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SAFETY INSTRUCTIONS

Ex installation:

For a safe installation of YTA50 in hazardous area the following must be observed.
The module must only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

Year of manufacture can be taken from the first two digits in the serial number.

The sensor circuit is not infallibly galvanically isolated from the input circuit.

However, the galvanic isolation between the circuits is capable of withstanding a test voltage of 500 Vac during 1 minute.

The transmitter must be mounted in an enclosure in order to provide a degree of ingress protection of at least IP20.

In explosive atmospheres caused by air/dust mixtures:

The transmitter may only be installed in a potentially explosive atmosphere caused by the presence of combustible dust when mounted in a metal enclosure form B according to DIN 43729 that is providing a degree of ingress protection of at least IP 6X in accordance with EN 60529, that is suitable for the application and is correctly installed.

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

For an ambient temperature ≥60°C, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.

Special Conditions for Safe Use:

If the enclosure in which the transmitter is mounted is made of aluminium and installed in Zone 0, 1 or Zone 20, 21 or 22 it shall not contain by weight more than 6% in total of magnesium and titanium.

The additional enclosure of the apparatus shall be designed and/or installed in such a way that, even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

The YTA50 is a head mount type of temperature transmitter that accepts thermocouple or RTD input and converts it to a 4 to 20 mA DC signal for transmission. The YTA50 conforms to the standard DIN form B head mounting. It is imperative that usres observe the instructions in this manual to ensure the protection and safety of operators.

ATEX Documentation

This is only applicable to the countries in European Union.

GB All instruction manuals for ATEX Ex related products are available in English, German and French. Should you require Ex related instructions in your local language, you are to contact your nearest Yokogawa office or representative.

DK Alle brugervejledninger for produkter relateret til ATEX Ex er tilgængelige på engelsk, tysk og fransk. Skulle De ønske yderligere oplysninger om håndtering af Ex produkter på eget sprog, kan De rette henvendelse herom til den nærmeste Yokogawa afdeling eller forhandler.

I Tutti i manuali operativi di prodotti ATEX contrassegnati con Ex sono disponibili in inglese, tedesco e francese. Se si desidera ricevere i manuali operativi di prodotti Ex in lingua locale, mettersi in contatto con l'ufficio Yokogawa più vicino o con un rappresentante.

E Todos los manuales de instrucciones para los productos antiexplosivos de ATEX están disponibles en inglés, alemán y francés. Si desea solicitar las instrucciones de estos artículos antiexplosivos en su idioma local, deberá ponerse en contacto con la oficina o el representante de Yokogawa más cercano.

NL Alle handleidingen voor producten die te maken hebben met ATEX explosiebeveiliging (Ex) zijn verkrijgbaar in het Engels, Duits en Frans. Neem, indien u aanwijzingen op het gebied van explosiebeveiliging nodig hebt in uw eigen taal, contact op met de dichtstbijzijnde vestiging van Yokogawa of met een vertegenwoordiger.

SF Kaikkien ATEX Ex -tyyppisten tuotteiden käyttöohjeet ovat saatavilla englannin-, saksan- ja ranskankielisinä. Mikäli tarvitsette Ex -tyyppisten tuotteiden ohjeita omalla paikallisella kielellänne, ottakaa yhteyttä lähimpään Yokogawa-toimistoon tai -edustajaan.

P Todos os manuais de instruções referentes aos produtos Ex da ATEX estão disponíveis em Inglês, Alemão e Francês. Se necessitar de instruções na sua língua relacionadas com produtos Ex, deverá entrar em contacto com a delegação mais próxima ou com um representante da Yokogawa.

F Tous les manuels d'instruction des produits ATEX Ex sont disponibles en langue anglaise, allemande et française. Si vous nécessitez des instructions relatives aux produits Ex dans votre langue, veuillez bien contacter votre représentant Yokogawa le plus proche.

D Alle Betriebsanleitungen für ATEX Ex bezogene Produkte stehen in den Sprachen Englisch, Deutsch und Französisch zur Verfügung. Sollten Sie die Betriebsanleitungen für Ex-Produkte in Ihrer Landessprache benötigen, setzen Sie sich bitte mit Ihrem örtlichen Yokogawa-Vertreter in Verbindung.

S Alla instruktionsböcker för ATEX Ex (explosionsssäkra) produkter är tillgängliga på engelska, tyska och franska. Om Ni behöver instruktioner för dessa explosionsssäkra produkter på annat språk, skall Ni kontakta närmaste Yokogawakontor eller representant.

GR Όλα τα εγχειρίδια λειτουργίας των προϊόντων με ATEX Ex διατίθενται στα Αγγλικά, Γερμανικά και Γαλλικά. Σε περίπτωση που χρειάζεστε οδηγίες σχετικά με Ex στην τοπική γλώσσα παρακαλούμε επικοινωνήστε με το πλησιέστερο γραφείο της Yokogawa ή αντιπρόσωπο της.

SK Všetky návody na obsluhu pre prístroje s ATEX Ex sú k dispozícii v jazyku anglickom, nemeckom a francúzskom. V prípade potreby návodu pre Ex-prístroje vo Vašom národnom jazyku, skontaktujte prosím miestnu kanceláriu firmy Yokogawa.

CZ Všechny uživatelské příručky pro výrobky, na něž se vztahuje nevybušné schválení ATEX Ex, jsou dostupné v angličtině, němčině a francouzštině. Požadujete-li pokyny týkající se výrobků s nevybušným schválením ve vašem lokálním jazyku, kontaktujte prosím vaši nejbližší reprezentační kancelář Yokogawa.

LT Visos gaminio ATEX Ex kategorijos Eksploatavimo instrukcijos teikiami anglų, vokiečių ir prancūzų kalbomis. Norėdami gauti prietaisų Ex dokumentaciją kitomis kalbomis susisiekite su artimiausiu bendrovės "Yokogawa" biuru arba atstovu.

LV Visas ATEX Ex kategorijas izstrādājumu Lietošanas instrukcijas tiek piegādātas angļu, vācu un franču valodās. Ja vēlaties saņemt Ex ierīšu dokumentāciju citā valodā, Jums ir jāsazinās ar firmas Jokogava (Yokogawa) tuvāko ofisu vai pārstāvi.

EST Kõik ATEX Ex toodete kasutamisyjuhendid on esitatud inglise, saksa ja prantsuse keeles. Ex seadmete muukeelse dokumentatsiooni saamiseks pöörduge lähima lokagava (Yokogawa) kontori või esindaja poole.

PL Wszystkie instrukcje obsługi dla urządzeń w wykonaniu przeciwwybuchowym Ex, zgodnych z wymaganiami ATEX, dostępne są w języku angielskim, niemieckim i francuskim. Jeżeli wymagana jest instrukcja obsługi w Państwa lokalnym języku, prosimy o kontakt z najbliższym biurem Yokogawy.

SLO Vsi predpisi in navodila za ATEX Ex sorodni pridelki so pri roki v angleščini, nemščini ter francoščini. Če so Ex sorodna navodila potrebna v vašem tukejnem jeziku, kontaktirajte vaš najbliži Yokogawa office ili predstavnika.

H Az ATEX Ex műszerek gépkönyveit angol, német és francia nyelven adjuk ki. Amennyiben helyi nyelven kéri az Ex eszközök leírásait, kérjük keressék fel a legközelebbi Yokogawa irodát, vagy képviselőlet.

BG Всички упътвания за продукти от серията ATEX Ex се предлагат на английски, немски и френски език. Ако се нуждаете от упътвания за продукти от серията Ex на родния ви език, се свържете с най-близкия офис или представителство на фирма Yokogawa.

RO Toate manualele de instructiuni pentru produsele ATEX Ex sunt in limba engleza, germana si franceza. In cazul in care doriti instructiunile in limba locala, trebuie sa contactati cel mai apropiat birou sau reprezentant Yokogawa.

M Il-manwali kollha ta' I-struzzjonijiet għal prodotti marbuta ma' ATEX Ex huma disponibbli bl-Ingliż, bil-Germaniż u bil-Franċiż. Jekk tkun tehtieg struzzjonijiet marbuta ma' Ex fil-lingwa lokali tiegħek, għandek tikkuntattja lill-eqreb rappreżentant jew uffičju ta' Yokogawa.

Control of Pollution Caused by the Product

This is an explanation for the product based on "Control of Pollution caused by Electronic Information Products" in the People's Republic of China.

電子情報製品汚染制御管理弁法（中国版RoHS）

产品中有害物质或元素的名称及含量

型号	部件名称	有害物质					
		铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
YTA110/310/320	壳体	×	○	○	○	○	○
YTA50/70	基板组件	×	○	○	○	○	○
YTA70P		×	○	○	○	○	○
温度变送器	电源连接线	×	○	○	○	○	○

○：表示该部件的所有均质材料中的有害物质的含量均在 GB/T26572 标准中所规定的限量以下。
×：表示至少该部件的某些均质材料中的有害物质的含量均在 GB/T26572 标准中所规定的限量以上。

环保使用期限：
 该标识适用于 SJ /T11364 中所述，在中华人民共和国销售的电子电气产品的环保使用期限。
注）该年数为“环保使用期限”，并非产品的质量保质期。

1. Model and Suffix Codes

Model	Suffix code	Descriptions
YTA50	Temperature Transmitter (Head Mount Type)
Output Signal	-A	4 to 20 mA DC
Optional Specifications	/KS2	ATEX intrinsically safe approval
	/DS2	FM intrinsically safe/Nonincendive and ATEX intrinsically safe approval combination

2. Warranty

The warranty period of the instrument is as of condition shown when purchasing. Any trouble arising during the warranty period shall be replaced at free of charge. The following problems or troubles shall not be eligible of charge-exempt repair.

- Caused by improper usage or storage of the customer which exceeds the specification requirements.
- Caused by mishandling or modification.
- Caused by fire, earthquake or other acts of God that are not directly a result of problems of the instrument.

3. Handling Precautions

- This manual and the identification tag attached on packing box are essential parts of the product; keep them in a safe place for future reference.
- Read this manual thoroughly and carefully before handling the instruments. Observe the instructions.
- This product is designed to be used by a person with specialized knowledge.
- Store the product in location that meets the following requirements.
 - No exposure to rain or water
 - No major mechanical vibration or shock
 - Humidity and Temperature limitations
 - Ordinary conditions (25°C, 65%) is preferable. Otherwise, as of specified in "Standard Specifications."
- Avoid corrosive atmosphere for storage and installation.
- For safe installation of the transmitter in hazardous area, the following must be observed. The module must only be installed by qualified personnels who are familiar with the national and international laws, directives, and standards that apply to this area.
- Yokogawa will not be liable for malfunctions or damage resulting from any modification made to this instrument by the customer.
- Product Disposal

The instrument should be disposed of in accordance with local and national legislation/regulations.
- Authorized Representative in EEA

In relation to the CE Marking, The authorized representative for this product in the EEA (European Economic Area) is:
Yokogawa Europe B.V.
Euroweg 2, 3825 HD Amersfoort, The Netherlands

Printed Manual

Document No.	Title
IM 01C50C01-01EN	YTA50 Temperature Transmitter

Electronic Manual

Document No.	Title
IM 01C50C01-01EN	YTA50 Temperature Transmitter

You can download the latest manual from the following website:
Website address: <http://www.yokogawa.com/fid/>

Note: When products whose suffix code or optional codes contain code "Z" and an exclusive document is attached, please read it along with this manual.

General Specifications

Document No.	Title
GS 01C50C01-00EN	YTA50 Temperature Transmitter

4. Standard Specifications

Accuracy

See table below

Cold Junction Compensation Accuracy (For T/C only)

±1°C (±1.8°F)

Ambient Temperature Effects

See table below

Type	Standard	Input ranges °C	Minimum span °C	Accuracy *1	Temp. effects /10°C Change *1	
T/C	B	400 to 1820	200	±0.1% or ±2.0°C	±0.1% or ±2.0°C	
	E	-100 to 1000	50			
	J	-100 to 1200	50	±0.1% or ±1.0°C	±0.1% or ±0.5°C	
	K	-180 to 1372	50			
	N	-180 to 1300	100			
	R	-50 to 1760	200	±0.1% or ±2.0°C	±0.1% or ±2.0°C	
	S	-50 to 1760	200			
	T	-200 to 400	50			
	L	DIN43710	-100 to 900	50	±0.1% or ±1.0°C	±0.1% or ±0.5°C
	U		-200 to 600	75		
W3	ASTM	0 to 2300	200			
	E988-90	0 to 2300	200	±0.1% or ±2.0°C	±0.1% or ±2.0°C	
RTD	Pt100	IEC60751	-200 to 850	25	±0.1% or ±0.2°C	±0.1% or ±0.1°C
	Ni100	DIN43760	-60 to 250	25		
DC Voltage [mV]		-10 to 800 mV	5mV	±0.1% or ±0.01mV	±0.1% or ±10µV	
Resistance [Ω]		0 to 5000Ω	30Ω	±0.1% or ±0.1Ω	±0.1% or ±0.1Ω	

*1: The value whichever is greater. value in % indicates the % of span.

Power Supply Effects

±0.005% of FS per Volt

EMC Conformity

EN 61326-1 Class A, Table2

EN 61326-2-3

EU RoHS Directive

Applicable standard: EN 50581

- The production date can be confirmed by the serial number following the caption "No." in the serial number label on the product.

Serial numbers (9 letters): NNYMnnnnn

NN: Identification code of production site

Y: Year of production

2015: Use "R" 2016: Use "S" 2017: Use "T" 2018: Use "U"

2019: Use "V"

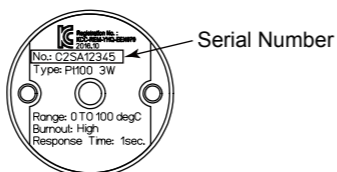
M: Month of production

January to September: Use "1" to "9" (January: 1, September: 9).

October: Use "A". November: Use "B". December: Use "C".

nnnnn: 5-digit number assigned sequentially in each production date by the production site.

- Serial Number Label (affixed on the bottom side)



F06E.ai



This instrument is a Class A product, and it is designed for use in the industrial environment. Please use this instrument in the industrial environment only.

Maximum Zero Offset

±50% of the maximum temperature

Input Signal Source Resistance (for T/Cs input)

10 MΩ, or 3 kΩ at power-off

Input Lead Wire Resistance (for RTDs input)

5 Ω per wire or lower

Burnout

High (21.6 mA or more) or Low (3.6 mA or less)

Output

Two wire 4 to 20 mA DC

Response Time

1 to 60 sec (as specified upon shipment)

Ambient Temperature Limits (Option code may affect limit.)

-40 to 85°C (-40 to 185°F)

Ambient Humidity Limits

5 to 90% RH at 40°C (104°F)

Supply Voltage

7 to 35 V DC

7 to 30 V DC for Intrinsically safe type

Load Resistance (Limitation)

0 to (E-7)/0.023 [Ω], where E is power supply voltage.

Ex. 739 Ω max. @ 24 V DC

Isolation

Input/output isolated to 1500 V AC.

Mounting

DIN form B head mounting

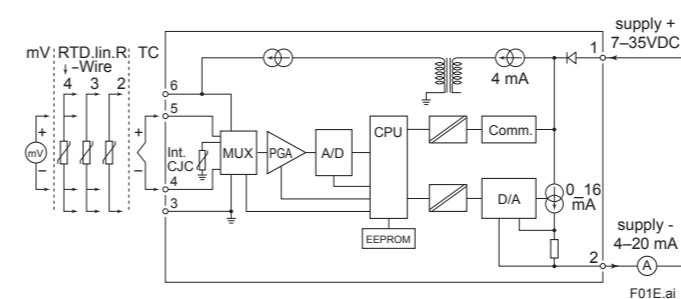
Terminals

M3 screws

Weight

50 g (0.11 lb)

5. Block Diagram



F01E.ai

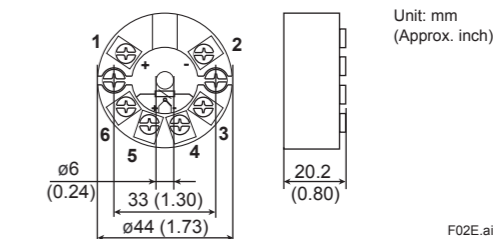
6. Wiring

See wiring diagram. For output signal, use twisted pair or cables with performance equivalent to 600V vinyl insulate cable. For wiring in high or low temperature, use a wire or cable suitable for such temperature. Use cables and wires which meet atmospheric conditions. Take necessary measure to avoid corrosion or damage of cables and wires.



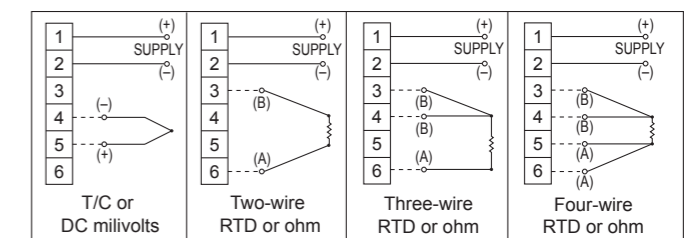
When mounting on a sensor head, do not overtighten the screws.

Dimensions



F02E.ai

Wiring Diagram



F03E.ai

7. Approval Options

ATEX Intrinsically safe model (KS2, DS2)

ATEX Installation drawing YTA50QA01

For safe installation 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.
Year of manufacture can be taken from the first two digits in the serial number.

ATEX Certificate KEMA 06ATEX 0191X

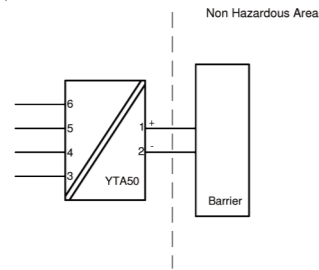
Marking  II 1 G Ex ia IIC T6 or T4 Ga
II 1 D Ex ia IIIC Da

Standards EN 60079-0 : 2012+A11, EN 60079-11 : 2012

Hazardous area
Zone 0, 1, 2, 20, 21, 22

T4: $-40 \leq T_a \leq 85^\circ\text{C}$
T6: $-40 \leq T_a \leq 60^\circ\text{C}$

Terminal: 3,4,5,6
Uo: 9.6 VDC
Io: 25 mA
Po: 60 mW
Lo: 33 mH
Co: 2.4µF



Terminal: 1,2
Ui: 30 VDC
Ii: 120 mA
Pi: 0.84 W
Li: 10µH
Ci: 1.0nF

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ATEX Installation drawing YTA50QA01

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.
If the enclosure is made of aluminum, it must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction, sparks are excluded. If the enclosure is made of non-metallic materials or painted metals electrostatic charging shall be avoided.

Special conditions for safe use

For installation in a potentially explosive gas atmosphere, the following instructions apply:
The transmitter shall be mounted in a metal enclosure form B according to DIN43729 or equivalent that is providing a degree of protection of at least IP20 according to EN60529, that is suitable for the application and correctly installed.

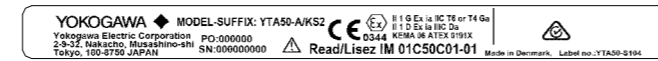
For installation in a potentially explosive dust atmosphere, the following instructions apply:
The transmitter shall be mounted in a metal enclosure form B according to DIN43729 or equivalent, that is providing a degree of protection of at least IP6X according to EN60529, that is suitable for the application and correctly installed.
Cable entries and blanking elements shall be used that are suitable for the application and correctly installed.
The surface temperature of the enclosure is equal to the ambient temperature +20 K, for a dust layer with a maximum thickness of 5 mm

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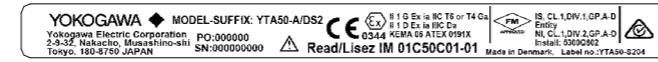
2 of 2

Name Plate

[KS2]



[DS2]



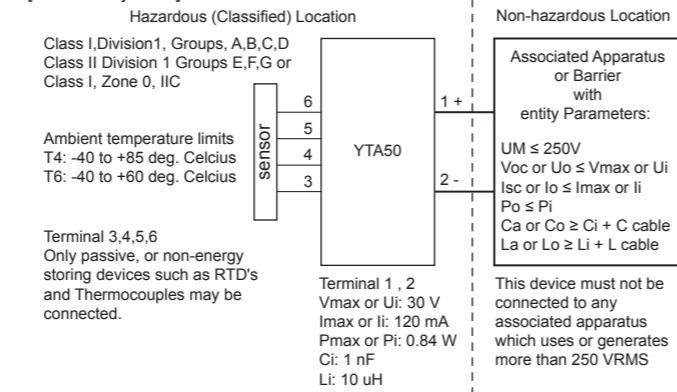
F04E.ai

FM Intrinsically safe/Nonincendive model (DS2)

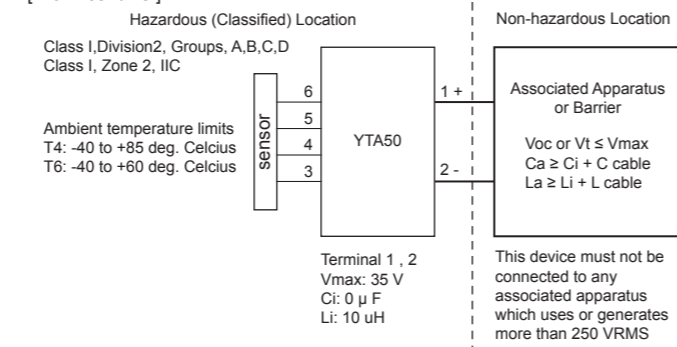
Applicable Standard: FM 3600, FM 3610, FM 3611, FM 3810

Installation diagram

[Intrinsically safe]



[Nonincendive]



F05E.ai