

Please use the attached sheets for the pages listed below in the following manuals.

IM 01C50T02-01E (7th)

Page and Item	Contents of Correction
Page 8-2, 8-5 ■ ATEX Documentation	Change the applicable standards. Change Marking Code for ATEX Type of Protection "n".
Page 8-6 8.1.3 FM Certification	Change the applicable standards.
Page 8-9 SAA Flameproof Type	Deleted.
Page 9-2 9.2 Optional Specifications	Change the notation of the table.

Note 2. Wiring

- * All wiring shall comply with Canadian Electrical Code Part I and Local Electrical Codes.
- * In hazardous location, wiring shall be in conduit as shown in the figure.
- * **WARNING: A SEAL SHALL BE INSTALLED WITHIN 50 cm OF THE ENCLOSURE.**
UN SCÉLLEMENT DOIT ÊTRE INSTALLÉ À MOINS DE 50 cm DU BOÎTIER.
- * When installed in Division 2, “FACTORY SEALED, CONDUIT SEAL NOT REQUIRED”.

Note 3. Operation

- * Keep strictly the “WARNING” on the label attached on the transmitter.
WARNING: OPEN CIRCUIT BEFORE REMOVING COVER.
OUVRIR LE CIRCUIT AVANT D'ENLEVER LE COUVERCLE.
- * Take care not to generate mechanical spark when access to the instrument and peripheral devices in hazardous location.

Note 4. Maintenance and Repair

- * The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void Canadian Standards Explosionproof Certification.

8.1.2 ATEX Certification**(1) Technical Data****A) ATEX Flameproof Type and Dust Ignition Proof Type**

Caution for ATEX Flameproof Type and Dust Ignition Proof Type

- Note 1. Model YTA320-F/KF2 temperature transmitters for potentially explosive atmospheres:
- * No. KEMA 07ATEX0130
 - * Applicable Standard: EN 60079-0:2006, EN 60079-1:2007, EN 61241-0:2006, EN 61241-1:2004
 - * Type of Protection and Marking Code: II 2G Ex d IIC T6/T5, II 2D Ex tD A21 IP67 T70°C, T90°C
 - * Ambient Temperature for Gas Atmospheres: -40 to 75°C (T6), -40 to 80°C (T5)
 - * Ambient Temperature for Dust Atmospheres: -40 to 65°C (T70°C), -40 to 80°C (T90°C)
 - * Enclosure: IP67

Note 2. Electrical Data

- * Supply voltage: 32 V dc max.
- Output signal: 16.6 mA

Note 3. Installation

- * All wiring shall comply with local installation requirement.
- * The cable entry devices shall be of a certified flameproof type, suitable for the conditions of use.

Note 4. Operation

- * Keep strictly the “WARNING” on the label on the transmitter.
WARNING: AFTER DE-ENERGIZING, DELAY 5 MINUTES BEFORE OPENING. WHEN THE AMBIENT TEMP. \geq 70°C, USE THE HEATRESISTING CABLES OF HIGHER THAN 90°C]
- * Take care not to generate mechanical spark when access to the instrument and peripheral devices in hazardous location.

Note 5. Maintenance and Repair

- * The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void ATEX Flameproof Certification.

B) ATEX Intrinsically Safe Type

Caution for ATEX Intrinsically safe type.

Note 1. YTA Series temperature transmitters with optional code /KS25 for potentially explosive atmospheres:

- * No. KEMA 02ATEX1324 X
- * Applicable Standard: EN 50014:1997, EN 50020:2002, EN 50284:19999, EN 60529:1999

Note 2. Ratings

[Supply circuit]

- EEx ia IIC T4
Type of Protection and Marking Code:
EEx ia IIC T4
Group: II
Category: 1G
Ambient Temperature: -40 to 60°C
Degree of Protection of the Enclosure: IP67
Electrical Data
- * When combined with FISCO model IIC barrier
U_i = 17.5 V, I_i = 360 mA, P_i = 2.52 W,
C_i = 1.5 nF, L_i = 8 μ H
- * When combined with barrier
U_i = 24.0 V, I_i = 250 mA, P_i = 1.2 W,
C_i = 1.5 nF, L_i = 8 μ H

- EEx ia IIB T4
Type of Protection and Marking Code:
EEx ia IIB T4
Group: II
Category: 1G
Ambient Temperature: -40 to 60°C
Degree of Protection of the Enclosure: IP67
Electrical Data
* When combined with FISCO model IIB barrier
 $U_i = 17.5\text{ V}$, $I_i = 380\text{ mA}$, $P_i = 5.32\text{ W}$,
 $C_i = 1.5\text{ nF}$, $L_i = 8\text{ }\mu\text{H}$

[Sensor circuit]

$U_o = 7.7\text{ V}$, $I_o = 70\text{ mA}$, $P_o = 140\text{ mW}$,
 $C_o = 1.6\text{ }\mu\text{F}$, $L_i = 7.2\text{ mH}$

Note 3. Installation

- * All wiring shall comply with local installation requirements. (Refer to the installation diagram)

Note 4. Maintenance and Repair

- * The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void KEMA Intrinsically safe Certification.

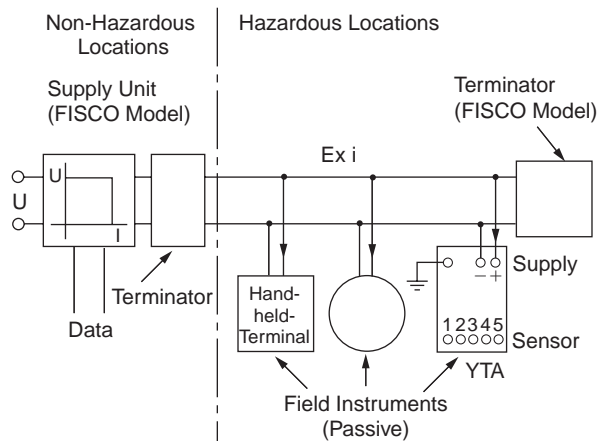
Note 5. Special condition for safe use

- * Because the enclosure of the Temperature Transmitter is made of aluminum, if it is mounted in an area where the use of category 1G apparatus is required, it must be installed such, that, even in the event of rare incidents, ignition source due to impact and friction sparks are excluded.

Note 6. Installation instructions

- * From the safety point of view the circuit shall be considered to be connected to earth. As this deviates from the FISCO system in accordance with IEC TS 60079-27 care has to be taken that the (local) installation requirements are taken into account as well.

(1) FISCO Model



I.S. fieldbus system complying with FISCO

The criterion for such interconnection is that the voltage (U_i), the current (I_i) and the power (P_i), which intrinsically safe apparatus can receive, must be equal or greater than the voltage (U_o), the current (I_o) and the power (P_o) which can be provided by the associated apparatus (supply unit). In addition, the maximum unprotected residual capacitance (C_i) and inductance (L_i) of each apparatus (other than the terminators) connected to the fieldbus line must be equal or less than 5 nF and $10\text{ }\mu\text{H}$ respectively.

Supply unit

The supply unit must be certified by a notify body as FISCO model and following trapezoidal or rectangular output characteristic is used.

$U_o = 14 \dots 24\text{ V}$ (I.S. maximum value)

I_o based on spark test result or other assessment, ex. 133 mA for $U_o = 15\text{ V}$ (Group IIC, rectangular characteristic)

No specification of L_o and C_o in the certificate and on the label.

Cable

The cable used to interconnect the devices needs to comply with the following parameters:

loop resistance R' : $15 \dots 150\text{ }\Omega/\text{km}$

inductance per unit length L' : $0.4 \dots 1\text{ mH}/\text{km}$

capacitance per unit length C' : $80 \dots 200\text{ nF}/\text{km}$

$C' = C'$ line/line + $0.5\text{ }C'$ line/screen, if both lines are floating

or

$C' = C'$ line/line + C' line/screen, if the screen is connected to one line

length of spur cable: max. 30 m (EEx ia IIC T4) or 120 m (EEx ia IIB T4)

length of trunk cable: max. 1 km (EEx ia IIC T4) or 1.9 km (EEx ia IIB T4)

Terminators

The terminator must be certified by a notify body as FISCO model and at each end of the trunk cable an approved line terminator with the following parameters is suitable:

$$R = 90 \dots 100 \Omega$$

$$C = 0 \dots 2.2 \mu\text{F}$$

The resistor must be infallible according to IEC 60079-11. One of the two allowed terminators might already be integrated in the associated apparatus (bus supply unit).

FIELD INSTRUMENTS

Intrinsically safe ratings of the transmitter (FIELD INSTRUMENTS) are as follows:

Supply/output circuit

EEx ia IIC T4

Maximum Voltage (U_i) = 17.5 V

Maximum Current (I_i) = 360 mA

Maximum Power (P_i) = 2.52 W

Internal Capacitance (C_i) = 1.5 nF

Internal Inductance (L_i) = 8 μH

EEx ia IIB T4

Maximum Voltage (U_i) = 17.5 V

Maximum Current (I_i) = 380 mA

Maximum Power (P_i) = 5.32 W

Internal Capacitance (C_i) = 1.5 nF

Internal Inductance (L_i) = 8 μH

Sensor circuit

EEx ia IIC T4

Maximum Voltage (U_o) = 7.7 V

Maximum Current (I_o) = 70 mA

Maximum Power (P_o) = 140 mW

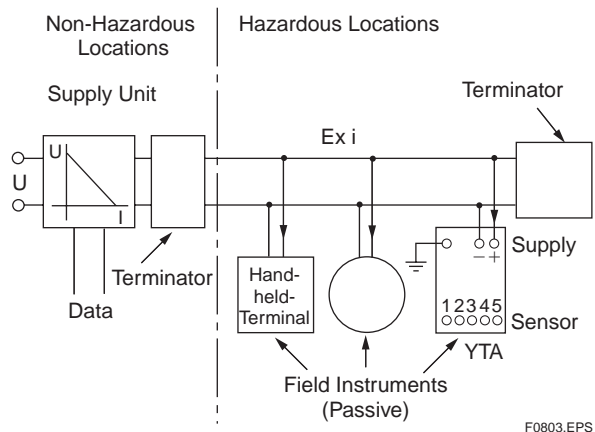
External Capacitance (C_o) = 1.6 μF

External Inductance (L_o) = 7.2 mH

Number of Devices

The number of devices (max. 32) possible on a fieldbus link depends on factors such as the power consumption of each device, the type of cable used, use of repeaters, etc.

(2) Entity Model



I.S. fieldbus system complying with Entity model

I.S. values Power supply-field device:

$$P_o \leq P_i, U_o \leq U_i, I_o \leq I_i$$

Calculation of max. allowed cable length:

$$C_{\text{cable}} \leq C_o - \sum c_i - \sum c_i (\text{Terminator})$$

$$L_{\text{cable}} \leq L_o - \sum L_i$$

FIELD INSTRUMENTS

Intrinsically safe ratings of the transmitter (FIELD INSTRUMENTS) are as follows:

Supply/output circuit

EEx ia IIC T4

Maximum Voltage (U_i) = 24.0 V

Maximum Current (I_i) = 250 mA

Maximum Power (P_i) = 1.2 W

Internal Capacitance (C_i) = 1.5 nF

Internal Inductance (L_i) = 8 μH

Sensor circuit

EEx ia IIC T4

Maximum Voltage (U_o) = 7.7 V

Maximum Current (I_o) = 70 mA

Maximum Power (P_o) = 140 mW

External Capacitance (C_o) = 1.6 μF

External Inductance (L_o) = 7.2 mH

Number of Devices

The number of devices (max. 32) possible on a fieldbus link depends on factors such as the power consumption of each device, the type of cable used, use of repeaters, etc.

C) ATEX Type of Protection “n”

Caution for ATEX Type of Protection “n”

Note 1. Model YTA320-F/KN25 temperature transmitters for potentially explosive atmospheres:

- * Applicable Standard: EN 60079-15: 2005,
EN 60079-0: 2009
- * Type of Protection and Marking Code: II 3G
Ex nL IIC T4 Gc
- * Temperature Class: T4
- * Ambient Temperature: -30 to 70°C
- * Enclosure: IP67

Note 2. Electrical Data

[Supply Input]

- Maximum input voltage, $U_i = 32V_{dc}$
- Effective internal capacitance, $C_i = 1.5 \text{ nF}$
- Effective internal inductance, $L_i = 8 \mu\text{H}$

[Sensor Output]

- Maximum output voltage, $U_o = 7.7 \text{ V}$
- Maximum output current, $I_o = 70 \text{ mA}$
- Maximum output power, $P_o = 140 \text{ mW}$
- Maximum allowed external capacitance, $C_o = 1.6 \mu\text{F}$
- Maximum allowed external inductance, $L_o = 7.2 \text{ mH}$

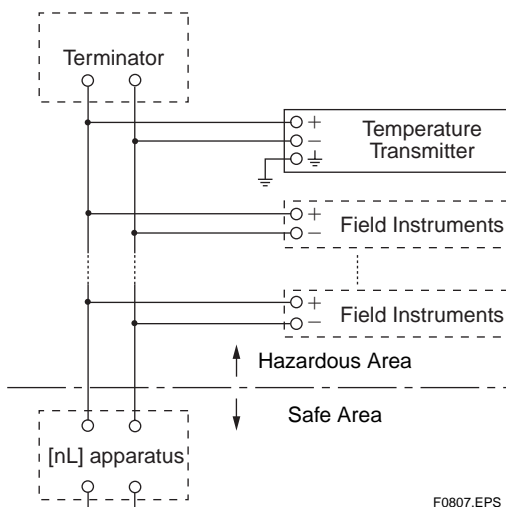
Note 3. Operation

- Keep strictly the “WARNING” on the label on the transmitter.
- WARNING: POTENTIAL ELECTROSTATIC CHARGING HAZARD. SEE USER’S MANUAL BEFORE USE.**

Note 4. Special condition for safe use

- Avoid any actions that cause the generation of electrostatic charge on the non-metallic parts, such as rubbing with a dry cloth on coating face of product.

Note 5. Installation Diagram



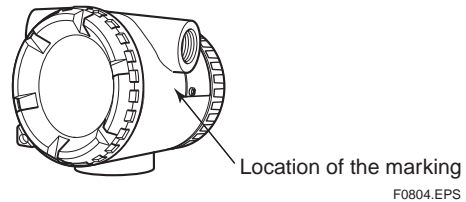
F0807.EPS

(2) Electrical Connection

The type of electrical connection is stamped near the electrical connection port according to the following marking.

Screw Size	Marking
ISO M20×1.5 female	△ M
ANSI 1/2 NPT female	△ A

T0801.EPS



F0804.EPS

(3) Installation

! WARNING

All wiring shall comply with local installation requirement and local electrical code.

(4) Operation

! WARNING

- OPEN CIRCUIT BEFORE REMOVING COVER. INSTALL IN ACCORDANCE WITH THIS USER’S MANUAL
- Take care not to generate mechanical sparking when access to the instrument and peripheral devices in hazardous locations.

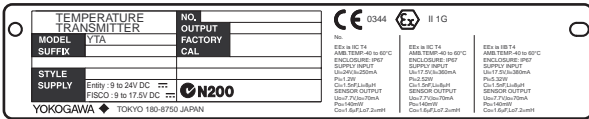
(5) Maintenance and Repair

! WARNING

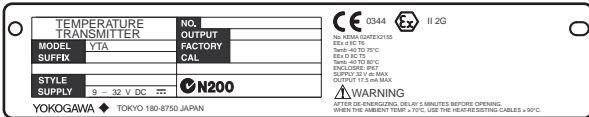
The instrument modification or parts replacement by other than authorized Representative of Yokogawa Electric Corporation is prohibited and will void the certification.

(6) Name Plate

● Name plate for intrinsically safe type



● Name plate for flameproof type



F0805.EPS

- MODEL: Specified model code.
- SUFFIX: Specified suffix code.
- STYLE: Style code.
- SUPPLY: Supply voltage.
- NO.: Serial number and year of production*1.
- OUTPUT: Output signal.
- FACTORY CAL: Specified calibration range.
- YOKOGAWA ◆ TOKYO 180-8750 JAPAN:
The manufacturer name and the address*2.

*1: The production year

The third figure from the left of the serial number shows the year of production. The relation between the third figure and the production year is shown below.

Third figure	D	E	F	G	H	J	K
Production year	2004	2005	2006	2007	2008	2009	2010

For example, the production year of the product engraved in “NO.” column on the name plate as follows is 2007.

C2G218541
↑
2007

*2: “180-8750” is a zip code which represents the following address.
2-9-32 Nakacho, Musashino-shi, Tokyo Japan

8.1.3 FM Certification

A) FM Explosionproof Type

Caution for FM Explosionproof type

Note 1. Model YTA320-F /FF1 temperature transmitters are applicable for use in hazardous locations:

- * Applicable Standard: FM 3600, FM 3615, FM 3810, NEMA250
- * Explosionproof for Class I, Division 1, Groups A, B, C, and D.

- * Dust-ignitionproof for Class II/III, Division 1, Groups E, F and G.
- * Enclosure rating: NEMA 4X.
- * Temperature Class: T6
- * Ambient Temperature: -40 to 60°C
- * Supply Voltage: 32 V dc max.

Note 2. Wiring

- * All wiring shall comply with National Electrical Code ANSI/NEPA70 and Local Electrical Codes.
- * “FACTORY SEALED, CONDUIT SEAL NOT REQUIRED”.

Note 3. Operation

- * Keep strictly the “WARNING” on the nameplate attached on the transmitter.
WARNING: OPEN CIRCUIT BEFORE REMOVING COVER.
“FACTORY SEALED, CONDUIT SEAL NOT REQUIRED”.
INSTALL IN ACCORDANCE WITH THE INSTRUCTION MANUAL IM 1C50B1.
- * Take care not to generate mechanical spark when access to the instrument and peripheral devices in hazardous location.

Note 4. Maintenance and Repair

- * The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void Factory Mutual Explosionproof Approval.

B) FM Intrinsically Safe Type

Model YTA Series temperature transmitters with optional code /FS15.

- * Applicable Standard: FM 3600, FM 3610, FM 3611, FM 3810, NEMA250, ANSI/ISA-60079-0, ANSI/ISA-60079-11

• FM Intrinsically Safe Approval

[Entity Model]

Class I, II & III, Division 1, Groups A, B, C, D, E, F & G, Temperature Class T4 Ta=60°C, Type 4X and Class I, Zone 0, AEx ia IIC, Temperature Class T4 Ta=60°C, Type 4X

[FISCO Model]

Class I, II & III, Division 1, Groups A, B, C, D, E, F & G, Temperature Class T4 Ta=60°C, Type 4X and Class I, Zone 0, AEx ia IIC, Temperature Class T4 Ta=60°C, Type 4X

• Nonincendive Approval

Class I, Division 2, Groups A, B, C & D and Class I, Zone 2, Group IIC

Class II, Division 2, groups F & G,

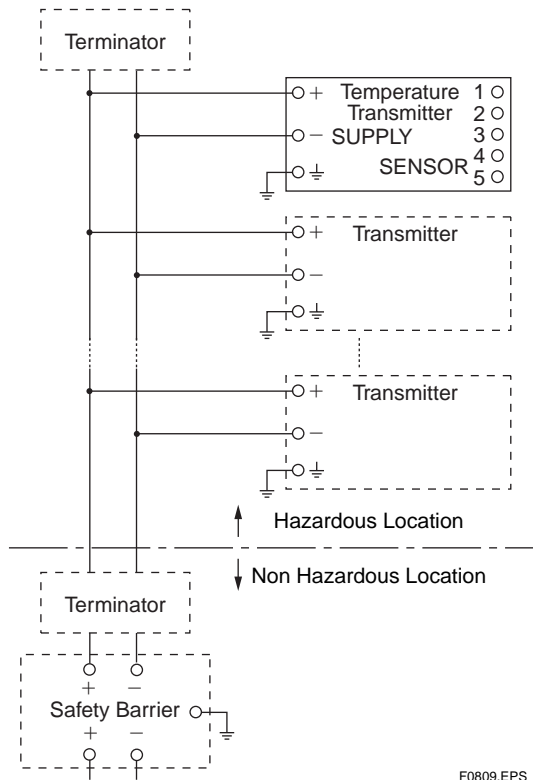
Temperature Class: T4

Enclosure: NEMA 4X

- Electrical Connection: 1/2 NPT female
- Caution for FM Intrinsically safe type. (Following contents refer to “DOC. No. IFM018-A12 p.1, p.2, p.3, and p.3-1.”)

■ IFM018-A12

● Installation Diagram (Intrinsically safe, Division 1 Installation)



- *1: Dust-tight conduit seal must be used when installed in Class II and Class III environments.
- *2: Control equipment connected to the Associated Apparatus must not use or generate more than 250 Vrms or Vdc.
- *3: Installation should be in accordance with ANSI/ISA RP12/6 “Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations” and the National Electrical Code (ANSI/NFPA 70) Sections 504 and 505.
- *4: The configuration of Associated Apparatus must be Factory Mutual Research Approved under FISCO Concept.
- *5: Associated Apparatus manufacturer’s installation drawing must be followed when installing this equipment.
- *6: The YTA Series are approved for Class I, Zone 0, applications. If connecting AEx (ib) associated Apparatus or AEx ib I.S. Apparatus to the Zone 2, and is not suitable for Class I, Zone 0 or Class I, Division 1, Hazardous (Classified) Locations.

- *7: No revision to drawing without prior Factory Mutual Research Approval.
- *8: Terminator must be FM Approved.

Electrical Data:

- Rating 1 (Entity and nonincendive)
For Groups A, B, C, D, E, F, and G or Group IIC
Maximum Input Voltage V_{max} : 24 V
Maximum Input Current I_{max} : 250 mA
Maximum Input Power P_i : 1.2 W
Maximum Internal Capacitance C_i : 1.5 nF
Maximum Internal Inductance L_i : 8 μ H

or

- Rating 2 (FISCO)
For Groups A, B, C, D, E, F, and G or Group IIC
Maximum Input Voltage V_{max} : 17.5 V
Maximum Input Current I_{max} : 360 mA
Maximum Input Power P_i : 2.52 W
Maximum Internal Capacitance C_i : 1.5 nF
Maximum Internal Inductance L_i : 8 μ H

or

- Rating 3 (FISCO)
For Groups C, D, E, F, and G or Group IIB
Maximum Input Voltage V_{max} : 17.5 V
Maximum Input Current I_{max} : 380 mA
Maximum Input Power P_i : 5.32 W
Maximum Internal Capacitance C_i : 1.5 nF
Maximum Internal Inductance L_i : 8 μ H

and

- Rating 4 (Sensor circuit)
Maximum Output Voltage U_o : 6.7 V
Maximum Output Current I_o : 60 mA
Maximum Output Power P_o : 100 mW
Maximum External Capacitance C_o : 10 μ F
Maximum External Inductance L_o : 10 μ H

Note: In the rating 1, the output current of the barrier must be limited by a resistor “Ra” such that $I_o=U_o/R_a$. In the rating 2 or 3, the output characteristics of the barrier must be the type of trapezoid which are certified as the FISCO model (See “FISCO Rules”). The safety barrier may include a terminator. More than one field instruments may be connected to the power supply line.

● FISCO Rules

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 (U_i), the current (I_i) and the power (P_i) which intrinsically safe apparatus can receive and remain intrinsically safe, considering faults, must be equal or greater than the voltage (U_o , V_{oc} , V_t), the current (I_o) and the power (P_o) which can be provided by the associated apparatus (supply unit). In addition, the maximum unprotected residual capacitance (C_i) and inductance

(Li) of each apparatus (other than the terminators) connected to the fieldbus must be less than or equal to 5 nF and 10 µH respectively.

In each I.S. fieldbus segment only one active source, normally the associated apparatus, is allowed to provide the necessary power for the fieldbus system. The allowed voltage U_o of the associated apparatus used to supply the bus is limited to the range of 14 V dc to 24 V dc. 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 to a leakage current of 50 µA for each connected device.

Supply unit

Trapezoidal or rectangular output characteristic only

$$U_o = 14...24 \text{ V (I.S. maximum value)}$$

I_o according to spark test result or other assessment, e.g. 133 mA for $U_o = 15 \text{ V}$ (Group IIC, rectangular characteristic) No specification of L_o and C_o in the certificate and on the label.

Cable

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...1 mH/km
- capacitance per unit length C' : 80...200 nF/km
- $C' = C'_{\text{line/line}} + 0.5 C'_{\text{line/screen}}$, if both lines are floating

or

- $C' = C'_{\text{line/line}} + C'_{\text{line/screen}}$, if the screen is connected to one line
- length of spur cable: max. 30 m (Group IIC) or 120 m (Group IIB)
- length of trunk cable: max. 1 km (Group IIC) or 1.9 km (Group IIB)

Terminators

At each end of the trunk cable an approved line terminator with the following parameters is suitable:

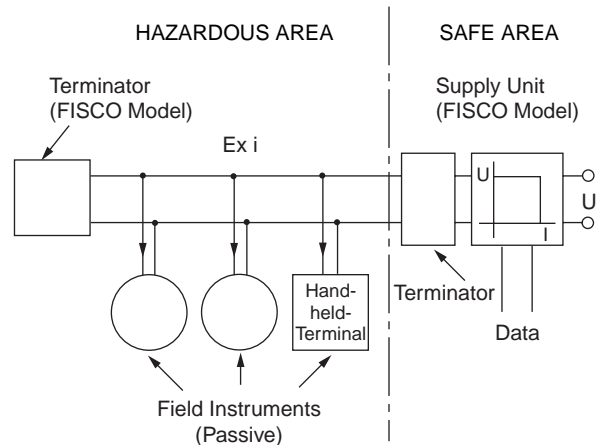
$$R = 90...100 \text{ } \Omega$$

$$C = 0...2.2 \text{ F}$$

The resistor must be infallible according to IEC 60079-11. One of the two allowed terminators might already be intergrated in the associated apparatus (bus supply unit)

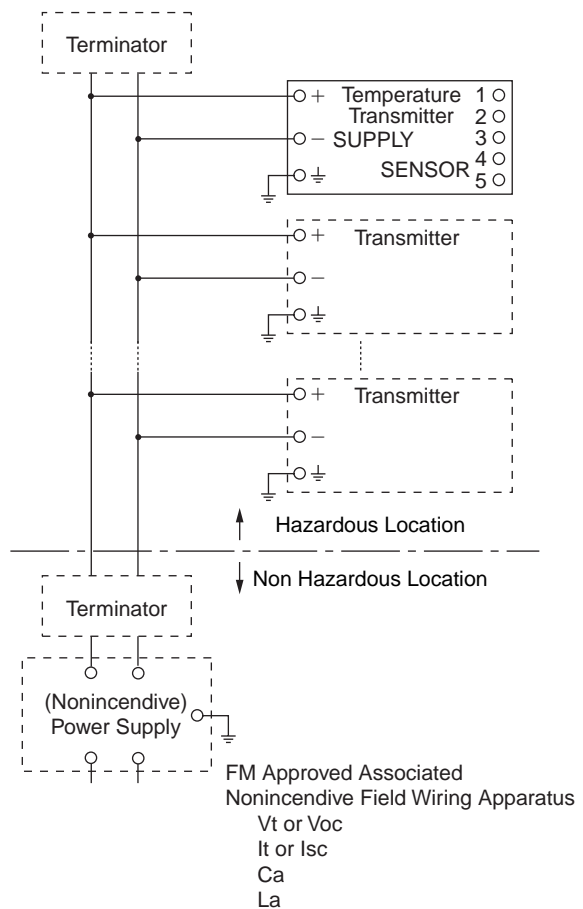
System evaluations

The number of passive device like transmitters, actuators, hand held terminals connected to a single bus segment is not limited due to I.S. reasons. Furthermore, if the above rules are respected, the inductance and capacitance of the cable need not to be considered and will not impair the intrinsic safety of the installation.



I.S. fieldbus system complying with FISCO model

● Installation Diagram (Nonincendive, Division 2 Installation)



- *1: Dust-tight conduit seal must be used when installed in Class II and Class III environments.
- *2: Installation should be in accordance with and the National Electrical Code® (ANSI/NFPA 70) Sections 504 and 505.
- *3: The configuration of Associated Nonincendive Field Wiring Apparatus must be FM Approved.
- *4: Associated Nonincendive Field Wiring Apparatus manufacturer's installation drawing must be followed when installing this equipment.
- *5: No revision to drawing without prior FM Approvals.
- *6: Terminator and supply unit must be FM Approved.
- *7: If use ordinary wirings, the general purpose equipment must have nonincendive field wiring terminal approved by FM Approvals.
- *8: The nonincendive field wiring circuit concept allows interconnection of nonincendive field wiring apparatus with associated nonincendive field wiring apparatus, using any of the wiring methods permitted for unclassified locations.
- *9: Installation requirements;
 - $V_{max} \cong V_{oc} \text{ or } V_t$
 - $I_{max} = \text{see note 10}$
 - $C_a \cong C_i + C_{cable}$
 - $L_a \cong L_i + L_{cable}$
- *10: For this current controlled circuit, the parameter (I_{max}) is not required and need not be aligned with parameter (I_{sc} or I_t) of the barrier or associated nonincendive field wiring apparatus.

Electrical Data:

- Supply Input (+ and –)
 - Maximum Input Voltage V_{max} : 32 V
 - Maximum Internal Capacitance C_i : 1.5 nF
 - Maximum Internal Inductance L_i : 8 μ H
- Sensor Output (1 to 5)
 - Maximum Output Voltage V_{oc} : 6.7 V
 - Maximum External Capacitance C_o : 1.6 μ F
 - Maximum External Inductance L_o : 7.2 mH

8.1.4 IECEx Certification

A) IECEx Flameproof Type and Dust Ignition Proof Type

Caution for IECEx flameproof type and Dust Ignition Proof Type

- Note 1. Model YTA320/SF2 temperature transmitters are applicable for use in hazardous locations:
- * No. IECEx KEM 07.0044
 - * Applicable Standard: IEC 60079-0:2004, IEC 60079-1:2007-4, IEC 61241-0:2004, IEC 61241-1:2004
 - * Type of Protection and Marking Code: Ex d IIC T6/T5, Ex tD A21 IP67 T70°C, T90°C
 - * Ambient Temperature for Gas Atmospheres: –40 to 75°C (T6), –40 to 80°C (T5)
 - * Ambient Temperature for Dust Atmospheres: –40 to 65°C (T70°C), –40 to 80°C (T90°C)
 - * Enclosure: IP67
- Note 2. Electrical Data
- * Supply voltage: 42 V dc max.
 - * Output signal: 4 to 20 mA
- Note 3. Installation
- * All wiring shall comply with local installation requirement.

9.2 Optional Specifications

For items other than those described below, refer to IM 01C50B01-01E.

Item	Description	Code
ATEX	ATEX Flameproof and Dust Ignition Proof Approval Electrical Connection: 1/2 NPT female and M20 female	KF2
	ATEX Intrinsically Safe Approval Electrical Connection: 1/2 NPT female and M20 female	KS25
	ATEX Type n Approval Electrical Connection: 1/2 NPT female and M20 female	KN25
Factory Mutual (FM)	FM Explosionproof Approval Electrical Connection: 1/2 NPT female	FF1
	FM Intrinsically Safe Approval Electrical Connection: 1/2 NPT female	FS15
Canadian Standards Association (CSA)	CSA Explosionproof Approval Electrical Connection: 1/2 NPT female	CF1
IECEX	IECEX Flameproof and Dust ignition proof Approval Electrical Connection: 1/2 NPT female and M20 female	SF2
	IECEX Intrinsically safe and type n Electrical Connection: 1/2 NPT female or M20 female	SS25
PID function	PID control function (one block)	LC1
	PID control function (2 blocks)	LC2

T0901E.EPS