INTRINSICALLY-SAFE DC CURRENT TRANSDUCER *MODEL* ISCTH

DESCRIPTION

The ISCTH current transducer provides a Hall-Effect sensor with an integrated signal conditioner. All units are packaged in a split-core configuration for ease of installation. Application flexibility is provided by a wide variety of input current ranges and output signal types.

Units meet the requirements of ATEX Directive 94/9/EC and UL/CUL Intrinsically Safe regulations (see standards listing). These standards are specifically related to the requirements for hazardous location installations in North America and the European Union (EU) but are widely accepted throughout the world. When used with appropriate safety barriers these units are recommended for installation in hazardous locations such as offshore platforms and petrochemical plants.

FEATURES

- Hall-Effect Current Sensor with Output Amplifier
- Split Core
- UL/CUL Intrinsically Safe Certification.
- Meets Requirements of ATEX Directive 94/9/EC

APPLICATIONS

- Current Sensing
- Torque Measurements
- Hazardous Locations Such as Offshore Platforms and Petrochemical Plants

5 YEAR WARRANTY

Intrinsically Safe Current Transducer meets the following standards:

CE 0575 (Ex) II 1 G

Ex ia IIC T4 Ga
DNV-2006-OSL-ATEX-0411X

c UL US LISTED
20BP
UL/CUL CLI, Div1, Gr A, B, C, D

SPECIFICATIONS

INPUT

Current	Linear	See Table
Over-current	Without Damage	10X Rating
Frequency Range	(±1dB)	dc to 1kHz

DIELECTRIC TEST

Bus through Window to Output	5kVac

INSTRUMENT POWER

Nominal	24Vdc
Range	14-30Vdc
Max Current Draw	36mA

OUTPUT

Signal		(See Table)
Loading	Voltage Models	≥100kΩ
	Current Models	≤250Ω
Response Time (to 90% F.S.)		<1ms
Offset		≤1% F.S.

ACCURACY & LINEARITY ..... ±2% F.S.

TEMPERATURE

Operating Range	-10 to 60ºC
Effect (-10ºC ≤ Tamb ≤ 60ºC)	±1% F.S.

PHYSICAL

Weight	2 lbs.
Enclosure	Noryl SE1X, Black

MODEL SELECTION

ORDERING INFORMATION
Example: Input 0-1000A
Output 0-10V
ISCTH/1000A/10/SC/24Vdc

ORDERING INFORMATION
Example: Input 200Adc
Output 4-20mA
ISCTH/200A/4-20/SC/24Vdc

Bi-Directional version by request

ORDERING INFORMATION
Example: Input 800Adc
Output 0-5V
ISCTH/800A/5/SC/24Vdc

ORDERING INFORMATION
Example: Input ±0-500Adc
Bi-Directional Output 0-2.9V
ISCTH/500A/2.9/SC/24Vdc

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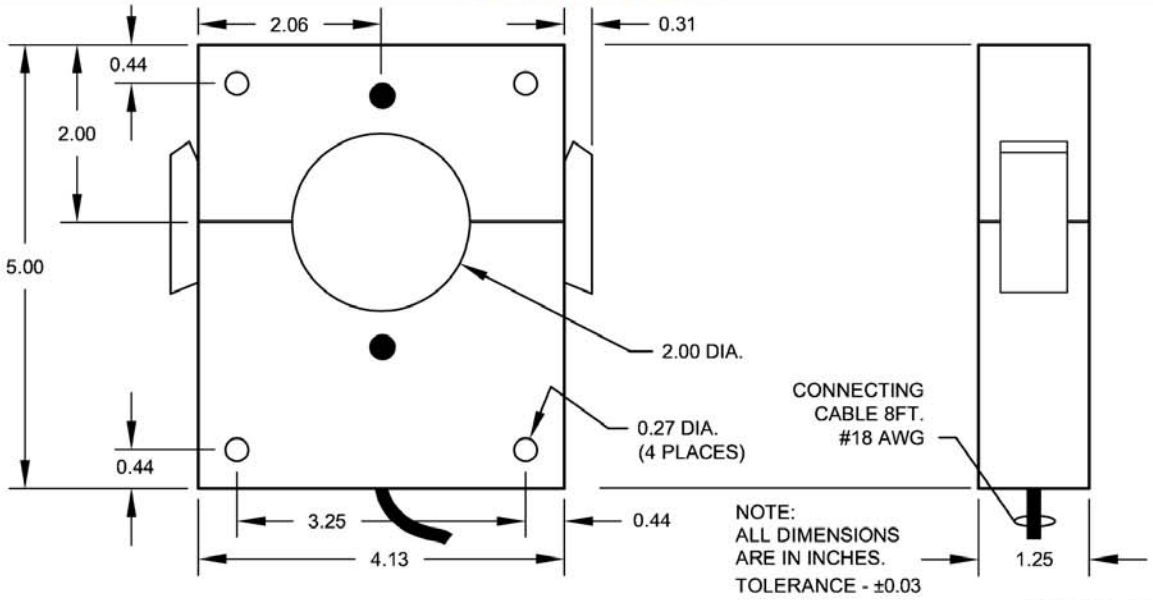
INTRINSICALLY-SAFE DC CURRENT TRANSDUCER *MODEL* ISCTH

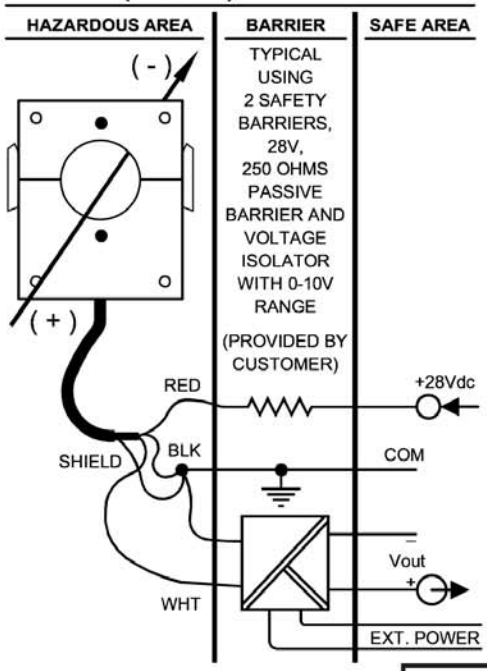
DIMENSIONS



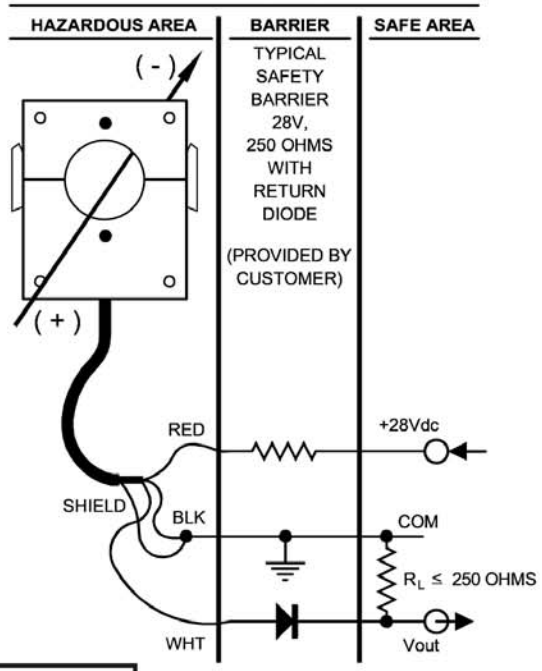
Dwg# 0902-00823-B Rev A

CONNECTION DIAGRAMS

TYPICAL CONNECTION WITH 0 - (2.9/5/10) VOLT OUTPUT



TYPICAL CONNECTION WITH 4-20mA OUTPUT



Entity Parameters			
Supply: Red(+), Black(-)		**Signal:** White(+), Black(-)	
Ui, Vmax	30Vdc	Ui, Vmax	10Vdc
Ii, Imax	110mA	Ii, Imax	29mA
Pi, Pmax	1.1W	Pi, Pmax	0.21W
Ci	0µF	Ci	60nF
Li	0mH	Li	0mH

WARNING:
1. Do Not use in environments where ethers are present.
2. Clean only with a damp cloth to prevent the possibility of electric discharge.

Reference also Control Drawing 0901-00226-B Rev C

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INTRINSICALLY-SAFE DC CURRENT TRANSDUCER MODEL ISCTH

LTR	DESCRIPTION	DATE	APPROVED
A	CHANGE NOTE 1, ADD "Ui", "Ii", AND "Pi" SPEC	08/03/04	BAF/LJM
B	ECN 001537 - CHANGE Imax FROM 36mA	10/10/11	AGB/LJM
C	ECN 001551 - CHANGE DRAWING SIZE IN TITLE BLOCK	11/01/11	BAF

NOTE:

1. **ENTITY PARAMETERS FOR SUPPLY:**

Ui, Vmax	= 30 Vdc
Ii, Imax	= 110mA
Pi, Pmax	= 1.1 W
Ci	= 0 uF
Li	= 0 mH

   ENTITY PARAMETERS FOR SIGNAL:

Ui, Vmax	= 10 Vdc
Ii, Imax	= 29 mA
Pi, Pmax	= 0.21 W
Ci	= 60 nF
Li	= 0 mH

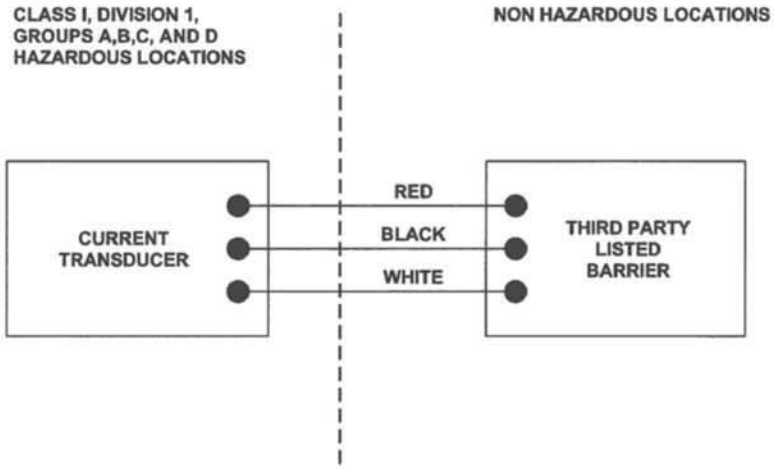
2. SELECTED BARRIERS MUST BE THIRD PARTY APPROVED AS INTRINSICALLY SAFE FOR THE APPLICATION AND HAVE Voc NOT EXCEEDING Vmax. SEE NOTE 5.
3. CABLE CAPACITANCE (Cc) PLUS INTRINSICALLY SAFE EQUIPMENT CAPACITANCE (Ci) MUST BE LESS THAN THE MARKED CAPACITANCE (Ca). CABLE INDUCTANCE (Lc) PLUS INTRINSICALLY SAFE EQUIPMENT INDUCTANCE (Li) MUST BE LESS THAN THE MARKED INDUCTANCE (La) SHOWN ON THE BARRIER. SEE NOTE 5.
4. IF THE ELECTRICAL PARAMETERS OF THE CABLE ARE UNKNOWN, THE FOLLOWING VALUES MAY BE USED:

CAPACITANCE (Cc)	60 pF/FT
INDUCTANCE (Lc)	0.20 uH/FT

5. INTRINSICALLY SAFE EQUIPMENT:

Vmax	>=	Voc
Imax	>=	Isc
Ci + Cc	<=	Ca
Li + Lc	<=	La

6. WHERE MULTIPLE CIRCUITS EXTEND FROM THE SAME PIECE OF INTRINSICALLY SAFE EQUIPMENT TO ASSOCIATED APPARATUS, THEY MUST BE INSTALLED IN SEPARATE CABLES OR IN ONE CABLE WHICH HAS SUITABLE INSULATION.
7. BARRIERS MUST BE INSTALLED IN ACCORDANCE WITH BARRIER MANUFACTURE'S CONTROL DRAWING AND ARTICLE 504 OF THE NATIONAL ELECTRIC CODE (ANSI/NFPA 70).
8. THE MAXIMUM NONHAZARDOUS LOCATION VOLTAGE MUST BE NO GREATER THAN 250V RMS.



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES (UNLESS OTHERWISE SPECIFIED): FRACTIONS 1/32 DECIMALS ±0.03 ±0.015 ANGLES 1.0°	CONTRACT NO.		
	APPROVAL	DATE	CONTROL DRAWING ISC-XXX
MATERIAL:	DRAWN BY: BAF	08/30/04	
	CHECKED BY: —	—	
	APPROVED BY: LJM	09/02/04	
FINISH:			SIZE B / CODE IDENT NO. / DRAWING NO. 0901-00226-B
DO NOT SCALE	PART NUMBER:		SCALE 1=1 / SHEET 1 OF 1

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DECLARATION OF CONFORMITY

DATE: June 02, 2014

EQUIPMENT: Intrinsically Safe Current Transducers

MODEL(s): ISC-xxx (D, E, X5) (Y03, Y04, Y23)

The above referenced equipment complies with the European Directive for operation in potentially explosive atmospheres. This is proven through compliance with all relevant sections of the specified Standards.

A Technical Construction File is available for review by designated bodies. An EC-Type Examination Certificate DNV-2006-OSL-ATEX-0411X, registration number 0575, has been issued by Det Norske Veritas (DNV), Veritasveien 1, 1363 Høvik, Norway.

DIRECTIVE: **94/9/EC**, Equipment or protective systems intended for use in potentially explosive atmospheres (ATEX)

STANDARDS: **EN 60079-0 : 2012**, Explosive atmospheres, Equipment - general requirements
EN 60079-11 : 2012, Explosive atmospheres, Equipment - protection by intrinsic safety ("i")

MARKING: CE 0575 Ex II 1 G Ex ia IIC T4 Ga

I hereby authorize the above defined marking to be applied to the referenced equipment.

SIGNATURE: Lewis J Miller, Vice-President of Engineering — 6/2/2014 Date

A-7003-108-ISC
Rev--