

Rosemount™ 3408 Level Transmitter

Non-Contacting Radar



1 Product certifications

Rev 0.20

1.1 European directive and UKCA regulations information

A copy of the EU/UKCA Declaration of Conformity can be found at the end of this document. The most recent revision of the EU/UKCA Declaration of Conformity can be found at [Emerson.com/Rosemount](https://www.emerson.com/Rosemount).

1.2 Safety Instrumented Systems (SIS)

SIL 3 Capable: IEC 61508 certified for use in safety instrumented systems up to SIL 3 (Minimum requirement of single use (1oo1) for SIL 2 and redundant use (1oo2) for SIL 3).

1.3 Ordinary location certification

As standard, the transmitter has been examined and tested to determine that the design meets the basic electrical, mechanical, and fire protection requirements by a nationally recognized test laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).

1.4 Environmental conditions

Table 1-1: Environmental Conditions (Ordinary Location and Low Voltage Directive (LVD))

Type	Description
Location	Indoor or outdoor use
Maximum altitude	6562 ft. (2000 m)
Ambient temperature	-67 to +185 °F (-55 to +85 °C)
Installation category	DC supplied
Electrical supply	12-35 Vdc, 1 W
Mains supply voltage fluctuations	Safe at 12-35 Vdc ±10%
Pollution degree	2

1.5 Telecommunication compliance

Measurement principle

Frequency Modulated Continuous Wave (FMCW), 80 GHz

Maximum output power

+5 dBm (3.2 mW)

Frequency range

77.25 to 80.96 GHz

LPR (Level Probing Radar) equipment are devices for measurement of level in the open air or in a closed space. Valid for ATAP lens antenna (code SCA). Hardware Version Identification Number (HVIN) is 3408L1 or 3408LB1 (without or with Bluetooth).

TLPR (Tank Level Probing Radar) equipment are devices for measurement of level in a closed space only (i.e metallic, concrete or reinforced fiberglass tanks, or similar enclosure structures made of comparable attenuating material). Hardware Version Identification Number (HVIN) is 3408T1 or 3408TB1 (without or with Bluetooth).

1.6 FCC

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC ID K8C3408L or K8C3408LB (LPR, without or with Bluetooth)
K8C3408T or K8C3408TB (TLPR, without or with Bluetooth)

1.7 IC

This device complies with Industry Canada's license-exempt RSS standard. Operation is subject to the following conditions:

1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

3. The installation of the LPR/TLPR device shall be done by trained installers in strict compliance with the manufacturer's instructions.
4. The use of this device is on a "no-interference, no-protection" basis. That is, the user shall accept operations of high-powered radar in the same frequency band which may interfere with or damage this device. However, devices found to interfere with primary licensing operations will be required to be removed at the user's expense.
5. Devices operating under TLPR conditions (i.e. not operating in "Open Air" Mode) shall be installed and operated in a completely enclosed container to prevent RF emissions, which can otherwise interfere with aeronautical navigation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage.
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
3. L'installation d'un dispositif LPR ou TLPR doit être effectuée par des installateurs qualifiés, en pleine conformité avec les instructions du fabricant.
4. Ce dispositif ne peut être exploité qu'en régime de non-brouillage et de non-protection, c'est-à-dire que l'utilisateur doit accepter que des radars de haute puissance de la même bande de fréquences puissent brouiller ce dispositif ou même l'endommager. D'autre part, les capteurs de niveau qui perturbent une exploitation autorisée par licence de fonctionnement principal doivent être enlevés aux frais de leur utilisateur.
5. Un dispositif visé comme TLPR doit être installé et exploité dans un réservoir entièrement fermé afin de prévenir les rayonnements RF qui pourraient autrement perturber la navigation aéronautique.

Certificate 2827A-3408L, 2827A-3408LB (LPR, without or with Bluetooth)
 2827A-3408T, 2827A-3408TB (TLPR, without or with Bluetooth)

1.8 Radio Equipment Directive (RED) 2014/53/EU and Radio Equipment Regulations S.I. 2017/1206

This device complies with ETSI EN 302 372 (TLPR), ETSI EN 302 729 (LPR), EN 301 489-17 and EN 300 328 (Bluetooth), and EN 62479.

LPR (Level Probing Radar)

For a device with ATAP lens antenna (code SCA):

- Install at a separation distance of >4 km from Radio Astronomy sites, unless a special authorization has been provided by the responsible National regulatory authority (a list of Radio Astronomy sites may be found at www.craf.eu).
- Between 4 km to 40 km around any Radio Astronomy site the LPR antenna height shall not exceed 15 m height above ground.

TLPR (Tank Level Probing Radar)

The device must be installed in closed tanks. Install according to requirements in ETSI EN 302 372 (Annex E).

Performance under the influence of an interferer signal

For the receiver test that covers the influence of an interferer signal to the device, the performance criterion has at least the following level of performance according to ETSI TS 103 361.

- Performance criterion: measurement value variation Δd over time during a distance measurement
- Level of performance: $\Delta d \leq \pm 1 \text{ mm}$

1.9 Installing equipment in North America

The US National Electrical Code® (NEC) and the Canadian Electrical Code (CEC) permit the use of Division marked equipment in Zones and Zone marked equipment in Divisions. The markings must be suitable for the area classification, gas, and temperature class. This information is clearly defined in the respective codes.

1.10 USA

1.10.1 I5 Intrinsic Safety (IS), Non-Incendive (NI)

Certificate	FM21US0116X
Standards	Class 3810:2021, FM Class 3600:2022, FM Class 3610:2021, FM Class 3611:2021, FM Class 3810:2021, ANSI/ISA 60079-0:2020, ANSI/UL 60079-7:2021, ANSI/UL 60079-11:2014, ANSI/UL 60079-26:2017, ANSI/UL 121201:2019, ANSI/ISA 61010-1:2012, UL50E:2015, ANSI/IEC 60529:2014, UL122701 Ed 3.
Markings	IS CL I, II, III DIV 1, GRPS A-G T4...T2 NI CL I, DIV 2, GRPS A-D T4...T2 S CL II, III DIV 2, GRPS E-G T4...T2

CL I Zone 0 AEx ia IIC T4...T2 Ga
 CL I Zone 0/1 AEx ib IIC T4...T2 Ga/Gb
 Zone 20 AEx ia IIIC T₂₀₀85°C...T₂₀₀250°C Da
 Zone 20/21 AEx ib IIIC T₂₀₀85°C...T₂₀₀250°C Da/Db
 -55 °C ≤ Ta ≤ +70°C
 When installed per Control Drawing D7000006-887
 SINGLE SEAL

Safety parameter	HART®
Voltage U _i	30 V
Current I _i	133 mA
Power P _i	1.0 W
Capacitance C _i	4.9 nF
Inductance L _i	0

Specific Conditions of Use (X):

1. The Model 3408 Level Transmitter will not pass the 500Vrms dielectric strength test between the circuits and the earth ground. This must be taken into account during installation.
2. Plastic part of Process Seal Antenna and Non-standard paint options (paint options other than Rosemount Blue) may cause risk from Electrostatic discharge. Avoid installation that could cause electrostatic build-up, and only clean with a damp cloth.
3. The Transmitter can be installed in the boundary wall between a Zone 0 and Zone 1 area. In this configuration, the process connection is installed in Zone 0, while the transmitter housing is installed in Zone 1. Refer to Control Drawing D7000006-887.
4. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
5. Display glass shall be positioned in such a way as to minimize the risk of mechanical impact.
6. The applicable temperature class, ambient temperature range and process temperature range of the equipment is as follows:

Table 1-2: For Divisions:

Temperature class / Maximum surface temperature	Ambient temperature range	Process temperature range
Division Gas groups:		
T2	$-55\text{ °C} \leq T_a \leq +63\text{ °C}$	-55 °C to +200 °C
T3	$-55\text{ °C} \leq T_a \leq +63\text{ °C}$	-55 °C to +195 °C
T4	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to +130 °C
Division Dust groups:		
T3	$-55\text{ °C} \leq T_a \leq +60\text{ °C}$	-55 °C to +160 °C
T4	$-55\text{ °C} \leq T_a \leq +60\text{ °C}$	-55 °C to +130 °C
T5	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to +95 °C
T6	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to +80 °C

Table 1-3: For Zones:

Temperature class / Maximum surface temperature	Ambient temperature range	Process temperature range
Zone Gas groups:		
T2	$-55\text{ °C} \leq T_a \leq +63\text{ °C}$	-55 °C to +200 °C
T3	$-55\text{ °C} \leq T_a \leq +63\text{ °C}$	-55 °C to +195 °C
T4	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to +130 °C
Zone Dust groups:		
T250°C	$-55\text{ °C} \leq T_a \leq +60\text{ °C}$	-55 °C to +200 °C
T200°C	$-55\text{ °C} \leq T_a \leq +60\text{ °C}$	-55 °C to +195 °C
T135°C	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to +130 °C
T100°C	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to +95 °C
T85°C	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to +80 °C

1.10.2 N5 Type Ex ec: Increased Safety

Certificate FM21US0116X

Standards ANSI/UL 60079-0:2020, ANSI/UL 60079-7:2021, ANSI/IEC 60529:2014, UL 122701 Ed. 3, ANSI/UL 121201:2019

Markings CL I Zone 2 AEx ec IIC T4...T2 Gc
 (-55°C ≤ Ta ≤ +70°C) IP65
 V≤35V, I≤22.5 mA
 SINGLE SEAL

Specific Conditions of Use (X):

1. The Model 3408 Level Transmitter will not pass the 500Vrms dielectric strength test between the circuits and the earth ground. This must be taken into account during installation.
2. Plastic part of Process Seal Antenna and Non-standard paint options (paint options other than Rosemount Blue) may cause risk from Electrostatic discharge. Avoid installation that could cause electrostatic build-up, and only clean with a damp cloth.
3. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP65. To maintain the ingress protection ratings, Covers and Sensor Module to be fully tightened and PTFE tape or pipe dope is required for cable entries and blanking plugs. See Instruction Manual on application requirements.
4. Display glass shall be positioned in such a way as to minimize the risk of mechanical impact.
5. The applicable temperature class, ambient temperature range and process temperature range of the equipment is as follows:

Temperature class	Ambient temperature range	Process temperature range
T2	-55 °C ≤ Ta ≤ +63 °C	-55 °C to +200 °C
T3	-55 °C ≤ Ta ≤ +63 °C	-55 °C to +195 °C
T4	-55 °C ≤ Ta ≤ +70 °C	-55 °C to +130 °C

1.11 Canada

1.11.1 I6 Intrinsically Safe and Non-Incendive Systems

Certificate FM21CA0083X

Standards CSA C22.2 NO. 0.4-17, C22.2 No. 25-17, CSA C22.2 NO 213:2019, CSA C22.2 No. 61010.1:2017+A2018, CSA C22.2 No. 60079-0:2019, CSA C22.2 No. 60079-11:2014, CSA C22.2 No. 60079-26:2016, CSA C22.2 No. 60529:2016, UL 122701 Ed 3, ANSI/UL 121201:2019

Markings IS CL I, II, III DIV 1, GRPS A-G T4...T2
 NI CL I, DIV 2, GRPS A-D T4...T2
 S CL II, III DIV 2, GRPS E-G T4...T2
 Ex ia IIC T4...T2 Ga
 Ex ib IIC T4...T2 Ga/Gb
 Ex ia IIIC T₂₀₀85°C...T₂₀₀250°C Da
 Ex ib IIIC T₂₀₀85°C...T₂₀₀250°C Da/Db
 -55 °C ≤ Ta ≤ +70°C
 When installed per Control Drawing D7000006-887
 SINGLE SEAL

Safety parameter	HART®
Voltage U _i	30 V
Current I _i	133 mA
Power P _i	1.0 W
Capacitance C _i	4.9 nF
Inductance L _i	0

Specific Conditions of Use (X):

1. The Model 3408 Level Transmitter will not pass the 500Vrms dielectric strength test between the circuits and the earth ground. This must be taken into account during installation.
2. Plastic part of Process Seal Antenna and Non-standard paint options (paint options other than Rosemount Blue) may cause risk from Electrostatic discharge. Avoid installation that could cause electrostatic build-up, and only clean with a damp cloth.
3. The Transmitter can be installed in the boundary wall between a Zone 0 and Zone 1 area. In this configuration, the process connection is installed in Zone 0, while the transmitter housing is installed in Zone 1. Refer to Control Drawing D7000006-887.
4. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
5. Display glass shall be positioned in such a way as to minimize the risk of mechanical impact.
6. The applicable temperature class, ambient temperature range and process temperature range of the equipment is as follows:

Table 1-4: For Divisions:

Temperature class / Maximum surface temperature	Ambient temperature range	Process temperature range
Division Gas groups:		
T2	$-55^{\circ}\text{C} \leq T_a \leq +63^{\circ}\text{C}$	-55°C to $+200^{\circ}\text{C}$
T3	$-55^{\circ}\text{C} \leq T_a \leq +63^{\circ}\text{C}$	-55°C to $+195^{\circ}\text{C}$
T4	$-55^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	-55°C to $+130^{\circ}\text{C}$
Division Dust groups:		
T3	$-55^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$	-55°C to $+160^{\circ}\text{C}$
T4	$-55^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$	-55°C to $+130^{\circ}\text{C}$
T5	$-55^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	-55°C to $+95^{\circ}\text{C}$
T6	$-55^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	-55°C to $+80^{\circ}\text{C}$

Table 1-5: For Zones:

Temperature class / Maximum surface temperature	Ambient temperature range	Process temperature range
Zone Gas groups:		
T2	$-55^{\circ}\text{C} \leq T_a \leq +63^{\circ}\text{C}$	-55°C to $+200^{\circ}\text{C}$
T3	$-55^{\circ}\text{C} \leq T_a \leq +63^{\circ}\text{C}$	-55°C to $+195^{\circ}\text{C}$
T4	$-55^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	-55°C to $+130^{\circ}\text{C}$
Zone Dust groups:		
T250°C	$-55^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$	-55°C to $+200^{\circ}\text{C}$
T200°C	$-55^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$	-55°C to $+195^{\circ}\text{C}$
T135°C	$-55^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	-55°C to $+130^{\circ}\text{C}$
T100°C	$-55^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	-55°C to $+95^{\circ}\text{C}$
T85°C	$-55^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	-55°C to $+80^{\circ}\text{C}$

1.11.2 N6 Type Ex ec: Increased Safety

Certificate FM21CA0083X

Standards CSA C22.2 No. 60079-0:2019, CSA C22.2 No. 60079-7:2019, CSA C22.2 No. 60529:2016, UL 122701 Ed. 3, ANSI/UL 121201:2019

Markings CL I Zone 2 Ex ec IIC T4...T2 Gc
 (-55°C ≤ Ta ≤ +70°C) IP65
 V ≤ 35V, I ≤ 22.5 mA
 SINGLE SEAL

Specific Conditions of Use (X):

1. The Model 3408 Level Transmitter will not pass the 500Vrms dielectric strength test between the circuits and the earth ground. This must be taken into account during installation.
2. Plastic part of Process Seal Antenna and Non-standard paint options (paint options other than Rosemount Blue) may cause risk from Electrostatic discharge. Avoid installation that could cause electrostatic build-up, and only clean with a damp cloth.
3. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP65. To maintain the ingress protection ratings, Covers and Sensor Module to be fully tightened and PTFE tape or pipe dope is required for cable entries and blanking plugs. See Instruction Manual on application requirements.
4. Display glass shall be positioned in such a way as to minimize the risk of mechanical impact.
5. The applicable temperature class, ambient temperature range and process temperature range of the equipment is as follows:

Temperature class	Ambient temperature range	Process temperature range
T2	-55 °C ≤ Ta ≤ +63 °C	-55 °C to +200 °C
T3	-55 °C ≤ Ta ≤ +63 °C	-55 °C to +195 °C
T4	-55 °C ≤ Ta ≤ +70 °C	-55 °C to +130 °C

1.12 Europe

1.12.1 I1 ATEX/UKEX Intrinsic Safety

Certificate DEKRA 21ATEX0087X, 21UKEX0221X
Standards EN IEC 60079-0:2018, EN 60079-11:2012
Markings Ⓢ II 1G Ex ia IIC T4...T2 Ga
 II 2G Ex ib IIC T4...T2 Gb
 II 2D Ex ia IIIC T85°C...T250°C Db
 II 2D Ex ib IIIC T85°C...T250°C Db

$$-55\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$$


Safety parameter	HART®
Voltage U_i	30 V
Current I_i	133 mA (Resistively limited)
Power P_i	1.0 W
Capacitance C_i	4.9 nF
Inductance L_i	0

Specific Conditions of Use (X):

1. Precautions shall be taken to minimize the risk from electrostatic discharges and propagating brush discharges. Only clean with a damp cloth.
2. The display glass shall be positioned in such a way as to minimize the risk of mechanical impact.
3. When used in locations where the use of category 1 equipment is required and the selected enclosure material is aluminium it shall be installed in such a way that sparking as a result of impact or friction is excluded.
4. The transmitter head shall only be rotated on top of the antenna in the absence of an explosive atmosphere.
5. The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.
6. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP65. To maintain the ingress protection ratings, Covers and Sensor Module to be fully tightened and PTFE tape or pipe dope is required for cable entries and blanking plugs. See Instruction Manual on application requirements.
7. The applicable temperature class versus the ambient temperature range and process temperature range of the equipment is as follows:

Temperature class / Maximum surface temperature	Ambient temperature range	Process temperature range
Gas groups:		
T2	$-55\text{ °C} \leq T_a \leq +43\text{ °C}$	-55 °C to $+200\text{ °C}$
T3	$-55\text{ °C} \leq T_a \leq +45\text{ °C}$	-55 °C to $+195\text{ °C}$
T4	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to $+130\text{ °C}$
Dust groups:		
T250°C	$-55\text{ °C} \leq T_a \leq +43\text{ °C}$	-55 °C to $+200\text{ °C}$
T200°C	$-55\text{ °C} \leq T_a \leq +45\text{ °C}$	-55 °C to $+195\text{ °C}$
T135°C	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to $+130\text{ °C}$
T100°C	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to $+95\text{ °C}$
T85°C	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to $+80\text{ °C}$

1.12.2 N1 ATEX/UKEX Type e: Increased Safety

Certificate	DEKRA 21ATEX0088X, 21UKEX0242X
Standards	EN IEC 60079-0:2018, EN 60079-7:2015+A1:2018
Markings	 II 3G Ex ec IIC T4...T2 Gc $-55\text{ °C} \leq T_a \leq +70\text{ °C}$ $V \leq 35\text{ V}, I \leq 22.5\text{ mA}$

Specific Conditions of Use (X):

1. Precautions shall be taken to minimize the risk from electrostatic discharges and propagating brush discharges. Only clean with a damp cloth.
2. The display glass shall be positioned in such a way as to minimize the risk of mechanical impact.
3. The transmitter head shall only be rotated on top of the antenna in the absence of an explosive atmosphere.
4. The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.
5. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP65. To maintain the ingress protection ratings, Covers and Sensor Module to be fully tightened and PTFE tape or pipe dope is required for cable entries and blanking plugs. See Instruction Manual on application requirements.

6. The applicable temperature class versus the ambient temperature range and process temperature range of the equipment is as follows:

Temperature class	Ambient temperature range	Process temperature range
T2	$-55^{\circ}\text{C} \leq T_a \leq +43^{\circ}\text{C}$	-55°C to $+200^{\circ}\text{C}$
T3	$-55^{\circ}\text{C} \leq T_a \leq +53^{\circ}\text{C}$	-55°C to $+195^{\circ}\text{C}$
T4	$-55^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	-55°C to $+130^{\circ}\text{C}$

1.13 International

1.13.1 I7 IECEx Intrinsic Safety

Certificate	IECEx DEK 21.0056X
Standards	IEC 60079-0:2017, IEC 60079-11:2011, IEC 60529:2013
Markings	Ex ia IIC T4...T2 Ga Ex ib IIC T4...T2 Gb Ex ia IIIC T85°C...T250°C Db Ex ib IIIC T85°C...T250°C Db $-55^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

Safety parameter	HART®
Voltage U_i	30 V
Current I_i	133 mA (Resistively limited)
Power P_i	1.0 W
Capacitance C_i	4.9 nF
Inductance L_i	0

Specific Conditions of Use (X):

1. Precautions shall be taken to minimize the risk from electrostatic discharges and propagating brush discharges. Only clean with a damp cloth.
2. The display glass shall be positioned in such a way as to minimize the risk of mechanical impact.
3. When used in locations where the use of EPL Ga equipment is required and the selected enclosure material is aluminium it shall be installed in such a way that sparking as a result of impact or friction is excluded.

4. The transmitter head shall only be rotated on top of the antenna in the absence of an explosive atmosphere.
5. The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.
6. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP65. To maintain the ingress protection ratings, Covers and Sensor Module to be fully tightened and PTFE tape or pipe dope is required for cable entries and blanking plugs. See Instruction Manual on application requirements.
7. The applicable temperature class versus the ambient temperature range and process temperature range of the equipment is as follows:

Temperature class / Maximum surface temperature	Ambient temperature range	Process temperature range
Gas groups:		
T2	$-55\text{ °C} \leq T_a \leq +43\text{ °C}$	-55 °C to $+200\text{ °C}$
T3	$-55\text{ °C} \leq T_a \leq +53\text{ °C}$	-55 °C to $+195\text{ °C}$
T4	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to $+130\text{ °C}$
Dust groups:		
T250°C	$-55\text{ °C} \leq T_a \leq +43\text{ °C}$	-55 °C to $+200\text{ °C}$
T200°C	$-55\text{ °C} \leq T_a \leq +53\text{ °C}$	-55 °C to $+195\text{ °C}$
T135°C	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to $+130\text{ °C}$
T100°C	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to $+95\text{ °C}$
T85°C	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to $+80\text{ °C}$

1.13.2 N7 IECEx Type E: Increased Safety

Certificate	IECEx DEK 21.0056X
Standards	IEC 60079-0:2011, IEC 60079-7:2015+A1:2017, IEC 60529:2013
Markings	Ex ec IIC T4...T2 Gc ($-55\text{ °C} \leq T_a \leq +70\text{ °C}$) IP65 $V \leq 35\text{ V}$, $I_s \leq 22.5\text{ mA}$

Specific Conditions of Use (X):

1. Precautions shall be taken to minimize the risk from electrostatic discharges and propagating brush discharges. Only clean with a damp cloth.
2. The display glass shall be positioned in such a way as to minimize the risk of mechanical impact.
3. The transmitter head shall only be rotated on top of the antenna in the absence of an explosive atmosphere.
4. The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.
5. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP65. To maintain the ingress protection ratings, Covers and Sensor Module to be fully tightened and PTFE tape or pipe dope is required for cable entries and blanking plugs. See Instruction Manual on application requirements.
6. The applicable temperature class versus the ambient temperature range and process temperature range of the equipment is as follows:

Temperature class	Ambient temperature range	Process temperature range
T2	$-55\text{ °C} \leq T_a \leq +43\text{ °C}$	-55 °C to $+200\text{ °C}$
T3	$-55\text{ °C} \leq T_a \leq +53\text{ °C}$	-55 °C to $+195\text{ °C}$
T4	$-55\text{ °C} \leq T_a \leq +70\text{ °C}$	-55 °C to $+130\text{ °C}$

1.14 Additional certifications

1.14.1 QT Safety-certified to IEC 61508:2010 with certificate of FMEDA data

Certificate Pending

1.14.2 Suitable for intended use

Compliant with NAMUR NE 95:2013, “Basic Principles of Homologation” (Pending)

1.14.3 U1 Overfill prevention

Certificate Pending

Application TÜV tested and approved by DIBt for overfill prevention according to the German WHG regulations.

1.15 Installation drawings

Figure 1-1: D7000006-887 - System Control Drawing

ISSUE	CHANGE ORDER NO.	WEEK										
1	SHE-0308	2123										

SYSTEM CONTROL DRAWING – ROSEMOUNT 3408 SERIES

(Table of Contents)

Page 2	-	General Information	
Page 3	-	Intrinsically safe, EPL Ga installation (including description of ENTITY concept)	
Page 4	-	Intrinsically safe, EPL Gb (Db) installation	
Page 5	-	Non-incendive and Increased Safety installation	

		LAYOUT/PAPER: L-640133 W/UNIQUE BROWN	
PROJECT CODE	REV	TITLE	
EEM-LN	2123	3408	System Control Drawing Rosemount 3408 Series (Table of Contents)
PROJECT DR	EPL	6	A3
PROJECT DR	EPL	6	A3
			D7000006-887
			SHEET 1 OF 5

EX APPROVED PRODUCT
 No revisions to this drawing
 without prior Factory Mutual
 Approval.

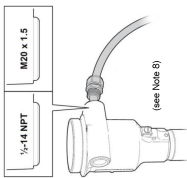
SYSTEM CONTROL DRAWING – ROSEMOUNT 3408 SERIES GENERAL INFORMATION

ISSUE	CHANGE ORDER NO.	WEEK
1	392 (2018)	2725

- No revision to drawing without prior FM Approval.
- Associated apparatus manufacturer's installation drawing must be followed when installing this equipment.
- Installation in the U.S. should be in accordance with ANSI/ISA RPT2.06 01 "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" and "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" and "Installation in Canada should be in accordance with the latest edition of the C22.1 Canadian Electrical Code, Part 1.
- Installations in Europe shall comply with the relevant requirements of EN 60079-14 and applicable National Regulations.
- Installations for IECEx certification shall be in accordance with latest editions of the wiring practices for the country of origin.
- Standard lens material is stainless steel and a wettable fused glass/ stainless steel lens, min thickness 3 mm (not applicable for SCA antenna).
- Thread size either 1/2-14 NPT or M20x1.5. Identification of thread and size on housing.

Antenna Type	Operating Temperature and Process Pressure
Process Seal Antenna (SAA)	-15 ... 382 psig (-1 ... 25 bar) -76 ... 392 F (60 ... 200 °C)
Standard Lens Antenna (PTFE seal, SBA)	-15 ... 382 psig (-1 ... 25 bar) -76 ... 392 F (60 ... 200 °C)
ATP Lens Antenna (SCA)	-15 ... 7 psig (-1 ... 0.5 bar) -40 ... 176 F (-40 ... 80 °C)

- The top of the process connection of the transmitter is approved as a SINGLE SEAL device according to UL 122701 (SCA antenna excluded) up to a maximum process pressure of 52 bar and a process temperature range of -76 ... 452 F (-60 ... 250 °C). Actual process limits depends on antenna type and seal, see table above. Materials of the sealing wall are according to Note 7.



- WARNING** – Substitution of components may impair Intrinsic Safety.
WARNING – Potential electrostatic charging hazard, wipe with a damp cloth.
WARNING – To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.
- AVERTISSEMENT** – La substitution de composants peut compromettre la sécurité intrinsèque.
AVERTISSEMENT – Risque potentiel de charge électrostatique, essuyer avec un chiffon humide.
AVERTISSEMENT – Ne pas ouvrir en cas de présence d'atmosphère explosive.

EMERSON		LAYOUT/VERSION 1.448.03 MOVA/TYPE INTERIOR	
REVISED BY	ISSUED BY	DATE	SIZE
BEML/JN	3408		
APPROVED BY	DATE	DOC. NO.	REV. NO.
Exp	2/23	6	A3
D7000006-887			SYSTEM CONTROL DRAWING ROSEMOUNT 3408 SERIES (GENERAL INFORMATION)
D7000006-887			SHEET 7 OF 5

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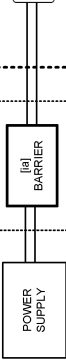
EX APPROVED PRODUCT
 No revisions to this drawing
 without prior Factory Mutual
 Approval.

ENTITY CONCEPT APPROVALS

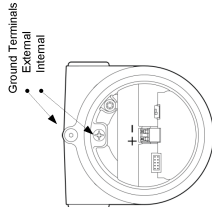
The Entity concept allows interconnection of intrinsically safe apparatus to associated apparatus not specifically examined in combination as a system. The approved values of max. open circuit voltage (U₀, Voc or V₀) and max. short circuit current (I_{sc} or I₀) and max. power (Po or Voc X I_{sc} / 4 or V₀ X I₀ / 4), for the associated apparatus must be less than or equal to the maximum safe input voltage (U_i), maximum safe input current (I_i), and maximum safe input power (P_i) of the intrinsically safe apparatus. In addition, the approved max. allowable inductance (L_a) and maximum capacitance (C_a or C₀) of the associated apparatus must be greater than the sum of the inductance (L_a) and maximum capacitance (C_a or C₀) of the intrinsically safe apparatus. Allowable connected inductance (L_a or L₀) of the associated apparatus must be greater than the sum of the interconnecting cable inductance and the unprotected internal inductance (L_i) of the intrinsically safe apparatus.

UNCLASSIFIED LOCATION

ASSOCIATED APPARATUS



HAZARDOUS LOCATION / EXPOSURE ATMOSPHERE (ZONE 0/20, DIVISION 1), (ZONE 1/21, DIVISION 1)



ISSUE	1	CHANGE ORDER NO.	5962-1008	WEEK	2123
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Intrinsically safe, EPL Ga Installation

	Safe Apparatus for use in:	Ambient Temperature Limits
FM/IS	IS Class I, II, III, DIV 1, GP A-G T4...T2 CL I, Zone 0 AEx ia IIC T4...T2 Ga Zone 20 AEx ia IIC T85°C...T250°C Da	-55°CSt=+70°C (4-20mA/HART)
FMC	IS Class I, II, III, DIV 1, GP A-G T4...T2 Ex ia IIC T4...T2 Ga Ex ia IIC T85°C...T250°C Da	-55°CSt=+70°C (4-20mA/HART)

Model	Intrinsic Entity Parameters	Note
4-20mA / HART IS	U _i (Vmax) ≤ 30V, I _i (Imax) ≤ 133 mA P _i (Pmax) ≤ 1W, C _a ≤ 4.9 nF, L _a ≤ 0.4 uH	

Notes

- No revision to drawing without prior FM Approval.
- The Associated Apparatus must be FM Approved for installations in the U.S.
- The Associated Apparatus must be Canadian Approved for installations in Canada.
- Associated apparatus manufacturer's installation drawing must be followed when installing this equipment.
- Installation should be in accordance with ANSI/ISA, EPL2, 06.01, the latest edition of the National Electrical Code (ANSI/NFPA 70).
- Resistance between Intrinsically Safe Ground and earth ground must be less than 1.0 Ohm.
- Installation in Canada should be in accordance with the latest edition of the C22.1 Canadian Electrical Code, Part I.
- Interconnection of associated apparatus and intrinsically safe apparatus with when the following is true:
U_i ≤ U (Vmax), I_i ≤ I_i (Imax), P_i ≤ P_i (Pmax), C_a ≤ C_a (C_{allow}), L_a ≤ L_a + L_{unprot}.
- For ambient temperature derating see 00800-0100-4418.

- WARNING** – Substitution of components may impair Intrinsic Safety.
WARNING – Potential electrostatic charging hazard, wipe with a damp cloth.
WARNING – To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.
AVERTISSEMENT – La substitution de composants peut compromettre la sécurité intrinsèque.
AVERTISSEMENT – Risque potentiel de charge électrostatique, essuyer avec un chiffon humide.
AVERTISSEMENT – Ne pas ouvrir en cas de présence d'atmosphère explosive.

EX APPROVED PRODUCT
 No revisions to this drawing without prior Factory Mutual Approval.

EMERSON
 SYSTEMS DIVISION
 ROSEMOUNT 3408 SERIES
 (intrinsically safe, EPL Ga installation)

PROJECT NO.	2123	DATE	3408
DESIGNER	EEM/LIN	DRAWN	2123
CHECKED	EAP	DATE	6
APPROVED	A3	SCALE	D7000006-487
SHEET			5
OF			5

D7000006-487

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WEEK 2125	CHANGE ORDER NO. 392-1008	ISSUE 1	
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UNCLASSIFIED LOCATION

**HAZARDOUS LOCATION / EXPLOSIVE ATMOSPHERE
(ZONE 1/21)**

**HAZARDOUS AREA
ZONE 0/20 (or 21)
(see note 10)**

Intrinsically safe, EPL Gb or EPL Gb/Gb installations

	Safe Apparatus for use in:	Ambient Temperature Limits ¹¹
FMUs	CLASS I, Zone 0/1 AEx Ib IIC T4...T2 Ga/Gb Zone 20/21 AEx Ib IIC T4a/85...T2a/250° Da/Db	-55°C/Ta ≤ +70°C (-4-20mA/HART)
FMC	CLASS I, Zone 0/1 Ex Ib IIC T4...T2 Ga/Gb Zone 20/21 Ex Ib IIC T4a/85...T2a/250° Da/Db	-55°C/CTa ≤ +70°C (-4-20mA/HART)

Notes

1. No revision to drawing without prior FM Approval.
2. The Associated Apparatus must be FM Approved for installations in the U.S.
3. The Associated Apparatus must be Canadian Approved for installations in Canada.
4. Associated apparatus manufacturer's installation drawing must be followed when installing this equipment.
5. Installations in the U.S. should be in accordance with ANSI/ISA RPT2.06-01 "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" and the manufacturer's instructions.
6. Resistance between Intrinsically Safe Ground and earth ground must be less than 1.0 Ohm.
7. Installation in Canada should be in accordance with the latest edition of the C22.1 Canadian Electrical Code, Part I.
8. The Entity Concept allows interconnection of associated apparatus and intrinsically safe apparatus with, when the following is true:
 a. $Z_{max} < Z_{max} + C + C_{max}$; $L < L_{max} + L_{max}$
9. Listed intrinsic safety parameters apply only to associated apparatus with linear output.
10. Applicable to SAA or SBA antennas only (not SCA)
11. For ambient temperature derating see 00980-0100-4418.

Model	Intrinsic Entity Parameters	Note
4-20mA / HART IS	UI (Vmax) ≤ 30V, II (Imax) ≤ 133 mA PI (Pmax) ≤ 1W, CI = 4.9 nF, LI = 0 μH	

EX APPROVED PRODUCT
No revisions to this drawing
without prior Factory Mutual
Approval.

WARNING – Substitution of components may impair Intrinsic Safety.
WARNING – Potential electrostatic charging hazard, wipe with a damp cloth.
WARNING – To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

AVERTISSEMENT – La substitution de composants peut compromettre la sécurité intrinsèque.
AVERTISSEMENT – Risque potentiel de charge électrostatique, essuyer avec un chiffon humide.
AVERTISSEMENT – Ne pas ouvrir en cas de présence d'atmosphère explosive.

D70000009006000	EMERSON	REVISED DATE 2/123	PART NUMBER 3408	DATE 04/12/02	DRAWING TITLE System Control Drawing Rosemount 3408 Series Intrinsically safe EPL Gb installation
8-88	EMERSON	REVISED DATE 2/123	PART NUMBER 3408	DATE 04/12/02	DRAWING TITLE System Control Drawing Rosemount 3408 Series Intrinsically safe EPL Gb installation
Epl	Epl	6	A3	D7000000-487	SHEET 4 OF 5

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ISSUE 1	CHANGE ORDER NO. SME-1038	WEEK 2123															
			HAZARDOUS LOCATION / EXPLOSIVE ATMOSPHERE (ZONE 2, DIVISION 2)														
UNCLASSIFIED LOCATION																	
<p>Increased Safety / Non-incendive installation</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 60%;">Safe Apparatus for use in:</th> <th style="width: 25%;">Ambient Temperature Limits⁴</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">FMyS</td> <td>NI CL I, DIV 2, GP A-D T4...T2 S CL II, III DIV 2, GP E-G T4...T2 AEx, eC IIC T4...T1 Gc</td> <td>-55 °C ≤ Ta ≤ +70 °C</td> </tr> <tr> <td style="text-align: center;">FMC</td> <td>NI CL I, DIV 2, GP A-D T4...T2 S CL II, III DIV 2, GP E-G T4...T2 AEx, eC IIC T4...T1 Gc</td> <td>-55 °C ≤ Ta ≤ +70 °C</td> </tr> </tbody> </table>					Safe Apparatus for use in:	Ambient Temperature Limits ⁴	FMyS	NI CL I, DIV 2, GP A-D T4...T2 S CL II, III DIV 2, GP E-G T4...T2 AEx, eC IIC T4...T1 Gc	-55 °C ≤ Ta ≤ +70 °C	FMC	NI CL I, DIV 2, GP A-D T4...T2 S CL II, III DIV 2, GP E-G T4...T2 AEx, eC IIC T4...T1 Gc	-55 °C ≤ Ta ≤ +70 °C					
	Safe Apparatus for use in:	Ambient Temperature Limits ⁴															
FMyS	NI CL I, DIV 2, GP A-D T4...T2 S CL II, III DIV 2, GP E-G T4...T2 AEx, eC IIC T4...T1 Gc	-55 °C ≤ Ta ≤ +70 °C															
FMC	NI CL I, DIV 2, GP A-D T4...T2 S CL II, III DIV 2, GP E-G T4...T2 AEx, eC IIC T4...T1 Gc	-55 °C ≤ Ta ≤ +70 °C															
<p>Notes</p> <ol style="list-style-type: none"> No revision to drawing without prior FM Approval. Installations in the U.S. should be in accordance with the latest edition of the National Electrical Code (NFPA 70E). Installation in Canada should be in accordance with the latest edition of the C22.1 Canadian Electrical Code, Part I. For ambient temperature derating see 00880-0100-4418. 																	
		<p>Maximum operating parameters</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Model</td> <td style="width: 50%;">U± 35V, I± 22.5 mA</td> </tr> <tr> <td colspan="2" style="text-align: center;">4-20mA / HART</td> </tr> </table>		Model	U± 35V, I± 22.5 mA	4-20mA / HART											
Model	U± 35V, I± 22.5 mA																
4-20mA / HART																	
<p>Warnings:</p> <p>WARNING – Do not separate when energized.</p> <p>WARNING – Substitution of components may impair Intrinsic Safety.</p> <p>WARNING – Potential electrostatic charging hazard, wipe with a damp cloth.</p> <p>WARNING – To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.</p> <p>AVERTISSEMENT – Ne pas séparer lorsqu'il est activé.</p> <p>AVERTISSEMENT – La substitution de composants peut compromettre la sécurité intrinsèque.</p> <p>AVERTISSEMENT – Risque potentiel de charge électrostatique, essayer avec un chiffon humide.</p>																	
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">EMERSON</td> <td style="width: 15%; text-align: center;">MODEL EEM-LN</td> <td style="width: 15%; text-align: center;">PART NO. 2123</td> <td style="width: 15%; text-align: center;">REV. 6</td> <td style="width: 15%; text-align: center;">DATE 2123</td> <td style="width: 15%; text-align: center;">TYPE A3</td> <td style="width: 15%; text-align: center;"> Safety Critical Drawing Rosemount 3408 Series Increased Safety / Non-incendive installation </td> </tr> <tr> <td colspan="6">D7000006-487</td> <td style="text-align: center;"> SHEET 5 OF 5 </td> </tr> </table>		EMERSON	MODEL EEM-LN	PART NO. 2123	REV. 6	DATE 2123	TYPE A3	Safety Critical Drawing Rosemount 3408 Series Increased Safety / Non-incendive installation	D7000006-487						SHEET 5 OF 5
EMERSON	MODEL EEM-LN	PART NO. 2123	REV. 6	DATE 2123	TYPE A3	Safety Critical Drawing Rosemount 3408 Series Increased Safety / Non-incendive installation											
D7000006-487						SHEET 5 OF 5											
<p>EX APPROVED PRODUCT No revisions to this drawing without prior Factory Mutual Approval.</p>																	

Figure 1-2: D7000007-647 - System Control Drawing (DEKRA)

	ISSUE 1	CHANGE ORDER NO. 29673018		WEEK 2123
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SYSTEM CONTROL DRAWING – ROSEMOUNT 3408 SERIES (DEKRA)

(Table of Contents)

Page 2	-	General Information
Page 3	-	Intrinsically safe, EPL Ga installation (including description of ENTITY concept)
Page 4	-	Intrinsically safe, EPL Gb (Db) installation
Page 5	-	Increased Safety installation

EX APPROVED PRODUCT
No revisions to this drawing without prior DEKRA approval.

EMERSON			
LAWY/PASSEN, L. & J. 20 MONTROUSE AVENUE			
DESIGNED BY	PRODUCT CODE	TITLE	
EEM-LN	2123	System Control Drawing	
Epl	6	A3	Rosemount 3408 Series (DEKRA) (Table of Contents)
2123	6	A3	D7000007-647
			SHEET 1 OF 5
THE COUNTERPARTSHEEP OF THIS DOCUMENT IS AVAILABLE FROM: ROSEMOUNT TRANSMITTER			

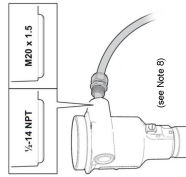
SYSTEM CONTROL DRAWING – ROSEMOUNT 3408 SERIES GENERAL INFORMATION

ISSUE	CHANGE ORDER NO.	WEEK
1	SMC-1008	2123

- Additional installation requirements are found in the Quick Start Guide (doc no 00825-0100-4418) and the Product Certification Document (doc no 00890-0100-4448).
- See table below for applicable P/T rating for different antenna types. For ambient temperature derating refer to 00880-0100-4418.

Antenna Type	Operating Temperature and Process Pressure
Process Seal Antenna (SAA)	-15 ... 362 psig (-1 ... 25 bar) -67 ... 392 F (-45 ... 200 °C)
Standard Lens Antenna (PTE seal, SBA)	-15 ... 362 psig (-1 ... 25 bar) -67 ... 392 F (-45 ... 200 °C)
ATAP Lens Antenna (SCA)	Closed tank applications: -15 ... 7 psig (-1 ... 0.5 bar) -4 ... 176 F (-20 ... 80 °C) With bracket mounting: -15 ... 7 psig (-1 ... 0.5 bar) -40 ... 176 F (-40 ... 80 °C)

- No revision to drawing without prior DEKRA approval.
- Associated apparatus manufacturer's installation drawing must be followed when installing this equipment.
- Installations in Europe shall comply with the relevant requirements of EN 60079-14 and applicable National regulations.
- Installations for IECEx certification shall be in accordance with latest editions of the wiring practices for the country of origin.
- See also either 7/14 NPT or M20 x 1.5. Identification of thread and size on housing.



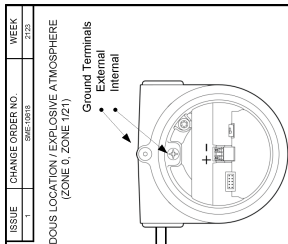
- Cables and Cable Glands must be rated for a temperature of at least +90 °C

- WARNING** – Substitution of components may impair Intrinsic Safety.
WARNING – Potential electrostatic charging hazard, wipe with a damp cloth.
WARNING – To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.
AVERTISSEMENT – La substitution de composants peut compromettre la sécurité intrinsèque.
AVERTISSEMENT – Risque potentiel de charge électrostatique, essuyer avec un chiffon humide.
AVERTISSEMENT – Ne pas ouvrir en cas de présence d'atmosphère explosive.

EMERSON		LAWSONVILLE, LEAD 33 INDUSTRIAL DRIVE, DEERFIELD, ILLINOIS 60015, USA	
PROJECT NO.	DATE	PROJECT CODE	TYPE
D7000007-647	2123	EEM-LN	3408
PROJ. NAME	DRAWING	DOC. NO.	DOC. TYPE
Rosemount 3408 Series (DEKRA)	2123	6	A3
GENERAL INFORMATION			REV. NO.
D7000007-647			1
SHEET			OF
2			5

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EX APPROVED PRODUCT
 No revisions to this drawing
 without prior DEKRA
 approval.



ENTITY CONCEPT APPROVALS

The Entity concept allows interconnection of intrinsically safe apparatus to associated apparatus not specifically examined in combination as a system. The approved values of max. open circuit voltage (U_o, Voc or V_o) and max. short circuit current (I_{sc} or I_l) and max. power (P_o or Voc x I_{sc} / 4 or V_o x I_l / 4), for the associated apparatus must be less than or equal to the maximum safe input voltage (U_i), minimum safe input current (I_i), and maximum safe input power (P_i) of the associated apparatus. The sum of the maximum safe input voltage (U_i), minimum safe input current (I_i), and maximum safe input power (P_i) of the associated apparatus must be greater than the sum of the interconnecting cable capacitance and the unprotected internal capacitance (C_i) of the intrinsically safe apparatus, and the approved max. Allowable connected inductance (L_a or L_o) of the associated apparatus must be greater than the sum of the interconnecting cable inductance and the unprotected internal inductance (L_i) of the intrinsically safe apparatus.

Notes

1. No revision to drawing without prior DEKRA Approval
2. The Associated Apparatus must be ATEX/UKEX Certified for installations in Europe.
3. The Associated Apparatus must be IECEX Certified for IECEX installations.
4. Associated apparatus manufacturer's installation drawing must be followed when installing this equipment.
5. Resistance between Intrinsically Safe Ground and earth ground must be less than 1.0 Ohm.
6. installations in Europe shall comply with the relevant requirements of EN 60079-14 and applicable National regulations.
7. Installations for IECEX certification shall be in accordance with latest editions of the wiring practices for the country of origin.
8. The Entity Concept allows interconnection of associated apparatus and intrinsically safe apparatus with the following limits: $U_i \leq U_{i(max)}$, $I_i \leq I_{i(max)}$, $P_i \leq P_{i(max)}$, $C_i + C_{cable} \leq L_a \leq L_i + L_{cable}$.
9. For ambient temperature derating see 00880-0100-4418.

Intrinsically safe, EPL Ga Installation

	Ambient Temperature Limits ^a
ATEX /UKEX	-55°C ≤ T _{amb} ≤ +70°C (4-20mA/HART)
IECEX	-55°C ≤ T _{amb} ≤ +70°C (4-20mA/HART)

Model	Intrinsic Entity Parameters	Note
4-20mA /HART IS	U _i (Vmax) ≤ 30V, I _i (Imax) ≤ 133 mA P _i (Pmax) ≤ 1W, C _i = 4.9 nF, L _i = 0 μH	

EX APPROVED PRODUCT
No revisions to this drawing without prior DEKRA approval.

EMERSON
LIFE SUPPORT SYSTEMS DIVISION

Product Code: 3408
System Control Drawing
Resonant 3408 Series (DE-RA)
(Intrinsically safe EPL Ga Installation)

Part No: 2123
Rev: 6
A3

Sheet: 3 of 5

D7000007-647

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- WARNING** – Substitution of components may impair Intrinsic Safety.
- WARNING** – Potential electrostatic charging hazard, wipe with a damp cloth.
- WARNING** – To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.
- AVERTISSEMENT** – La substitution de composants peut compromettre la sécurité intrinsèque.
- AVERTISSEMENT** – Risque potentiel de charge électrostatique, essuyer avec un chiffon humide.
- AVERTISSEMENT** – Ne pas ouvrir en cas de présence d'atmosphère explosive.

ISSUE 1	CHANGE ORDER NO. 382-1003	WEEK 2723
HAZARDOUS LOCATION / EXPLOSIVE ATMOSPHERE (ZONE 2)		

UNCLASSIFIED LOCATION

Increased Safety

	Safe Apparatus for use in:	Ambient Temperature Limits ⁴
ATEX /UKEX	I/3G Ex ec IIC T4...T2 Gc	-55°C ≤ Ta ≤ +70°C
IECEx	Ex ec IIC T4...T2 Gc	-55°C ≤ Ta ≤ +70°C

Notes

- No revision to drawing without prior DEKRA Approval.
- Installations in Europe shall comply with the relevant requirements of EN 60079-14 and applicable National regulations.
- Installations for IECEx certification shall be in accordance with latest editions of the wiring practices for the country of origin.
- For ambient temperature derating see 00800-0100-4418.

Model	Maximum operating parameters
4-20mA / HART	U ≤ 35V, I ≤ 22.5 mA

EX APPROVED PRODUCT
No revisions to this drawing without prior DEKRA approval.

Warnings:

WARNING – Do not open when energized.

WARNING – Substitution of components may impair Intrinsic Safety.

WARNING – Potential electrostatic charging hazard, wipe with a damp cloth.

WARNING – To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

AVERTISSEMENT – Ne pas séparer lorsqu'il est actif.

AVERTISSEMENT – La substitution de composants peut compromettre la sécurité intrinsèque.

AVERTISSEMENT – Risque potentiel de charge électrostatique, essayer avec un chiffon humide.

EMERSON	
MODEL NO. 2123 PART NO. EEM-LN EXPLORER	YEAR 3408 SYSTEM CONTROL DRAWING ROSEMOUNT 3408 SERIES (DE-RA)
D7000007-647 EXPLORER	D7000007-647 EXPLORER
SHEET 5 OF 5	LAYOUT/ISSUE 1, 4, 49, 51 MOD/ISSUE, REVISION

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1.16 EU and UK Declaration of Conformity

Figure 1-3: EU and UK Declaration of Conformity



 **Declaration of Conformity**  

[PLACEHOLDER]

 **EMERSON** **Declaration of Conformity** **CE / UK CA**

[PLACEHOLDER]

1.17 China RoHS

List of Model Parts with China RoHS Concentration above MCVs
含有China RoHS管控物质超过最大浓度限值的部件型号列表

Part Name 部件名称	Hazardous Substances / 有害物质					
	Lead 铅 (Pb)	Mercury 汞 (Hg)	Cadmium 镉 (Cd)	Hexavalent Chromium 六价铬 (Cr +6)	Polybrominated biphenyls 多溴联苯 (PBB)	Polybrominated diphenyl ethers 多溴联苯醚(PBDE)
Electronics Assembly 电子组件	X	O	O	O	O	O
Housing Assembly 壳体组件	O	O	O	O	O	O

This table is proposed in accordance with the provision of SJ/T11364

本表格系依据SJ/T11364的规定而制作。

O: Indicate that said hazardous substance in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.

O: 意为该部件的所有均质材料中该有害物质的含量均低于GB/T 26572所规定的限量要求。

X: Indicate that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.

X: 意为在该部件所使用的均质材料里，至少有一类均质材料中该有害物质的含量高于GB/T 26572所规定的限量要求。



Product Certifications
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