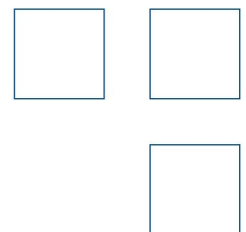
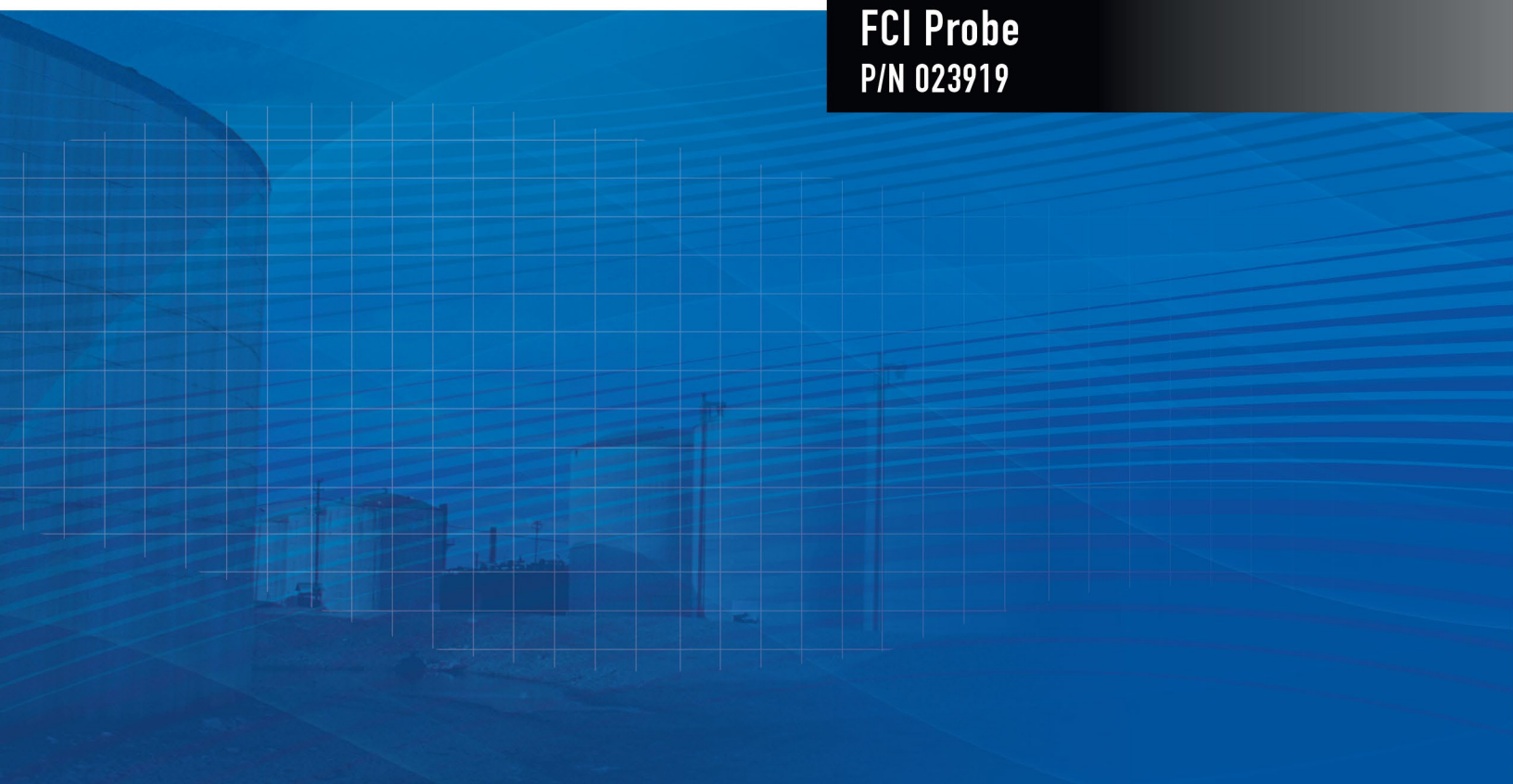




FCI FLUID COMPONENTS
INTERNATIONAL LLC

Installation, Operation & Maintenance Manual

FCI Probe
P/N 023919



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1. Description

FCI probe 023919 series are intended to be used with FS10, ST50, ST51 or ST75 Series based electronics/transmitter. When combined with approved electronics/transmitter, the system provides flow and/or temperature outputs as required. Refer to specific model operating manuals for details.

2. Application

The probes may be mounted remotely in accordance to local hazardous location approval standards or as an integral package with agency approved electronics/transmitter. Refer to the probe configurations shown in drawing 023919.

3. Area Approvals — Installation

FM23US0088X / FM23CA0062X

FM, FMc XP: Class I, Div 1, Groups A, B, C & D; T6...T1 Ta = -40 °C to +65 °C
 DIP: Class II/III, Div 1 Groups E, F & G; T6...T1 Ta = -40 °C to +65 °C
 Type 4X, IP67

IECEX FMG 13.0040X

IECEX Ex db IIC T6...T1 Gb
 Ex tb IIIC T85°C...T450°C Db; IP67
 T_{ambient} = -40 °C to +65 °C
 T_{process} = -40 °C to +260 °C

FM13ATEX0099X / FM23UKEX0049X

ATEX/UKEX II 2 G Ex db IIC T6...T1 Gb; Ta = -40 °C to +65 °C IP67
 II 2 D Ex tb IIIC T85°C...T450°C Ta = -40 °C to +65 °C Db; IP67

For hazardous areas, Div 1, Zone 2/Zone 22, install the probe as shown in the outline installation drawing in [Figure 1](#).

4. Specific Conditions of Use

- The ambient temperature range and applicable temperature class of the sensor probe is based on the maximum process temperature for the particular application as follows: T6...T1 and T85°C... T450°C for T_{ambient} of -40 °C to +65 °C and T_{process} of -40 °C to +260 °C. Probe assembly process temperatures are part number dependent. Low temperature models have process temperatures from -40 °C to +121 °C. Medium temperature models have process temperatures from -40 °C to +260 °C.
- Process Temperature: Maximum process temperature range is -40 °C to +260 °C. Process temperature varies for flow element installed. The relationship between the temperature class, the maximum surface temperature and the process temperature is as follows:
 Sensing Element:
 T6/T85°C for a process temperature range of -40 °C to +39 °C.
 T5/T100°C for a process temperature range of -40 °C to +54 °C.
 T4/T135°C for a process temperature range of -40 °C to +89 °C.
 T3/T200°C for a process temperature range of -40 °C to +154 °C.
 T2/T300°C for a process temperature range of -40 °C to +177 °C.
 T1/T450°C for a process temperature range of -40 °C to +260 °C.
- The equipment has flying lead conductors that exit the probe housing. A suitably certified Ex d or Ex e terminal box is required to be connected to the equipment for connection to the external supply circuit.
- The equipment is provided with ½ inch or ¾ inch NPT threaded conduit connections.
- The end user is to supply wire rated 10 °C minimum above the maximum ambient temperature of the installation location to a suitably certified Ex d or Ex e terminal box.

5. Maintenance

Store enclosures in a dry, temperature-controlled area without risk of condensation.

6. Storage

The enclosure is Type 4X, has an Ingress Protection rating of IP67, and is suitable for indoor or outdoor applications.

7. Electrical Parameters

The approved mating electronics/transmitter dictates the probe's electrical design. Refer to the specific model instrument's IO&M manual for installation instructions not covered by this document.

8. Safety Instructions for the Use of the 023919 Probe in Hazardous Areas

Approvals:

IECEX FMG 13.0040X
 FM13ATEX0099X
 FM23UKEX0049X
 FM23US0088X
 FM23CA0062X

Maximum process temperature (Tp):

-40 °C to 121 °C (integral version)
 -40 °C to 260 °C (remote version)

Warning: Explosion Hazard. Do not disconnect equipment when a flammable or combustible atmosphere is present.

Mise en garde: Danger d'explosion. Ne pas débrancher l'appareil s'il ya présence de gaz inflammable ou combustible.

Dansk	Sikkerhedsforskrifter	Italiano	Normative di sicurezza
Deutsch	Sicherheitshinweise	Nederlands	Veiligheidsinstructies
English	Safety instructions	Português	Normas de segurança
Ελληνική	Υποδείξεις ασφαλείας	Español	Instrucciones de seguridad
Suomi	Turvallisuusohjeet	Svenska	Säkerhetsanvisningar
Français	Consignes de sécurité		

DK

Dansk – Sikkerhedsforskrifter

Disse sikkerhedsforskrifter gælder for Fluid Components, 023919 typeafprøvningsattest-nr. FM13ATEX0099X (attestens nummer på typeskiltet) er egnet til at blive benyttet i eksplosiv atmosfære kategori II 2 G, II 2D.

- 1) Ex-anlæg skal principielt opstilles af specialiseret personale.
- 2) 023919 kapsling skal jordforbindes.

D

A

Deutsch – Sicherheitshinweise

Diese Sicherheitshinweise gelten für die Fluid Components, 023919 gemäß der EG-Baumusterprüfbescheinigung Nr. FM13ATEX0099X (Bescheinigungsnummer auf dem Typschild) der Kategorie II 2 G, II 2 D.

- 1) Die Errichtung von Ex-Anlagen muss grundsätzlich durch Fachpersonal vorgenommen werden.
- 2) 023919 Gehäusue muß geerdet werden.

GB

IRL

English – Safety instructions

These safety instructions are valid for the Fluid Components, 023919 to the EC type approval certificate no. FM13ATEX0099X (certificate number on the type label) for use in potentially explosive atmospheres in Category II 2 G, II 2 D.

- 1) The installation of Ex-instruments must be made by trained personnel.
- 2) 023919 probe must be grounded.

GR**Ελληνική – Υποδείξεις ασφαλείας**

Αυτές οι οδηγίες ασφαλείας ισχύουν για τα Ροόμετρα της Fluid Components τύπου 023919 Πιστοποιητικό Εγκρίσεως Ευρωπαϊκής Ένωσης, με αριθμό πιστοποίησης FM13ATEX0099X (ο αριθμός πιστοποίησης βρίσκεται πάνω στην ετικέτα τύπου του οργάνου) για χρήση σε εκρηκτικές ατμόσφαιρες της κατηγορίας II 2 G, II 2 D.

- 1) Η εγκατάσταση των οργάνων με αντιεκρηκτική προστασία πρέπει να γίνει από εξειδικευμένο προσωπικό.
- 2) 023919 πρέπει να είναι γειωμένο.

FIN**Suomi – Turvallisuusohjeet**

Nämä turvallisuusohjeet koskevat Fluid Components, 023919 EY-tyyppitarkastustodistuksen nro. FM13ATEX0099X mukaisesti (todistuksen numero näkyy tyyppikilvestä) käytettäessä räjähdysvaarallisissa tiloissa luokassa II 2 G, II 2 D.

- 1) Ex-laitteet on aina asennettava ammattihenkilökunnan toimesta.
- 2) 023919 on maadoitettava.

F**B****L****Français – Consignes de sécurité**

Ces consignes de sécurité sont valables pour le modèle 023919 de la société Fluid Components (FCI) conforme au certificat d'épreuves de type FM13ATEX0099X (numéro du certificat sur l'étiquette signalétique) conçu pour les applications dans lesquelles un matériel de la catégorie II 2 G, II 2 D est nécessaire.

- 1) Seul un personnel spécialisé et qualifié est autorisé à installer le matériel Ex.
- 2) Les 023919 doivent être reliés à la terre.

I**Italiano – Normative di sicurezza**

Queste normative di sicurezza si riferiscono ai Fluid Components, 023919 secondo il certificato CE di prova di omologazione n° FM13ATEX0099X (numero del certificato sulla targhetta d'identificazione) sono idonei all'impiego in atmosfere esplosive applicazioni che richiedono apparecchiature elettriche della Categoria II 2 G, II 2 D.

- 1) L'installazione di sistemi Ex deve essere eseguita esclusivamente da personale specializzato.
- 2) I 023919 devono essere collegati a terra.

NL**B****Nederlands – Veiligheidsinstructies**

Deze veiligheidsinstructies gelden voor de Fluid Components, 023919 overeenkomstig de EG-typeverklaring nr. FM13ATEX0099X (nummer van de verklaring op het typeplaatje) voor gebruik in een explosieve atmosfeer volgens Categorie II 2 G, II 2 D.

- 1) Installatie van Ex-instrumenten dient altijd te geschieden door geschoold personeel.
- 2) De 023919 behuizing moet geaard worden.

P**Português – Normas de segurança**

Estas normas de segurança são válidas para os Fluid Components, 023919 conforme o certificado de teste de modelo N.º FM13ATEX0099X (número do certificado na plaqueta com os dados do equipamento)

são apropriados para utilização em atmosferas explosivas categoria II 2 G, II 2 D

- 1) A instalação de equipamentos em zonas sujeitas a explosão deve, por princípio, ser executada por técnicos qualificados.
- 2) Os 023919 precisam ser ligados à terra.

E**Español – Instrucciones de seguridad**

Estas indicaciones de seguridad son de aplicación para el modelo 023919 de Fluid Components International, según la certificación CE de modelo N° FM13ATEX0099X para aplicaciones en atmósferas potencialmente explosivas según la categoría II 2 G, II 2 D (el número de certificación se indica sobre la placa informativa del equipo).

- 1) La instalación de equipos Ex tiene que ser realizada por personal especializado.
- 2) La sonda 023919 debe estar conectada a tierra.

S**Svenska – Säkerhetsanvisningar**

Säkerhetsanvisningarna gäller för Fluid Components, typ 023919 enligt EG-typkontrollintyg nr FM13ATEX0099X (intygsnumret återfinns på typskylten) är lämpad för användning i explosiv gasblandning i kategori II 2 G, II 2 D.

- 1) Installation av Ex- klassade instrument måste alltid utföras av fackpersonal.
- 2) 023919 måste jordas.

9. Drawings

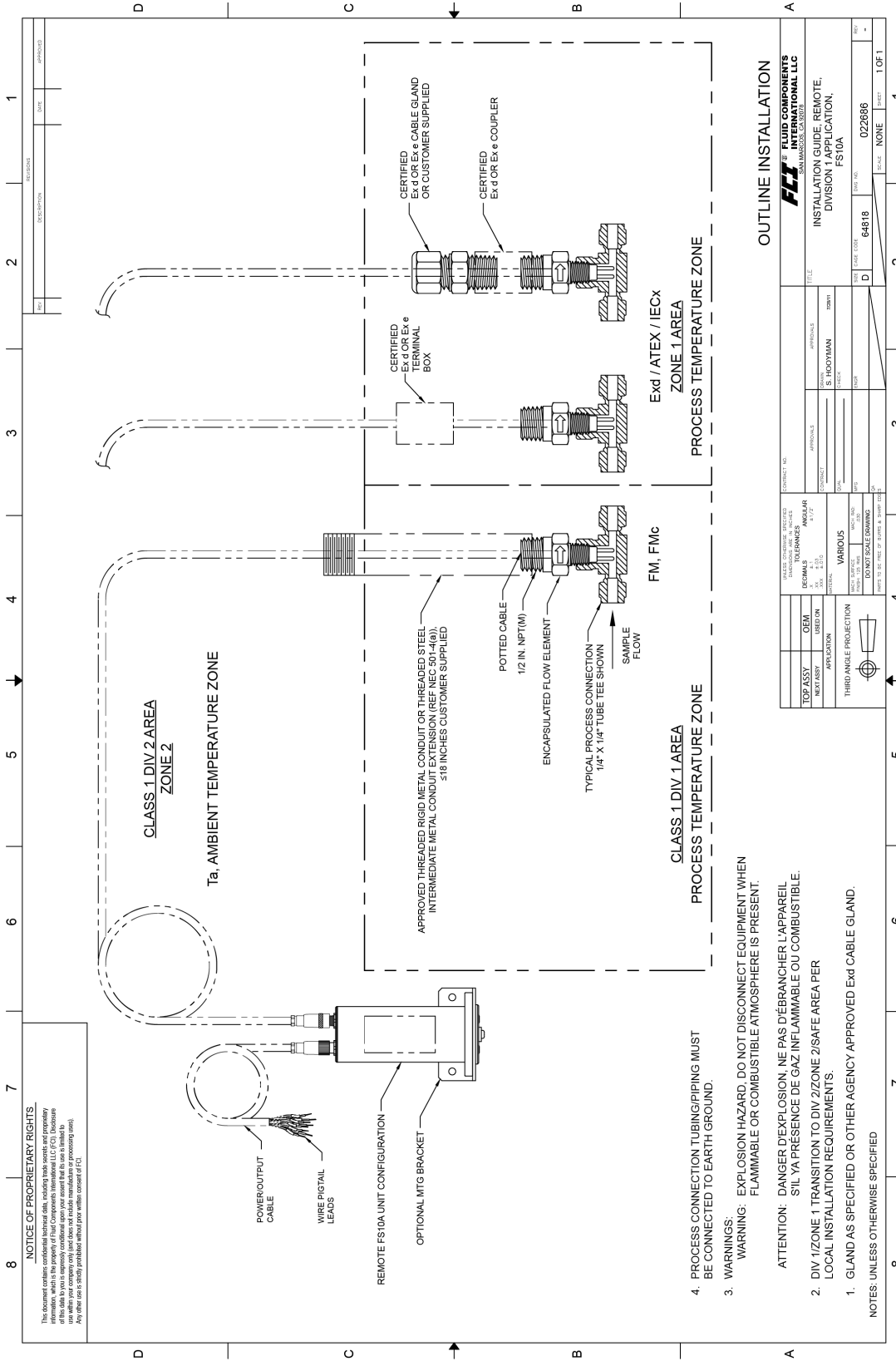


Figure 1 – Drawing 022686 Outline Installation, Remote Div 1 Application (FS10A Shown)

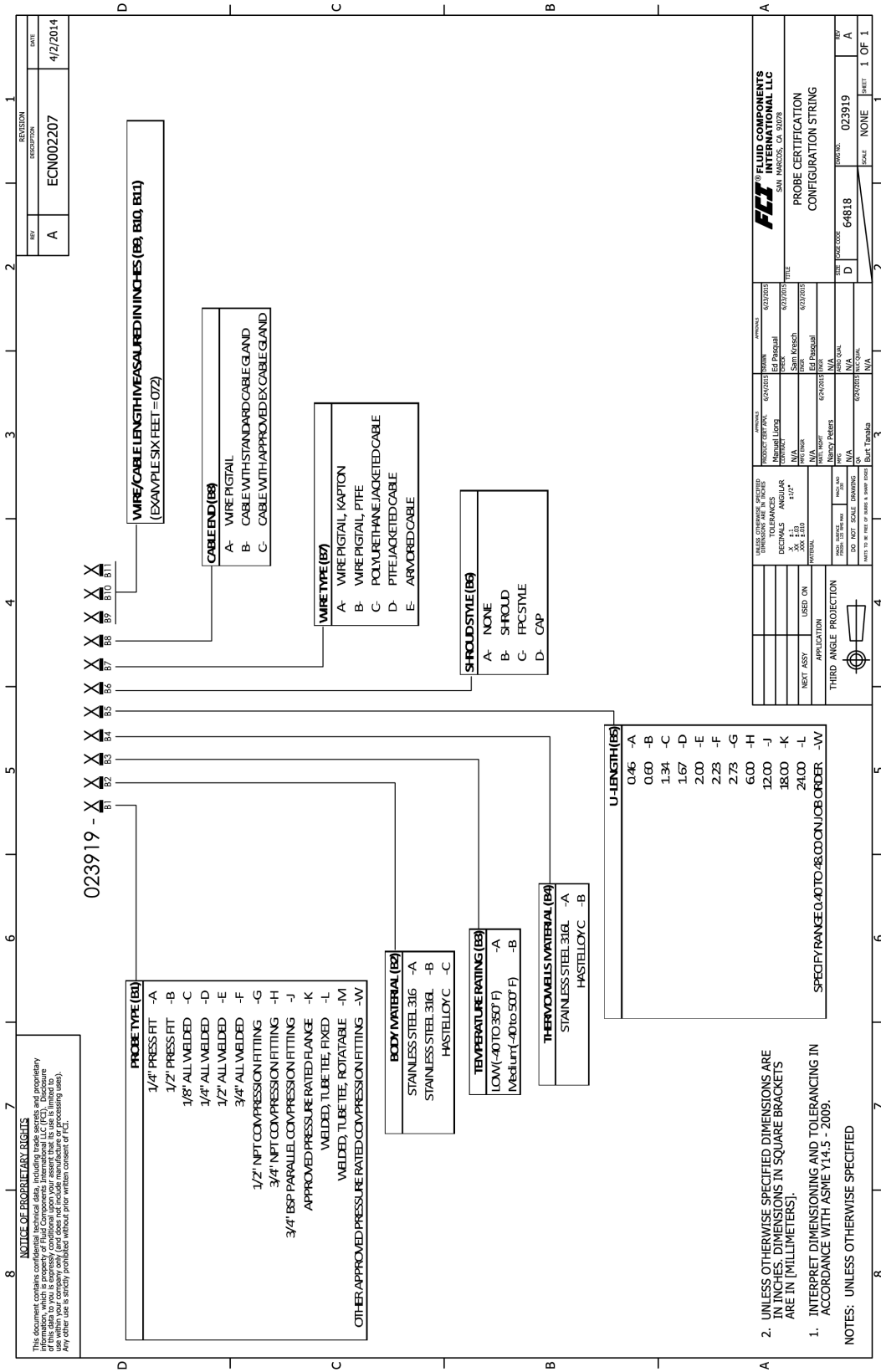
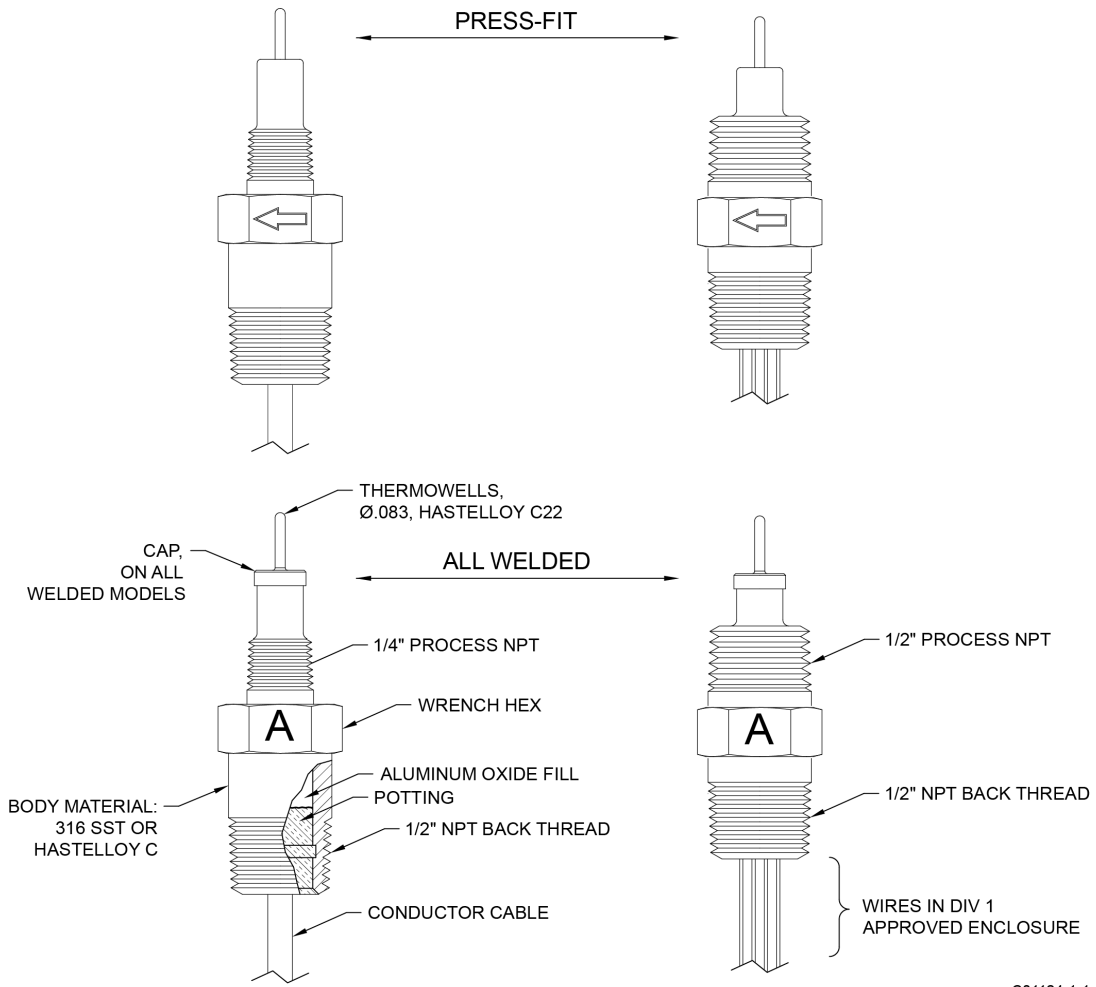
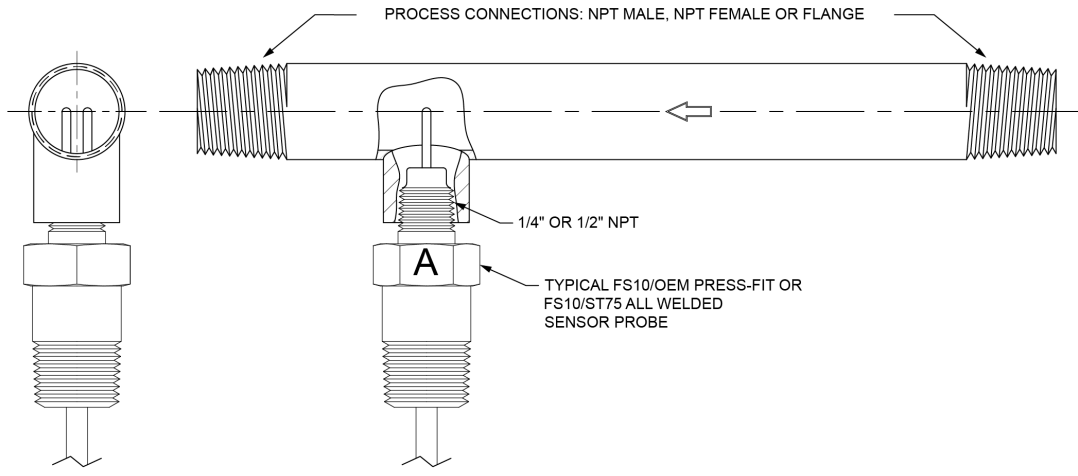


Figure 2 – Probe Configuration Code

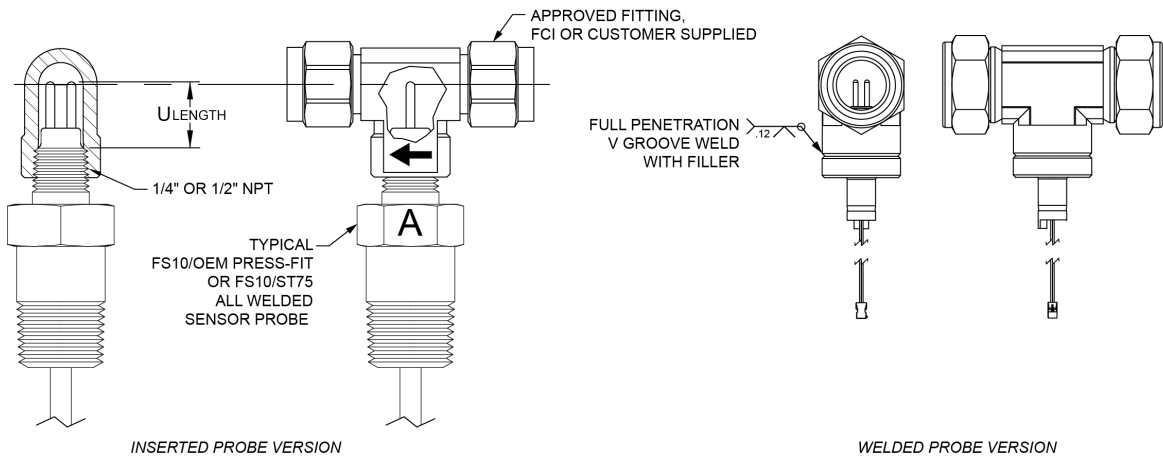


C01124-1-1

Figure 3 – Typical Features, Sensor Probe



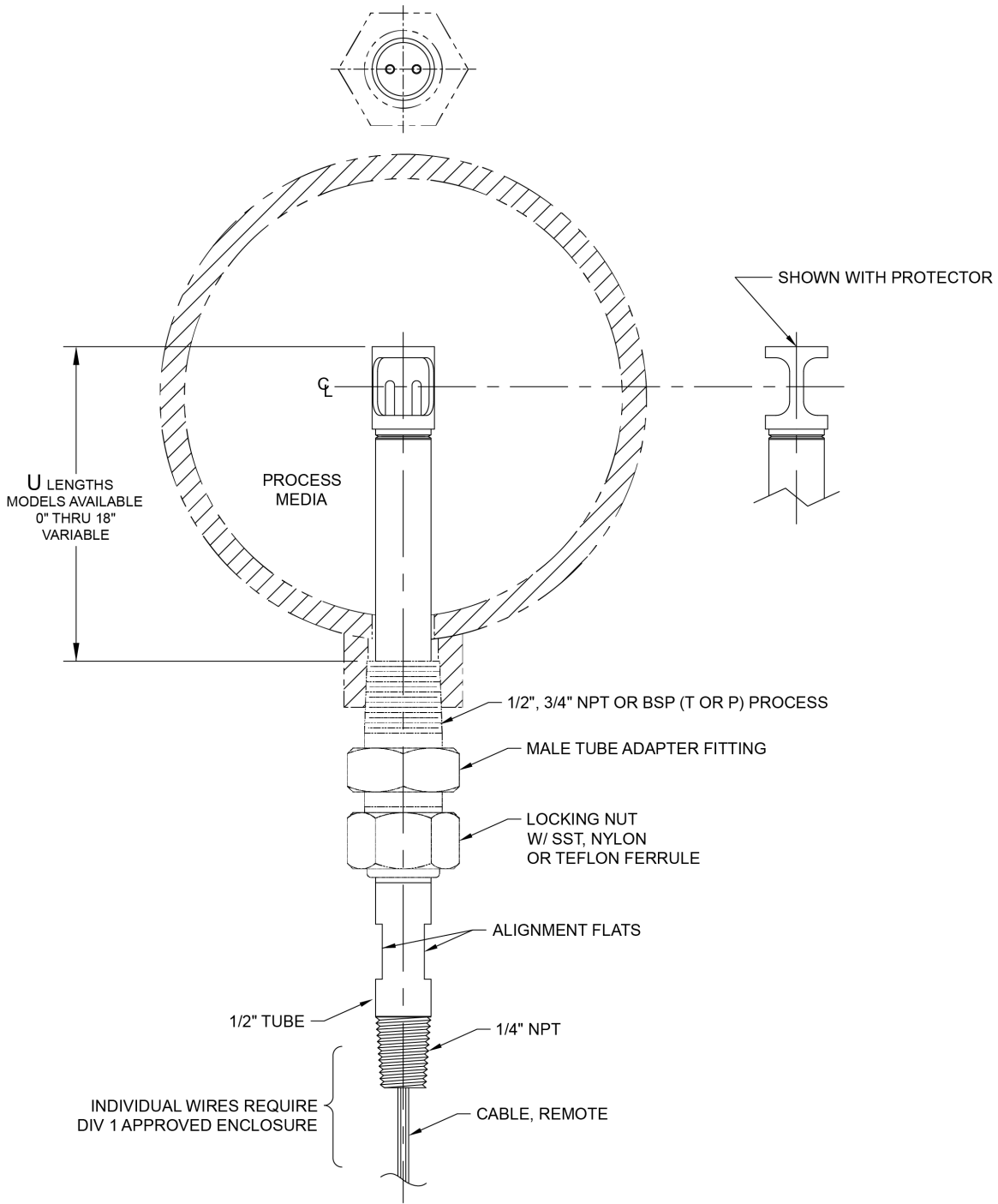
(a) TYPICAL INSTALLATION IN PIPE SPOOL



(b) TYPICAL INSTALLATION IN TUBE TEE FITTING

C01123-2-1

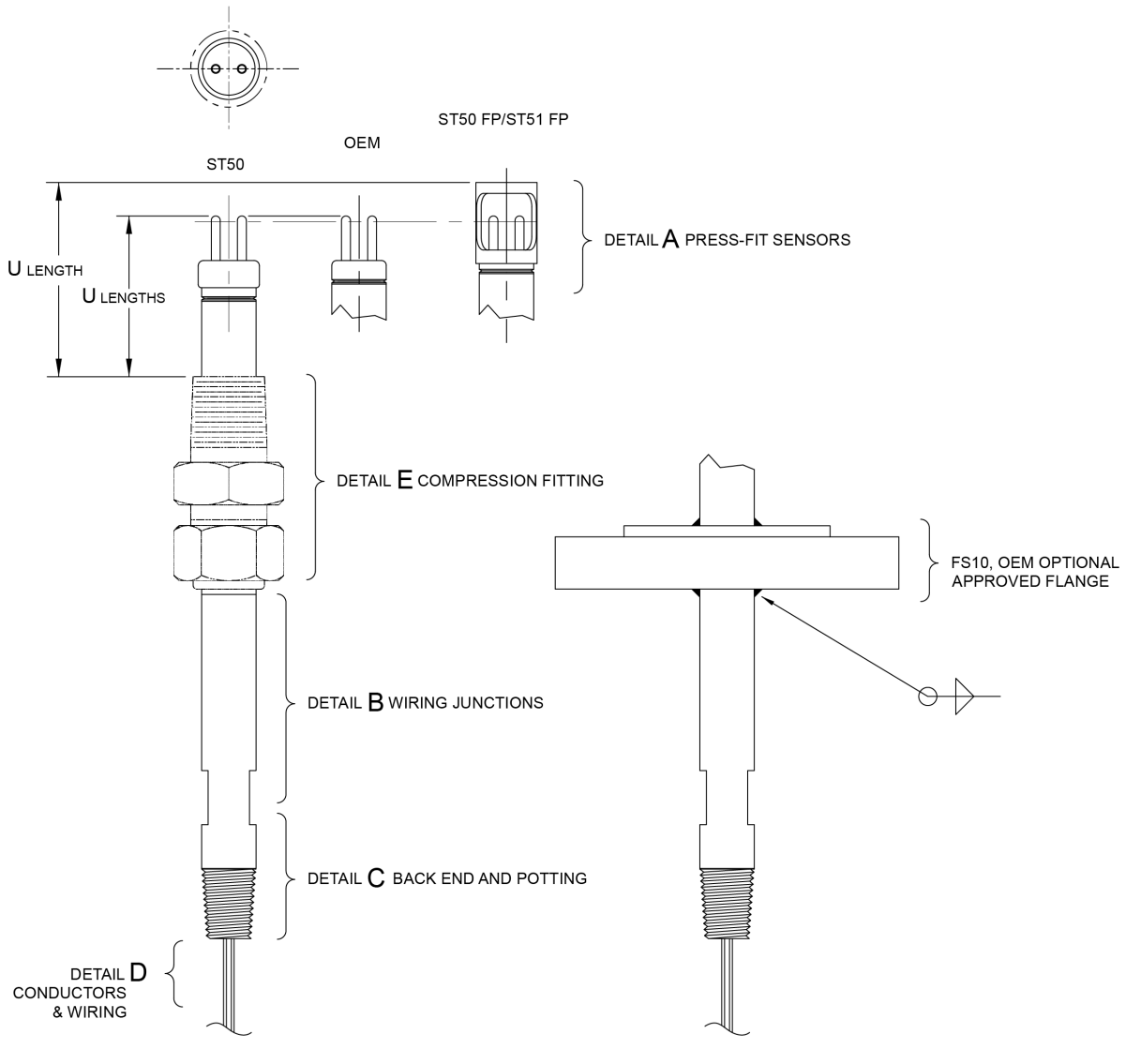
Figure 4 – Typical Inline Installation ST75, FS10, OEM, Fixed U-Length Probe



OPERATING TEMPERATURE:
 LOW TEMP PROCESS -40 TO 350 °F [-40 TO 177 °C]
 WITH AMBIENT -40 TO 194 °F [-40 TO 90 °C]
 OR -40 TO 350 °F [-40 TO 177 °C] WITH WIRE PIGTAILS
 MEDIUM TEMP -40 TO 500 °F [-40 TO 260 °C] PROCESS AND AMBIENT

C01122-1-1

Figure 5 – Typical Installation ST50/ST51, Variable U-Length Probe, 2" Line and Larger



U-LENGTHS MAY VARY FROM 0" TO 18".
 TYPICAL SET LENGTHS ARE 1.5", 3", 6", 12" OR 18"
 OPERATING TEMPERATURE:
 LOW TEMP PROCESS -40 TO 350 °F [-40 TO 177 °C]
 WITH AMBIENT -40 TO 194 °F [-40 TO 90 °C]
 OR -40 TO 350 °F [-40 TO 177 °C] WITH WIRE PIGTAILS
 MEDIUM TEMP -40 TO 500 °F [-40 TO 260 °C] PROCESS AND AMBIENT

C01121-1-1

Figure 6 – Press-Fit Models ST50/ST51, FS10, and OEM



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