1. The total allowable cable length used to connect all of the I.S. devices to the associated apparatus is 7,315 meters or 24,000 feet.

2. Each cable (or wiring) used to connect I.S. devices to the console must not exceed a capacitance of 328 pF/meter or 100 pF/foot.

3. The total cable capacitance, combining all of the cable used to connect the intrinsically safe devices to the associated apparatus, must not exceed 5.0 µF.

4. Each cable must not exceed an inductance of 0.656 µH/meter or 0.2 µH/foot.

5. The L/R ratio of the cable must not exceed 200 µH/ohm.

6. For each 8601 console installed, the maximum number of I.S. devices connected to the associated apparatus is 12.

7. Non-hazardous associated apparatus is as shown and must not be supplied from or contain, under normal or abnormal conditions, a source of potential with respect to earth in excess of 250 PMS or 250 Vdc. Un = 250V.

8. Connect the barrier ground to the earth ground bus at the power distribution panel with a 4 sq. mm (10 AWG) or larger conductor. Grounding must comply with EN 60079-14, clause titled “Electrical connections to intrinsically safe circuits”.

9. This symbol, ☑ , denotes a field wiring connection inside a weatherproof junction box.

10. A risk analysis must be performed to determine if the installation location is susceptible to lightning or other surges. If necessary, add protection against lightning and other electrical surges in accordance with EN 60079-25, section titled “Protection against lightning and other electrical surges”. If required, install surge protection in Zone 1 as close as possible to the boundary with Zone 0 or the site preparation guide, Manual No. 577015-578, provides additional details about risk assessment.

11. It is the responsibility of the installer to determine compliance of simple apparatus. Simple apparatus used with this system must conform to the following requirements:

   a) Constructed of passive components only, for example, switches, junction boxes, and resistors.

   b) Constructed without any sources of stored energy such as batteries, capacitors, and inductors.

   c) Constructed without sources of generated energy that produce more than 1.5W and 25mW or sources that contain a means of increasing the voltage.

   d) If constructed with a metallic housing, the simple apparatus shall be capable of withstanding the test voltage to earth in accordance with EN 60079-11, clause titled “Electrical strength requirement” and its terminals must conform to EN 60079-11, clause 5.2.

   e) Nonmetallic enclosures and enclosures of light metals must comply with EN 60079-2 sections 7 & 8 and EN 60079-26 clause 4.3.3.

   f) Based on the available power within the system, simple apparatus that have electrical components that exceed 20 mm² in total surface area, may be assessed as having a 4th temperature code at the specified ambient temperature range of –40°C to +60°C. Other types of simple apparatus must be assessed in accordance with EN 60079-11, clause titled “Simple apparatus”.

12. Cable ground must be a suitable process connection in accordance with EN 60079-26.

13. Special conditions for safe use, as applicable and as defined in the certificate of conformity and the site preparation guide, Manual No. 577015-578, must be taken into account.

14. This system descriptive document describes the intrinsically safe equipment and associated apparatus that together form an intrinsically safe system.

15. 8601 consoles are identified by form number 8601. An 8601 console cannot be connected in parallel with another 8601 or any other associated apparatus. 8601 consoles must be installed in an indoor, non-hazardous area.

16. Reference the device certification for applicable standard editions.

STANDARDS:

[Ex ia] IIC

EN 60079-0    ELECTRICAL APPARATUS FOR POTENTIALLY EXPLOSIVE ATMOSPHERES—PART 0: GENERAL REQUIREMENTS
EN 60079-11   ELECTRICAL APPARATUS FOR POTENTIALLY EXPLOSIVE ATMOSPHERES—PART 11: INTRINSIC SAFETY 'T'
EN 60079-25   ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES—PART 25: INTRINSICALLY SAFE SYSTEMS
EN 60079-26   ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES—PART 26: CONSTRUCTION, TEST AND MARKING OF GROUP II ZONE 0 ELECTRICAL APPARATUS