



FM Approvals
1151 Boston-Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: 781 762 4300 F: 781 762 9375 www.fmglobal.com

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

XP-AIS / / / 1 / ABCD — 9150 073-952, Issue 2; Entity (See System Control Dwg for Entity Parameters)
Tank Radar Transmitter Head. Type TH40FabPc
a = Power supply A (AC40) or D (DC40).
b = Primary output 00, 1A, 1B, 1C, 1D or 2A.
c = Secondary output 0, B or D.

XP / / / 1 / ABCD
TH40 TankRadar Pro Transmitter Head. Type TH40Fab
a = Power supply A or D.
b = Primary output 1A, 1C or 2A.

TH43FPa0b. Tank Radar Pro Transmitter Head.
XP / / / 1 / ABCD / Ta = 70°C, T6; Type 4X
DIP / / / 1 / EFG / Ta = 70°C, T5, Type 4X
a = Primary output 00, 1A, 1C, 2A, 3A or 4A.
b = Secondary output A or C.

TH43FPabc. Tank Radar Pro Transmitter Head.
XP-AIS / / / 1 / ABCD / Ta = 70°C, T6 - 9150074-994; Entity; Type 4X
Entity Parameters: Refer to System Control Drawing 9150074-994
a = Primary output 00, 1A, 1B, 1C, 1D, 2A, 3A, 4A or 4B.
b = Display panel 0, P, R or T.
c = Secondary output 0, B or D.

5601UE5PabN. Radar Level Transmitter.
XP / / / 1 / ABCD / Ta = 70°C, T6; Type 4X
DIP / / / 1 / EFG / Ta = 70°C, T5, Type 4X
a = Primary output 00, 5A, 5B, 5C, 5D, 6A, 7A or 7B.
b = Secondary output 1 or 3.

5601UE5Pabc. Radar Level Transmitter.
XP-AIS / / / 1 / ABCD / Ta = 70°C, T6 - 9150074-994; Entity; Type 4X
DIP-AIS / / / 1 / EFG / Ta = 70°C; T5 - 9150074-994; Entity; Type 4X
Entity Parameters: Refer to System Control Drawing 9150074-994
a = Primary output 00, 5A, 5B, 5C, 5D, 6A, 7A or 7B.
b = Secondary output 0, 2 or 4.
c = Display panel N, P, R or T.

Equipment Ratings:

Explosionproof for use in Class I, Division 1, Groups A, B, C and D with Intrinsically Safe Connections to Class I, Division 1, Groups A, B, C and D and Dust-Ignitionproof, Class II, III, Division 1, Groups E, F and G Hazardous (Classified) Indoor and Outdoor (Type 4X) Locations in accordance with Entity requirements and applicable control drawing.

Approved for:

SAAB Rosemount Tank Radar AB
Gamlestadsvagen 18B,
Box 13045,
SE-40251 Goteborg, Swedenn



This certifies that the equipment described has been found to comply with the following FM Approval Standards and other documents:

Class 3600	1989
Class 3610	1988
Class 3615	1989
Class 3810	1989
NEMA 250	1991

Original Project ID: 4D5A9.AX

FM Approval Granted: December 10, 1997

Subsequent Revision Reports / Date FM Approval Amended

3013876
040510

August 7, 2002

July 15, 2004

FM Global Technologies LLC

Roger L. Allard
Assistant Vice President

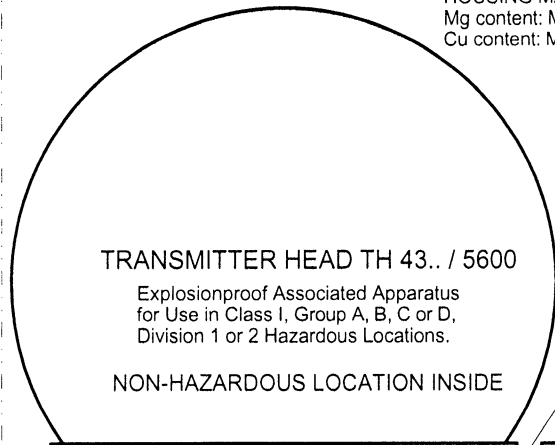
July 15, 2004
Date

NON-HAZARDOUS LOCATION

HAZARDOUS LOCATION

HOUSING MATERIAL: AISi10MgWa
Mg content: Max. 5% by weight
Cu content: Max. 20% by weight.

ISSUE	CHANGE ORDER No	WEEK	ISSUE	CHANGE ORDER No	WEEK	ISSUE	CHANGE ORDER No	WEEK
1	SME-3036	0216						



FM Approved Product.
No revisions must be made to this drawing without prior Factory Mutual authorization.

The Entity concept allows interconnection of intrinsically safe apparatus, not specifically examined in combination as a system, when the Approved values of Voc (or Vt), Isc (or It) and Po for the associated apparatus are less than or equal to Vmax, Imax and Pmax for the intrinsically safe apparatus, and the Approved values of Ca and La for the associated apparatus are greater than Ci + cable capacitance and Li + cable inductance.

I.S. DISPLAY OUTPUT (OPTION)	
GAS GROUP	Vcc together with DA and DB
A & B	Voc = 7.84 V, Isc = 386 mA, Po = 0.678W, Ca = 9.3 µF, La = 0.239 mH
C	Voc = 7.84 V, Isc = 386 mA, Po = 0.678W, Ca = 130 µF, La = 0.95 mH
D	Voc = 7.84 V, Isc = 386 mA, Po = 0.678W, Ca = 1000 µF, La = 1.9 mH

NON IS PRIMARY OUTPUT
HART/4-20mA (Note 2)
or TRL2 Bus (TM 40 option)
or Profibus DP (AA 40 option)
or Foundation Fieldbus (FF 43 option)

POWER SUPPLY
Nominal Input: 24-240 V DC/AC (0-60 Hz) max. 10 W.
Internal fuse-link: T 2.5A L 250V.
Installation Category III.

Shall be connected to conduit system

CONDUIT FITTINGS 1/2"-14 NPT
Transmitter Head has internal lead/conduit seal.

SECONDARY OUTPUT (OPTION)		
GAS GROUP	ALT. 1: Note 2 PASSIVE CURRENT LOOP	ALT. 2: Note 2 ACTIVE CURRENT LOOP
A & B	Vmax = 30 V, Imax = 300 mA, Ci = 0 µF, Li = 0 mH	Voc = 23.1 V, Isc = 125.7 mA, Po = 0.726 W, Ca = 0.14 µF, La = 2.2 mH
C	Vmax = 30 V, Imax = 300 mA, Ci = 0 µF, Li = 0 mH	Voc = 23.1 V, Isc = 125.7 mA, Po = 0.726 W, Ca = 1.0 µF, La = 8.8 mH
D	Vmax = 30 V, Imax = 300 mA, Ci = 0 µF, Li = 0 mH	Voc = 23.1 V, Isc = 125.7 mA, Po = 0.726 W, Ca = 3.67 µF, La = 17.6 mH

I.S. PRIMARY OUTPUT (OPTION)			
GAS GROUP	ALT. 1: Note 2 PASSIVE CURRENT LOOP	ALT. 2: Note 2 ACTIVE CURRENT LOOP	ALT. 3: FOUNDATION FIELDBUS
A & B	Vmax = 30 V, Imax = 300 mA, Ci = 0 µF, Li = 0 mH	Voc = 23.1 V, Isc = 125.7 mA, Po = 0.726 W, Ca = 0.14 µF, La = 2.2 mH	Vmax = 30 V, Imax = 300 mA, Pmax = 1.3 W, Ci = 0 µF, Li = 0 mH
C	Vmax = 30 V, Imax = 300 mA, Ci = 0 µF, Li = 0 mH	Voc = 23.1 V, Isc = 125.7 mA, Po = 0.726 W, Ca = 1.0 µF, La = 8.8 mH	Vmax = 30 V, Imax = 300 mA, Pmax = 1.3 W, Ci = 0 µF, Li = 0 mH
D	Vmax = 30 V, Imax = 300 mA, Ci = 0 µF, Li = 0 mH	Voc = 23.1 V, Isc = 125.7 mA, Po = 0.726 W, Ca = 3.67 µF, La = 17.6 mH	Vmax = 30 V, Imax = 300 mA, Pmax = 1.3 W, Ci = 0 µF, Li = 0 mH

NOTE 3: A cable gland with integral cable shield connection may be fitted instead of a conduit pipe. A shielded cable is required for specified EMC performance.

NOTE 2. Current loop alternative options.
1: Passive Current Loop. Voltage compliance: 7-30 V.
2: Active Current Loop. Max. load: 300 Ohm.

NOTE 1. Installations in the USA shall be in accordance with the National Electric Code (ANSI/NFPA 70) and ANSI/ISA-RP12.6

Maximum nonhazardous location voltage: 250 Vrms.
Associated apparatus connected to the nonintrinsically safe terminals must not use or generate more than 250 Vrms.

9150074-994	ISSUED BY	WEEK	PRODUCT CODE	TITLE	
	GU-MK	0141	TR PRO	SYSTEM CONTROL DRAWING for hazardous location installation of FM approved apparatus	
	APPROVED BY	WEEK	DOC. TYPE		FILE
	GU-HN	0141	6	Yes	
ALL DIMENSIONS ARE IN MILLIMETRES.		FINISH, UNLESS OTHERWISE STATED:		DWG NO.	
				9150074-994	
				ISSUE	
				1	
				SHEET	
				1 / 1	
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