


Approval Document: Rosemount™ 8700 NEPSI Zone-1 Code EN



Rosemount™ 8705-W and 8711-R/U Magnetic Flow Meter Sensors

Order Code	8732EM Transmitter Rating	8705-W and 8711-R/U Flowtube Rating	Region	Agency	Certification Number
EN	NEPSI Flameproof with Increased Safety	NEPSI Increased Safety with Intrinsically Safe Electrodes	China	NEPSI	GYJ22.3371X GYJ20.1130X

Approval Markings and Logos

Symbol	Marking or Symbol Name	Region	Meaning of Marking or Symbol
	NEPSI	China	Compliance with all of the applicable technical regulations of China.

Certifications

NEPSI

8732EM Transmitter

Note: For Intrinsically Safe (IS) 4-20mA and Pulse Outputs on the 8732EM, output code "B" must be selected.
For Intrinsically Safe (IS) Fieldbus Outputs on the 8732EM, output code "F" must be selected.
For Intrinsically Safe (IS) Profibus Outputs on the 8732EM, output code "P" must be selected.

EN Ex d e [ia Ga] IIC T3~T6 Gb
Ex d [ia Ga] IIC T3~T6 Gb
[Ex ia Ga] IIC
-40°C ≤ Ta ≤ 60°C
Enclosure Type 4X, IP66
Install per drawing 08732-2063

Special Conditions for Safe Use (X):

- Units marked with "Warning: Electrostatic Charging Hazard" may either use non-conductive paint thicker than 0.2 mm or non-metallic labeling. Precautions shall be taken to avoid ignition due to electrostatic charge on the enclosure.
- The intrinsically safe outputs cannot withstand the 500V isolation test due to integral transient protection. This must be taken into consideration upon installation.
- Conduit entries must be installed to maintain the enclosure ingress rating of IP66.
- Unused conduit entries must use either used the Rosemount-supplied blanking plugs, or blanking plugs certified in accordance with the protection type.

8705-W and 8711-R/U Flowtube

Note: When used in hazardous (classified) locations:
The 8705-W and 8711-R/U may only be used with a certified 8732EM transmitter.

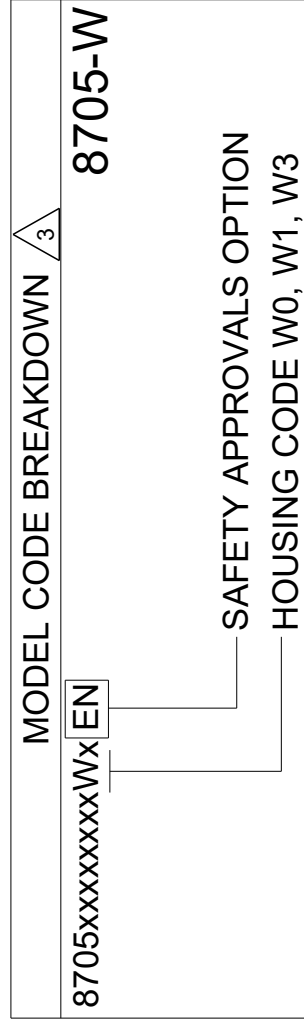
EN Ex eb ib IIC T3~T6 Gb
-20°C ≤ Ta ≤ 60°C (Integral Mount) -20°C ≤ Ta ≤ 65°C (Remote Mount)
Enclosure Type 4X, IP66/68 (IP68 remote mount only)
Install per drawing 08732-2063

Special Conditions for Safe Use (X):

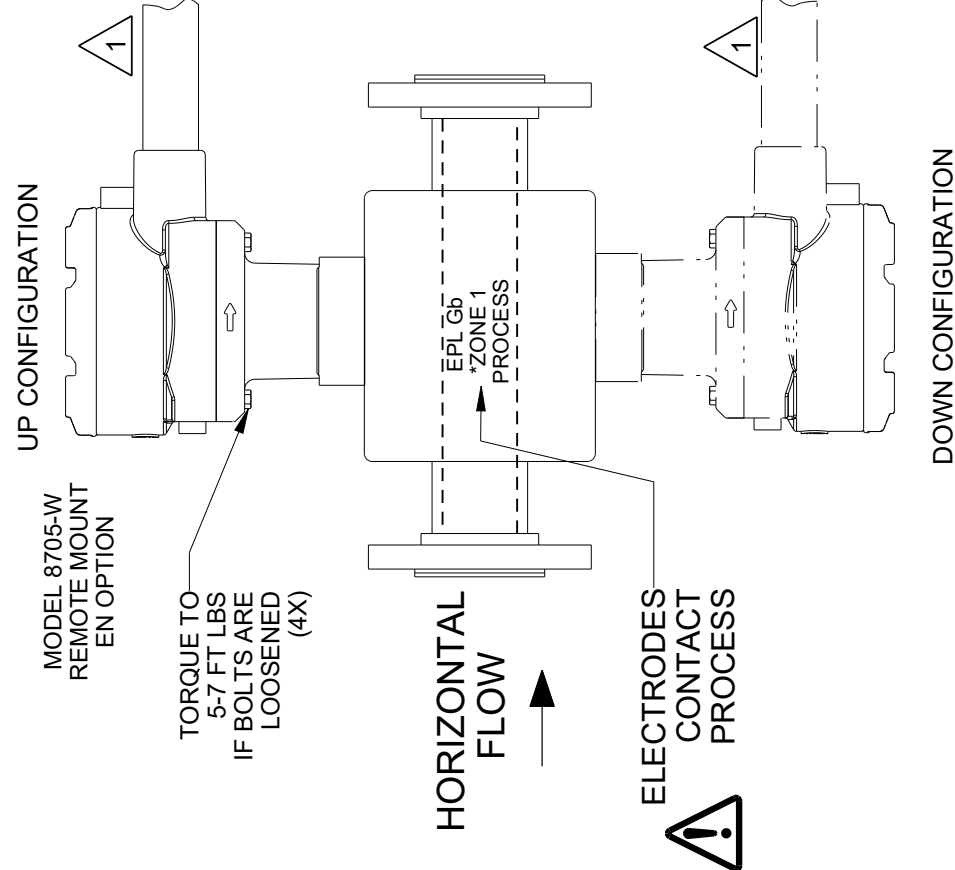
GAS ENVIRONMENT - EPL Gb SENSOR WITH ALLOWED REMOTE MOUNT EPL Gb TRANSMITTERS

Ex e SENSOR REMOTE MOUNT CONFIGURATIONS

MODEL 8705-W REMOTE CONFIGURATION WITH SAFETY APPROVALS OPTION 'EN'

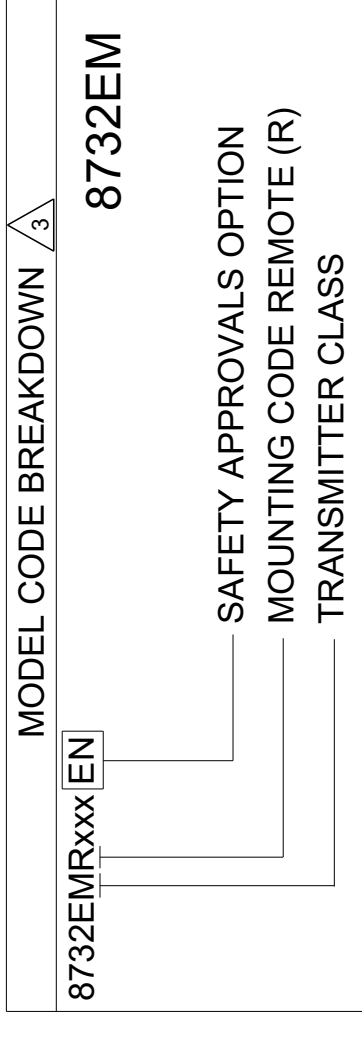


Ex eb, ib IIC T3~T6 Gb
EPL Gb, FOR USE IN HAZARDOUS (Ex) AREA - ZONE 1 OR 2 WITH CARBON STEEL HOUSING: (-20°C ≤ Ta ≤ 65°C)
SEE TABLE 3 FOR PROCESS TEMPERATURE LIMITS AND ALLOWED MOUNTING CONFIGURATIONS

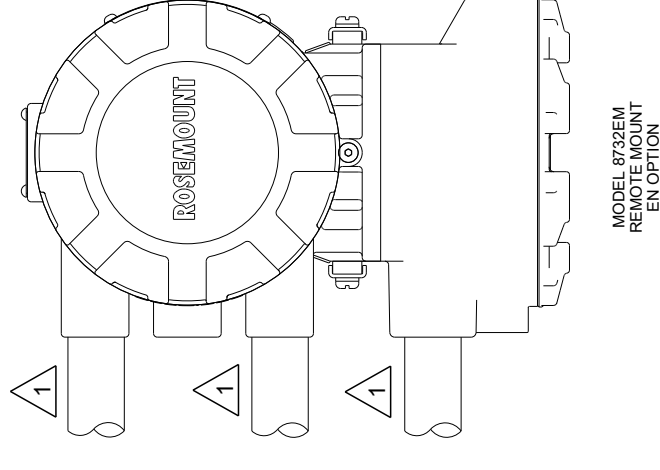


ALLOWED REMOTE MOUNT TRANSMITTER CONFIGURATIONS

MODEL 8732EM REMOTE MOUNT CONFIGURATION WITH SAFETY APPROVAL OPTION 'EN'



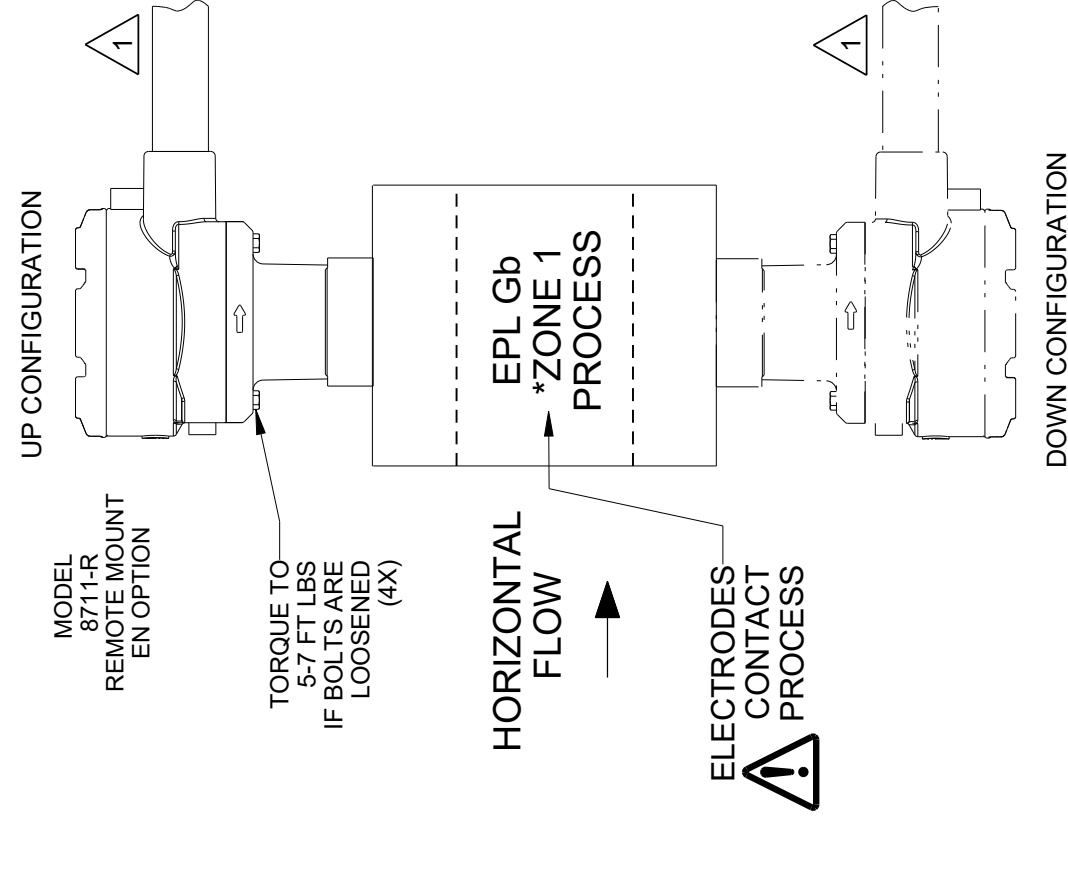
Ex d e [ia] IIC T3~T6 Gb
EPL Gb, FOR USE IN ZONE 1 OR 2 TEMPERATURE CLASS EPL Gb: T6 (-50°C ≤ Ta ≤ 60°C)
FLAMEPROOF ELECTRONICS HOUSING, INCREASED SAFETY TERMINAL BLOCK WITH INTRINSICALLY SAFE ELECTRODE OUTPUT, INCREASED SAFETY REMOTE JUNCTION BOX



MODEL 8711-R REMOTE CONFIGURATION WITH SAFETY APPROVALS OPTION 'EN'



Ex eb, ib IIC T3~T6 Gb
EPL Gb, FOR USE IN HAZARDOUS (Ex) AREA - ZONE 1 OR 2 WITH CARBON STEEL HOUSING: (-20°C ≤ Ta ≤ 65°C)
SEE TABLE 3 FOR PROCESS TEMPERATURE LIMITS AND ALLOWED MOUNTING CONFIGURATIONS



* TYPICAL APPLICATION. CONSULT LOCAL HAZARDOUS AREA (Ex) ZONING FOR PROCESS FLUID CLASSIFICATION.

CONFIDENTIAL AND PROPRIETARY INFORMATION IS CONTAINED HEREIN AND MUST BE HANDLED ACCORDINGLY.	SURFACE FINISH UNLESS OTHERWISE SPECIFIED	125	3RD ANGLE	SIZE	C	SCALE	-	REV	AD
	DRAWING NO. 08732-2063								
EMERSON									
ROSEMOUNT									
TITLE INSTALLATION DRAWING									
NEPSI HAZARDOUS (Ex) LOCATIONS									
DR.	N. BOND	11/21/17	DRAWING NO.	08732-2063					
APPD.	-	-	-	DO NOT SCALE PRINT CAD MAINTAINED (PROJ) PRODUCT CODE SHEET 3 OF 5					

UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES (mm). REMOVE ALL BURRS AND SHARP EDGES.

-DEC TOLERANCES-
X ± .1 (2.5)
.XX ± .02 (0.5)
.XXX ± .010 (0.25)
FRACTIONS ± 1/32 ANGLES ± 2'

GAS ENVIRONMENT - EPL Gb SENSOR TEMPERATURE CODE VS. PROCESS TEMPERATURE

**TABLE 1 - 8705-W: WITH INTEGRAL MOUNT 8732EM TRANSMITTER
TEMPERATURE CODE VS. PROCESS TEMPERATURE
AT RATED MAXIMUM AMBIENT TEMPERATURE OF 60°C**

Line Size	Maximum Process Temperature (°C)	Temperature Code	Transmitter Mounting
0.5"	60	T5	Integral
	120	T4	Integral
1"	60	T5	Integral
	120	T4	Integral
1.5"	60	T5	Integral
	105	T4	Integral
2"	60	T5	Integral
	105	T4	Integral
2.5"	60	T4	Integral
	60	T5	Integral
3"	60	T5	Integral
	60	T5	Integral
4"	60	T5	Integral
	60	T5	Integral
5"	60	T5	Integral
	60	T5	Integral
6"	60	T5	Integral
	60	T5	Integral
8"-36"	60	T5	Integral

**TABLE 2 - 8711-U WITH INTEGRAL MOUNT 8732EM TRANSMITTER
TEMPERATURE CODE VS. PROCESS TEMPERATURE
AT RATED MAXIMUM AMBIENT TEMPERATURE OF 60°C**

Line Size	Maximum Process Temperature (°C)	Temperature Code	Transmitter Mounting
< 1.5"	60	T4	Integral
1.5"	60	T5	Integral
2"	60	T5	Integral
3"	60	T4	Integral
4"	60	T5	Integral
6"	60	T5	Integral
8"	60	T5	Integral

**TABLE 3 - 8705W AND 8711-R REMOTE SENSORS
TEMPERATURE CODE VS. PROCESS TEMPERATURE AT STATED AMBIENT TEMPERATURE**

Line Size	T3		T4		T5		T6	
	Ambient	Process	Ambient	Process	Ambient	Process	Ambient	Process
≤ 0.5"	65	115	-	-	-	-	-	-
1"	65	120	35	35	-	-	-	-
1.5"	65	125	60	60	-	-	-	-
2"	65	125	65	75	40	40	-	-
2.5"	65	130	65	90	55	55	40	40
3"	65	130	65	90	55	55	40	40
4"	65	130	65	90	55	55	40	40
5"	65	130	65	90	55	55	40	40
6"	65	135	65	110	65	75	60	60
8"-36"	65	140	65	115	65	80	65	65

CONFIDENTIAL AND PROPRIETARY INFORMATION IS CONTAINED HEREIN AND MUST BE HANDLED ACCORDINGLY.

UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES (mm). REMOVE ALL BURRS AND SHARP EDGES.

-DEC TOLERANCES-
X ± .1 [2.5]
XX ± .02 [0.5]
XXX ± .010 [0.25]
FRACTIONS ± 1/32
ANGLES ± 2'



EMERSON
ROSEMOUNT
INSTALLATION DRAWING
NEPSI HAZARDOUS (EX) LOCATIONS

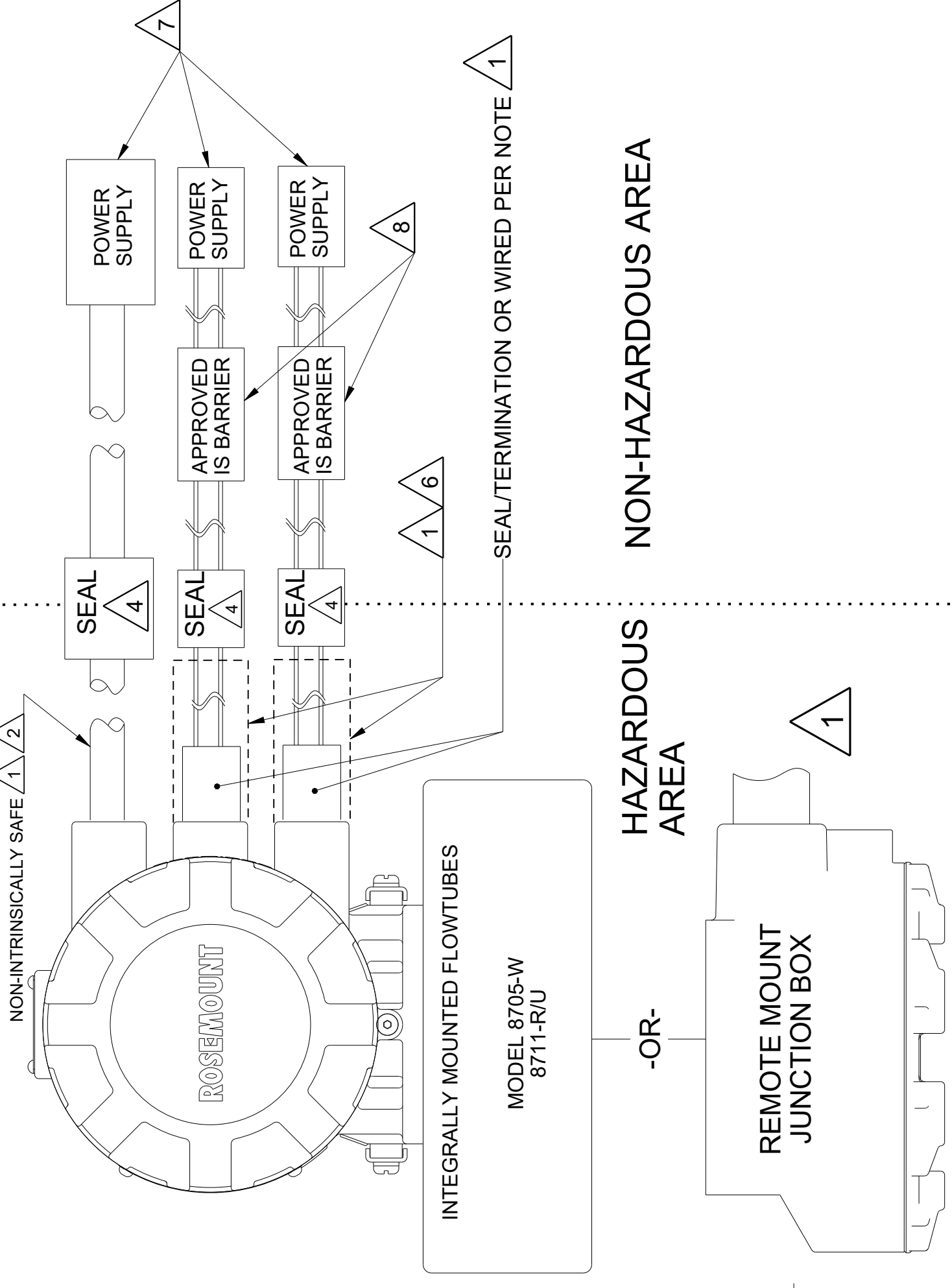
DR. N. BOND 11/21/17 DRAWING NO. 08732-2063
APPD. -
DO NOT SCALE PRINT CAD MAINTAINED. (PROJ) PRODUCT CODE SHEET 4 OF 5

SURFACE FINISH UNLESS OTHERWISE SPECIFIED 125°
3RD ANGLE
SIZE C
SCALE -
REV AD

08732-2063
DRAWING NO.

GAS ENVIRONMENT - 8732EM OUTPUT WIRING

HAZARDOUS (Ex) LOCATION CONFIGURATION
INTRINSICALLY SAFE ANALOG/4-20mA OR DIGITAL OUTPUT AND PULSE
WARNING SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY



NON-HAZARDOUS AREA

HAZARDOUS AREA

WHEN CONNECTED IN ACCORDANCE WITH THIS DOCUMENT, THE ROSEMOUNT MODEL 8732EM WITH INTEGRAL MOUNT FLOWTUBE OR REMOTE-MOUNT JUNCTION BOX IS APPROVED AS:

8732EM SAFETY/APPROVAL OPTIONS CODE	RATINGS
EN	Ex d e [ia Ga] FLAMEPROOF/INCREASED SAFETY
EN	Ex d e [ia Ga] FLAMEPROOF/INCREASED SAFETY WITH INTRINSICALLY SAFE OUTPUTS

MODEL CODE BREAKDOWN

8732EMxxxAx

COMMUNICATION OUTPUT OPTIONS	SAFETY APPROVALS OPTION	TRANSMITTER CLASS
A	NON-INTRINSICALLY SAFE 4-20 mA	
B	INTRINSICALLY SAFE 4-20mA AND PULSE OUTPUT	
F	INTRINSICALLY SAFE FOUNDATION FIELDBUS AND PULSE OUTPUT	
M	NON-INTRINSICALLY SAFE MODBUS AND PULSE OUTPUT	
P	INTRINSICALLY SAFE PROFIBUS AND PULSE OUTPUT	

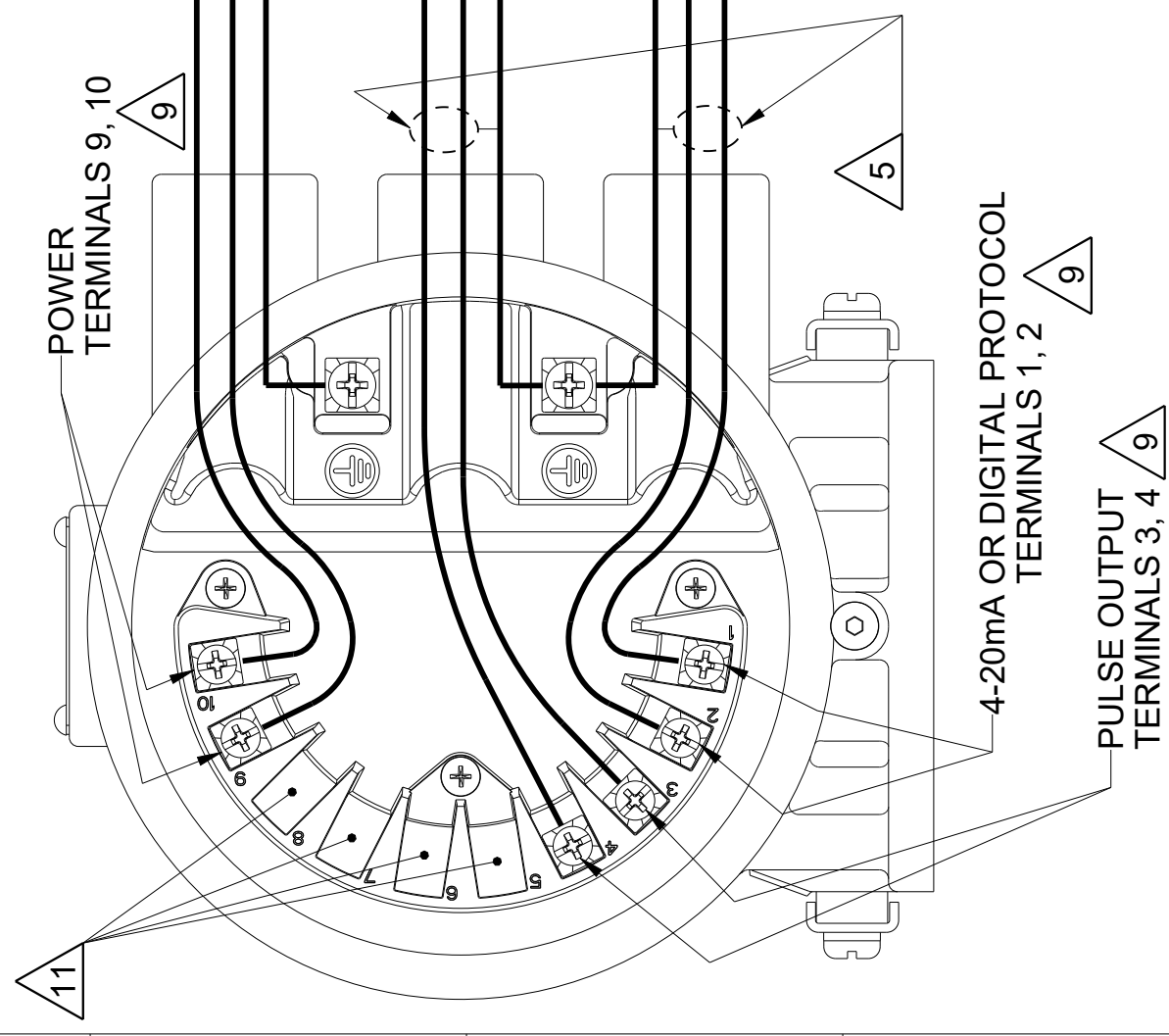
ENTITY CONCEPT FOR INTRINSICALLY SAFE OUTPUTS

AC INPUT POWER 90-250 VAC RMS, 50/60HZ
DC INPUT POWER 12-42 VDC OR 12-30 VDC
DC LOW POWER 12-30VDC

ENTITY PARAMETERS	BARRIER PARAMETERS
U _i =28V	U _o MUST BE LESS THAN OR EQUAL TO 28V
I _i =100mA	I _o MUST BE LESS THAN OR EQUAL TO 100mA
C _i =4.5nF	C _o MUST BE GREATER THAN THE SUM OF C _i +C _{cable}
L _i =0.0uH	L _o MUST BE GREATER THAN THE SUM OF L _i +L _{cable}
P _i =1.0W	P _o MUST BE LESS THAN OR EQUAL TO 1.0 WATTS

ENTITY PARAMETERS	4-20mA ANALOG OUTPUT
U _i =30V	U _o MUST BE LESS THAN OR EQUAL TO 30V
I _i =300mA	I _o MUST BE LESS THAN OR EQUAL TO 300mA
C _i =924pF	C _o MUST BE GREATER THAN THE SUM OF C _i +C _{cable}
L _i =0.0uH	L _o MUST BE GREATER THAN THE SUM OF L _i +L _{cable}
P _i =1.0W	P _o MUST BE LESS THAN OR EQUAL TO 1.0 WATTS

ENTITY PARAMETERS	FOUNDATION FIELDBUS AND PROFIBUS DIGITAL OUTPUT
U _i =30V	U _o MUST BE LESS THAN OR EQUAL TO 30V
I _i =380mA	I _o MUST BE LESS THAN OR EQUAL TO 380mA
C _i =924pF	C _o MUST BE GREATER THAN THE SUM OF C _i +C _{cable}
L _i =0.0uH	L _o MUST BE GREATER THAN THE SUM OF L _i +L _{cable}



THE ENTITY CONCEPT ALLOWS INTERCONNECTION OF ASSOCIATED APPARATUS AND INTRINSICALLY SAFE APPARATUS WHEN THE FOLLOWING IS TRUE: U_o ≤ U_i, I_o ≤ I_i, P_o ≤ P_i, C_o ≥ C_i + C_{cable}, L_o ≥ L_i + L_{cable}

- DEFINITIONS:
- U_i = MAXIMUM INPUT VOLTAGE
 - I_i = MAXIMUM INPUT CURRENT
 - C_i = MAXIMUM INTERNAL CAPACITANCE
 - L_i = MAXIMUM INTERNAL INDUCTANCE
 - P_i = MAXIMUM INPUT POWER
 - U_o = OPEN CIRCUIT VOLTAGE OF THE BARRIER
 - I_o = SHORT CIRCUIT CURRENT OF THE BARRIER
 - C_o = MAXIMUM ALLOWED CAPACITANCE
 - L_o = MAXIMUM ALLOWED INDUCTANCE
 - P_o = MAXIMUM OUTPUT POWER

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EMERSON ROSEMOUNT						
TITLE INSTALLATION DRAWING NEPSI HAZARDOUS (EX) LOCATIONS						
DR. N. BOND 11/21/17 DRAWING NO. 08732-2063		APPD. -		PRODUCT CODE		SHEET 5 OF 5



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