Notes:

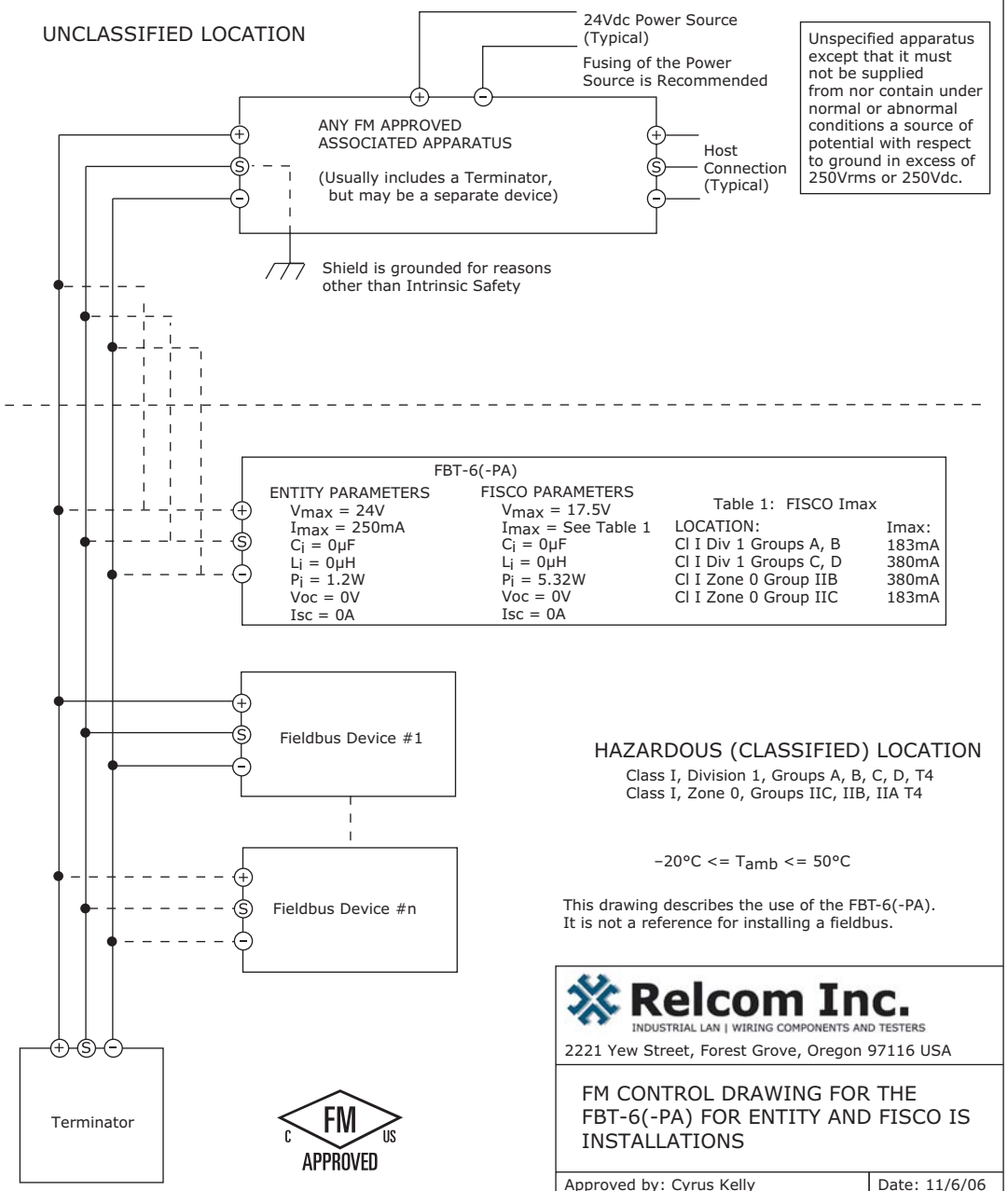
1. Installation shall be in accordance with the National Electrical Code and ISA RP12.06.01 - recommended practise for the installation of intrinsically safe circuits.

2. The FBT-6(-PA) shall not be connected to the intrinsically safe circuit at the same time as the unclassified location circuit.

3. The "Entity" concept allows interconnections of intrinsically safe apparatus to associated apparatus, not specifically examined in such combination. The criteria for interconnection is that maximum voltage (Vmax) and current (Imax) which intrinsically safe apparatus can receive and remain intrinsically safe, considering faults, must be equal to or greater than the maximum voltage (Voc or Vt) and current (Isc or It) levels which can be delivered by the associated apparatus, considering faults and applicable factors. In addition, the maximum unprotected capacitance (Ci) and inductance (Li) of the intrinsically safe apparatus, including interconnecting wiring, must be equal to or less than the maximum capacitance (Ca) and inductance (La) which can be safely connected to associated apparatus. If these criteria are met, then the combination may be connected.

4. The FISCO Concept allows the interconnection of intrinsically safe apparatus to associated apparatus not specifically examined in such combination. The criterion for such interconnection is that the voltage (Vmax), the current (Imax) and the power (Pmax) which intrinsically safe apparatus can receive and remain intrinsically safe, considering faults, must be equal or greater than the voltage (Uo, Voc or Vt), the current (Io, Isc or It) and the power (Po) which can be provided by the associated apparatus (supply unit). In addition, the maximum unprotected residual capacitance (Ci) and inductance (Li) of each apparatus (other than terminators) connected to the Fieldbus must be less than or equal to 5nF and 10µH respectively.
In each IS Fieldbus segment only one active source, normally the associated apparatus, is allowed to provide the necessary power for the Fieldbus system. The allowed voltage (Uo, Voc or Vt) of the associated apparatus used to supply the bus must be limited to the range of 14Vdc to 17.5V d.c. All other equipment connected to the bus cable has to be passive, meaning that the apparatus is not allowed to provide energy to the system, except a leakage current of 50µA for each connected device. Separately powered equipment needs galvanic isolation to ensure that the intrinsically safe Fieldbus circuit remains passive.
The cable used to interconnect the devices needs to comply with the following parameters:
Loop resistance R': 15...150 Ω/km
Inductance per unit length L': 0.4…1mH/km
Capacitance per unit length C': 80...200nF/km
C' = C' line/line + 0.5 C' line/screen, if both lines are floating or
C'= C' line/line + C' line/screen, if the screen is connected to one line (**not recommended**)
Length of spur Cable: max. 30m
Length of trunk cable: max. 1km
Length of splice: max. 1m
Terminators:
At each end of the trunk cable an approved line terminator with the following parameters is suitable:
R = 90...100Ω
C = 0...2.2µF.

5. The FBT-6(-PA) may be connected to a circuit operating at up to 32V that is not FISCO or Entity IS certified without impacting the ability to use the FBT-6(-PA) in FISCO or Entity IS circuits.



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INDUSTRIAL LAN | WIRING COMPONENTS AND TESTERS
2221 Yew Street, Forest Grove, Oregon 97116 USA

FM CONTROL DRAWING FOR THE FBT-6(-PA) FOR ENTITY AND FISCO IS INSTALLATIONS

Approved by: Cyrus Kelly	Date: 11/6/06
Drawing Number: 501-353	Rev.: B

Notes:

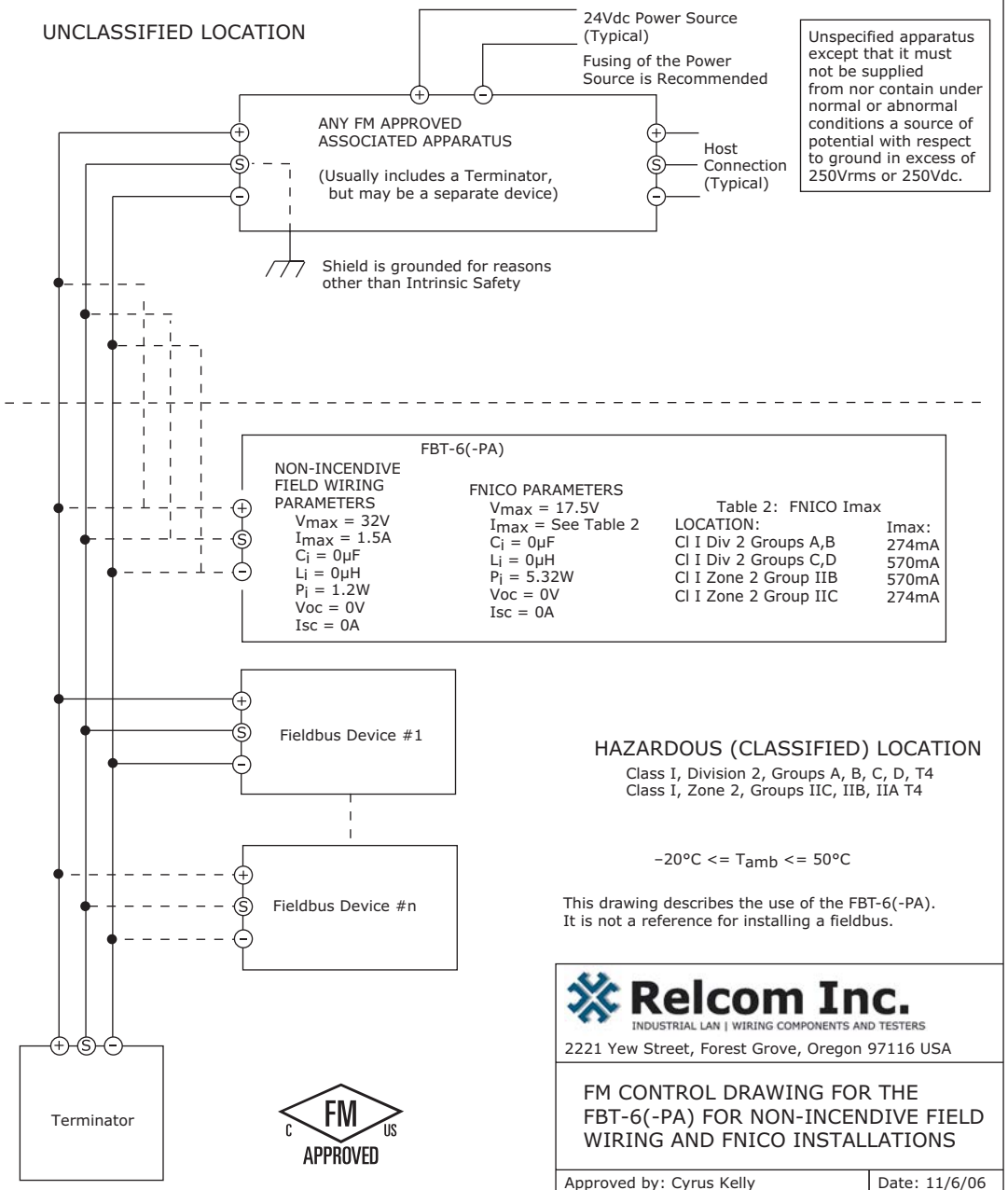
1. Installation shall be in accordance with the National Electrical Code and ISA RP12.06.01 - recommended practise for the installation of non-incendive circuits.

2. The FBT-6(-PA) shall not be connected to the non-incendive circuit at the same time as the unclassified location circuit.

3. The Non-Incendive Field Wiring concept allows interconnections of non-incendive apparatus to associated apparatus, not specifically examined in such combination. The criteria for interconnection is that maximum voltage (Vmax) and current (Imax) which non-incendive apparatus can receive and remain non-incendive, considering faults, must be equal to or greater than the maximum voltage (Voc or Vt) and current (Isc or It) levels which can be delivered by the associated apparatus, considering faults and applicable factors. In addition, the maximum unprotected capacitance (Ci) and inductance (Li) of the intrinsically safe apparatus, including interconnecting wiring, must be equal to or less than the maximum capacitance (Ca) and inductance (La) which can be safely connected to associated apparatus. If these criteria are met, then the combination may be connected.

4. The FNICO concept allows the interconnection of non-incendive apparatus to associated apparatus not specifically examined in such combination. The criterion for such interconnection is that the voltage (Vmax), the current (Imax) and the power (Pmax) which non-incendive apparatus can receive and remain non-incendive, considering faults, must be equal or greater than the voltage (Uo, Voc or Vt), the current (Io, Isc or It) and the power (Po) which can be provided by the associated apparatus (supply unit). In addition, the maximum unprotected residual capacitance (Ci) and inductance (Li) of each apparatus (other than terminators) connected to the Fieldbus must be less than or equal to 5nF and 20µH respectively.
In each non-incendive Fieldbus segment only one active source, normally the associated apparatus, is allowed to provide the necessary power for the Fieldbus system. The allowed voltage (Uo, Voc or Vt) of the associated apparatus used to supply the bus must be limited to the range of 14Vdc to 17.5V d.c. All other equipment connected to the bus cable has to be passive, meaning that the apparatus is not allowed to provide energy to the system, except a leakage current of 50µA for each connected device. Separately powered equipment needs galvanic isolation to ensure that the intrinsically safe Fieldbus circuit remains passive.
The cable used to interconnect the devices needs to comply with the following parameters:
Loop resistance R': 15...150 Ω/km
Inductance per unit length L': 0.4…1mH/km
Capacitance per unit length C': 45...200nF/km
C' = C' line/line + 0.5 C' line/screen, if both lines are floating or
C'= C' line/line + C' line/screen, if the screen is connected to one line (**not recommended**)
Length of spur Cable: max. 60m
Length of trunk cable: max. 1km in IIC and 5km in IIB
Length of splice: max. 1m
Terminators:
At each end of the trunk cable an approved line terminator with the following parameters is suitable:
R = 90...102Ω
C = 0...2.2µF.

5. The FBT-6(-PA) may be connected to a circuit operating at up to 32V that is not FNICO or Non-Incendive Field Wiring certified without impacting the ability to use the FBT-6(-PA) in FNICO or Non-Incentive Field Wiring circuits.



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FM CONTROL DRAWING FOR THE FBT-6(-PA) FOR NON-INCENDIVE FIELD WIRING AND FNICO INSTALLATIONS

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