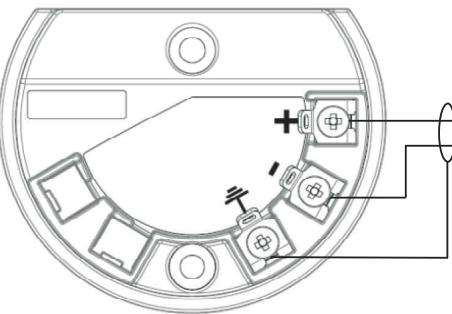
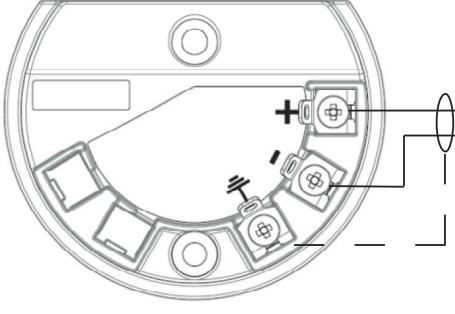


RA, RB, RC, RD, RE and RF  
QPSus Control drawings for installations in  
hazardous locations that conform to  
US standards



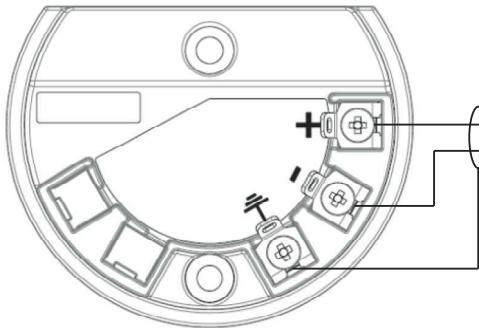
Last update: 6 May 2022

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**HAZARDOUS (CLASSIFIED) LOCATION**

Class I/II/III, Div 1, GPS ABCDEFG  
 Class I, Zone 1, IIC  
 Zone 21, IIIC  
 Antenna suitable for zone 0 and zone 20

**NON HAZARDOUS (UNCLASSIFIED) LOCATION**

Power supply (see Note 4)

CONNECTIONS OF 2 WIRES / 4...20 mA HART VERSION

**Notes:**

- 1) Installation shall be in accordance with articles 500 to 510 of the National Electric Code ANSI / NFPA 70 for the U.S. and section 18 of the Canadian electrical code CSA 22.1 part 1 for Canada.
- 2) No revision to this drawing without prior agency approval.
- 3) If ambient temperature > 65°C, use heat-resistant cable certified for continuous operation above +80°C
- 4) Power supply must not use or generate more than 250 Vrms or Vdc.
- 5) Cable entry must be sealed within 18" conduit of enclosure (divisions) or at the enclosure (zones).
- 6) Connect the earth terminal (internal or external) with a min. cable cross-section 4mm<sup>2</sup>. The resistance between intrinsically safe ground and earth ground must be less than 1.0 Ω.
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- 9) Temperature Classes as a function of ambient temperature and process temperature (or process connection temperature) - see tables

**FOR FURTHER LIMITATIONS  
SEE INSTRUCTION MANUAL**

REFLEX RB/RC			
Temperature class	Max. surface temperature	Max. ambient temperature	Max. process temperature
T6	T85°C	+60°C +44°C	+60°C +85°C
T5	T100°C	+75°C +59°C	+75°C +100°C
T4	T130°C	+57°C +48°C	+115°C +130°C

Temperature class	Max. surface temperature	Min. ambient temperature	Min. process temperature
All classes	All surface temperatures	-40°C -33°C	-40°C -50°C

REFLEX RE			
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T5	T100°C	+75°C +69°C	+75°C +100°C
T4	T135°C	+72°C +68°C	+115°C +130°C
T3	T200°C	+64°C +58°C +54°C	+150°C +180°C +200°C

Temperature class	Max. surface temperature	Min. ambient temperature	Min. process temperature
All classes	All surface temperatures	-40°C -37°C	-40°C -50°C

The gasket and antenna material temperatures must be in the approved limits. For more data, refer to the handbook.

**Functional Ratings:**

$V_{non} = 16-36 \text{ V}$ ;  $I_{non} = 4-20 \text{ mA}$  or  $3.8-20.5 \text{ mA}$ , error  $3.5 \text{ mA}$  or  $21.5 \text{ mA}$

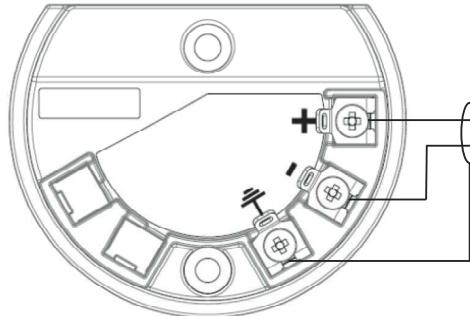
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Rev	Mod	Nom	Cont	Norm	Homol.
		EMS-009638			
Engineer				General Tolerances	
Prod	A.THOLLET	12/17/2018		Edge of parts	
Cont	V.PICHOT	12/17/2018		Surface condition	Sensible Ex
Norm				Material	Ech
Homol.	A.THOLLET	12/17/2018			Folio 1/1

HYCONTROL	CONTROL DRAWING REFLEX RB/RC/RE XP-IS/DIP/Ex db ia/Ex ia tb/ AEx db ia/AEx ia tb	Code d'article	
		Doc. type	Doc. key
		APPR 4007326601	-
		Status	released

**HAZARDOUS (CLASSIFIED) LOCATION**

Class I/II/III, Div 1, GPS ABCDEFG  
 Class I, Zone 1, IIC  
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**FOR FURTHER LIMITATIONS  
SEE INSTRUCTION MANUAL**

REFLEX RA REFLEX RD/RF without distance piece			
Temperature class	Max. surface temperature	Max. ambient temperature	Max. process temperature
T6	T85°C	+60°C +48°C	+60°C +85°C
T5	T100°C	+75°C +63°C	+75°C +100°C
T4	T130°C	+64°C +55°C	+115°C +135°C
T3	T150°C	+49°C	+150°C

Temperature class	Max. surface temperature	Min. ambient temperature	Min. process temperature
All classes	All surface temperatures	-40°C -35°C	-40°C -50°C <sup>1)</sup>

<sup>1)</sup> REFLEX RA is rated -40°C

REFLEX RD/RF with distance piece			
Temperature class	Max. surface temperature	Max. ambient temperature	Max. process temperature
T6	T85°C	60°C 53°C	60°C 85°C
T5	T100°C	75°C 68°C	75°C 100°C
T4	T135°C	70°C 65°C	115°C 135°C
T3	T200°C	61°C 53°C 48°C	150°C 180°C 200°C

Temperature class	Max. surface temperature	Min. ambient temperature	Min. process temperature
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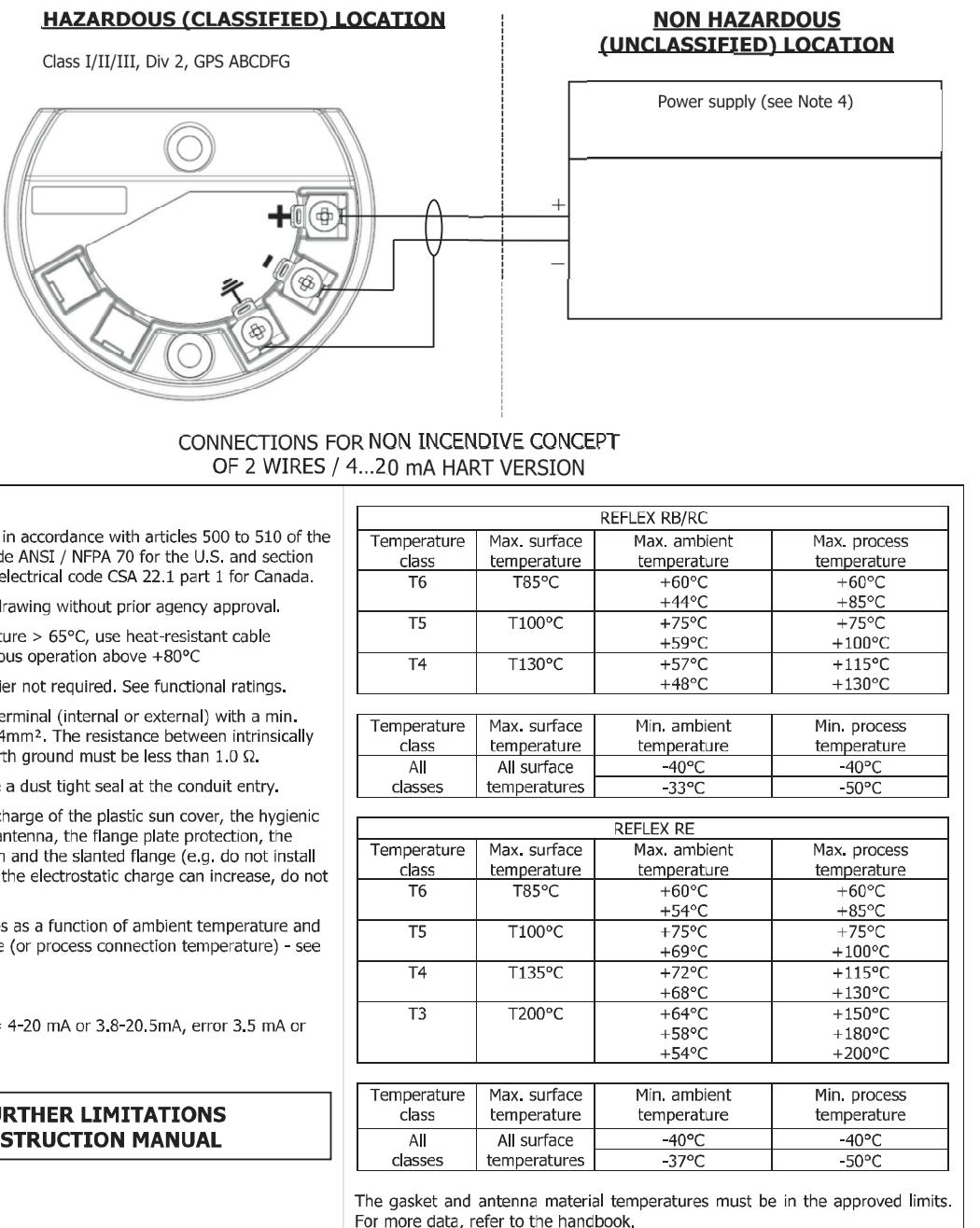
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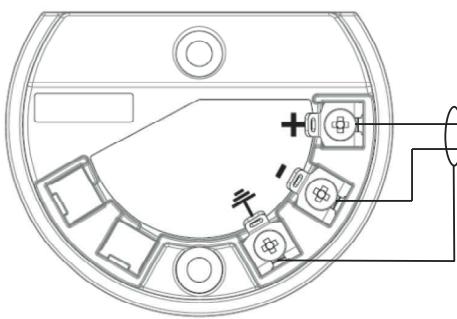
**WARNING: EXPLOSIVE HAZARD. DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR AREA IS KNOWN TO BE NON-HAZARDOUS. SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR USE IN DIV. 2**  
**AVERTISSEMENT: RISQUE D'EXPLOSION. AVANT DE DEBRANCHER L'EQUIPEMENT COUPEZ LE COURANT OU ASSUREZ-VOUS QUE L'EMPLACEMENT EST NON DANGEREUX. LA SUBSTITUTION DE COMPOSANTS PEUT RENDRE CE MATERIEL INACCEPTABLE POUR LA DIV 2**

Rev	Mod	Nom	Cont	Norm	Homol.
	EMS-009638				
Engineer				General Tolerances	
Prod	A.THOLLET	12/17/2018		Edge of parts	
Cont	V.PICHOT	12/17/2018		Surface condition	Sensible Ex
Norm				Material	Ech
Homol.	A.THOLLET	12/17/2018			Folio 1/1
<b>CONTROL DRAWING</b> <b>REFLEX RB/RC/RE</b> <b>NON INCENDIVE</b>				Code d'article	
				Doc. type Doc. key	Rev
				APPR 4007326801	-
				Status released	



**HAZARDOUS (CLASSIFIED) LOCATION**

Class I/II/III, Div 2, GPS ABCDFG

**NON HAZARDOUS  
(UNCLASSIFIED) LOCATION**

Power supply (see Note 4)

CONNECTIONS FOR NON INCENDIVE CONCEPT  
OF 2 WIRES / 4...20 mA HART VERSION**Notes:**

- 1) Installation shall be in accordance with articles 500 to 510 of the National Electric Code ANSI / NFPA 70 for the U.S. and section 18 of the Canadian electrical code CSA 22.1 part 1 for Canada.
- 2) No revision to this drawing without prior agency approval.
- 3) If ambient temperature > 65°C, use heat-resistant cable certified for continuous operation above +80°C
- 4) Intrinsic safety barrier not required. See functional ratings.
- 5) Connect the earth terminal (internal or external) with a min. cable cross-section 4mm². The resistance between intrinsically safe ground and earth ground must be less than 1.0 Ω.
- 6) For class II, III, use a dust tight seal at the conduit entry.
- 7) Avoid electrostatic charge of the plastic sun cover, the lens antenna, the flange plate protection and the slanted flange (e.g. do not install in a location where the electrostatic charge can increase, do not rub with dry cloth).
- 8) Temperature Classes as a function of ambient temperature and process temperature (or process connection temperature) - see tables

**Functional Ratings:**

$V_{nom}=12-30\text{ V}$ ;  $I_{nom}=4-20\text{ mA}$  or  $3.8-20.5\text{ mA}$ , error  $3.5\text{ mA}$  or  $21.5\text{ mA}$

**FOR FURTHER LIMITATIONS  
SEE INSTRUCTION MANUAL**

**REFLEX RA  
REFLEX RD/RF without distance piece**

Temperature class	Max. surface temperature	Max. ambient temperature	Max. process temperature
T6	T85°C	+60°C +48°C	+60°C +85°C
T5	T100°C	+75°C +63°C	+75°C +100°C
T4	T130°C	+64°C +55°C	+115°C +135°C
T3	T150°C	+49°C	+150°C

Temperature class	Max. surface temperature	Min. ambient temperature	Min. process temperature
All classes	All surface temperatures	-40°C	-40°C
		-35°C	-50°C <sup>1)</sup>

<sup>1)</sup> REFLEX RA is rated -40°C**REFLEX RD/RF with distance piece**

Temperature class	Max. surface temperature	Max. ambient temperature	Max. process temperature
T6	T85°C	60°C 53°C	60°C 85°C
T5	T100°C	75°C 68°C	75°C 100°C
T4	T135°C	70°C 65°C	115°C 135°C
T3	T200°C	61°C 53°C 48°C	150°C 180°C 200°C

Temperature class	Max. surface temperature	Min. ambient temperature	Min. process temperature
All classes	All surface temperatures	-40°C	-40°C

The gasket and antenna material temperatures must be in the approved limits.  
For more data, refer to the handbook.

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CONTROL DRAWING				Code d'article
REFLEX RA/RD/RF NON INCENDIVE				Doc. type Doc. key Rev
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