Remote Controlled HART® SMART™ Two-Wire Conductivity Transmitter

ESSENTIAL INSTRUCTIONS

Read this page before proceeding!

Your purchase from Rosemount Analytical, Inc. has resulted in one of the finest instruments available for your particular application. These instruments have been designed, and tested to meet many national and international standards. Experience indicates that its performance is directly related to the quality of the installation and knowledge of the user in operating and maintaining the instrument. To ensure their continued operation to the design specifications, personnel should read this manual thoroughly before proceeding with installation, commissioning, operation, and maintenance of this instrument. If this equipment is used in a manner not specified by the manufacturer, the protection provided by it against hazards may be impaired.

- Failure to follow the proper instructions may cause any one of the following situations to occur: Loss of life; personal injury; property damage; damage to this instrument; and warranty invalidation.
- Ensure that you have received the correct model and options from your purchase order. Verify that this manual covers your model and options. If not, call 1-800-854-8257 or 949-757-8500 to request correct manual.
- For clarification of instructions, contact your Rosemount representative.
- Follow all warnings, cautions, and instructions marked on and supplied with the product.
- Use only qualified personnel to install, operate, update, program and maintain the product.
- Educate your personnel in the proper installation, operation, and maintenance of the product.
- Install equipment as specified in the Installation section of this manual. Follow appropriate local and national codes. Only connect the product to electrical and pressure sources specified in this manual.
- Use only factory documented components for repair. Tampering or unauthorized substitution of parts and procedures can affect the performance and cause unsafe operation of your process.
- All equipment doors must be closed and protective covers must be in place unless qualified personnel are performing maintenance.
- If this equipment is used in a manner not specified by the manufacturer, the protection provided by it against hazards may be impaired.

⚠ WARNING

Substitution of components may impair Intrinsic Safety or suitability for Division 2.

⚠ WARNING

Do not remove or replace while circuit is live unless area is known to be non-hazardous.

⚠ WARNING

Explosion Hazard - Do not disconnect equipment unless area is known to be non-hazardous.

⚠ WARNING

To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or understand and adhere to the manufacturer's live maintenance procedures.

SPECIAL CONDITION FOR INTRINSICALLY SAFE USE

The 5081 enclosure is made of aluminum alloy and given a protective polyurethane finish; however, care must be taken to protect it from impact, abrasion or friction with other metal surfaces if located in zone 0.

WARNING

If a Model 475 Universal Hart® Communicator is used with these transmitters, the software within the Model 475 may require modification.

If a software modification is required, please contact your local Fisher-Rosemount Service Group or National Response Center at 1-800-654-7768.

ROSEMOUNT® Analytical

EMERSON™ Process Management

Specifications

PHYSICAL SPECIFICATIONS

Housing: Cast aluminum with epoxy coating. Type 4X (IP65). Neoprene O-ring cover seals. 160.5 mm x 175.3 mm x 161.3 mm (6.3 in. x 6.9 in. x 6.4 in.)

Diameter: 155.4 mm (6.1 in.)

Electrical Conduit Openings: 3/4 in. FNPT

Power Supply and Load: A minimum loop resistance (load) of 250 ohms and a minimum power supply of 18 volts DC is required for digital communication as shown in the load/power supply graph below.

Local Readout:
Main Display is 4 digits, 20 mm tall (0.8 in.)
Message Display is ten digits, 7 mm tall (0.3 in.)

Automatic Temperture Compensation
3-wire Pt100 RTD

Conductivity: 0 to 200 °C (32 to 392 °F)
% concentration: 0 to 100 °C (32 to 212°F)
Low Conductivity: 0 to 100 °C (32 to 212 °F)

Ambient temperature: -20 to 65° C (-4 to 149° F)

Relative Humidity: 0-95% with enclosure sealed.

CE: EMI/RFI certified: EN61326 CE

HAZARDOUS AREA CLASSIFICATION:

Intrinsic Safety:

FM APPROVED
Class I, II, III, Div. 1
Groups A-G
T4 Tamb = 70°C, = 62°C (-FF)

Exia Entity
Class I, Groups A-D
Class II, Groups E-G
Class III
T4 Tamb = 70°C

IECEx BAS 09.0159X
Ex ia IIC T4 Ga

ATEX CE 0600 II 1 G
Baseefa03ATEX0099
EEx ia IIC T4
Tamb = -20°C to +65°C

Non-Incendive:

FM APPROVED
Class I, Div. 2, Groups A-D
Dust Ignition Proof
Class II & III, Div. 1, Groups E-G
Type 4X Enclosure

Class I, Div. 2, Groups A-D
Suitable for Class II, Div. 2, Groups E-G
T4 Tamb = 70°C

Explosion-Proof:

FM APPROVED
Class I, Div. 1, Groups B-D
Class II, Div. 1, Groups E-G
Class III, Div. 1

Class I, Groups B-D
Class II, Groups E-G
Class III
Tamb = 65°C max

TRANSMITTER SPECIFICATIONS @ 25°C

Measured Range*: 0-20,000 µS/cm

Accuracy: ± 0.5% of reading and ± 0.001 µS/cm

Repeatability: ± 0.25% of reading

Stability: 0.25% of output range/month, non-cumulative

Ambient Temperature Coefficient: ± 0.05% of reading/°C

Temperature Slope Adjustment: 0-5%/° C

Other temperature compensation algorithms: ultra-pure water compensation, cation conductivity, or raw (uncompensated) conductivity.

Compatible RTD: 100Ω or 1000Ω with Automatic Recognition

LOOP SPECIFICATIONS

Loop Accuracy: Under controlled laboratory conditions at 25°C (77°F) with perfectly calibrated ENDURANCE sensor of appropriate cell constant:

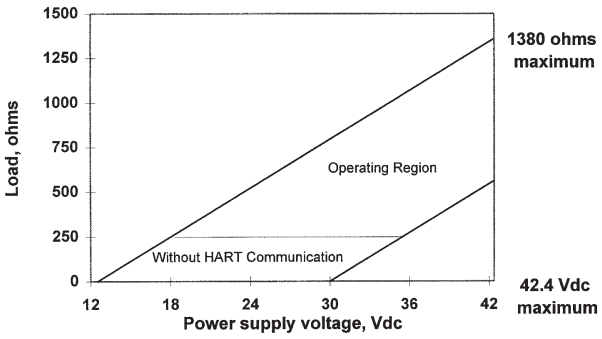
up to 5,000 µS/cm: ± 1.0% and ± 2 least significant digit

from 5,000 to 20,000: ± 2% of reading and ± 2 least significant digit

SENSOR SELECTION GUIDELINES

Cell Constant	Suggested Conductivity Range
0.01/cm	up to 50 µS/cm
0.1/cm	1.0 to 500 µS/cm
1.0/cm	10 to 20,000 µS/cm

Note: *The conductivity values shown in the above chart are for UNCOMPENSATED (or RAW) conductivity at 25°C. Maximum range values will vary due to temperature compensation selection, process temperature, and other process conditions.*



INFRARED REMOTE CONTROLLER

1. Pressing a menu key allows the user access to calibrate, program, or diagnostic menus.
2. Press ENTER to store data and settings. Press NEXT to move from one submenu to the next. Press EXIT to leave without storing changes.
3. Use the editing keys to scroll through lists of allowed settings or to change a numerical setting to the desired value.
4. Pressing HOLD puts the transmitter in hold and sends the output current to a pre-programmed value. Pressing RESET causes the transmitter to abandon the present operation and return to the main display.

FIGURE 1. Infrared remote controller

RESET - Press RESET to end the current operation and return to the main display. Changes will NOT be saved. **RESET does NOT return the transmitter to factory default settings.**

ARROW KEYS - Use ❸ and ❺ keys to increase or decrease a number or to scroll through items in a list. Use the ❷ or ❹ keys to move the cursor across a number. A flashing word or numeral shows the position of the cursor.

CAL - Press CAL to access the calibration menu.

PROG - Press PROG to access the program menu.

DIAG - Press DIAG to read diagnostic messages.

HOLD - Press HOLD to access the prompts used for turning on or off the hold function.

ENTER - Press ENTER to move from a submenu to the first prompt under the submenu. Pressing ENTER also stores changes in memory and advances to the next prompt.

NEXT - Press NEXT to advance to the next submenu or to leave a message screen.

EXIT - Press EXIT to end the current operation. Changes are NOT saved.

IRC – INFRARED REMOTE CONTROL

PN 24479-00

FM APPROVED
IS/I/1/ABCD T4
CLASS I ZONE 0 AEx ia IIC T4
-20°C ≤ Ta ≤ +50°C

IECEx BAS 13.0108
Baseefa02ATEX0198
II 1G Ex ia IIC T4 Ga
-20°C ≤ Ta ≤ +50°C
CE 1180

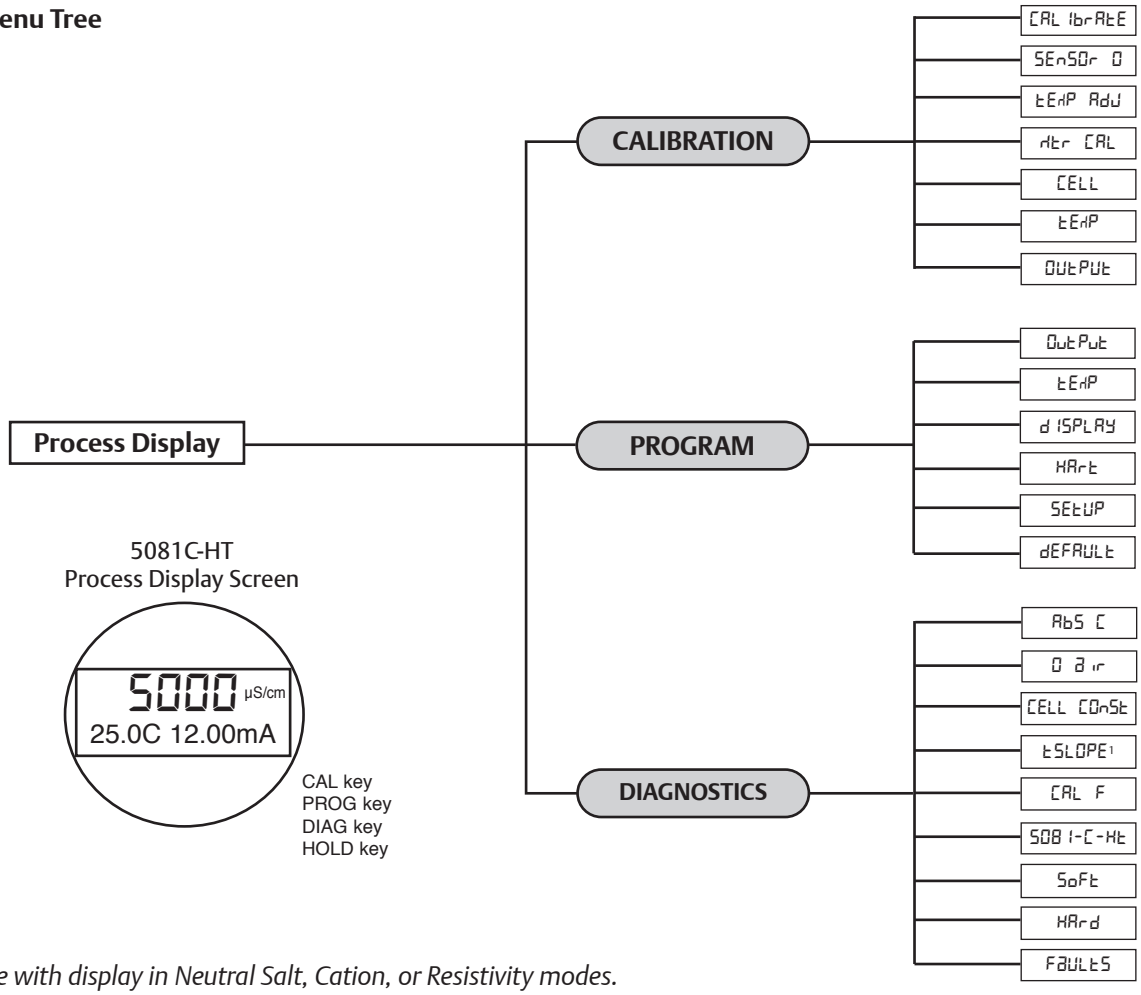
LR34186
C US Ex ia IIC T4
CLASS I ZONE 0 AEx ia IIC T4
INTRINSICALLY SAFE
SÈCURITÈ INTRINSÈQUE
CLASS I DIVISION 1
GROUPS A,B,C,D T4
-20°C ≤ Ta ≤ +50°C

WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY. TO PREVEVENT IGNITION, ONLY CHANGE BATTERIES IN NONHAZARDOUS AREA.

AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SÈCURITÈ INTRINSÈQUE. POUR PREVENIR L'INFLAMMATION D'ATMOSPHERE, NE CHANGER LES BATTERIES QUE DANS DES EMPLACEMENTS DESIGNES NON DANGEREUX.

USE ONLY ENERGIZER E92/EN92 OR DURACELL MN2400/PC2400 (2) 1.5V AAA BATTERIES.

FIGURE 2. Menu Tree



1 Not available with display in Neutral Salt, Cation, or Resistivity modes.

PROGRAM MENU MNEMONICS

OUtPUt	Current output menu header
4mA	4mA current output (setpoint)
20mA	20mA current output (setpoint)
HoLd	Current output on hold
FAULt	Fault condition current output setting
dPn	Current output dampening time
tESt	Current output test value
tEMP	Temperature menu header
tAUtO	Automatic temperature compensation
tMAn	Manual temperature compensation input
d ISPLAY	Display menu header
tYP	Conductivity measurement type
tEMP	°C / °F toggle selection
OUtPUt	Current (mA) or percent of full scale display
CodE	Security code

ASSET MANAGEMENT SOLUTIONS (AMS)

Rosemount Analytical AMS windows provide access to all transmitter measurement and configuration variables. The user can read raw data, final data, and program settings and can reconfigure the transmitter from anywhere in the plant. The figures below show two of the many configuration and measurement screens available using HART AMS.

FIGURE 3. AMS configuration screen using HART®

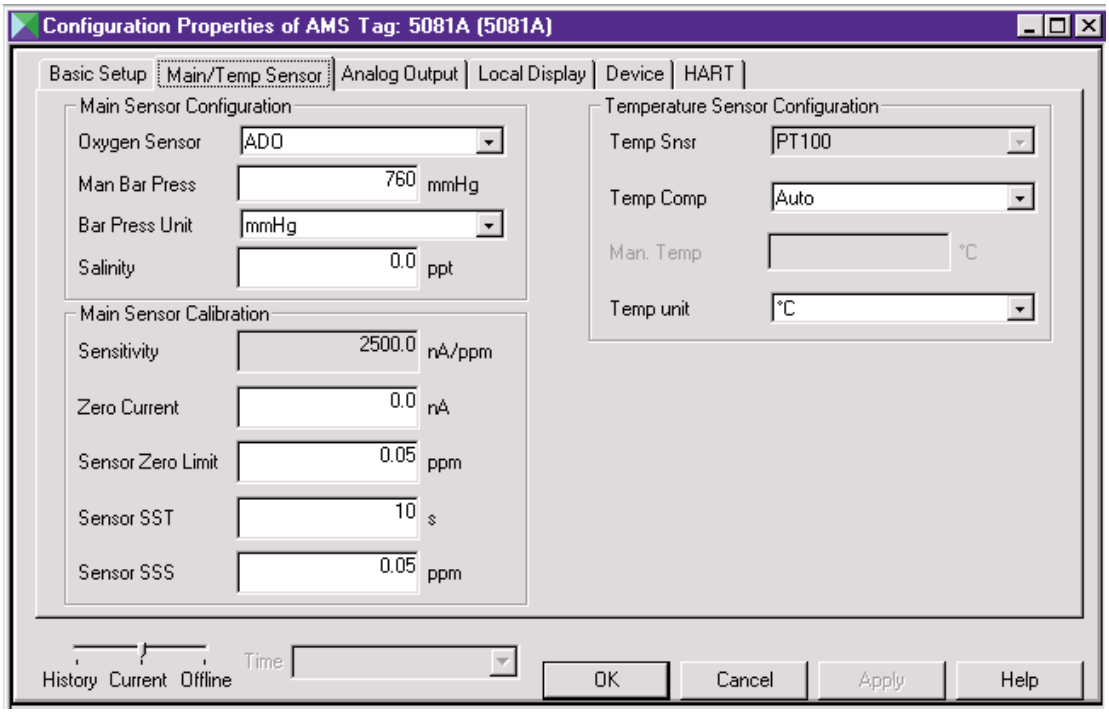


FIGURE 4. AMS measurement screen using HART®

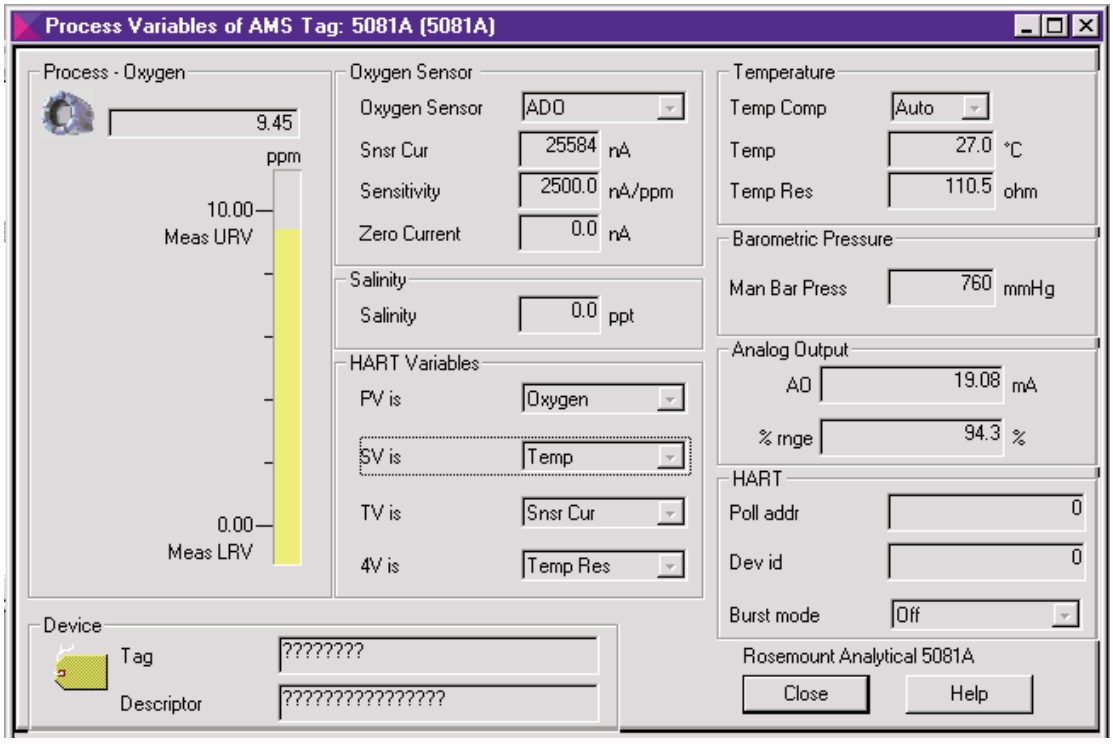


TABLE 1. 5081C-HT Default Settings

VARIABLE NAME	MNEMONIC	FACTORY SETTINGS	CUSTOMER SETTINGS
Program Menu			
Output	OutPut	–	_____
4 mA	4 mA	0 µS	_____
20 mA	20 mA	20 mS	_____
Hold	hoLd	21 mA	_____
Fault	FauLt	22 mA	_____
Dampening	dPn	0 samples/second	_____
Test	tESt	04.00 mA	_____
Temperature	tEmP		
Auto temperature compensation	tauto	on	_____
Manual temperature	tman	25.0°C (overridden by auto)	_____
Temperature compensation algorithm	CONP (L inEAr or nOnE)	LInEAr	_____
Display	diSPLAY		
Measurement type	tYP (CondUC or rStEUtY or CuSt)		
Temperature (°C or °F)	tEmP	C	_____
Output (mA or %)	outPut	Cur	_____
Security Code	codE	000	_____
Custom Curve	SEtUP	**CuSt**	_____
Reference temperature	t rEF	25.0°C	_____
Calibrate Menu			
Cell constant	CELL ConSt	1.00	_____
Temperature slope	tEMP SLOPE	2.000	_____
Output Calibration	OUtPUt CAL		_____
Diagnose Menu			
Diagnose (Each segment displays the current value in the transmitter.)		**SAMPLE READINGS**	
Absolute conductivity	Abs	1000 µS	_____
Off Set	0 Air	0.0 µS	_____
Cell constant (Linear mode)	CELL COnSt	3.00/cm	_____
Calibration factor	CAL F	1.000	_____
Temperature slope	tSLoPE	2.000	_____
Software version	SoFt	A02.09	_____
Hardware version	HArd	01	_____
Show fault warnings	FAULtS	none	_____

Wiring

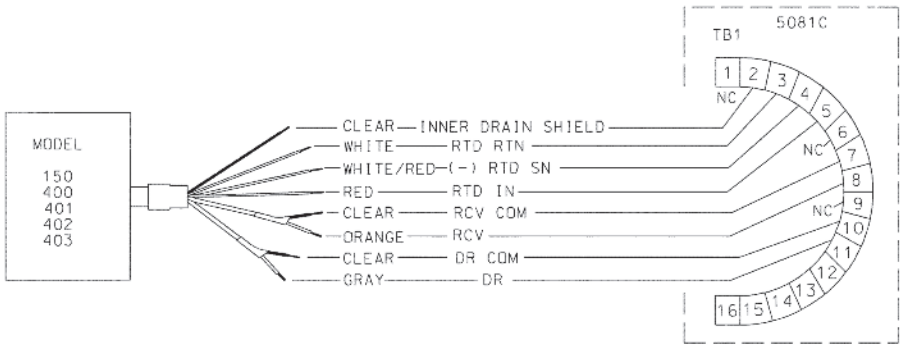
Wire sensor as shown below in Figure 5. Keep sensor wiring separate from power wiring. For best EMI/RFI protection, use shielded output signal cable in an earth-grounded metal conduit. Refer to the sensor instruction manual for more details.

FIGURE 5. Wiring Model 5081C-HT

Recommended Transmitter Settings*

Process Stream	Software Setting Type
Contacting Conductivity in the range 20 to 20,000 µS/cm (default)	LInEAr
Ultrapure water up to 20µS/cm	n SALt
Cation Water	CAtiOn

*Assumes 1.0 cell constant.



WIRING THROUGH A JUNCTION BOX

The sensor can be wired to the analyzer through a remote junction box (PN 23550-00). Wire the extension cable and sensor cable point-to-point. Refer to the sensor instruction manual for more details.

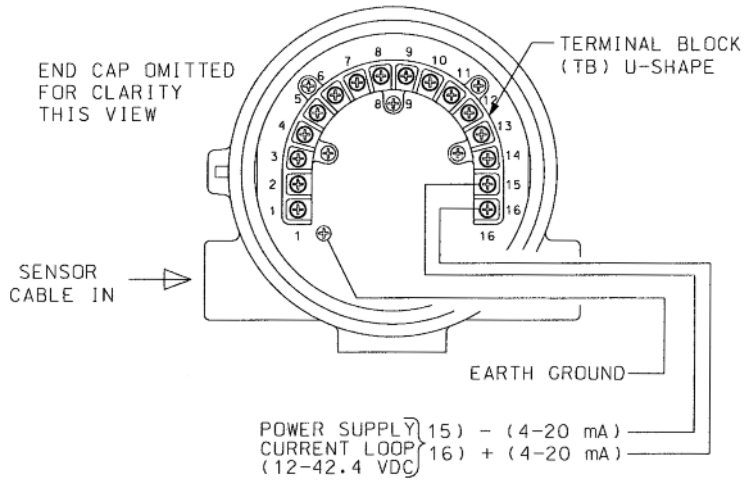
Factory-terminated (PN 23747-00) and unterminated (PN 9200275) connecting cable are available. The use of factory-terminated cable is strongly recommended. To prepare unterminated cable for use, follow the instructions in the sensor instruction manual.

For maximum EMI/RFI protection, the outer braid of the sensor cable should be connected to the outer braided shield of the extension cable. At the instrument, connect the outer braid of the extension cable to earth ground.

POWER WIRING

For general purpose areas, wire power as shown in Figure 6. For hazardous areas, please see hazardous area installation drawings.

FIGURE 6. Power Supply/Current Loop Wiring for 5081C-HT



Installation

UNPACKING AND INSPECTION

Inspect the shipping container. If it is damaged, contact the shipper immediately for instructions. Save the box. If there is no apparent damage, unpack the container. Be sure all items shown on the packing list are present. If items are missing, notify us immediately.

ROTATING THE DISPLAY

The Model 5081C-HT display can be rotated 90° left or right. Disengage the cover lock and remove the front cover. Remove the three screws holding the PCB stack and gently lift the display board. Do not disengage the ribbon cable between the display board and the CPU board. Rotate the display. The black infrared sensor will be at the top of the display.

INSTALLATION See Figure 7

1. Although the analyzer is suitable for outdoor use, do not install it in direct sunlight or in areas of extreme temperatures.
2. Install the analyzer in an area where vibrations and electromagnetic and radio frequency interference are minimized or absent.
3. Keep the analyzer and sensor wiring at least one foot from high voltage conductors. Be sure there is easy access to the analyzer.
4. The conduit connections on the sides of the 5081 housing should be sealed to prevent moisture from entering the enclosure.
5. The transmitter must not be mounted with both conduit openings at the top.

FIGURE 7. Mounting Model 5081C-HT

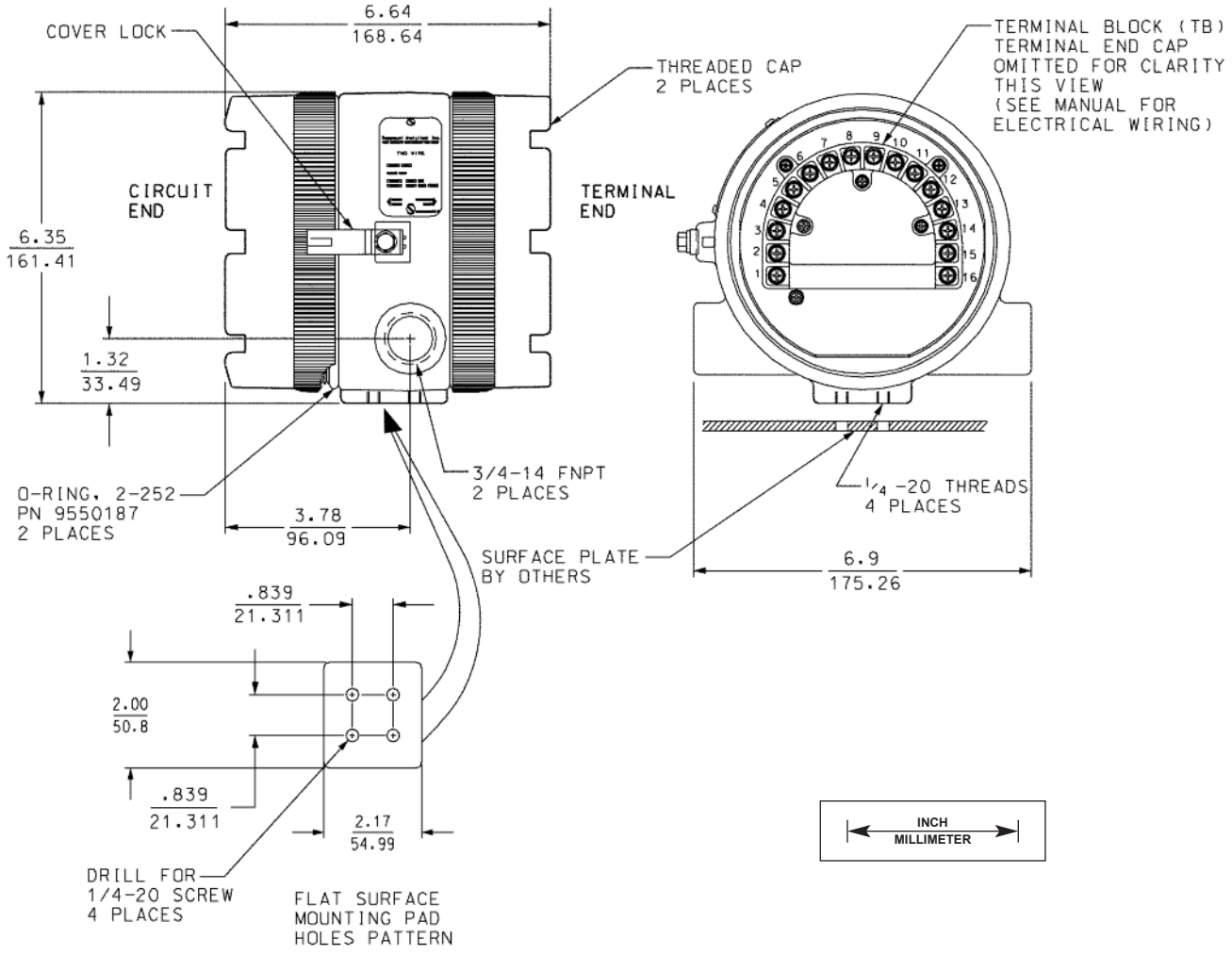


FIGURE 8. ATEX Label Information

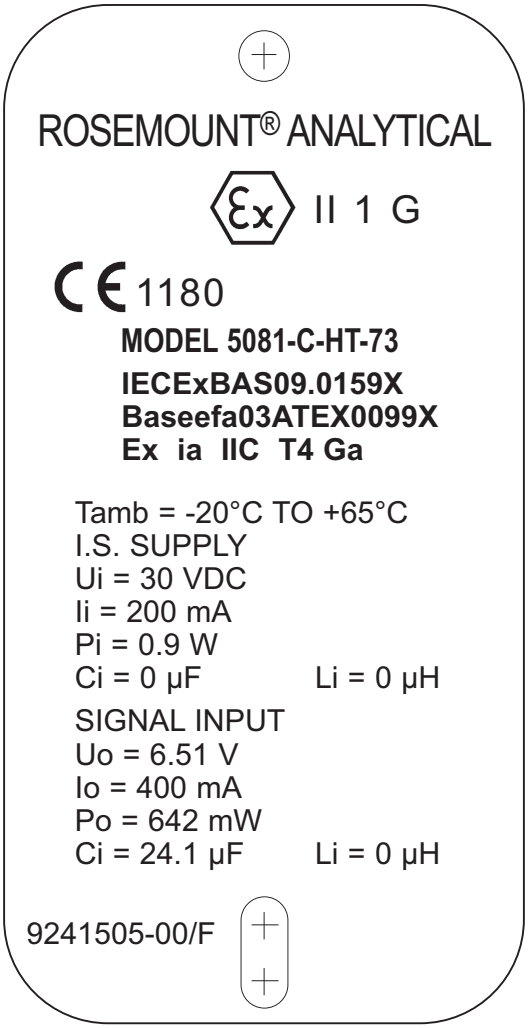


Figure 9. FMRC Explosion-Proof Installation

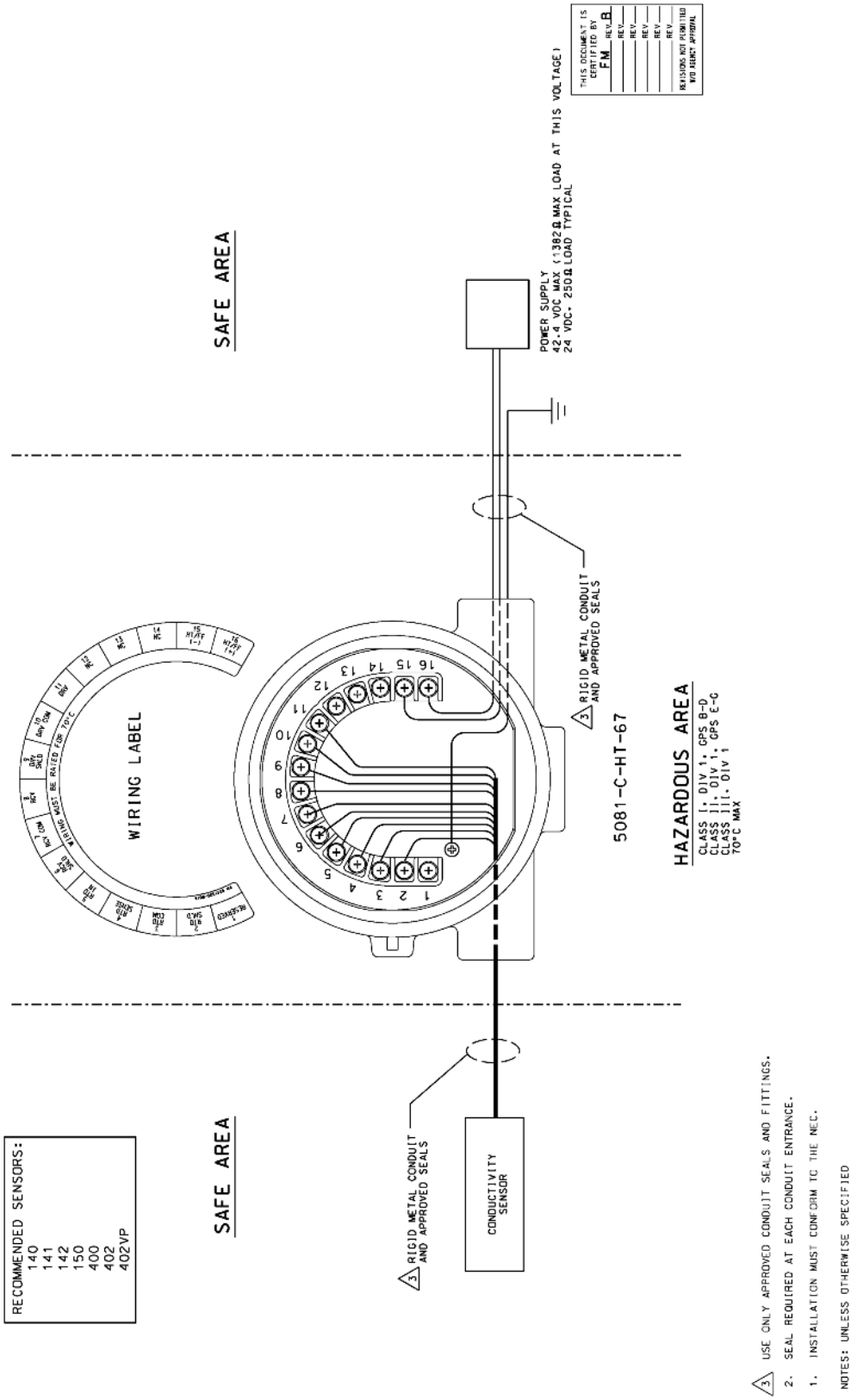
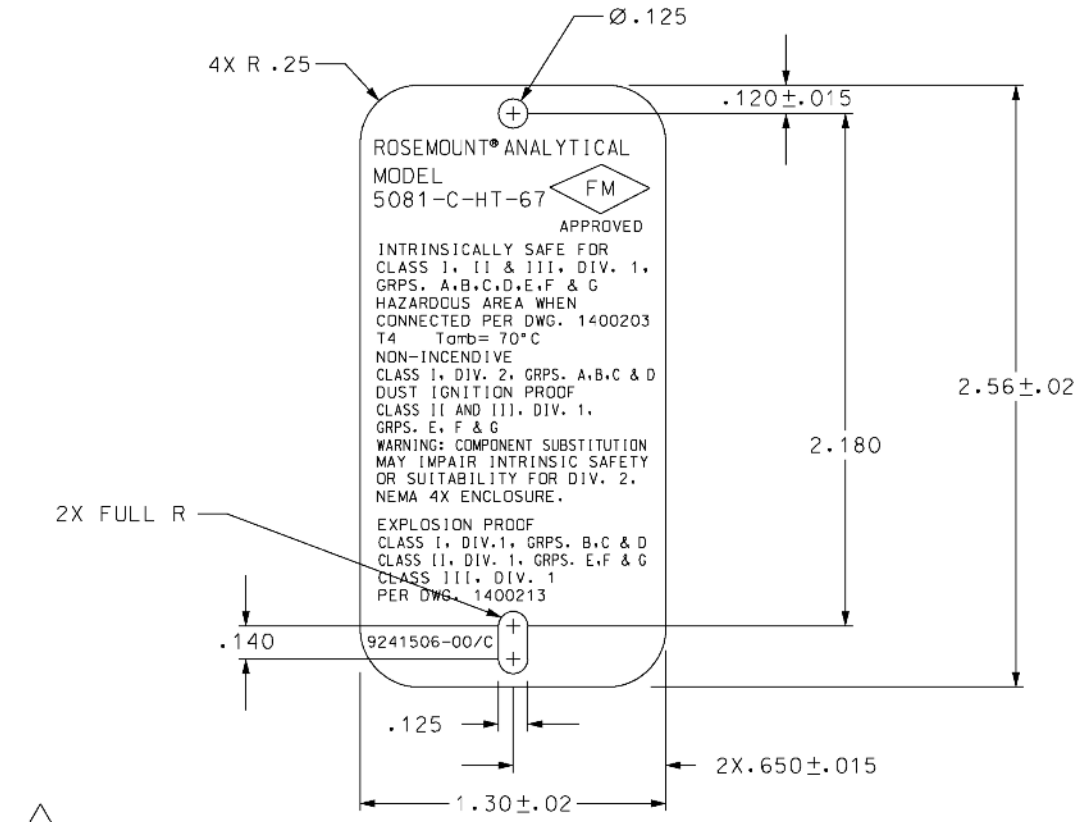


Figure 10. FM Hazardous Area Approval Label



4 FINISH:SILKSCREEN BLACK EPOXY PAINT (BAKED).

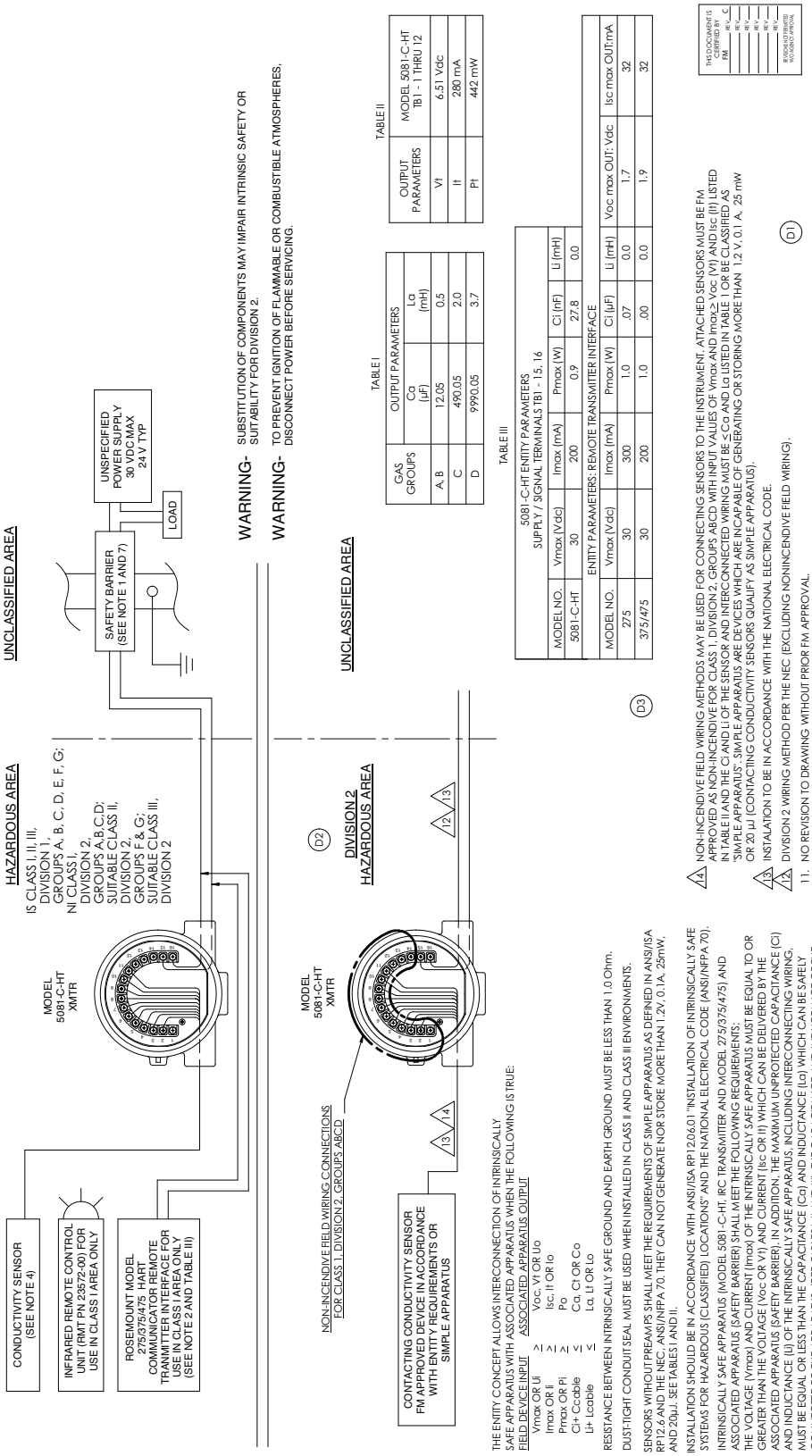
3. ARTWORK IS SHEET 2 OF 2.

2. NO CHANGE WITHOUT FM APPROVAL.

1 MATERIAL: AISI 300 SERIES STAINLESS STEEL .015+/-.005 THICK. MATERIAL TO BE ANNEALED & PASSIVATED. MAXIMUM HARDNESS BRINELL 190.

NOTES: UNLESS OTHERWISE SPECIFIED

Figure 11. FM Intrinsically Safe Installation



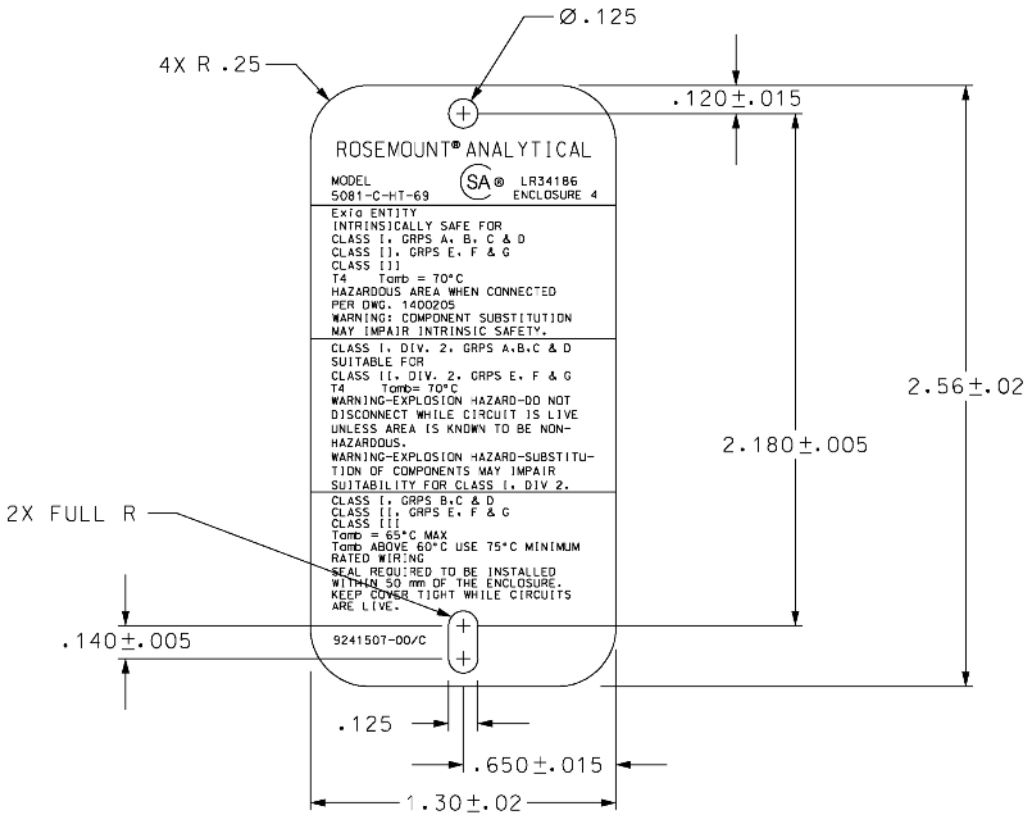
7. THE ENTITY CONCEPT ALLOWS INTERCONNECTION OF INTRINSICALLY SAFE APPARATUS WITH ASSOCIATED APPARATUS WHEN THE FOLLOWING IS TRUE:

FIELD DEVICE INPUT		ASSOCIATED APPARATUS OUTPUT
Vmax OR Ui	≥	Voc, Vt OR Uo
Imax OR Ii	≥	Isc, It OR Io
Pmax OR Pi	≥	Po
Ci+ Ccable	≤	Ca, Ci OR Co
Li+ Lcable	≤	La, Li OR Lo

6. RESISTANCE BETWEEN INTRINSICALLY SAFE GROUND AND EARTH GROUND MUST BE LESS THAN 1.0 Ohm.
5. DUST-TIGHT CONDUIT SEAL MUST BE USED WHEN INSTALLED IN CLASS II AND CLASS III ENVIRONMENTS.
4. SENSORS WITHOUT PREAMPS SHALL MEET THE REQUIREMENTS OF SIMPLE APPARATUS AS DEFINED IN ANSI/ISA RP 12.4 AND THE NEC; ANSI/NFPA 70. THEY CAN NOT GENERATE NOR STORE MORE THAN 1.2V, 0.1A, 25mW, AND 20µJ. SEE TABLES I AND II.
3. INSTALLATION SHOULD BE IN ACCORDANCE WITH ANSI/ISA RP 12.06.01 'INSTALLATION OF INTRINSICALLY SAFE SYSTEMS FOR HAZARDOUS (CLASSIFIED) LOCATIONS' AND THE NATIONAL ELECTRICAL CODE (ANSI/NFPA 70).
2. INTRINSICALLY SAFE APPARATUS (MODEL 5081-C-HT, IRC TRANSMITTER AND MODEL 275/375/475) AND ASSOCIATED APPARATUS (SAFETY BARRIER) SHALL MEET THE FOLLOWING REQUIREMENTS: THE VOLTAGE (Vmax) AND CURRENT (Imax) OF THE INTRINSICALLY SAFE APPARATUS MUST BE EQUAL TO OR GREATER THAN THE VOLTAGE (Voc OR Vt) AND CURRENT (Isc OR It) WHICH CAN BE DELIVERED BY THE ASSOCIATED APPARATUS (SAFETY BARRIER). IN ADDITION, THE MAXIMUM UNPROTECTED CAPACITANCE (Ci) AND INDUCTANCE (Li) OF THE INTRINSICALLY SAFE APPARATUS, INCLUDING INTERCONNECTING WIRING, MUST BE EQUAL OR LESS THAN THE CAPACITANCE (Ca) AND INDUCTANCE (La) WHICH CAN BE SAFELY CONNECTED TO THE APPARATUS. (REF. TABLES I, II AND III). THE CAPACITANCE AND INDUCTANCE OF THE LOAD CONNECTED TO THE SENSOR TERMINALS MUST NOT EXCEED THE VALUES SPECIFIED IN TABLE I.
1. ANY SHUNT ZENER DIODE SAFETY BARRIER APPROVED BY FM HAVING THE FOLLOWING OUTPUT PARAMETERS:
   SUPPLY/SIGNAL TERMINALS TB1-15, 16
   Voc OR Vt NOT GREATER THAN 30 V
   Isc OR It NOT GREATER THAN 200 mA
   Pmax NOT GREATER THAN 0.9 W

14. NON-INCENDIVE FIELD WIRING METHODS MAY BE USED FOR CONNECTING SENSORS TO THE INSTRUMENT. ATTACHED SENSORS MUST BE FM APPROVED AS NON-INCENDIVE FOR CLASS 1, DIVISION 2, GROUPS ABCD WITH INPUT VALUES OF Vmax AND Imax ≥ Voc (Vt) AND Isc (It) LISTED IN TABLE II AND THE Ci AND Li OF THE SENSOR AND INTERCONNECTED WIRING MUST BE ≤ Co AND La LISTED IN TABLE I OR BE CLASSIFIED AS SIMPLE APPARATUS. SIMPLE APPARATUS ARE DEVICES WHICH ARE INCAPABLE OF GENERATING OR STORING MORE THAN 1.2 V, 0.1 A, 25 mW OR 20 µJ (CONTACTING CONDUCTIVITY SENSORS QUALIFY AS SIMPLE APPARATUS).
13. INSTALLATION TO BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
12. DIVISION 2 WIRING METHOD PER THE NEC (EXCLUDING NONINCENDIVE FIELD WIRING).
11. NO REVISION TO DRAWING WITHOUT PRIOR FM APPROVAL.
10. THE ASSOCIATED APPARATUS MUST BE FM APPROVED.
9. CONTROL EQUIPMENT CONNECTED TO ASSOCIATED APPARATUS MUST NOT USE OR GENERATE MORE THAN 250 Vrms OR Vdc.
8. ASSOCIATED APPARATUS MANUFACTURER'S INSTALLATION DRAWING MUST BE FOLLOWED WHEN INSTALLING THIS EQUIPMENT.

Figure 12. CSA Hazardous Area Approval Label

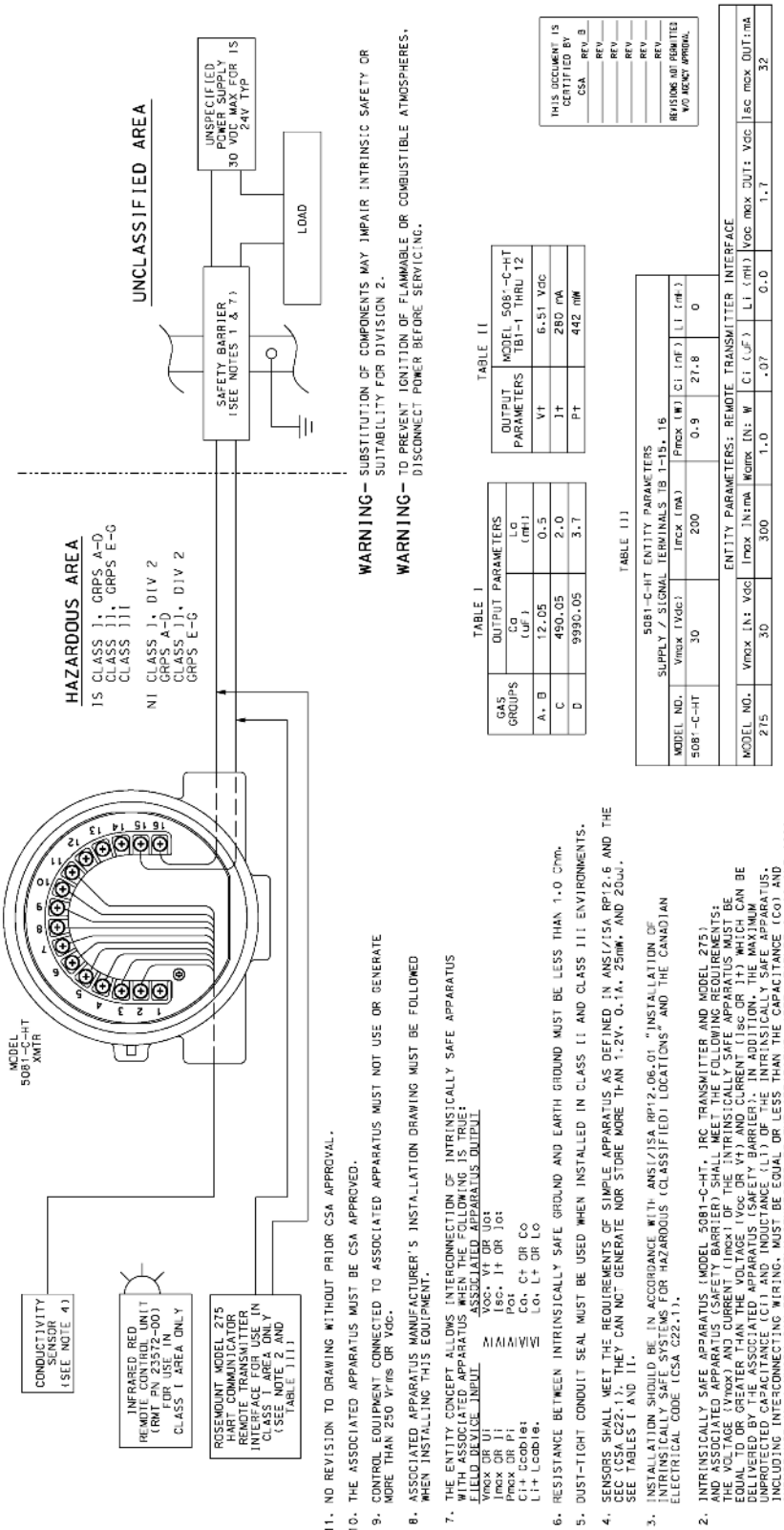


3. ARTWORK IS SHEET 2 OF 2.

2. NO CHANGE WITHOUT CSA APPROVAL.

1 MATERIAL: AISI 300 SERIES STAINLESS STEEL .015+/-.005 THICK. MATERIAL TO BE ANNEALED & PASSIVATED. MAXIMUM HARDNESS BRINELL 190.

Figure 13. CSA Intrinsically Safe Installation



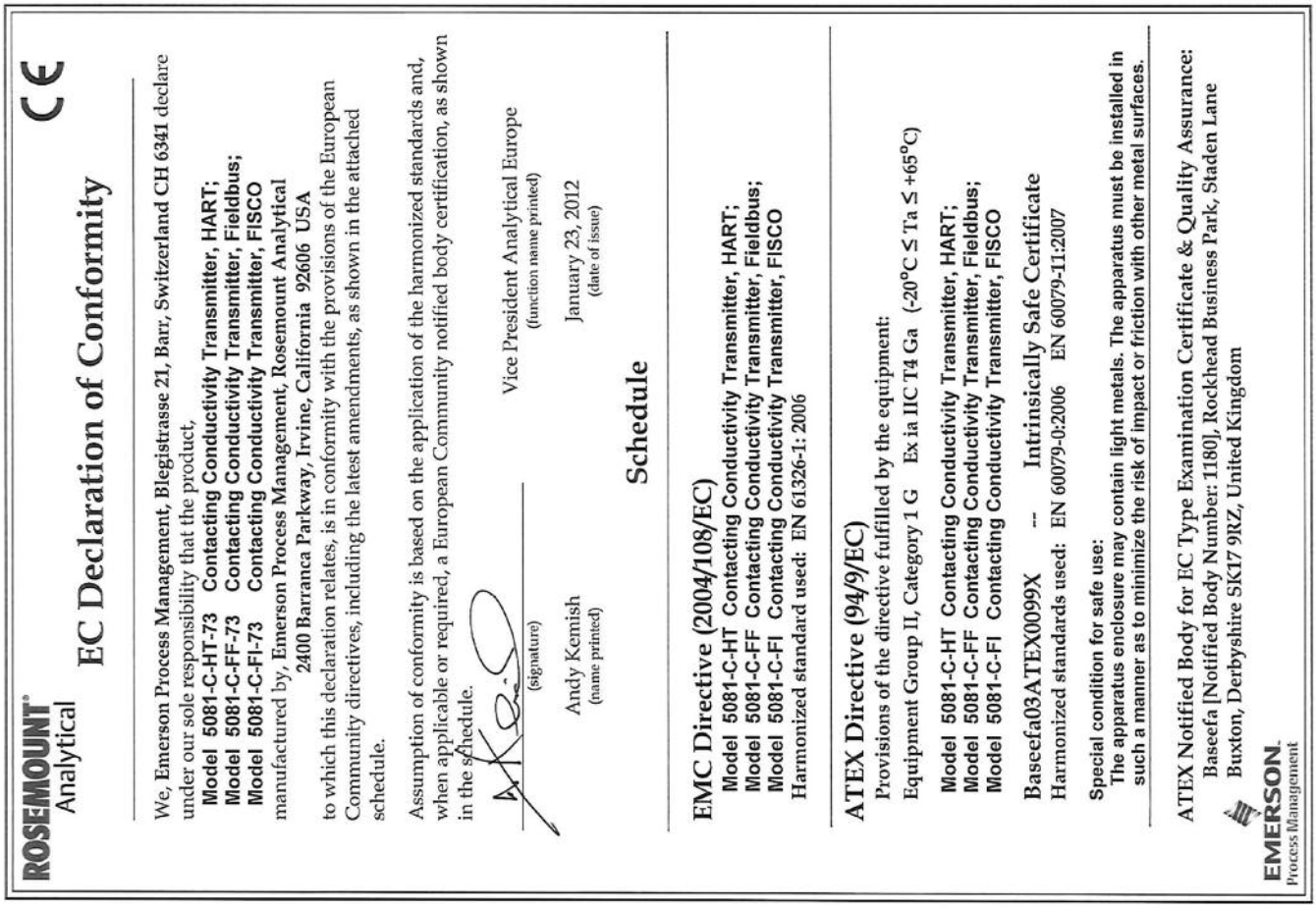
Engineering Specifications

QUICK-START

1. On the Remote, press PROG, NEXT, NEXT, ENTER.
2. Use the arrow buttons to select **COnduc** (conductivity), **rStvtY** (resistivity), or **CuSt** (custom curve) mode. Press ENTER. If you chose **ConduC** or **rStvtY**, go to step 4.
3. **If you selected CuST**, you will see the Setup Custom screen. To move to the custom curve configuration menu, press ENTER. You will automatically return to this same Setup Custom screen after configuration is complete. To continue transmitter display programming, press NEXT in the Setup Custom screen.
4. Use the arrow keys to toggle temperature units between Celsius and Farenheit.
5. Press ENTER then RESET.
6. Press PROG, ENTER.
7. Use the arrow buttons to enter the 4 mA value. Press ENTER.
8. Use the arrow buttons to enter the 20 mA value. Press ENTER then RESET.
9. Press PROG, NEXT, ENTER.
10. Use the arrow key to toggle **tAutO** to On or OFF to select using either the process temperature (**tAutO** = On) or a manual temperature (**tAutO** = OFF). Press ENTER. If you selected **tAutO** = OFF, you will be prompted to enter the manual temperature; use the arrow keys, then press ENTER.
11. If you selected **CondUC** or **rStvtY** in step 2, you will see a **COMP** (Temperature Compensation type) screen. Use the arrow keys to select desired temperature compensation: **LinEAr** (linear), **n SALt** (neutral salt), **CatIOn** (cation conductivity), or **nOnE** (raw or uncompensated conductivity). Press ENTER. If you are in **LinEAR** mode, you can now enter a particular temperature slope (default is 2%/degC), then press ENTER to apply the slope.
12. Press RESET.
13. Press CAL, NEXT, NEXT, NEXT, ENTER.
14. Use the arrow buttons to enter the cell constant of the sensor. Press ENTER, then EXIT.
15. If you are in **rStvtY**, **n SALt**, **Cation**, or **nOne** (raw) mode, quick start is complete, proceed to step 20.
16. If you are in **LinEAR** mode, press EXIT, CAL, NEXT, ENTER.
17. Hold the sensor in air to zero. Press ENTER, then EXIT.
18. Place the sensor in a solution of known conductivity value. Press CAL, ENTER.
19. Use the arrow buttons to enter the current conductivity value of the solution. Press ENTER.
20. Press RESET.

TO RESET TRANSMITER TO FACTORY DEFAULT SETTINGS:

1. Press PROGRAM, NEXT, NEXT, NEXT, NEXT, NEXT. The screen should say **“dEFAULt”**. Press ENTER.
2. Use the arrow keys to toggle between **nO** (retain your configuration and calibration settings) and **YES** (restore factory default settings to all variables).
3. Press ENTER, then EXIT.



ROSEMOUNT® Analytical

CE

EC Declaration of Conformity

We, Emerson Process Management, Blegistrasse 21, Barr, Switzerland CH 6341 declare under our sole responsibility that the product,

Model 5081-C-HT-73 Contacting Conductivity Transmitter, HART;
Model 5081-C-FF-73 Contacting Conductivity Transmitter, Fieldbus;
Model 5081-C-FI-73 Contacting Conductivity Transmitter, FISCO

manufactured by, Emerson Process Management, Rosemount Analytical
2400 Barranca Parkway, Irvine, California 92606 USA

to which this declaration relates, is in conformity with the provisions of the European Community directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of the harmonized standards and, when applicable or required, a European Community notified body certification, as shown in the schedule.

(signature) Vice President Analytical Europe (function name printed)

Andy Kemish (name printed) January 23, 2012 (date of issue)

Schedule

EMC Directive (2004/108/EC)
Model 5081-C-HT Contacting Conductivity Transmitter, HART;
Model 5081-C-FF Contacting Conductivity Transmitter, Fieldbus;
Model 5081-C-FI Contacting Conductivity Transmitter, FISCO
Harmonized standard used: EN 61326-1: 2006

ATEX Directive (94/9/EC)
Provisions of the directive fulfilled by the equipment:
Equipment Group II, Category 1 G Ex ia IIC T4 Ga ($-20^{\circ}C \leq Ta \leq +65^{\circ}C$)

Model 5081-C-HT Contacting Conductivity Transmitter, HART;
Model 5081-C-FF Contacting Conductivity Transmitter, Fieldbus;
Model 5081-C-FI Contacting Conductivity Transmitter, FISCO

Baseefa03ATEX0099X -- Intrinsically Safe Certificate
Harmonized standards used: EN 60079-0:2006 EN 60079-11:2007

Special condition for safe use:
The apparatus enclosure may contain light metals. The apparatus must be installed in such a manner as to minimize the risk of impact or friction with other metal surfaces.

ATEX Notified Body for EC Type Examination Certificate & Quality Assurance:
Baseefa [Notified Body Number: 1180], Rockhead Business Park, Staden Lane
Buxton, Derbyshire SK17 9RZ, United Kingdom

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