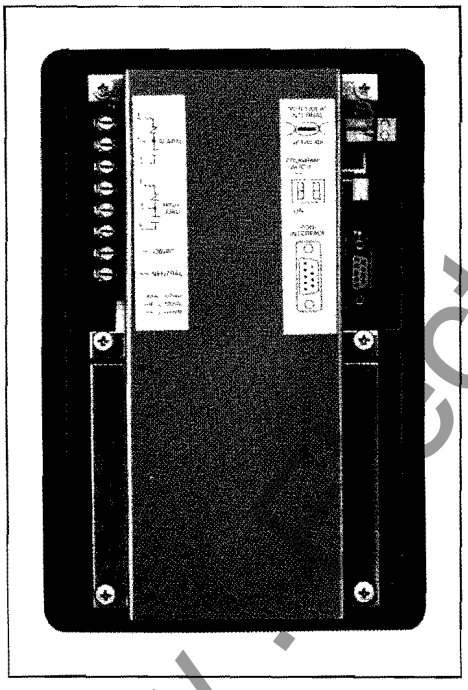
Assemblies Electronics Monitor

Assemblies Electronic Monitor: centralized monitoring in one standard package.
The Assemblies Electronic Monitor (AEM) is a microprocessor-based, self-contained, door-mounted device designed to perform the following:

- Monitor and display parameters of up to 40 circuit breakers equipped with microprocessor based Digitrip RMS 700 and/or RMS 800 Trip Units.
- Pass information from as many as 40 Digitrip RMS 700 and/or RMS 800 Trip Units; up to 8 IQ Data Plus II™ (or IQ Data Plus™) metering and voltage protection devices (48 devices total), to a computer or programmable controller.

In one standard compact package, the AEM provides a centralized alternative to individually mounted and wired ammeters and ammeter switches, circuit breaker position indicating lights, and alarm contacts. Separate metering transformers are not required.

Rear View



Self-Learning
No programming is required. Just place the mode switch, on the rear of the AEM, in the "Learn Network" position and then return it to the "Operational" position. The AEM will poll the local area network (LAN) and store the addresses of Digitrip RMS 700 and/or RMS 800 Trip Units and IQ Data Plus II monitoring and protective units that are on the LAN and have addresses from 01 to 48.

Non-Volatile Memory
The program directing the functions is permanently stored in the AEM so there is no need to reload after an AC power loss.

The number and types of devices stored in memory during the learn mode are also retained throughout a power loss. Unless there has been a change in the local area network, it is not necessary to re-enter the learn mode after an AC power loss.

Communications
Communications between the AEM and Digitrip RMS and/or IQ Data Plus II devices is accomplished by using a twisted pair of conductors on the highly reliable INCOM local area network (LAN).

Remote Communications Option
The AEM can transmit all data from Digitrip RMS and/or IQ Data Plus II devices to a remote computer over the INCOM LAN. This is achieved through use of the addressable communications module that is easily field mounted on the back of the AEM. The addressable communications module is a housing for the INCOM chip, necessary for two-way communications between the AEM and the remote computer.

This option provides, with appropriate communications modules, the following modes of communications:

- Locally (distances less than 7500 feet) using INCOM or RS232C protocol.
- Off-site monitoring (distances further than 7500 feet) using telephone modems.

The remote communications option can be included at any time by simply adding the addressable communications module to the AEM. Consequently, communications capabilities can increase as a system expands.

No reprogramming of the AEM is required when the addressable communications module is added.

Parameters Displayed

- Circuit breaker status.
- AC current (each phase and ground, if the trip unit has a ground element).
- Cause of circuit breaker trip.
- Circuit breaker address.
- High load condition (current through the circuit breaker exceeds 85% of the "Long Delay" setting for at least 40 seconds).

There is no need to go to each circuit breaker location to determine its load and/or status. This information can be obtained for up to 40 circuit breakers at one location with the AEM.

In addition to the faceplate displayed parameters, these additional parameters are available for viewing on the remote computer:

- Circuit breaker type.
- Current rating of circuit breaker rating plug.
- Power in megawatts.
- Peak power demand.
- Energy used in megawatt hours.
- Breaker trip unit in test mode.
- Long delay pickup (overload in progress)
- Missing or defective rating plug.
- Unit failed RAM check.
- Unit failed ROM check.
- Negative power.

The remote computer can also open and close any circuit breaker on the network.

Alarms
The AEM will store and cyclically display the following parameters for 3 alarmed breakers:

- Circuit breaker address.
- Circuit breaker status.
- Cause of trip, if tripped.
- Phase and value of current that caused the trip, if tripped.

A separate Form C contact is available for a customer's remote alarm. Depressing the ACK/Reset pushbutton on the AEM will acknowledge the alarm and:

- De-energize the alarm relay to silence the remote alarm.
- Change the Alarm LED from flashing to steady on.
- Stop cycling the alarmed breakers.

The alarm data is stored in the AEM memory and displayed whenever the alarmed breaker address is in the breaker address display window. The alarm data is purged from the AEM memory only when the ACK/Reset pushbutton is depressed again after the Digitrip unit on the alarmed breaker is reset.

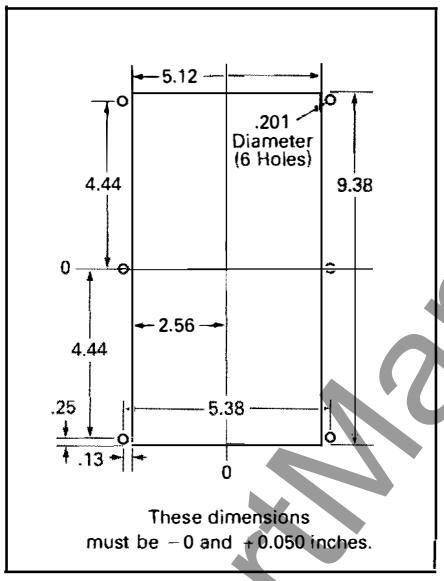
User Friendly

- Operator panel (faceplate) is self-explanatory.
- No programming required.
- Self-learning.
- Minimal external connections (2 wires for AC input and 2 wires twisted pair for communications with the LAN).

Flexible

- Can be mounted on a switchgear assembly to monitor one or more assemblies.
- Can be mounted at a remote location to monitor one or more assemblies.
- Each assembly can be monitored from a distance of up to 7500 feet.
- Remote communications option can be added at any time. No internal changes are required.
- Remote communications option can interface with a variety of networks.

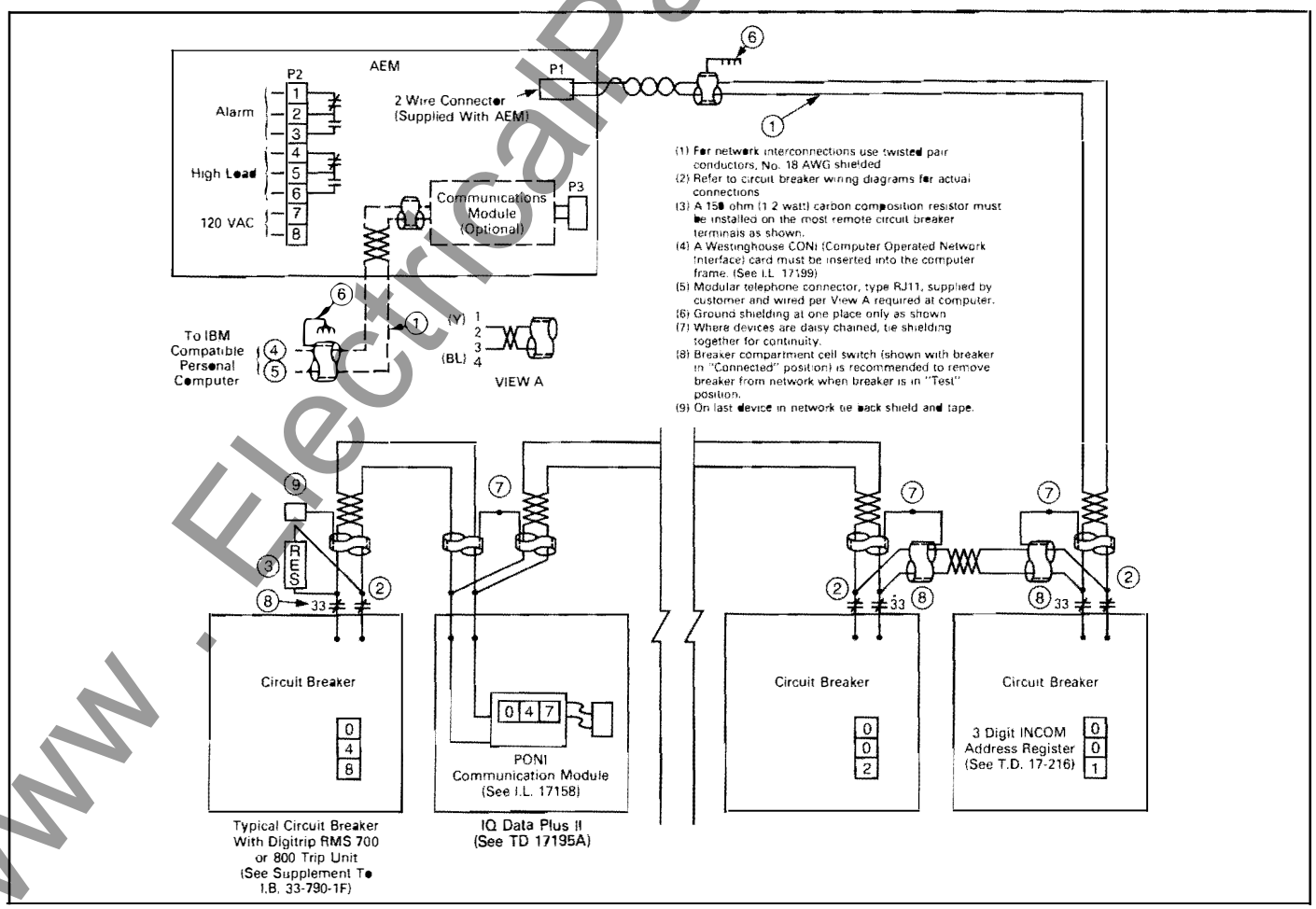
Chassis Cutout Dimensions



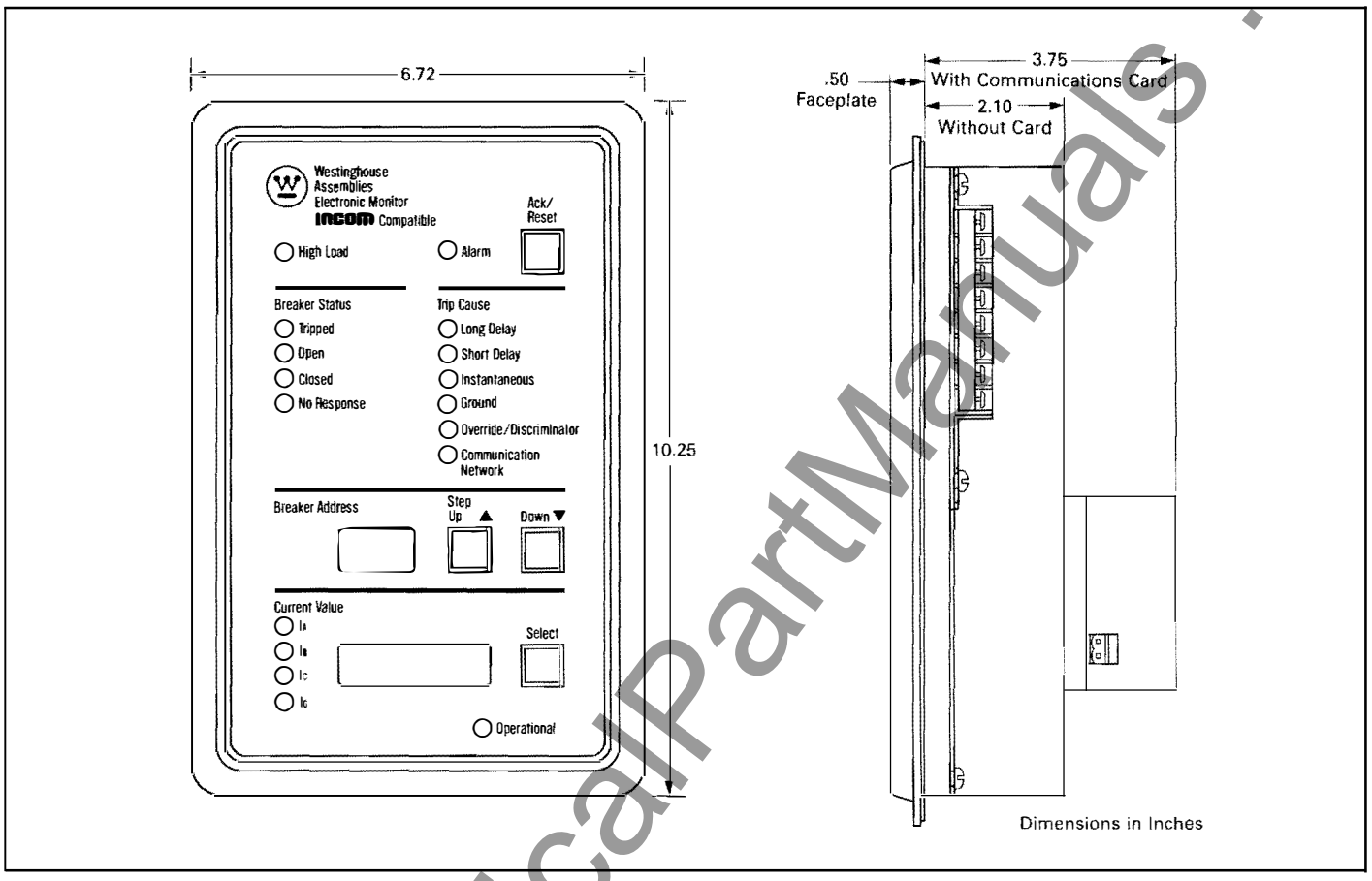
General Specifications

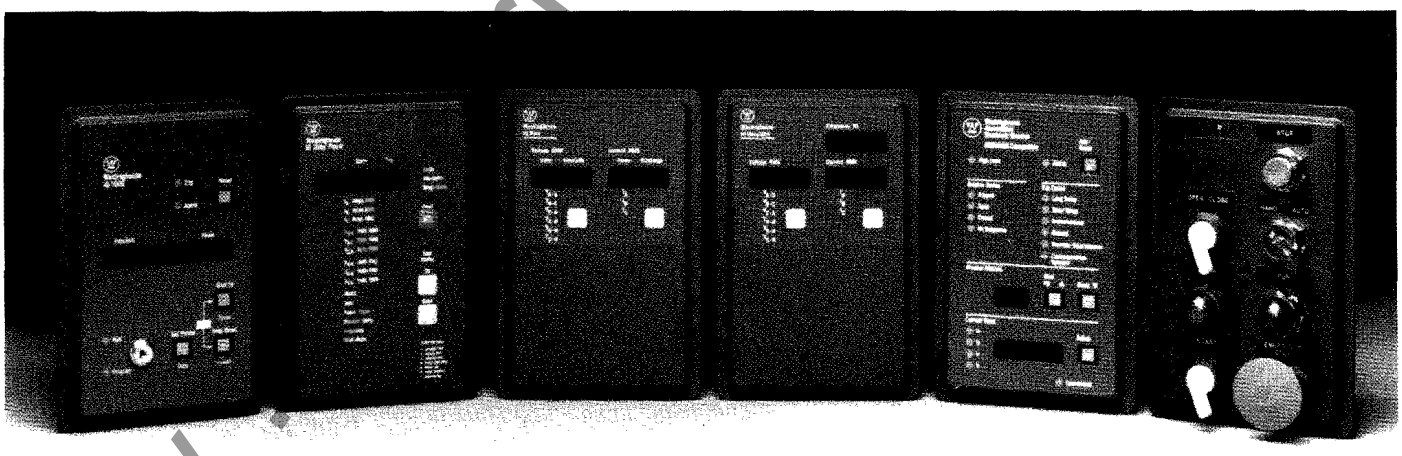
Power Requirement	10 VA maximum
Input Voltage	120 VAC +10%, −20%
Operating Temperature	0°C to 70°C 32°F to 158°F
Storage Temperature	−20°C to +85°C (−40°F to +185°F)
Humidity	0-95% R.H. noncondensing
Alarm Contact Ratings	10 Amperes @ 115 VAC (Resistive) 10 Amperes @ 30 VAC (Resistive)

Typical Wiring Diagram



Dimensions (In Inches)





The Westinghouse IQ Family: IQ-1000, IQ Data Plus II, IQ Data, IQ Generator, Assemblies Electronics Monitor and Device Panel.

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
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