1 GENERAL

- A. All monitoring transducers shall be handled, installed, calibrated, loop-tested, precommissioned, and performance tested in accordance with the Manufacturer's installation instructions and Section 40 90 00 – Process Control and Instrumentation Systems.

3.2 ELECTRONIC POWER MONITOR INSTALLATION

- A. Installation of electronic power monitors shall include a shorting switch as recommended by the Manufacturer.
- B. Power monitor display modules shall be door-mounted at eye level.

END OF SECTION 25 36 16