DET-TRONICS®
A UTC Fire & Security Company

SPECIFICATION DATA

Eagle Quantum™ Premier

Initiating Device Circuit

EQ2200IDC

DESCRIPTION

Functioning as part of the fire detection portion of the safety system, the EQ2200IDC Initiating Device Circuit (IDC) provides two supervised digital inputs for use with dry contact inputs from devices such as relays, pushbuttons, key switches, etc. The IDC supports ANSI/NFPA 72 Class B Style B supervised input circuits. Each circuit uses its own end of line (EOL) resistor for monitoring circuit continuity.

The output of the IDC is a status message that is sent along the communication loop to the controller. System response to the message is determined at the time of configuration. The IDC supports ANSI/NFPA 72 Class A, Style 7 communication with the controller.

ALARM LOG

The IDC logs time, date, and circuit number each time one of its input circuits is activated. Data for the last eight events is stored in non-volatile memory.

STATUS LEDS

Three LEDs are located at the center of the communication module circuit board and are visible through the window on the cover.

The green LED serves as a power-on indicator and is the only LED illuminated during normal operation (no faults or alarms occurring).

The red LED is used to indicate an alarm or fault condition. The flashing rate of the red LED indicates the following conditions:

On steady = one of the inputs is active
Blinking = fault condition such as an open input circuit or not configured.

The amber LED is provided for factory diagnostic purposes and is not used by the customer. Illumination of the amber LED normally indicates a failure in the communication chip. Replacement of the communication module circuit board is required.

ADDRESSABILITY

Device identification is accomplished by setting switches on an eight position DIP switch (valid address range is 5 to 250).

ENCLOSURE

The explosion-proof, water-tight NEMA/Type 4X enclosure is designed for use in a variety of hazardous locations.

TERMINAL WIRING BOARD

All external wiring is connected to screw terminal connectors on the terminal wiring board located inside the junction box.

FEATURES

- Two Class B Style B supervised digital inputs.
- Field addressable.
- Unique patented fault isolation.
- Non-volatile memory for configuration and alarm logs.
- Utilizes state-of-the-art communication technology.
- Pass through communication circuitry on power loss.
- EMI hardened.
- FMR, CSA, CENELEC and CE Mark Certifications.
- FMR performance verified per ANSI/NFPA 72-1996.
- Compatible with Eagle Quantum Premier and Eagle Quantum systems.

SPECIFICATIONS

INPUT VOLTAGE—
24 vdc nominal, 18 to 30 vdc. Overvoltage of 10% (33 vdc) will not cause damage to the equipment.

POWER REQUIREMENTS—
4.0 watts maximum.

INPUTS—
Two supervised digital inputs (switch or relay contacts). A 10 kohm EOL resistor is required for each input.

OUTPUTS—
Digital communication, transformer isolated (78.5 kbps).

TEMPERATURE RANGE—
Operating: –40°F to +167°F (–40°C to +75°C)
Storage: –67°F to +185°F (–55°C to +85°C).

HUMIDITY RANGE—
5 to 95% RH, non-condensing.

VIBRATION—
Meets MIL SPEC 810C, method 514.2, curve AW.

DIMENSIONS—
See Figure 1.

CERTIFICATION —
FM / CSA: Class I, Div. 1, Groups B, C, D.
Class I, Zone 1, Group IIC.
Class II/III, Div. 1, Groups E, F, G.
Class I, Div. 2, Groups A, B, C, D (T4A).
Class I, Zone 2, Group IIC (T4).
Class II/III, Div. 2, Groups F & G (T4A).
NEMA/Type 4X.

CENELEC/CE: ATEX/EMC Directive Compliant.
CE 0539 Ex II 2 G
EEx d IIC T4-T6
DEMKO 02 ATEX 131321X
T6 (Tamb = –55°C to +50°C).
T5 (Tamb = –55°C to +65°C).
T4 (Tamb = –55°C to +75°C).
IP66.

Special Conditions for Safe Use (X):
The device has an ambient temperature rating for performance of –40°C to +75°C.

SHIPPING WEIGHT—
Aluminum: 6 pounds (2.7 kilograms).
Stainless Steel: 10 pounds (4.5 kilograms).

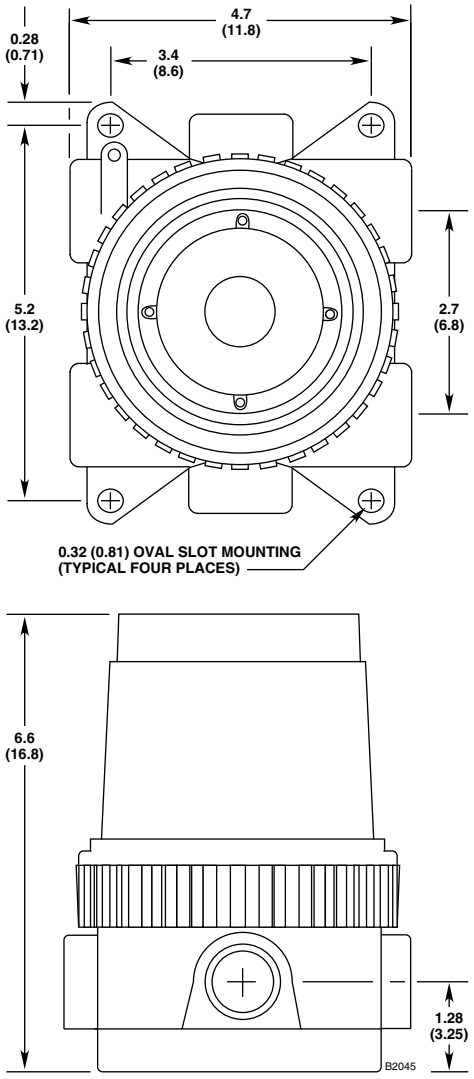

Figure 1—Dimensions of IDC in Inches (Centimeters)
(Six Port Model Shown)

INSTALLATION

NOTE

For complete instructions regarding wiring and installation, refer to manual number 95-8533 for Eagle Quantum Premier systems or manual number 95-8470 for Eagle Quantum systems.

WARNING

The hazardous area must be de-classified prior to removing a junction box cover with power applied.

1. Remove the cover from the junction box.

2. Remove the communication module from the junction box. Connect external system wiring to the appropriate terminals on the terminal block inside the junction box. See Figure 2 for terminal block location and Figure 3 for terminal identification. The input to the IDC consists of one or more normally open switches (momentary pushbuttons are not recommended), with a 10K ohm, 1/4 watt EOL resistor in parallel across the last switch. An EOL resistor must be installed on both IDC inputs (including unused inputs). Wiring impedance must not exceed 500 ohms.

IMPORTANT

Insulate the shields to prevent shorting to the device housing or to any other conductor.

3. Check the wiring to ensure proper connections.

4. Set the node address for the device. Each device on the LON/SLC must be assigned a unique address. This is accomplished by setting DIP switches on the module's circuit board. See Figure 4. Each rocker switch has a specific binary value. The node address is equal to the added value of all closed rocker switches. All open switches are ignored. The valid address range is from 5 to 250. Refer to the Eagle Quantum system manual (form 95-8470) for additional information.

5. Install the communication module inside the junction box. Be sure that the keyed ribbon cable is properly connected.

6. Inspect the junction box O-ring to be sure that it is in good condition and properly installed. Lubricate the O-ring and the threads of the junction box cover with a thin coat of an appropriate grease to ease installation and ensure a watertight enclosure. The recommended lubricant is a silicone free grease, available from Det-Tronics. Place the cover on the junction box. Tighten only until snug. Do not over tighten.

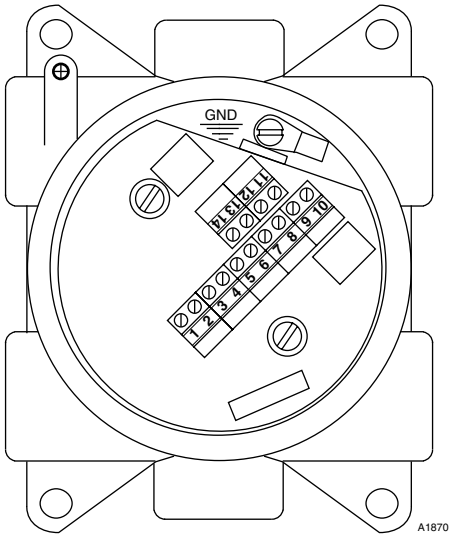

Figure 2—IDC Terminal Wiring Board Mounted in Six-Port Junction Box

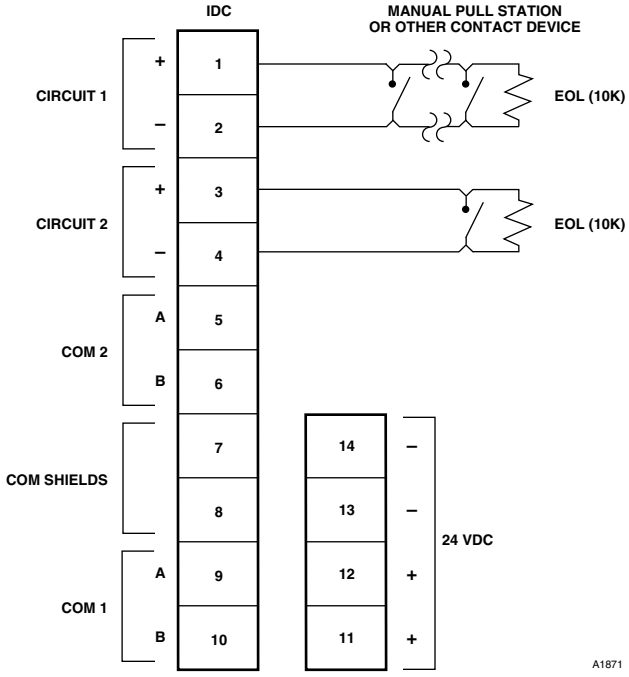

Figure 3—Terminal Configuration for Initiating Device Circuit

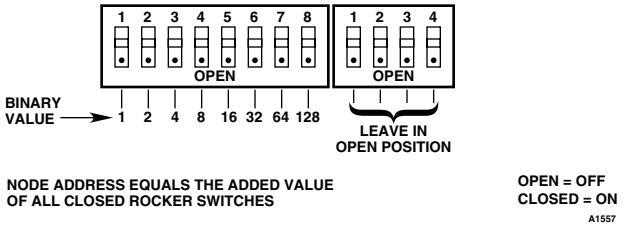

Figure 4—Field Device Address Switches

ORDERING INFORMATION

When ordering, please specify:

EQ2200IDC Initiating Device Circuit

Specify:

Enclosure material — Aluminum or stainless steel
Number of ports — 5 or 6
Port size — 3/4 inch NPT or 25 mm
Certification — FM/CSA/CENELEC/CE.

For additional information or for assistance in designing a system to meet the needs of a specific application, please contact:

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The specifications contained within this document subject to change without notice.