ł	PLOLARS EPPLO	NARS BPLOLARS	BPLOURS BPLOURS BPI	LOLARS OFF	OLARS BEFLOLARS BEFLOLARS BE	PLOLARS BOPLOLARS
STOLANS		PLO	LABS			Rd / PO Box 467 Olifantsfontein 1665 27 (11) 316 4601
MOIN		xplosion Preve lo: 1999/027771/0			Fax: +2 E-mail: <u>admin-mgr@</u>	27 (11) 316 5670 2 explolabs.co.za
			OVERNMENT APPRO			
	IN I	ERMS OF ARP (MENTS FOR	EXPLOSION PROTECTED APPAF	AIUS"
SIMOLIA					Date Issued: *Expiry date:	12 Dec 2017 12 Dec 2020 Page 1 of 9 Issue: 10
STUDINS	Ex – Type Certificate N	Examination	n Certificate S-XPL/08253 X			10
	Equipment:	iumber.	Flowmeter			AND
	Model / Type Applicant:	e:	PROMAG 50/51/53 H/ Endress+Hauser	P/W**-****	******	
STADUARS	Applicant.		PO Box 783996			MAN OF A
9 9			Sandton 2146			
NO	Manufacture	er:	Endress+Hauser Flow			
	Serial No:				veen issued- and expire date t or acceptable product certif	
PIOU						
				olied by s+Hauser		8
3			Identified by Inspec	tion Author	rity number	Did
PIOU			S-XPL	/08253 X		
M	(Refer to Ger	neral, clause	1, for Ex Rating)", having		253 is hereby <u>certified "Expl</u> mined and inspected in acco	
	relevant requi	irements of Sc	uth African Standards.			*
PIOLARS	SANS 60079 IEC 60079-0:	-0: 2012 Ed 5 : 2011 Ed 6	Explosive atmosphere	∋s Part 0: E	quipment — General require	ments
IOLARS STATE	SANS 60079 IEC 60079-1:	-1: 2009 Ed 4 : 2007 Ed 6	Explosive atmosphe enclosures "d"	res Part	1: Equipment protection b	y flameproof
	SANS 60079 IEC 60079-7:	-7: 2007 Ed 3 : 2006 Ed 4	Explosive atmosphere	es Part 7:	Equipment protection by inc	
TOLAR		-11: 2012 Ed	4 Explosive atmosphere	oc Port 11.	Equipment protection by intri	
	IEC 60079-11	1: 2011 Ed 6		55 F alt 11.		nsic safety 1
Simol		-31: 2014 Ed			1: Equipment dust ignition	protection by
STANOLAS S	SANS 60079	-31: 2014 Ed : 1: 2013 Ed 2	2 Explosive atmospher			protection by
STHOLDE	SANS 60079 IEC 60079-31 Risk of ignitio	-31: 2014 Ed : 1: 2013 Ed 2	2 Explosive atmospher			T class or Max Surface Temp (°C)
STHOLDE	SANS 60079 IEC 60079-31 Risk of ignitio	-31: 2014 Ed 1: 2013 Ed 2 n provided: Equipment Protection Level (EPL) Group	2 Explosive atmospher enclosure "t" Performance of protection	res Part 3	1: Equipment dust ignition Conditions of operation	T class or Max Surface Temp (°C)
8	SANS 60079 IEC 60079-31 Risk of ignitio	-31: 2014 Ed 1: 2013 Ed 2 n provided: Equipment Protection Level (EPL)	2 Explosive atmospher enclosure "t" Performance of protection	res Part 3	1: Equipment dust ignition	T class or Max Surface Temp (°C)
STADATE STADATE	SANS 60079 IEC 60079-31 Risk of ignitio Protection afforded Very high	-31: 2014 Ed 1: 2013 Ed 2 n provided: Equipment Protection Level (EPL) Group [Ga] Group II	2 Explosive atmospher enclosure "t" Performance of protection Two independent mear protection or safe even wh faults occur independently other	ns of nen two of each	1: Equipment dust ignition Conditions of operation Equipment remains functioning in zones 0, 1 and 2	protection by T class or Max Surface Temp (°C) T6 (85 °C) T1 (450 °C)
STHOLDE	SANS 60079 IEC 60079-31 Risk of ignitio	-31: 2014 Ed 1: 2013 Ed 2 n provided: Equipment Protection Level (EPL) Group [Ga]	2 Explosive atmospher enclosure "t" Performance of protection Two independent mear protection or safe even wh faults occur independently	ns of nen two of each iion and iances or	1: Equipment dust ignition Conditions of operation Equipment remains	T class or Max Surface Temp (°C)

Equipment remains

functioning in zones 21 and 22

Txx℃

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equipment where faults are normally

taken into account

Db

Group III

High

STHOLARS

BRION	is (brio i		CERTIFICATE NO S-XPL/08253 X	PAGE 2 OF 9
<u></u> 1.	GENEF			
PIOLARS CEPTIOLARS	Marking	g:	For the Transmitter PROMAG 5****-**** Ex de [ia Ga] IIC/IIB T6T1 Gb Ex tb III C Txx °C Db For the sensor PROMAG 5****-******** Ex e [ia] IIC/IIB T6T1 Gb Ex tb III C Txx °C Db	****
		I product information		
MOUNT	Group IIB or II	C and IIIC		PLOWS
		of protection x e, Ex ia, Ex tb		
Approvas Approvas		rature classification rameters below		Stanones (Stanones
a		otion of the Flowmeter		
PIOLARS Agmonates again and an and an and an	consist used se	of a transmitter and a eparately (remote vers d inside the enclosur	or flow measurement of conductive flui sensor which can be mounted together ion). The electronic parts of the transn e Proline G02 or G12 (including tern	(compact version) or can be printer (type Promag 5*a) are
	Type d	esignation		8
POLANS		AG 5abcc-defghikImnc omplete type designatic by the transmitter versi	on the letters "a" to "p" and the asterisks a	are replaced as follows:
	"b" "cc"	by the letter H, P or W by a combination of tw nominal diameter for	indicating the sensor type or by the letter to letters and / or numbers to indicate the	X for transmitter only ne nominal diameter range of
		sensor type H: DN2 up sensor type P/W: DN1 or XX for transmitter or	to DN150 and for 5 up to DN3000	
	"d"	for sensor type P and V A	letter indicating the process connection a N: by a letter indicating the liner material for PFA	and its material
		E, 1, 2 C, D, F, G, H, S	for PTFE for hard rubber	
		U, L, M, R, P any number or letter X	for polyurethane for liner in high pressure construction for transmitter only	
	If there a		same kind of liner material these letters indica tions, which are not important for the exp	
	approva	ls for water) or the sa	me kind of liner material with the same specifications concerning the explosions prote	e properties but from different 🖉
Apriouse Apriouse Apriouse Apriouse Apriouse Apri	"e"		d W: by a letter or number indicating type H: by a letter or number indicatin	
	"f"		ndicating the material for the electrodes	81
	"g" "h"	by a letter or numbe	ndicating the method of calibration r to indicate certification (others than	explosion protection) of the
SALIOIAN	"j"		for Ex de [ia] (terminal compartment in ty compartment in type of protection Ex e)	pe of protection Ex d) D, 4, 6
	"k"	by the version		New York
SILIOINE		A for the compact vers G for the remote version	n IP67	E DATE: 29/05/2017 REV : 5
BRION	s BPLOU		edes all previous documents bearing the refer	ence no XPL/9525/08253 Rev 9.

S (BLON	IS BPLO	LARS CEPIOLARS CEPIOLARS CEPIOLAR	S TOPIOLARS TOPI	OLARS GEPLOLARS GEP	LOLARS BEFLOLARS BEFLOLARS	Þ
		ANNEX TO CERTIFIC	CATE NO S-XP	PL/08253 X	PAGE 3 OF 9	2
A		N for the remote version IP68 *				2
		P for the compact version IP67 T for the remote version IP67 for				
		U for the compact version IP67				2
8		V for the compact version IP67,		for Ta = -40 ℃		2
8		W for the remote version IP67,			-	
		6 for the compact version IP67				
		7 for the remote version IP67 for				
		8 for the remote version IP68 for	or Ta = -40 ℃ *		-	
NO	* ====			-linghing for the second		
	version	e versions with increased IP-protec The degree of protection IP 68	ction are only app only applies to ti	blicable for the sense he enclosure of the	or type W and P In remote sensor (not the transmitter-	
S S	enclosu					
Ř.	" "	for the remote version: by a lett	er or number to	indicate the cable		
(by a latter or pumber to indicate	the threed form	of the colle entries		þ
	m" "n"	by a letter or number to indicate by a letter or number indicating				2
	"П	A, C, E, G, P, R, T, 0, 2, 4 and			i vananio or ine ulopiay	
(B, D, F, H, Q, S, U, 1, 3, 5 and				
SIM		X for sensor only		·		2
2	_					
		e the variations of the display are no			only the correlation between	
NOUNS STRUCT	uie nun	nbers or letters and the supply voltag	le alle Stateu Helle.			2
	"o"	by a letter or number indicating	different softwar	re versions		
@	"p"	by the in- / outputs of the transr	nitter electronics	;		2
No.		Á, B, C, D, E, H, J, K, L, M, N,	P, Q, V, W, 0,	1, 2, 3, 4, 5, 6, 7, 8	and 9 for non-intrinsically	2
ğ		sate outputs			7 Terrer	2
e		F for Profibus PA, Ex ia G for Foundation Fieldbus, Ex i	2			
3		R for Current HART (active), Ex				2
<u>S</u>		S for Current-HART (active), Fr				Ś
8		T for Current-HART (passive), I		l		
		U for Current-HART (passive),	Ex ia			2
		X for sensor only "**" additional digits (none, two	or multiple of tw	o numbers and / or	letters) indicating options	8
		which are not relevant for type				
		like , # + =	F F			2
<u>Ř</u>					18	8
	Param					
8		<u>supply / terminals no. 1 (L/+) and</u> al Voltage	<u>d 2 (IN/-)</u>			
SIMOUTE		C version	AC	85 up to 260 V		
		version	DC	16 up to 62 V		3
	or		AC	20 up to 55 V		
NO		oltage U _m	AC	260 V		
	Power	consumption	approx.	15 W / VA		
THE STATE AND A ST					18	5
<u></u>						
						2
EXPLOIVES					Table 1	
						þ
						2
47						
SIM						
OL.						2
(DOCUMENT No: X	PL0213 RELEASE DA	TE: 29/05/2017 REV : 5	4

Non-intrinsically safe I/O-circuits	6			
Туре	Terminal No.	Safety par	ameters	
PROMAG 5****-***********				
PROMAG 5****-*********B PROMAG 5****-************C				
PROMAG 5****-*******D				
PROMAG 5****-********				
PROMAG 5****-********				
PROMAG 5****-*******J				
PROMAG 5****-*******K				
PROMAG 5****-******L				
PROMAG 5****-***********M PROMAG 5****-*********				
PROMAG 5****-*********P				
PROMAG 5****-***********Q	20 27	U _{max} = 260 V,	I _{max} = 0.5 A	
PROMAG 5****-*******V				
PROMAG 5****-******W				
PROMAG 5****-*********0 PROMAG 5****-************1				
PROMAG 5****-**********				
PROMAG 5****-************				
PROMAG 5****-*******4				
PROMAG 5****-*****5				
PROMAG 5****-******6				
PROMAG 5****-**********7 PROMAG 5****-**********				
PROMAG 5****-******9				
	Terminal No.	Safety parame	eters	
ntrinsically safe I/O circuits	Terminal No.	Ex ia IIC	eters	
ntrinsically safe I/O circuits	Terminal No.			
ntrinsically safe I/O circuits Type PROMAG 5****-*****F and	Terminal No.	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W	<u> </u>	
ntrinsically safe I/O circuits Type PROMAG 5****-******F		Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li ≤ 10 μH	<u> </u>	
ntrinsically safe I/O circuits Type PROMAG 5****-*****F and		Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W	<u> </u>	
ntrinsically safe I/O circuits Type PROMAG 5****-*****F and PROMAG 5****-	26 and 27	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li ≤ 10 μH Ci ≤ 5 nF	rameters	
ntrinsically safe I/O circuits Type PROMAG 5****-		Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li ≤ 10 μH Ci ≤ 5 nF Safety pa Ex ia IIC	rameters Ex ia IIB	
ntrinsically safe I/O circuits Type PROMAG 5****-*****F and PROMAG 5****-	26 and 27	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li ≤ 10 μH Ci ≤ 5 nF Safety pa Ex ia IIC Uo = 2	rameters Ex ia IIB 21.8 V	
ntrinsically safe I/O circuits Type PROMAG 5****-*****F and PROMAG 5****-	26 and 27	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li ≤ 10 μH Ci ≤ 5 nF Safety pa Ex ia IIC	rameters Ex ia IIB 21.8 V 0 mA	
ntrinsically safe I/O circuits Type PROMAG 5****-*****F and PROMAG 5****-	26 and 27	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li ≤ 10 μH Ci ≤ 5 nF Safety pa Ex ia IIC Uo = 2 Io = 9	rameters Ex ia IIB 21.8 V 0 mA	
ntrinsically safe I/O circuits Type PROMAG 5****-****F and PROMAG 5****- Type	26 and 27 Terminal No. 24 and 25	Ex ia IIC Ui = 30 V li = 600 mA Pi = 8.5 W Li ≤ 10 µH Ci ≤ 5 nF Safety pa Ex ia IIC Uo = 2 lo = 9 Po = 45	rameters Ex ia IIB 21.8 V 0 mA 91 mW	
ntrinsically safe I/O circuits Type PROMAG 5****-*****F and PROMAG 5****-	26 and 27 Terminal No.	Ex ia IIC Ui = 30 V li = 600 mA Pi = 8.5 W Li ≤ 10 μ H Ci ≤ 5 nF Safety pa Ex ia IIC Uo = 2 lo = 9 Po = 45 Co = 0.16 μ F Lo = 4.1 mH Ui =	rameters Ex ia IIB 21.8 V 0 mA 21 mW Co = 1.16 μF Lo = 15 mH 30 V	
ntrinsically safe I/O circuits Type PROMAG 5****-****F and PROMAG 5****-**G Type	26 and 27 Terminal No. 24 and 25	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li ≤ 10 μ H Ci ≤ 5 nF Safety pa Ex ia IIC Uo = 2 Io = 9 Po = 43 Co = 0.16 μ F Lo = 4.1 mH Ui = Ii = 10	rameters Ex ia IIB 21.8 V 0 mA 21 mW Co = 1.16 μF Lo = 15 mH 30 V 0 mA	
ntrinsically safe I/O circuits Type PROMAG 5****-****F and PROMAG 5****-**G Type	26 and 27 Terminal No. 24 and 25	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li ≤ 10 μ H Ci ≤ 5 nF Safety pa Ex ia IIC Uo = 2 Io = 9 Po = 48 Co = 0.16 μ F Lo = 4.1 mH Ui = Ii = 10 Pi = 30	$rameters$ Ex ia IIB $21.8 V$ 0 mA 0 mA 0 mW Co = 1.16 μ F Lo = 15 mH 30 V 0 mA 0 mW	
ntrinsically safe I/O circuits Type PROMAG 5****-****F and PROMAG 5****-**G Type	26 and 27 Terminal No. 24 and 25	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li ≤ 10 μ H Ci ≤ 5 nF Safety pa Ex ia IIC Uo = 2 Io = 9 Po = 48 Co = 0.16 μ F Lo = 4.1 mH Ui = Ii = 10 Pi = 30 Ci ≤	$rameters$ Ex ia IIB $21.8 V$ $0 mA$ $21 mW$ $Co = 1.16 \mu F$ $Lo = 15 mH$ $30 V$ $0 mA$ $20 mW$ $6 nF$	
ntrinsically safe I/O circuits Type PROMAG 5****-****F and PROMAG 5****-**G Type	26 and 27 Terminal No. 24 and 25	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li $\leq 10 \mu$ H Ci $\leq 5 nF$ Safety pa Ex ia IIC Uo = 2 Io = 9 Po = 48 Co = 0.16 μ F Lo = 4.1 mH Ui = Ii = 10 Pi = 30 Ci \leq Li = ne	$rameters$ Ex ia IIB $E1.8 V$ $0 mA$ $D mA$ $D mW$ $Co = 1.16 \mu F$ $Lo = 15 mH$ $30 V$ $D mA$ $D mA$ $D mW$ $6 nF$ $gligible$	
ntrinsically safe I/O circuits Type PROMAG 5****-****F and PROMAG 5****-**G Type	26 and 27 Terminal No. 24 and 25	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li ≤ 10 μ H Ci ≤ 5 nF Safety pa Ex ia IIC Uo = 2 Io = 9 Po = 48 Co = 0.16 μ F Lo = 4.1 mH Ui = Ii = 10 Pi = 30 Ci ≤	$rameters$ $Ex ia IIB$ $E1.8 V$ $0 mA$ $D mW$ $Co = 1.16 \mu F$ $Lo = 15 mH$ $30 V$ $D mA$ $D mW$ $6 nF$ $gligible$ $30 V$	
ntrinsically safe I/O circuits Type PROMAG 5****-****F and PROMAG 5****-**G Type	26 and 27 Terminal No. 24 and 25	$\begin{array}{c} \textbf{Ex ia IIC} \\ \textbf{Ui} = 30 \ V \\ \textbf{Ii} = 600 \ \textbf{mA} \\ \textbf{Pi} = 8.5 \ \textbf{W} \\ \textbf{Li} \leq 10 \ \textbf{\muH} \\ \textbf{Ci} \leq 5 \ \textbf{nF} \end{array}$	rameters Ex ia IIB 21.8 V 0 mA 21 mW Co = $1.16 \mu F$ Lo = $15 mH$ 30 V 0 mA 0 mW 6 nF gligible 30 V 10 mA 10 mW	
ntrinsically safe I/O circuits Type PROMAG 5****-****F and PROMAG 5****-**G Type	26 and 27 Terminal No. 24 and 25 26 and 27	$\begin{tabular}{l l l l l l l l l l l l l l l l l l l $	rameters Ex ia IIB 21.8 V 0 mA 21 mW Co = $1.16 \mu F$ Lo = $15 mH$ 30 V 0 mA 0 mW 6 nF gligible 30 V 10 mA 10 mW 6 nF	
ntrinsically safe I/O circuits Type PROMAG 5****-****F and PROMAG 5****- Type	26 and 27 Terminal No. 24 and 25 26 and 27	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li $\leq 10 \mu$ H Ci $\leq 5 nF$ Safety pa Ex ia IIC Uo = 2 Io = 9 Po = 45 Co = 0.16 μ F Lo = 4.1 mH Ui = Ii = 10 Pi = 30 Ci \leq Li = neg Ui = Ii = 50 Pi = 60 Ci \leq Li = neg	rameters Ex ia IIB 21.8 V 0 mA 21 mW Co = $1.16 \mu F$ Lo = $15 mH$ 30 V 0 mA 00 mW 6 nF gligible 30 V 10 mA 10 mW 6 nF gligible	
trinsically safe I/O circuits Type PROMAG 5****-****F and PROMAG 5****- Type	26 and 27 Terminal No. 24 and 25 26 and 27	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li $\leq 10 \mu$ H Ci $\leq 5 nF$ Safety pa Ex ia IIC Uo = 2 Io = 9 Po = 45 Co = 0.16 μ F Lo = 4.1 mH Ui = Ii = 10 Pi = 30 Ci \leq Li = neg Ui = Ii = 50 Pi = 60 Ci \leq Li = neg Uo = 2	rameters Ex ia IIB 21.8 V 0 mA 21 mW Co = $1.16 \mu F$ Lo = $15 mH$ 30 V 0 mA 00 mW 6 nF gligible 30 V 00 mA 00 mW 6 nF gligible 21.8 V	
trinsically safe I/O circuits Type PROMAG 5****-****F and PROMAG 5****- Type	26 and 27 Terminal No. 24 and 25 26 and 27	Ex ia IIC Ui = 30 V Ii = 600 mA Pi = 8.5 W Li $\leq 10 \mu$ H Ci $\leq 5 nF$ Safety pa Ex ia IIC Uo = 2 Io = 9 Po = 45 Co = 0.16 μ F Lo = 4.1 mH Ui = Ii = 10 Pi = 30 Ci \leq Li = neg Ui = Ii = 50 Pi = 60 Ci \leq Li = neg	rameters Ex ia IIB 21.8 V 0 mA 21 mW Co = $1.16 \mu F$ Lo = $15 mH$ 30 V 0 mA 00 mW 6 nF gligible 30 V 00 mA 00 mW 6 nF gligible 21.8 V 0 mA	

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	1			
Туре	Terminal No.	Safety parameters		
Type	reminarity.	Ex ia IIC	Ex ia IIB	
		Uo =	21.8 V	
		lo = 9	90 mA	
		Po = 4	91 mW	
		Co = 0.16 µF	Co = 1.16 μF	
PROMAG 5****-**********R	24 and 25	Lo = 4.1 mH	Lo = 15 mH	
PROMAG 5 - R	26 and 27	Ui =	30 V	
		li = 1	0 mA	
		Pi = 30	00 mW	
		Ci ≤ 6 nF		
		Li = ne	gligible	
		Ui = 30 V		
		li = 500 mA		
	24 and 25	Pi = 60	00 mW	
		Ci ≤	6 nF	
		Li = ne	gligible	
			21.8 V	
			90 mA	
PROMAG 5****-**********S		Po = 4	91 mW	
		Co = 0.16 μF	Co = 1.16 μF	
	00 and 07	Lo = 4.1 mH	Lo = 15 mH	
	26 and 27	Ui =	30 V	
		li = 1	0 mA	
		Pi = 30	00 mW	
		Ci≤	6 nF	
		Li = ne	aliaible	

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Li = negligible
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Turne		Terminal No	Safety p	parameters	
Туре		Terminal No.	Ex ia IIC	Ex ia IIB	
				= 30 V	
		24 and 25		500 mA 600 mW	
		24 and 25		≤ 6 nF	
PROMAG 5****-******	****т —		Li = r	egligible	
				= 30 V 100 mA	
		26 and 27		1.25 W	
			Ci	≤ 6 nF	
				egligible = 30 V	
		0.4		= 30 v 100 mA	
PROMAG 5****-******	****U	24 and 25 26 and 27	Pi =	1.25 W	
		20 and 27		≤6nF	
			LI = r	legligible	
Sensor circuits					
Transmitter					
Exciter coil circuit (no		sically safe)			
Ferminals no. 41 and	d 42	DO			
Voltage Current		DC) V) mA	
Jurrent			50		
Electrode circuit (intr	rinsically	safe)			
Terminals no. 4 (Pipe	e GND),	5/6 (E1/S1), 7/8			
Uo			-	∕V	
lo Po				5 mA 38 mW	
0					
			IIC	IIB	
umped values	Lo		50 mH	200 mH	
and a second second	Co		39 nF	353 nF	
mixed analysis	Lo Co		10 mH 20 nF	10 mH 100 nF	
	00		20 116	TUUTIF	
Sensor					
Exciter coil circuit (no		sically safe)			
Exciter coil circuit (no Terminals no. 41 and					
Exciter coil circuit (no Terminals no. 41 and Voltage		sically safe) DC		V	
Exciter coil circuit (no Ferminals no. 41 and Voltage) V) mA	
Exciter coil circuit (no Ferminals no. 41 and Voltage Current	d 42	DC			
Exciter coil circuit (no Terminals no. 41 and Voltage Current Electrode circuit (intr	d 42 rinsically	DC			
Exciter coil circuit (no Terminals no. 41 and Voltage Current Electrode circuit (intr Terminals no. 4, 5, 7 Ui	d 42 rinsically	DC	90		
Exciter coil circuit (no Terminals no. 41 and Voltage Current Electrode circuit (intr Terminals no. 4, 5, 7 Ui	d 42 rinsically	DC	90 60 n.) mA) V a.	
Exciter coil circuit (no Ferminals no. 41 and Voltage Current Electrode circuit (intr Terminals no. 4, 5, 7 Ji i Pi	d 42 rinsically	DC	90 60 n. n.) mA) V a. a.	
Exciter coil circuit (no Ferminals no. 41 and Voltage Current Electrode circuit (intr Terminals no. 4, 5, 7 Ji i Pi Li	d 42 rinsically	DC	90 60 n. n. n.) mA) V a. gligible	
Exciter coil circuit (no Ferminals no. 41 and Voltage Current Electrode circuit (intr Terminals no. 4, 5, 7 Ji i Pi Li	d 42 rinsically	DC	90 60 n. n. n.) mA) V a. a.	
Exciter coil circuit (no Terminals no. 41 and Voltage Current Electrode circuit (intr Terminals no. 4, 5, 7 Ui Ii Pi Li Ci Interconnection betw	d 42 rinsically 7	DC safe) nsmitter and ser	90 60 n. n. ne ne) mA) V a. a. gligible gligible	
Exciter coil circuit (no Terminals no. 41 and Voltage Current Electrode circuit (intr Terminals no. 4, 5, 7 Ui Ii Pi Li Ci Interconnection betw Instead of using the	d 42 rinsically veen trar e above	DC safe) nsmitter and ser (3.1.2) listed p	90 60 n. n. ne ne ne ne) mA a. a. gligible gligible L and C the co	nnection of the electro
Exciter coil circuit (no Terminals no. 41 and Voltage Current Electrode circuit (intr Terminals no. 4, 5, 7 Ui Pi Li Ci Interconnection betw Instead of using the circuit of the sensor	d 42 rinsically veen trar e above	DC safe) nsmitter and ser (3.1.2) listed p	90 60 n. n. ne ne ne ne) mA a. a. gligible gligible L and C the co	onnection of the electroo
Exciter coil circuit (no Ferminals no. 41 and Voltage Current Electrode circuit (intr Ferminals no. 4, 5, 7 Ji i Pi Li Ci interconnection betwo instead of using the circuit of the sensor is parameters:	d 42 rinsically veen trar e above	DC safe) nsmitter and ser (3.1.2) listed p	90 60 n. n. ne ne ne ne ne ne ne ne ne ne ne ne ne) mA a. agligible gligible L and C the co made by a cab	
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DOCUMENT No: XPL0213 RELEASE DATE: 29/05/2017 REV: 5 This report supersedes all previous documents bearing the reference no XPL/9525/08253 Rev 9. This report supersedes all previous documents bearing the reference no XPL/9525/08253 Rev 9.

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ANNEX TO CERTIFICATE NO S-XPL/08253 X

PAGE 6 OF 9

Ambient temperature range

	Ambient temperature range
PROMAG 5****-******A*****	
PROMAG 5****-*****P****	T _a : -20 ℃ ≤ Ta ≤ 50 ℃
PROMAG 5****-*****U*****	-
PROMAG 5****-*****G*****	
PROMAG 5****-*****N****	
PROMAG 5****-*****T****	T _a : -20 ℃ ≤ Ta ≤ 60 ℃
PROMAG 5****-*****W*****	
PROMAG 5****-****6****	
PROMAG 5****-****V****	T _a : -40 ℃ ≤ Ta ≤ 50 ℃
PROMAG 5****-****7****	
PROMAG 5****-****8****	T _a : -40 ℃ ≤ Ta ≤ 60 ℃

PROMAG 5****-****V/6/7/8***** always with PTFE or PFA liner or as high pressure version.

Medium temperature

The medium temperature range depends on the material of the liner or the construction of the sensor.

For type PROMAG 5*H**-********* (liner material always PFA) and for type PROMAG 5*P**-

-20 °C \leq T Med \leq 150 °C or -40 °C \leq T Med \leq 150 °C depending on the type of PFA

150 $^{\circ}$ C is the maximum for the upper limit of the medium temperature range. Depending on the temperature class resp. the maximum surface temperature of the Flowmeter the upper limit of the medium temperature range can be lower (see Temperature classes / surface temperatures).

For type PROMAG 5*P**-*********** and PROMAG 5*W**-************* (with liner material hard rubber):

-20 $^{\circ}C \leq T \text{ Med} \leq 80 ^{\circ}C$

130 °C is the maximum for the upper limit of the medium temperature range. Depending on the temperature class resp. the maximum surface temperature of the Flowmeter the upper limit of the medium temperature range can be lower (see Temperature classes / surface temperatures).

For type PROMAG 5*P**-*********** and PROMAG 5*W**-******** (with liner material polyurethane): -20 $^{\circ}C \leq T \text{ Med} \leq 50 ^{\circ}C$

Temperature classes / surface temperatures

The relation between the maximum ambient temperature, the maximum medium temperature and the temperature class is the following:

DOCUMENT No: XPL0213 RELEASE DATE: 29/05/2017 REV : 5

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ANNEX TO CERTIFICATE NO S-XPL/08253 X

PROMAG 5*P**-*****A**** PROMAG 5*P**-*****P***** PROMAG 5*P**-*****U***** PROMAG 5*P**-****V****, and PROMAG 5*P**-****6****

	Max. medium temperature *				
Temperature table	T6 / T 80 ℃	T5 / T 95 ℃	T4 / T 130 ℃	T3 - T1/ T 195 ℃ – T 440 ℃	
T _a up to 40 ℃	℃ 08	95 °C	130 ℃	150 ℃	
T _a up to 45 ℃	℃ 08	95 °C	130 ℃	130 ℃	
T _a up to 50 ℃	℃ 08	95 °C	95 °C	95 °C	

the maximum medium temperature is additionally limited by the liner material or the construction of the sensor (see Medium temperature) E.

For PROMAG 5*H*-******** For the compact versions PROMAG 5*H**-*****A*** PROMAG 5*H**-*****P**** PROMAG 5*H**-*****U***** PROMAG 5*H**-****V**** and PROMAG 5*H**-****6****

	Max. medium temperature *				
Temperature table	T6 / T 80 ℃	T5 / T 95 ℃	T4 / T 130 ℃	T3 - T1/ T 195 ℃ – T 440 ℃	
T _a up to 40 ℃	80 °C	95 ℃	130 ℃	150 ℃	
T _a up to 45 ℃	℃ 08	95 °C	130 ℃	130 ℃	
T _a up to 50 ℃	℃ 08	95 ℃	95 °C	95 °C	

* the maximum medium temperature is additionally limited by the liner material (see Medium temperature)

For the remote versions PROMAG 5*H**-*****G***** PROMAG 5*H**-****N**** PROMAG 5*H**-*****T**** PROMAG 5*H**-****W***** PROMAG 5*H**-****7**** and PROMAG 5*H**-*****8*****

For the transmitter:

At an ambient temperature of 60 °C the interior temperature and therefore the surface temperature is \leq 80 °C. The transmitter of the remote version has the temperature class T6 / surface temperature 80 °C. 80 °C.

For the sensor: DN2 up to DN25

	Max. medium temperature *			
Temperature table	T6 / T 80 ℃	T5 / T 95 ℃	T4 / T 130 ℃	T3 - T1/ T 195 ℃ – T 440 ℃
T _a up to 50 ℃	℃ 08	95 ℃	130 ℃	150 ℃
T _a up to 60 ℃	°C 08	95 ℃	130 ℃	130 °C

DN40 up to DN150

	Max. medium temperature *			
Temperature table	T6 / T 80 ℃	T5 / T 95 ℃	T4 / T 130 ℃	T3 - T1/ T 195 ℃ – T 440 ℃
T _a up to 60 ℃	℃ 08	95 °C	130 ℃	150 °C

DOCUMENT No: XPL0213 RELEASE DATE: 29/05/2017 REV:5

This report supersedes all previous documents bearing the reference no XPL/9525/08253 Rev 9. PEPIOLARS PEPIOLARS PEPIOLARS PEPIOLARS PEPIOLARS PEPIOLARS PEPIOLARS PEPIOLARS PEPIOLARS PEPIOLARS

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ANNEX TO CERTIFICATE NO S-XPL/08253 X

PAGE 8 OF 9

Marking

Name of the manufacturer or its trademark Serial number Certificate number Ambient temperature range Max. medium pressure Warning: For the transmitter a delay time of

Warning: For the transmitter a delay time of 10 minutes after switching off the power before opening the enclosure has to be regarded.

Transmitter

Type/Order code	Marking Gas	Marking Dust
PROMAG 5****-*********	Ex de [ia Ga] IIC/IIB T6 T1 Gb	Ex tb IIIC Txx ℃ Db

Sensor

3.

Type/Order code	Marking Gas	Marking Dust
PROMAG 5****-**********	Ex e [ia] IIC/IIB T6 T1 Gb	Ex tb IIIC Txx ℃ Db

For types PROMAG 5****-********F and PROMAG 5****-****G additional marking with: Fisco Field device

Based on the following documentation: IECEx BVS 07.0011X issue No.: 6

2. INSTALLATION INSTRUCTIONS

It is the manufacturer's responsibility to supply installation instructions with each unit offered for sale as required by IEC/SANS 60079-0 Clause 30.

SPECIAL CONDITIONS FOR SAFE USE (denoted by X after certificate number)

- i. All equipment of the measurement system shall be included in the equipotential bonding. Along the intrinsically safe sensor circuits potential equalisation must exist.
- ii. The sensors may only be used for those media, for which the wetted parts are known to be suitable.
- iii. For the application of the transmitter in an ambient temperature of less than -20 °C suitable cables and suitable certified cable or conduit entries, for this condition shall be used. Entry holes which are not needed shall be closed by stopping plugs evaluated in this certificate or separately for this purpose.
- iv. The dimensions of the flameproof joints are in parts other than the relevant minimum or maximum values of IEC 60079-1:2007. For information on the dimensions of the flameproof joints contact the manufacturer.

4. CONDITIONS OF CERTIFICATION

All production units must be covered by a QAN (Quality Assurance Notification), Product Mark Scheme or batch evaluation.

replotais Archolais ANNEX TO CERTIFICATE NO S-XPL/08253 X PAGE 9 OF 9 MARKING 5. The following (or similar) information have to be clearly and permanently marked on all units: Supplier : Endress+Hauser : Endress+Hauser Flowtec AG Manufacturer : Flowmeter Equipment Model/Type Serial No. Ex Rating : (Refer to General, clause 1, for Ex Rating) IA Certificate No : S-XPL/08253 X This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 9(2) of the Occupational Health and Safety Act, provided that the apparatus is used as relevant in accordance with: SANS 10086 and IEC/SANS 61241-14 requirements as applicable; ii) Any conditions mentioned in the above report; Any relevant requirements and codes of practice enforced in terms of the Mine Health and Safety Act or Occupational Health and Safety Act; iii) and iv) Any restrictions and conditions enforced by the Chief Inspector of Mines or the Principal Inspector or the Chief Inspector: Occupational Health and Safety. A revision certificate replaces all previous version of the certificate.
 * - Only covers equipment Imported between the "Issued" and "Expire" dates. v) vi) If and when your QAN (Quality Assurance Notification) Certificate for your equipment manufacturer expires during the valid period of the IA vii) Certification (issued for your equipment) and a new certificate is not submitted the existing IA Certification will then be cancelled. It is thus the client's responsibility to always submit the updated and valid QAN certificate(s) to Explolabs (Pty) Ltd **Responsible Testing Officer: Reviewed by:** taden P van Staden D Maree **Testing Officer Senior Testing Officer** EXPLOLABS EXPLOSION PREVENTION SERVICES This report/certificate shall not be reproduced except in full without the written approval of the company Explolabs (Pty) Ltd shall not be liable for 🦽 any losses or damages sustained on account of any failure or omission to properly perform our duties in terms of any contract undertaken by us. This disclaimer is immutable and automatically incorporated in any contract undertaken by us; notwithstanding anything to the contrary, save for the express written waiver of our managing director. By marking the equipment in accordance with the documentation/standard, the manufacturer attests on his own responsibility that the equipment has been constructed in accordance with the applicable requirements of the relevant standards and that the routine verifications and tests have been successfully completed and that the product complies with the documentation and standard(s). The contents of electronic reports/certificates cannot be guaranteed. Original certification documents will be kept on file at Explolabs (Pty) Ltd DOCUMENT No: XPL0213 RELEASE DATE: 29/05/2017 This report supersedes all previous documents bearing the reference no XPL/9525/08253 Rev 9.

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