**DESCRIPTION**

This control drawing describes the Intrinsically Safe Equipment and associated apparatus that together form an Intrinsically Safe System.

**TLS-300 Console**

The TLS-300 Console is identified by a model number 9455. A TLS-300 Console cannot be connected in parallel with another TLS-300 or with other associated apparatus. TLS-300 Console and optional terminal boxes must be installed in indoor non-hazardous areas.

**CIRCUIT BREAKER PANEL**

The circuit breaker panel is designed to protect the system from overcurrent conditions. It contains a 200 Amp breaker and is labeled F200.

**INPUT CONNECTOR**

- 150 Vac, 60 Hz
- 24 VDC

**WARNING**

Substitution of components may impair intrinsic safety.

**MINING NOTES**

1. **Intrinsically Safe (IS) wiring** must be installed in accordance with Article 304-20 of the NEC (National Electrical Code) and/or to other applicable local codes. All other wiring must be installed according to local codes.

2. The maximum cable length allowed for connecting any Intrinsically Safe Devices to the TLS-300 Console is limited to a total of 32,000 feet per console.

3. Each cable (or IS wiring) used to connect Intrinsically Safe Devices to the TLS-300 Console must be rated 100 microfarads/mile or less and must be rated 0.2 microfarads/foot or less conductance/foot.

4. Energizing points must be connected to a suitable ground electrode through a path that can be made safe by the earth's electrical current at the installation panel in accordance with the NEC or other applicable local codes.

5. Cables (or IS wiring) used to connect separate IS devices to the associated apparatus must have suitable insulation as required by Article 304-30(b) of the NEC.

6. The associated apparatus must be installed in accordance with this control drawing and Article 304 of the NEC or another of the NEC.

7. The maximum safe area voltage (VSA) of this equipment is 2500 volts DC. Intrinsically safe equipment connected to the TLS-300 Console must not use or generate more than 2500 volts DC with respect to earth ground.

**LIMITATIONS**

A maximum of 1 TLS-RF consoles and up to 39 Intrinsically Safe Devices may be connected to the Intrinsically Safe compartment of the TLS-300 Console.

The maximum number of a specific device type is limited according to the installation instructions provided with the associated apparatus. For example, only 8 Mag Probes may be used with a single TLS-300 Console.

**Magnetostriuctive Probe – Enclosure contains Aluminum. Care must be taken to avoid ignition hazard due to impact or friction.**
EVALUATED IN CONJUNCTION WITH AN APPROVED RELAY AND COORDINATE ASSOCIATED APPARATUS
AS ASSOCIATED APPARATUS DEPENDS UPON THE RELAY DATA AND THE SYSTEM IS INSTALLED IN ACCORDANCE WITH APPROVED INSTALLATION INSTRUCTIONS.

CLASS I, DIVISION 2, GROUND

UL 1238 CONTROL EQUIPMENT FOR USE WITH FLAMEPROOF Layout DESIGN INlosed REVERSERS

UL 913 INHERENTLY SAFE APPARATUS

CSE C22.2 NO. 0 - CANADIAN ELECTRICAL CODE PART III

CSE C22.2 NO. 8 - Wiring and grounding of Electrical Equipment (Protective Grounding)

CSE C22.2 NO. 14 - Power PROCESS Control EQUIPMENT

CSE C22.2 NO. 35 - InHERENTLY SAFE AND NON-HAZARDOUS EQUIPMENT FOR USE IN

HAZARDOUS LOCATIONS, CONSUMER AND COMMERCIAL PRODUCTS.

SURGE PROTECTION

SURGE PROTECTION COMPONENTS MUST BE GAS TYPE THE UL RECOGNIZED, CATEGORY

C MEP 12 Class II, Wiring and with an Impedance OF AT LEAST 100 OHM or GREATER WHEN INSTALLED AT THE TRIBAL PORT.

CONNECT THE SURGE PROTECTOR IN ACCORDANCE WITH NFPA 780, CLAUSE 4.1.8.3.2.

CONSULT THE LOCAL AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLING AN SURGE

PROTECTION DEVICE. SOME INSTALLATIONS MAY REQUIRE A 5 feet SPACING DISTANCE

BETWEEN SURGE PROTECTOR AND ANY OTHER ACCESS POINT OR VENT. REFERENCE NFPA 30.

THE SURGE PROTECTION DEVICE MUST BE A SINGLE APPARATUS ONLY (NFPA 70, CLAUSE

504.2) SUITABLE TO THE AUTHORITY HAVING JURISDICTION.