

7501 ATEX Installation



For safe installation of 7501 the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards (EN60079-14) that apply to this area.

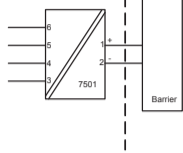
Ex ia installation:

ATEX Certificate DEKRA 15ATEX0058 X

Marking II 1 G Ex ia IIC T6...T4 Ga II 1 D Ex ia IIIC T100°C Da I M1 Ex ia I Ma (7501B)

Standards: EN 60079-0: 2012, EN 60079-11: 2012, EN60079-26:2007

Hazardous area Zone 0, 1, 2, 20, 21, 22, (Mines) Non Hazardous Area



Sensor Terminal: 3,4,5,6 Uo: 9.6 VDC Io: 28 mA Po: 67 mW Lo: 35 mH Co: 3.5 µF

Supply Terminal: 1,2 Ui: 30 VDC Ii: 120 mA Pi: 0.84 W Li: 0 µH Ci: 2 nF

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Ex ia installation

General installation instructions The sensor circuit is not infallibly galvanic isolated from the supply output circuit. However, the galvanic isolation between the circuits is capable of withstanding a test voltage of 500Vac during 1 minute.

The enclosure must be connected to the potential matching line

If the transmitter is physically connected to a possible source of heating or cooling, e.g. by mounting to a process pipe or a temperature sensor, the temperature at the point of connection shall be within the ambient temperature range as given in the certificate or this manual.

Cable entries and blanking elements shall be used that are suitable for the application and correctly installed.

For installation in zone 0 / EPL Ga, the transmitter must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction, sparks are excluded.

Protection degree of IP 54 according to EN 60529 is achieved if certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed.

Protection degree of IP 68 according to EN 60529 is only achieved if certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed with sealing washers or Loctite sealant added to the threads of the sensor, blanking elements and cable glands.

For group III (dust), electrostatic charging of the paint layer shall be avoided

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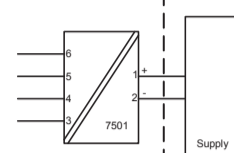
Ex na, ic installation:

Certificate DEKRA 15ATEX0058 X Marking II 3 G Ex na IIC T6...T4 Gc II 3 G Ex ic IIC T6...T4 Gc II 3 D Ex ic IIIC T100°C Dc

Standards: EN 60079-0:2012, EN 60079-11:2012, EN60079-15:2010

Type of protection Ex na Type of protection Ex ic O-ring Sealing: Silicone T4: -40 ≤ Ta ≤ 85°C T4 (7501A) T4: -40 ≤ Ta ≤ 80°C T4 (7501B) T6: -40 ≤ Ta ≤ 60°C T6 O-ring Sealing: FKM T4: -20 ≤ Ta ≤ 85°C (7501A) T4: -20 ≤ Ta ≤ 80°C (7501B) T6: -20 ≤ Ta ≤ 60°C

Hazardous area Zone 2, 22 Non Hazardous Area



Sensor Terminal: 3,4,5,6 Ex ic Uo: 9.6 VDC Io: 28 mA Po: 67 mW Lo: 45 mH Co: 28 µF

Supply Terminal: 1,2 Ex ic Ui: 35 VDC Li: 0 µH Ci: 2 nF Supply Terminal: 1,2 Ex na U: 35 VDC

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Ex na, ic installation:

For an ambient temperature exceeding 70 °C, heat resistant cables and cable glands suitable for at least 90°C shall be used.

If the transmitter is physically connected to a possible source of heating or cooling, e.g. by mounting to a process pipe or a temperature sensor, the temperature at the point of connection shall be within the ambient temperature range as given in the certificate.

Cable entries and blanking elements shall be used that are suitable for the application and correctly installed.

The enclosure must be connected to the potential matching line

Applied screw terminal torque is max 0.4 Nm on all terminals.

Protection degree of IP 54 according to EN 60529 is achieved if certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed.

Protection degree of IP 68 according to EN 60529 is only achieved if certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed with sealing washers or Loctite sealant added to the threads of the sensor, blanking elements and cable glands.

For group III (dust), electrostatic charging of the paint layer shall be avoided

Ex d, tb installation:

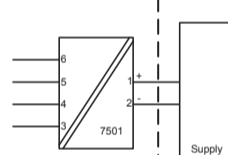
ATEX Certificate DEKRA 15ATEX0058 X

Marking II 2 G Ex d IIC T6...T4 Gb II 2 D Ex tb IIIC T100°C Db

Standards: EN 60079-0:2012, EN 60079-1:2007, EN60079-31:2014

Type of protection Ex d Type of protection Ex tb T4,T5: -40 ≤ Ta ≤ 85°C (7501A) T4,T5: -40 ≤ Ta ≤ 80°C (7501B) T6: -40 ≤ Ta ≤ 70°C O-ring Sealing: Silicone -40 ≤ Ta ≤ 85°C T100°C (7501A) -40 ≤ Ta ≤ 80°C T100°C (7501B) -40 ≤ Ta ≤ 70°C T85°C O-ring Sealing: FKM -20 ≤ Ta ≤ 85°C T100°C (7501A) -20 ≤ Ta ≤ 80°C T100°C (7501B) -20 ≤ Ta ≤ 70°C T85°C

Hazardous area Zone 1, 2, 21, 22 Non Hazardous Area



Terminal: 3,4,5,6 Sensor: RTD or TC

Terminal: 1,2 Umax: 35 VDC

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Ex d, tb installation:

Unused cable entries must be sealed by the blanking elements supplied with the 7501 or other Ex d and/or Ex tb certified blanking elements suitable for the application.

Only Ex d and/or Ex tb certified cable and cable glands shall be used that are suitable for the application and correctly installed.

Protection degree of IP 54 according to EN 60529 is achieved if Ex d certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed.

Protection degree of IP 68 according to EN 60529 is only achieved if Ex d certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed with sealing washers or Loctite sealant added to the threads of the sensor, blanking elements and cable glands.

The display cover must be screwed all the way in and the safety catch must be fastened before putting into service. Do not open display cover until 30 minutes after disconnecting power to the equipment allowing internal capacitors to discharge, or do not open display cover unless area is known to be safe

For an ambient temperature exceeding 70 °C, heat resistant cables and cable glands suitable for at least 90°C shall be used.

If the transmitter is physically connected to a possible source of heating or cooling, e.g. by mounting to a process pipe or a temperature sensor, the temperature at the point of connection shall be within the ambient temperature range as given in the certificate. The sensor shall be suitable for use as entry device on an Ex d enclosure and shall not add volume to the 7501 enclosure. The thread of the sensor must be in compliance with EN60079-1 / EN60079-31.

The enclosure must be connected to the potential matching line.

When the process temperature range exceeds the service temperature range it shall be verified by on-site temperature measurements, taking the worst case conditions into account, that the service temperature does not exceed the range of the module.

For group III (dust), electrostatic charging of the paint layer shall be avoided

No modification to the enclosure is allowed by the customer except as mentioned in the manual or installation drawing.

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7501 CSA Installation

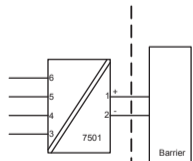


For safe installation of 7501 the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

Intrinsic Safe Installation:

Hazardous classified Location Class I, Division 1, Groups ABCD; Class II, Group EFG; Class III, Division 1; Class I, Zone 0, IIC Ex/AEx ia IIC Ga

T4: -40 ≤ Ta ≤ 85°C T100°C T5: -40 ≤ Ta ≤ 60°C T75°C T6: -40 ≤ Ta ≤ 45°C T60°C



Terminal: 3,4,5,6 Uo: 9.6 VDC Io: 28 mA Po: 67 mW Lo: 35 mH Co: 3.5 µF

Terminal: 1,2 Ui: 30 VDC Ii: 120 mA Pi: 0.84 W Li: 0 µH Ci: 2 nF

Non classified Location

The barrier must not be connected to any associated apparatus which uses or generates more than 250 VRMS

UM < 250V Voc or Uo < Vmax or Ui Isc or Io < Imax or Ii Po < PI Ca or Co > Ci + Ccable La or Lo > Li + Lcable

Warning: Substitution of components may impair intrinsic safety.

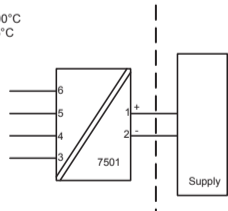
The module must be installed according to the installation codes stipulated in the Canadian Electrical Code (CEC) or for US the National Electrical Code (NEC).

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Explosion proof:

Explosion proof for Hazardous area Class I, Division 1, Groups ABCD; Class II, Division 1, Groups EFG; Class III Ex d IIC, Class I, Zone 1

T4,T5: -20/-40 ≤ Ta ≤ 85°C T100°C T6: -20/-40 ≤ Ta ≤ 70°C T85°C



Terminal: 3,4,5,6 Sensor: RTD or TC

Terminal: 1,2 Umax: 35 VDC

O-ring Sealing Silicone rubber: -40°C ≤ Ta ≤ +85°C FKM rubber: -20°C ≤ Ta ≤ +85°C

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Explosion proof Installation.

Conduit and sensor connections must be in NPT modified threads.

Only third party certified sensors suitable for "Class I, Division 1 / Zone 1, Groups ABCD / IIC" may be connected to the Temperature Transmitter.

For Class I Group A installation and Class I Zone 1 installation, conduit seal is required within 18 inches of enclosure.

For an ambient temperature exceeding 70°C, heat resistant cables and cables suitable for at least 90°C shall be used.

The display cover must be screwed all the way in and the safety catch must be fastened before putting the module into service. Do not open / remove front cover unless area is known to be safe.

The remote temperature sensor must comply with the requirements for installation in hazardous locations "Class I, Division 1 / Zone 1, Groups ABCD / IIC"

The remote temperature sensor must comply with the requirements for Ex d installation Only certified cable and cable glands shall be used that are suitable for the application and correctly installed.

For protection according to Type 4X / IP66 use Loctite 577 on threads of sensor and cable glands.

The enclosure must be connected to the potential matching line

Unused cable entries must be sealed by the blanking elements supplied with the 7501 or other Ex certified blanking elements.

If the transmitter is physically connected to a possible source of heating or cooling, e.g. by mounting to a process pipe or a temperature sensor, the temperature at the point of connection shall be within the ambient temperature range as given in the certificate.

When the process temperature range exceeds the service temperature range it shall be verified by on-site temperature measurements, taking the worst case conditions into account, that the service temperature does not exceed the range of the module.

For Class II, III, electrostatic charging of the paint layer shall be avoided.

No modification to the enclosure is allowed by the customer except as mentioned in the manual or installation drawing.

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7501 IECEx Installation



For safe installation of 7501 the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards (IEC60079-14) that apply to this area. Year of manufacture can be taken from the first two digits in the serial number.

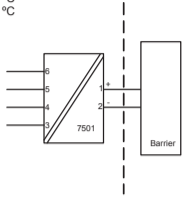
Ex ia installation:

Certificate: IECEx DEK 15.0039 X
 Marking: Ex ia IIC T6...T4 Ga
 Ex ia IIIC T100°C Da
 Ex ia I Ma (7501B)

Standards: IEC 60079-0: 2011, IEC 60079-11: 2011, IEC 60079-26: 2007

Hazardous area
 Zone 0, 1, 2, 20, 21, 22, Mines
 T4: -40 ≤ Ta ≤ 85°C T100 °C (7501A)
 T4: -40 ≤ Ta ≤ 80°C T100 °C (7501B)
 T5: -40 ≤ Ta ≤ 60°C T75 °C
 T6: -40 ≤ Ta ≤ 45°C T60 °C

Non Hazardous Area



Sensor Terminal: 3,4,5,6
 Uo: 9.6 VDC
 Io: 28 mA
 Po: 67 mW
 Lo: 35 mH
 Co: 3.5 µF

Supply Terminal: 1,2
 Ui: 30 VDC
 Ii: 120 mA
 Pi: 0.84 W
 Li: 0 µH
 Ci: 2 nF

Ex ia installation

General installation instructions
 The sensor circuit is not infallibly galvanic isolated from the supply output circuit. However, the galvanic isolation between the circuits is capable of withstanding a test voltage of 500Vac during 1 minute.

The enclosure must be connected to the potential matching line.

If the transmitter is physically connected to a possible source of heating or cooling, e.g. by mounting to a process pipe or a temperature sensor, the temperature at the point of connection shall be within the ambient temperature range as given in the certificate or in this manual.

Cable entries and blanking elements shall be used that are suitable for the application and correctly installed.

For installation in zone 0 / EPL Ga, the transmitter must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction, sparks are excluded.

Protection degree of IP 54 according to IEC 60529 is achieved if certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed.

Protection degree of IP 68 according to IEC 60529 is only achieved if certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed with sealing washers or Loctite sealant added to the threads of the sensor, blanking elements and cable glands.

For group III (dust), electrostatic charging of the paint layer shall be avoided.

Ex nA, ic installation:

Certificate: IECEx DEK 15.0039 X
 Marking: Ex nA IIC T6...T4 Gc
 Ex ic IIC T6...T4 Gc
 Ex ic IIIC T100°C Dc

Standards: IEC 60079-0: 2011, IEC 60079-11: 2011, IEC 60079-15: 2010

Type of protection Ex nA

O-ring Sealing : Silicone
 T4: -40 ≤ Ta ≤ 85°C T4 (7501A)
 T4: -40 ≤ Ta ≤ 80°C T4 (7501B)
 T6: -40 ≤ Ta ≤ 60°C T6

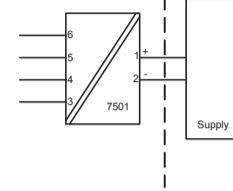
Type of protection Ex ic

T4: -40 ≤ Ta ≤ 85°C T100°C (7501A)
 T4: -40 ≤ Ta ≤ 80°C T100°C (7501B)
 T6: -40 ≤ Ta ≤ 60°C T65 °C

O-ring Sealing : FKM
 T4: -20 ≤ Ta ≤ 85°C (7501A)
 T4: -20 ≤ Ta ≤ 80°C (7501B)
 T6: -20 ≤ Ta ≤ 60°C

Hazardous area
 Zone 2, 22

Non Hazardous Area



Sensor Terminal: 3,4,5,6
 Uo: 9.6 VDC
 Io: 28 mA
 Po: 67 mW
 Lo: 45 mH
 Co: 28 µF

Supply Terminal: 1,2
 Ui: 35 VDC
 Ii: 0 µH
 Ci: 2 nF

Supply Terminal: 1,2
 Ex nA
 Umax : 35 VDC

Ex nA, ic installation:

For an ambient temperature exceeding 70°C, heat resistant cables and cable glands suitable for at least 90°C shall be used.

If the transmitter is physically connected to a possible source of heating or cooling, e.g. by mounting to a process pipe or a temperature sensor, the temperature at the point of connection shall be within the ambient temperature range as given in the certificate.

Cable entries and blanking elements shall be used that are suitable for the application and correctly installed.

The enclosure must be connected to the potential matching line

Applied screw terminal torque is max 0.4 Nm on all terminals.

Protection degree of IP 54 according to EN 60529 is achieved if certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed.

Protection degree of IP 68 according to EN 60529 is only achieved if certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed with sealing washers or Loctite sealant added to the threads of the sensor, blanking elements and cable glands.

For group III (dust), electrostatic charging of the paint layer shall be avoided

Ex d, tb installation:

Certificate: IEC DEK 15.0039 X

Marking: Ex d IIC T6...T4 Gb
 Ex tb IIIC T100°C Db

Standards: IEC 60079-0: 2011, IEC 60079-1: 2007, IEC 60079-31: 2013

Type of protection Ex d

T4 T6: -40 ≤ Ta ≤ 85°C (7501A)
 T4 T5: -40 ≤ Ta ≤ 80°C (7501B)
 T6: -40 ≤ Ta ≤ 70°C

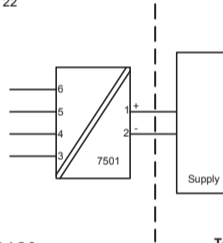
Type of protection Ex tb

O-ring Sealing : Silicone
 -40 ≤ Ta ≤ 85°C T100°C (7501A)
 -40 ≤ Ta ≤ 80°C T100°C (7501B)
 -40 ≤ Ta ≤ 70°C T85°C

O-ring Sealing : FKM
 -20 ≤ Ta ≤ 85°C T100°C (7501A)
 -20 ≤ Ta ≤ 80°C T100°C (7501B)
 -20 ≤ Ta ≤ 70°C T85°C

Hazardous area
 Zone 1, 2, 21, 22

Non Hazardous Area



Terminal: 3,4,5,6
 Sensor: RTD or TC

Terminal: 1,2
 Umax: 35 VDC

Ex d, tb installation

Unused cable entries must be sealed by the blanking elements supplied with the 7501 or other Ex d and/or Ex tb certified blanking elements suitable for the application.

Only Ex d and/or Ex tb certified cable and cable glands shall be used that are suitable for the application and correctly installed.

Protection degree of IP 54 according to IEC 60529 is achieved if Ex d certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed.

Protection degree of IP 68 according to IEC 60529 is only achieved if Ex d certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed with sealing washers or Loctite sealant added to the threads of the sensor, blanking elements and cable glands.

The display cover must be screwed all the way in and the safety catch must be fastened before putting into service. Do not open display cover until 30 minutes after disconnecting power to the equipment allowing internal capacitors to discharge, or do not open display cover unless area is known to be safe

For an ambient temperature exceeding 70 °C, heat resistant cables and cable glands suitable for at least 90°C shall be used.

If the transmitter is physically connected to a possible source of heating or cooling, e.g. by mounting to a process pipe or a temperature sensor, the temperature at the point of connection shall be within the ambient temperature range as given in the certificate. The sensor shall be suitable for use as entry device on an Ex d enclosure and shall not add volume to the 7501 enclosure. The thread of the sensor must be in compliance with EN60079-1 / EN60079-31.

The enclosure must be connected to the potential matching line.

When the process temperature range exceeds the service temperature range it shall be verified by on-site temperature measurements, taking the worst case conditions into account, that the service temperature does not exceed the range of the module.

For group III (dust), electrostatic charging of the paint layer shall be avoided

No modification to the enclosure is allowed by the customer except as mentioned in the manual or installation drawing.

FM Installation drawing 7501



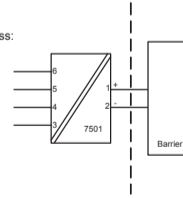
For safe installation of 7501 the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

Intrinsic safe installation:

Hazardous classified Location
 Class I,II,III ,Division1 Groups, ABCDEFG
 Class I, Zone 0, IIC, Zone 20

T4: -40 ≤ Ta ≤ 85°C
 T5: -40 ≤ Ta ≤ 60°C
 T6: -40 ≤ Ta ≤ 40°C

Zone 20 Temperature Class:
 -40 ≤ Ta ≤ 85°C T100 °C
 -40 ≤ Ta ≤ 60°C T75 °C
 -40 ≤ Ta ≤ 40°C T60 °C



Terminal: 1,2
 Ui: 30 VDC
 Ii: 120 mA
 Pi: 0.84 W
 Li: 0 µH
 Ci: 2 nF

Terminal: 3,4,5,6
 Uo: 9.6 VDC
 Io: 28 mA
 Po: 67 mW
 Lo: 35 mH
 Co: 3.5 µF

Non classified Location

The barrier must not be connected to any associated apparatus which uses or generates more than 250 VRMS

UM < 250V
 Voc or Uo < Vmax or Ui
 Isc or Io < Imax or Ii
 Po < Pi
 Ca or Co > Ci + Ccable
 La or Lo > Li + Lcable

The entity concept

The Transmitter must be installed according to National Electrical Code (ANSI-NFPA 70) and shall be installed with the enclosure, mounting, and spacing segregation requirement of the ultimate application.

Equipment that is FM-approved for intrinsic safety may be connected to barriers based on the ENTITY CONCEPT. This concept permits interconnection of approved transmitters, meters and other devices in combinations which have not been specifically examined by FM, provided that the agency's criteria are met. The combination is then intrinsically safe, if the entity concept is acceptable to the authority having jurisdiction over the installation.

The entity concept criteria are as follows:

The intrinsically safe devices, other than barriers, must not be a source of power. The maximum voltage Ui(Vmax), and maximum current Ii(Imax), and maximum power Pi(Pmax), which the device can receive and remain intrinsically safe, must be equal to or greater than the voltage (Uo or Voc or Vi) and current (Io or Isc or Ii) and the power Po which can be delivered by the barrier.

The sum of the maximum unprotected capacitance (C) for each intrinsically device and the interconnecting wiring must be less than the capacitance (Ca) which can be safely connected to the barrier.

The sum of the maximum unprotected inductance (L) for each intrinsically device and the interconnecting wiring must be less than the inductance (La) which can be safely connected to the barrier.

The entity parameters Uo, Voc or Vi, and Io, Isc or Ii, and Ca, and La for barriers are provided by the barrier manufacturer.

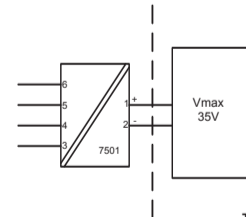
For Class II and Class III installations where rigid conduit is not used, seal cable entries against dust and fibres using a NRTL listed cable gland fitting.

Non Incendive installation:

Hazardous classified Location
 Class I,II,III ,Division 2, Groups, ABCDFG
 Class I, Zone 2, IIC

Non classified Location

T4: -40 ≤ Ta ≤ 85°C
 T6: -40 ≤ Ta ≤ 60°C



Terminal: 3,4,5,6
 Sensor: RTD or TC

Terminal: 1,2
 Vmax: 35 VDC

O-ring Sealings
 Silicone rubber: -40°C ≤ Ta ≤ +85°C
 FKM rubber: -20°C ≤ Ta ≤ +85°C

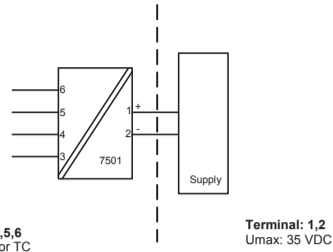
Protection: Indoor and Outdoor TYPE 4X or IP66

Explosion proof / Dust ignition proof installation:

Hazardous area
Class I, II, III Division 1, Groups ABCDEFG
Class I Zone 1, Ex/IAEx d IIC T6

Non Hazardous Area

T6: -20/-40 ≤ Ta ≤ 70°C
T5, T4: -20/-40 ≤ Ta ≤ 85°C



O-ring Sealings
Silicone rubber: -40°C ≤ Ta ≤ +85°C
FKM rubber: -20°C ≤ Ta ≤ +85°C
Protection: Indoor and Outdoor Type 4X or IP66

Explosion proof / Dust ignition proof installation.

The enclosure must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction, sparks are excluded.

Unused cable entries must be sealed by approved sealing plugs.

Certified cable and cable glands shall be used that are suitable for the application and correctly installed or the cables must be run in conduit.

For an ambient temperature exceeding 70 °C, heat resistant cables and cable glands suitable for at least 90°C shall be used.

For process temperatures above 85°C or below -20/-40°C installer must verify by measurements that the service temperature of the 7501 module is held within this range taking worst conditions into account.

The display cover must be screwed all the way in and the safety catch must be fastened before operation.

Protection degree of IP 66 or TYPE4X is only achieved if certified cable glands or conduit entry devices are used that are suitable for the application and correctly installed with sealing washers or Loctite sealant is added to the threads of the sensor, blanking elements and cable glands.

The enclosure must be connected to the potential matching line.

Warning:
Do not open display cover unless area is known to be safe.

For installation in Canada the following must be taken into account:
All openings for conduit and sensor connection must be in NPT threads.
For Class I Group A installation, conduit seal is required within 18 inches of the enclosure.
For Class I Zone 1 installation, conduit seal is required within 18 inches of the enclosure.

7501 Desenho de Instalação INMETRO



Para instalação segura do 7501 o seguinte deve ser observado. O módulo deve ser instalado, apenas por pessoas qualificadas as quais estão familiarizadas com as normas nacionais e internacionais, diretrizes e padrões (IEC60079-14) que se aplicam a esta área.

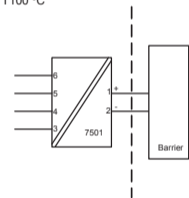
Instalação Segura do Ex ia installation:

Certificado DEKRA 15.0014X
Marca Ex ia IIC T6...T4 Ga
Ex ia IIIC T100°C Da

Normas : ABNT NBR IEC 60079-0: 2013, ABNT NBR IEC 60079-11: 2013

Áreas Perigosas Zona 0, 1, 2, 20, 21, 22

T4: -40 ≤ Ta ≤ 85°C T100 °C (7501A)
T4: -40 ≤ Ta ≤ 80°C T100 °C (7501B)
T5: -40 ≤ Ta ≤ 60°C T100 °C
T6: -40 ≤ Ta ≤ 45°C T100 °C



Terminal do sensor: 3,4,5,6
Uo: 9.6 VDC
Io: 28 mA
Po: 67 mW
Lo: 35 mH
Co: 3.5 µF

Terminal de alimentação: 1,2
Ui: 30 VDC
Ii: 120 mA
Pi: 0.84 W
Li: 0 µH
Ci: 2 nF

Instalação do Ex ia

Instruções de instalação gerais
O circuito do sensor não é infalivelmente galvânico-isolado do circuito de saída de alimentação. Contudo, a isolamento galvânica entre os circuitos é capaz de resistir a teste de tensão de 500Vac durante 1 minuto.

O equipamento deve ser conectado à linha potencial correspondente

Se o transmissor estiver fisicamente conectado a uma possível fonte de calor ou resfriamento, por exemplo, através da montagem de um tubo de processo ou sensor de temperatura, a temperatura no ponto de conexão deve estar entre a faixa de temperatura ambiente determinada no certificado ou neste manual.

As entradas dos cabos e elementos de supressão devem ser usadas adequadamente para aplicação INMETRO, aprovada e instalada corretamente.

Para instalação em zona 0 / EPL Ga, se aplicam as seguintes instruções:
O transmissor deve ser instalado de modo que, mesmo em um evento raro de incidente, fontes de ignição devido a impactos e fricção, faíscas sejam evitadas.

O grau de proteção do IP 54 de acordo com a IEC 60529 é alcançado se o certificado prensa-cabos ou dispositivos de entrada de condutite são usados e adequados para a aplicação e instalados corretamente.

O grau de proteção do IP 68 de acordo com a IEC 60529 é apenas alcançado se o certificado prensa-cabos ou dispositivos de entrada de condutite são usados e adequados para aplicação e instalados corretamente com selos de vedação ou selante Loctite adicionados para as linhas do sensor, elementos de supressão e prensa-cabos.

Cuidado
Cuidados especiais devem ser tomados para evitar o acúmulo de carga eletrostática no equipamento devido ao repetitivo processo de carregamento, por exemplo, fluido de líquidos em alta velocidade, pós ou partículas de plásticos transportados pelo ar e outras cargas eletrostáticas para a superfície.

Instalação ic, Ex nA:

Certificado DEKRA 15.0014X
Marca Ex nA IIC T6...T4 Gc
Ex ic IIC T6...T4 Gc
Ex ic IIIC T100°C Dc

Normas: ABNT NBR IEC 60079-0: 2013, ABNT NBR IEC 60079-15: 2012

Ex nA

Anel de vedação O : Silicone
T4: -40 ≤ Ta ≤ 85°C T4 (7501A)
T4: -40 ≤ Ta ≤ 80°C T4 (7501B)
T6: -40 ≤ Ta ≤ 60°C T6

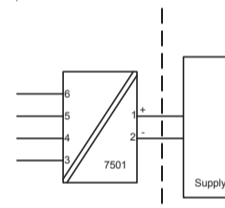
Ex ic

T4: -40 ≤ Ta ≤ 85°C T100°C (7501A)
T4: -40 ≤ Ta ≤ 80°C T100°C (7501B)
T6: -40 ≤ Ta ≤ 60°C T85 °C

Anel de vedação O : FKM
T4: -20 ≤ Ta ≤ 85°C (7501A)
T4: -20 ≤ Ta ≤ 80°C (7501B)
T6: -20 ≤ Ta ≤ 60°C

Áreas perigosas Zona 2, 22

Áreas não perigosas



Terminal do sensor: 3,4,5,6
Ex ic
Uo: 9.6 VDC
Io: 28 mA
Po: 67 mW
Lo: 45 mH
Co: 28 µF

Terminal de alimentação: 1,2
Ex ic
Ui: 35 VDC
Ii: 0 µH
Ci: 2 nF

Terminal de alimentação: 1,2
Ex nA
U : 35 VDC

Instalação icx, Ex nA:

Para uma temperatura ambiente excedendo 70 °C, cabos resistentes ao calor e prensa-cabos adequados para pelo menos 90 °C devem ser usados.

Se o transmissor estiver fisicamente conectado a uma possível fonte de calor ou resfriamento, por exemplo, através da montagem de um tubo de processo ou sensor de temperatura, a temperatura no ponto de conexão deve estar entre a faixa de temperatura ambiente determinada no certificado ou neste manual.

As entradas dos cabos e elementos de supressão devem ser usadas adequadamente para a aplicação e instaladas corretamente.

O equipamento deve ser conectado à linha potencial correspondente

O torque aplicado no terminal de parafusos é no máximo 0.4 Nm em todos os terminais.

O grau de proteção do IP 54 de acordo com a IEC 60529 é alcançado se o certificado prensa-cabos ou dispositivos de entrada de condutite são usados e adequados para a aplicação e instalados corretamente.

O grau de proteção do IP 68 de acordo com a IEC 60529 é apenas alcançado se o certificado prensa-cabos ou dispositivos de entrada de condutite são usados e adequados para aplicação e instalados corretamente com selos de vedação ou selante Loctite adicionados para as linhas do sensor, elementos de supressão e prensa-cabos.

Cuidado
Cuidados especiais devem ser tomados para evitar o acúmulo de carga eletrostática no equipamento devido ao repetitivo processo de carregamento, por exemplo, fluido de líquidos em alta velocidade, pós ou partículas de plásticos transportados pelo ar e outras cargas eletrostáticas para a superfície

Instalação tb, Ex d:

Certificado DEKRA 15.0014X
Marca Ex d IIC T6...T4 Gb
Ex tb IIIC T100°C Db

Normas ABNT NBR IEC 60079-0: 2013, ABNT NBR IEC 60079-1: 2009,
ABNT NBR IEC 60079-31:2014

Ex d

T4,T5: -40 ≤ Ta ≤ 85°C (7501A)
T4,T5: -40 ≤ Ta ≤ 80°C (7501B)
T6: -40 ≤ Ta ≤ 70°C

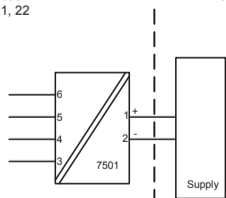
Ex tb

Anel de vedação O: Silicone
-40 ≤ Ta ≤ 85°C T100°C (7501A)
-40 ≤ Ta ≤ 80°C T100°C (7501B)
-40 ≤ Ta ≤ 70°C T85 °C

Anel de vedação O: FKM
-20 ≤ Ta ≤ 85°C T100°C (7501A)
-20 ≤ Ta ≤ 80°C T100°C (7501B)
-20 ≤ Ta ≤ 70°C T85 °C

Áreas perigosas Zona 1, 2, 21, 22

Áreas não perigosas



Terminal: 3,4,5,6
Sensor: RTD ou TC

Terminal: 1,2
Alimentação: 35 VDC

Instalação tb, Ex d:

Entradas de cabos não utilizadas devem ser seladas pelo INMETRO, de acordo com a aprovação de elementos de supressão adequados para a aplicação e instalados corretamente.

Apenas o certificado de cabos e prensa-cabos do INMETRO para Ex d / tb deve ser usado, que são adequados para a aplicação e instalados corretamente.

O Sensor / Sonda aplicado deve ser adequado para a aplicação, instalado corretamente, e deve ser certificado pelo INMETRO.

Se o transmissor estiver fisicamente conectado a uma possível fonte de calor ou resfriamento, por exemplo, através da montagem de um tubo de processo ou sensor de temperatura, a temperatura no ponto de conexão deve estar entre a faixa de temperatura ambiente dada no certificado. O sensor deve ser adequado para ser usado como entrada de equipamento no equipamento Ex d e nenhum volume deve ser adicionado no enclosure do 7501.

O grau de proteção do IP 54 de acordo com a IEC 60529 é alcançado se o certificado Ex de prensa-cabos ou dispositivos de entrada de condutite são usados e adequados para a aplicação e instalados corretamente.

O grau de proteção do IP 68 de acordo com a IEC 60529 é apenas alcançado se o certificado Ex de prensa-cabos ou dispositivos de entrada de condutite são usados e adequados para aplicação e instalados corretamente com selos de vedação ou selante Loctite adicionados para as linhas do sensor, elementos de supressão e prensa-cabos.

A tampa do display deve ser parafusada em todos os pontos e o fecho de segurança deve ser ajustado antes de colocá-lo em serviço. Não abra a tampa do display até 30 minutos depois de desconectar a alimentação a fim de permitir que os capacitores internos descarreguem, ou não abra a tampa do display a menos que a área seja conhecida como segura.

Para uma temperatura ambiente que excede 70 °C, cabos resistentes a aquecimento e prensa-cabos adequados para pelo menos 90 °C devem ser usados.

O equipamento deve ser conectado em uma linha potencial correspondente.

Quando a faixa de temperatura do processo excede a faixa de temperatura de serviço ela deve ser verificada através de medições de temperatura no local, levando a pior condição em conta, que a temperatura de serviço não exceda a faixa do módulo.

Cuidado
Cuidados especiais devem ser tomados para evitar o acúmulo de carga eletrostática no equipamento devido ao repetitivo processo de carregamento, por exemplo, fluido de líquidos em alta velocidade, pós ou partículas de plásticos transportados pelo ar e outras cargas eletrostáticas para a superfície.

Nenhuma modificação no equipamento pelo cliente é permitida exceto o que é mencionado no manual ou no desenho de instalação.