



防爆合格证

证 号: GYJ24.1039X

制 造 商 恩德斯+豪斯公司

(地址: CH-4153, Reinach BL1, Switzerland)

产 品 名 称 超声波流量计

型 号 规 格 Proline Prosonic Flow 300/500

防 爆 标 志 详见合格证附件

产 品 标 准 /

图 样 编 号 961001814-E, 961002020-F, 961002023-D, 961002082-B,
961002967-A, 961001825-B, 961002895-A

经图样及技术文件的审查和样品检验, 确认上述产品符合下列标准:

GB/T 3836. 1-2021, GB/T 3836. 2-2021, GB/T 3836. 3-2021, GB/T 3836. 4-
2021, GB/T 3836. 8-2021, GB/T 3836. 31-2021

特颁发此证。

本证书有效期: 2024 年 03 月 18 日 至 2029 年 03 月 17 日

备 注

1. 安全使用注意事项见本证书附件。
2. 证书编号后缀“X”表明产品具有安全使用特殊条件, 内容见本证书附件。
3. 型号规格说明见本证书附件。
4. 电气安全参数见本证书附件。

批 准

上海仪器仪表自控系统检验测试所有限公司
国家级仪器仪表防爆安全监督检验站

颁 发 日 期 二 〇 二 四 年 三 月 十 八 日

本证书仅对与认可文件和样品一致的产品有效。



EXPLOSION PROTECTION

CERTIFICATE OF CONFORMITY

Cert No. GYJ24.1039X

Manufacturer	Endress + Hauser Flowtec AG (Address: CH-4153, Reinach BL1, Switzerland)
Product	Ultrasonic Flowmeter
Model	Proline Prosonic Flow 300/500
Ex marking	Refer to the attachment for details
Product standard	/
Drawing number	961001814-E, 961002020-F, 961002023-D, 961002082-B, 961002967-A, 961001825-B, 961002895-A

The product was found to comply with the following standard(s):

GB/T 3836.1-2021, GB/T 3836.2-2021, GB/T 3836.3-2021, GB/T 3836.4-2021, GB/T 3836.8-2021, GB/T 3836.31-2021

Valid until: 2029.03.17

Remarks

1. Conditions for safe use are specified in the attachment to this certificate.
2. Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment to this certificate.
3. Model designation is specified in the attachment to this certificate.
4. Safe parameters specified in the attachment to this certificate.

Approval

Shanghai Inspection and Testing Institute of
Instruments and Automation Systems Co., Ltd.
National Supervision and Inspection Center for
Explosion Protection and Safety of Instrumentation
Date of issue 2024.03.18

This Certificate is valid for products compatible with the documents and samples approved by NEPSI.



(GYJ24.1039X)

(Attachment I)

GYJ24.1039X 防爆合格证附件 I

由恩德斯+豪斯公司生产的Proline Prosonic Flow 300/500超声波流量计，经检验，符合下列标准：

GB/T 3836.1-2021 爆炸性环境 第1部分：设备 通用要求

GB/T 3836.2-2021 爆炸性环境 第2部分：由隔爆外壳“d”保护的设备

GB/T 3836.3-2021 爆炸性环境 第3部分：由增安型“e”保护的设备

GB/T 3836.4-2021 爆炸性环境 第4部分：由本质安全型“i”保护的设备

GB/T 3836.8-2021 爆炸性环境 第8部分：由“n”型保护的设备

GB/T 3836.31-2021 爆炸性环境 第31部分：由防粉尘点燃外壳“t”保护的设备

产品防爆标志如下，防爆合格证号GYJ24.1039X。

本证书认可的产品型号规格如下：

Proline Prosonic Flow G 300:

9G3**b**cc-dd e f f g h j l p s s t u u u v w w + # * * #

O9G3**b**cc-dd e f f g h j l p s s t u u u v w w y y + # * * #

OEM版本

Proline Prosonic Flow G 500:

9G5**b**cc-dd e f f g h i j k m n o p s s t u u u v w w + # * * #

O9G5**b**cc-dd e f f g h i j k m n o p s s t u u u v w w y y + # * * #

OEM版本

Proline Prosonic Flow G 300

Proline Prosonic Flow G 500

9x3**b**xx-dd e f f g h j l p r r s s w w + # * * #

可换转换器适用

O9x3**b**xx-dd e f f g h j l p r r s s w w y y + # * * #

可换转换器（OEM）

9x5**b**xx-dd e f f g h i j k m o p q q r r s s w w + # * * #

可换转换器适用

O9x5**b**xx-dd e f f g h i j k m o p q q r r s s w w y y + # * * #

可换转换器（OEM）

其中: **b**表示产品代系识别码, 可为B;

cc表示测量口径;

dd表示NEPSI认证代码, 详见2.5条描述;

e表示电源, 可为D = 24Vdc, E = 100~230Vac, I = 100~230Vac/24Vdc X = 仅为传感器;

ff表示输入/输出1, 可为BA = 4~20mA HART;

BB = 4~20mA WHART;

CA = 4~20mA HART Ex i (passive);

CB = 4~20mA WHART Ex i (passive);

CC = 4~20mA HART Ex i (active);

CD = 4~20mA WHART Ex i (active);

GA = Profibus PA;

HA = Profibus PA Ex i;

LA = Profibus DP;

MA = Modbus RS485;

MB= Modbus TCP;

MC= Modbus TCP Ex i;

NA = Ethernet/IP;

RA = Profinet IO;

RB= Profinet;

RC= Profinet Ex i;

SA = Foundation Fieldbus;

TA = Foundation Fieldbus Ex i;

XX = 仅为传感器;

g表示输入/输出2, 可为A = 不带输入/输出2;

B = 4~20mA;

C = 4~20mA Ex i (passive);

D = configurable IO;

E = pulse/frequency/switch output;

F = pulse output phase-shifted;

G = pulse/frequency/switch output Ex i;

H = relay;

I = 4~20mA input;

J = status input;

K = Pulse output Ex i;

L = Pulse output;

X = 仅为传感器;

h表示输入/输出3, 可为A = 不带输入/输出3;

B = 4~20mA;

C = 4~20mA Ex i (passive);

D = configurable IO;

E = pulse/frequency/switch output;

F = pulse output phase-shifted;

G = pulse/frequency/switch output Ex i;

H = relay;

I = 4~20mA input;

J = status input;

K = Pulse output Ex i;

L = Pulse output;

X = 仅为传感器;

i表示输入/输出4, 可为A = 不带输入/输出4;

(Proline 500 only) B = 4~20mA;

C = 4~20mA Ex i (passive);

D = configurable IO;

E = pulse/frequency/switch output;

F = pulse output phase-shifted;

G = pulse/frequency/switch output Ex i;

H = relay;

I = 4~20mA input;

J = status input;

K = Pulse output Ex i;

L = Pulse output;

X = 仅为传感器;

j表示显示/运行, 任何单一数字或字母, 如果包含O则表示有远程显示;

k表示内置ISEM模块 (仅Proline 500), 可为A = 传感器;

l表示外壳 (仅Proline 300), 任何单一数字或字母;

m表示转换器外壳 (仅Proline 500), 任何单一数字或字母;

n表示传感器外壳 (仅Proline 500), 任何单一数字或字母;

o表示电缆传感器连接 (仅Proline 500), 任何单一数字或字母;

p表示电缆引入, 任何单一数字或字母;

qq表示升级套件, 数字或字母的任意两位数组组合;

rr表示现有产品, 可为GA= Prosonic Flow G;

ss表示测量管材料、传感器类型、版本，数字或字母的任意两位数组组合；

t表示过程温度压力分量，任何单个数字或字母；

uu表示电缆过程连接，数字或字母的任意三位数组组合；

v表示校准，任何单个数字或字母；

ww表示设备型号，可为A1 = 版本1，A2 = 版本2；

yy表示客户信息；

******表示备选信息；

#, +表示扩展订购码。

Proline Prosonic Flow P 500:

9P5**b cc -dd e ff g h j k m o ss t uu vv ww**+***#

O9P5**b cc -dd e ff g h j k m o ss t uu vv ww yy**+***#

OEM版本

Proline Prosonic Flow P 500:

9x5**bxx-dd e ff g h i j k m n o pp rr ss ww**+***#

可换转换器适用

O9x5**bxx-dd e ff g h i j k m n o pp rr ss ww yy**+***#

可换转换器（OEM）

其中：**b**表示产品代系识别码，可为B；

cc表示安装类型，数字或字母的任意两位数组组合；

dd表示NEPSI认证代码，详见2.5条描述；

e表示电源，可为D = 24Vdc, E = 100~230Vac, I = 100~230Vac/24Vdc, X = 仅传感器；

ff表示输入/输出1，可为BA = 4~20mA HART；

BB = 4~20mA WHART；

CA = 4~20mA HART Ex i (passive)；

CB = 4~20mA WHART Ex i (passive)；

CC = 4~20mA HART Ex i (active)；

CD = 4~20mA WHART Ex i (active)；

GA = Profibus PA；

HA = Profibus PA Ex i；

LA = Profibus DP；

MA = Modbus RS485；

MB = Modbus TCP；

MC = Modbus TCP Ex i；

NA = EtherNet/IP；

RA = Profinet IO；

RB = Profinet；

RC = Profinet Ex i；

SA = Foundation Fieldbus;

TA = Foundation Fieldbus Ex i;

XX = 仅传感器;

g表示输入/输出2, 可为A = 不带输入/输出2;

B = 4~20mA;

C = 4~20mA Ex i (passive);

D = configurable IO;

E = pulse/frequency/switch output;

F = pulse output phase-shifted;

G = pulse/frequency/switch output Ex i;

H = relay;

I = 4~20mA input;

J = status input;

K = Pulse output Ex i;

L = Pulse output;

XX = 仅传感器;

h表示输入/输出3, 可为A = 不带输入/输出3;

B = 4~20mA;

C = 4~20mA Ex i (passive);

D = configurable IO;

E = pulse/frequency/switch output;

F = pulse output phase-shifted;

G = pulse/frequency/switch output Ex i;

H = relay;

I = 4~20mA input;

J = status input;

K = Pulse output Ex i;

L = Pulse output;

XX = 仅传感器;

i表示输入/输出4, 可为A = 不带输入/输出4, XX = 仅传感器;

j表示显示/运行;

k表示内置ISEM模块, 可为A = 传感器, B = 变送器;

m表示转换器外壳;

n表示传感器电缆连接;

o表示电缆引入;

pp表示升级套件，可为AA =不可用；
rr表示现有产品，可为PA= Prosonic Flow P,00=不使用；
ss表示传感器版本；
t表示介质温度；
uu表示电缆；
vv表示安装设置；
ww表示设备型号，可为A2 = 版本2；
yy表示客户信息；
******表示备选信息；
#, +表示扩展订购码。

Proline Prosonic Flow P 500 夹持式传感器：

DK9013 – **dd qq r ww**+###

ODK9013 – **dd qq r ww yy**+### OEM版本

其中：**dd**表示NEPSI认证代码，详见2.5条描述；

qq表示传感器版本；

r表示介质温度；

ww表示设备型号，可为00 = 不使用；

yy表示客户信息；

******表示备选信息；

#, +表示扩展订购码。

详见产品规格说明书。

注:DK9013和ODK9013型夹持式传感器用于替换Prosonic Flow P500型9P5B和O9P5B的传感器，或将Prosonic Flow P500型9P5B和O9P5B从一个传感器组扩展为两个传感器组。

一、产品安全使用特殊条件

产品防爆合格证号后缀“X”表示产品有安全使用特殊要求，具体内容如下：

- 1、测量系统的所有设备都应包括在等电位连接中。本安传感器电路须等电位连接。
- 2、涉及隔爆接合面的维修须联系产品制造商。
- 3、测量介质不得对产品接液部件有不良影响。
- 4、产品认证代码**dd** = NJ的转换器塑料外壳（Proline 500适用）应安装在污染等级最多为2级的区域。
- 5、当产品配接远程显示单元(O)DKX001时，应满足以下匹配要求：

Prosonic 300代码 dd	远程显示单元(O)DKX001代码 bb （证号GYJ21.1084）
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NB或ND	NE, NF或NG
NS	NS

6、产品转换器外壳或传感器外壳可带有不锈钢吊牌，应采取措施防止因摩擦或清洗引起的静电火花危险。

7、仅可使用Renata型3V CR1632锂电池。

二、产品使用注意事项

1、产品外壳设有接地端子，用户在安装使用时应可靠接地。产品转换器和传感器之间的本安电路应等电位连接。

2、所有传感器都可按传感器分组归为L1或L2。

3、温度参数（1区）

9x3Bxx - dd... 9x3Bxx - dd... 9x3Bxx - dd...

Temperature table for versions with sensor insulated
(for insulation not in compliance to manual of Endress+Hauser Flowtec)

Size / DN	T_{max} to be measured at reference point at sensor neck [°C]							
	T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)		
all	55	69	72	74	74	74		
Notes:	(1) for versions with pressure sensor, the pressure sensor shall not be insulated (2) for safe use temperatures shall not exceed all of the following: - temperature table for versions with sensor not insulated (refer to table above) - temperature at reference point as listed in this table - $T_{env} = -40^{\circ}\text{C}$, -50°C respectively (see nameplate) - for maximum medium temperature and minimum medium temperature see nameplate (3) versions with pressure sensor shall not exceed temperatures as listed in table below for insulated and not insulated sensor (4) location of reference point							

The diagram shows a side view of a sensor assembly. It consists of a main body with various ports and a separate sensor head connected by a short pipe. An arrow points to the top of the sensor head, which is labeled 'reference point'. The main body has several electrical or fluidic connections on its side.

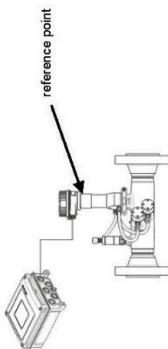
Proline Prosonic Flow G 500

Notes:
This page applies to versions with extended order code covering:

9*5*** – dd*****A... 09*5*** – dd*****A... 9x5Bxx – dd*****A... 09x5Bxx – dd*****A...

Sensor: Temperature table for versions with sensor insulated and not insulated (for insulation refer to manual of Endress+Hauser Flowtec)													
Size / DN	T _{amb}		T _{ref max} [°C]										
	min [°C]	max [°C]	T ₆ (85 °C)	T ₅ (100 °C)	T ₄ (135 °C)	T ₃ (200 °C)	T ₂ (300 °C)	T ₁ (450 °C)					
25 ... 300	-50	90	40	40	40	90	90	90	90				
			55	---	---	40	90	90	90	90	90	90	
			60	---	---	---	90	90	90	90	90	90	
Notes:													
(1) temperatures not applicable for versions with pressure sensor													
(2) T _{amb} = -40 °C, -50 °C respectively (see nameplate)													
(3) for applicable version with maximum medium temperature and minimum medium temperature see nameplate													

Sensor: Temperature table for versions with sensor insulated (for insulation not in compliance to manual of Endress+Hauser Flowtec)												
Size / DN	T _{max} to be measured at reference point at sensor neck [°C]											
	T ₆ (85°C)	T ₅ (100°C)	T ₄ (135°C)	T ₃ (200°C)	T ₂ (300°C)	T ₁ (450°C)						
all	69	71	75	77	77	77						
Notes:												
(1)	for versions with pressure sensor, the pressure sensor shall not be insulated											
(2)	for safe use temperatures shall not exceed all of the following:											
	- temperature table for versions with sensor not insulated (refer to table above)											
	- temperature at reference point as listed in this table											
	- T _{amb} = -40°C, -50°C respectively (see nameplate)											
	- for maximum medium temperature and minimum medium temperature see nameplate											
(3)	versions with pressure sensor shall not exceed temperatures as listed in table beside for insulated and not insulated sensor											
(4)	location of reference point											



reference point

Transmitter for all versions				
Type of enclosure	T _{amb} [°C]			
	Ordinary location (°C)	T ₆	T ₅	T ₄
aluminium	80	---	45	80
plastic	60	---	---	---
Note: (1) aluminium enclosure: T _{amb} = -50°C (for limitation see name plate) plastic enclosure: T _{amb} = -40°C				

Änderungen:	A	15.01.2019 / EKE	F	Alle gestrichelten Untereckrechte vorbereiten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch an Dritte Personen und Konsumgrümmen zugelegt gemacht werden.	Ersetzt durch		
	B		S				
	C		H			Ersatz für: Ersteller: FES / EKE FILE: M_Zeichnung\FES0339A\FES0339A.dwg	
	D		J				
	E		K				
Installation Drawing NEPS (acc. to FES0321A)							
Zone 1, Zone 21							
Thermal Parameter							
Proline Prosonic Flow G 300/500							
					Gezeichnet	15.01.2019	EKE
					Geprüft		
					Ex-geprüft	15.01.2019	EKE
					Gesehen		
					FES0339A		
					2/2		



Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL, Postfach

Proline Prosonic Flow P 500

Notes:

This page applies to versions with extended order code covering:

9*5*** - dd*****B...
DK9013-dd...
with approval option :

O9*5*** - dd*****B...
ODK9013-dd...
dd = NB, ND

9x5Bxx - dd*****B...

O9x5Bxx - dd*****B...

Transmitter: Temperature table for all versions

T _{amb}	
T6 (85°C)	T5 (100°C)
55	60
Notes: (1) T _{amb} min = -50°C (for limitation see name plate)	

Sensor: Temperature table for versions with sensor Insulated and not insulated

Type of sensor	T _{max}		T _a		T _{medium} [°C]										
	min [°C]	max [°C]	min [°C]	max [°C]	T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)	T12	T13	T14	T15	T16
C-030-A	-50	120	-50	80	80	95	120	120	120	120	80	80	80	80	80
C-100-B	-40	80	-40	50	50	80	80	80	80	80	80	80	80	80	80
C-100-C	0	170	-40	50	50	95	130	170	170	170	170	170	170	170	170
C-200-B	-40	80	-40	65	65	80	80	80	80	80	80	80	80	80	80
C-200-C	0	170	-40	65	65	95	130	170	170	170	170	170	170	170	170
C-500-A	-40	150	-40	75	75	95	130	150	150	150	150	150	150	150	150
CH-050-A	-50	435	-50	75	75	95	130	190	285	435	435	435	435	435	435
CH-100-A	-50	435	-50	75	75	95	130	190	285	435	435	435	435	435	435

Notes: (1) for type of sensor, temperature range and applicable Group see name plate

Änderungen:

A	03.03.2020 / ENE	F	Alle persönlichen Unterschriften, vorzulegen.
B	20.08.2020 / ENE	G	Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch
C	16.01.2023 / ENE	H	offen Personen und Konkreten zugelegt gemacht werden.
D		I	
E		K	

Erstellt durch:

Erstellt für:	Erstellt durch:
Ersteller: RDES / BEDE	Ersteller: RDES / BEDE
FILE: M:\Drawing\FES0365C-FES 50002.dwg	FILE: M:\Drawing\FES0365C-FES 50002.dwg

Installation Drawing NEPSI (acc. to FES0351C)

Zone 1, Zone 21

Thermal Parameter

Proline Prosonic Flow P 500

Gezeichnet

20.08.2020

ENE

Geprüft

16.01.2023

BEDE

Gezeichnet

FES0365C

1/1

Flowtec AG, Kugelmühle 7, CH-4153 Reinach BL, 1. Postfach

4、温度参数（2区）

Proline Prosonic Flow G 300

Notes:

This page applies to versions with extended order code covering:

9°3B** – dd...
with approval option : dd = NS

O9°3B** – dd...
9x3Bxx – dd...
O9x3Bxx – dd...

Temperature table for versions with sensor insulated and not insulated (for insulation refer to manual of Endress+Hauser Flowtec)

Size / DN	T _{max}		T _{ref} to be measured at reference point at sensor neck [°C]				
	min [°C]	max [°C]	T6 [°C]	T5 [°C]	T4 [°C]	T3 [°C]	T1 [°C]
25 ... 300	-50	90	55	40	90	90	90
			60	---	90	90	90
		150 (1)	---	85	120	150	150
		55 (1)	---	---	120	150	150
		60 (1)	---	---	(120)	(150)	(150)

Notes:

- temperatures not applicable for versions with pressure sensor
- T_{a,min} = -40°C, -50°C respectively (see nameplate)
- values in brackets are applicable for installation where the transmitter is not installed above the sensor
- versions with transmitter enclosure stainless steel (metal sheet) only for installation where transmitter is not installed above the sensor
- Versions with transmitter enclosure stainless steel (metal sheet) installed in temperature class T5, a degree of 3°C for ambient temperature shall be taken into account

Temperature table for versions with sensor insulated (for insulation not in compliance to manual of Endress+Hauser Flowtec)

Size / DN	T _{max} to be measured at reference point at sensor neck [°C]						
	T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)	
all	---	62	72	73	73	73	

Notes:

- for versions with pressure sensor, the pressure sensor shall not be insulated
- for safe use temperatures shall not exceed all of the following:
 - temperature at reference point shall not be exceeded (refer to table above)
 - temperature at reference point as listed in this table
 - T_{a,min} = -40°C, -50°C respectively (see nameplate)
 - for maximum medium temperature and minimum medium temperature see nameplate
- versions with pressure sensor shall not exceed temperatures as listed in table beside for insulated and not insulated sensor
- location of reference point

Änderungen:	A	15.01.2019 / EKE	F
	B	16.01.2023/BECE	G
	C		H
	D		J
	E		K

Alle gesetzlichen Überwachungs- und Nachschauverfahren
Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch
drucken, kopieren und weiterverbreiten
Zustimmung gemäss geltender Vorschriften

Installation Drawing NEPSI (acc. to FES0322B)

Zone 2

Thermal Parameter

Proline Prosonic Flow G 300/500

Gezeichnet	15.01.2019	EKE
Geprüft		
Ex-geprüft	16.01.2023	BECE
Gesehen		

Flowtec AG, Kägenstrasse 7, CH-4153 Reinsch BL1, Postfach

FES0340B

1/2

Proline Prosonic Flow G 500

Notes:
This page applies to versions with extended order code covering:

9*5*** – dd*****A...
with approval option

cCSAus / CSA:
IECEX / ATEX:

09*5*** – dd*****A...
dd = CS, CZ
dd = BL, BS

9x5Bxx – dd*****A...

09x5Bxx – dd*****A...

Sensor: Temperature table for versions with sensor insulated and not insulated
(for insulation refer to manual of Endress+Hauser Flowtec)

Size / DN	T _{med}		T _{med/max} [°C]						
	min	max	T6	T5	T4	T3	T2	T1	
25 ... 300	-50	90	---	---	40	90	90	90	90
	150 (1)	60 (1)	---	---	---	90	90	90	150

Notes:
(1) temperatures not applicable for versions with pressure sensor
(2) Ta.min = -40°C, -50°C respectively (see nameplate)

Transmitter for all versions

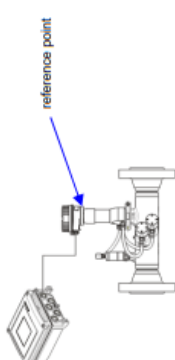
Type of enclosure	T _{a,max}			
	Ordinary location	T6	T5	T4
aluminium	60	---	---	---
plastic	60	---	45	60

Notes: (1) aluminium enclosure: Ta.min = -50°C (for limitation see name plate)
plastic enclosure: Ta.min = -40°C

Sensor: Temperature table for versions with sensor insulated
(for insulation not in compliance to manual of Endress+Hauser Flowtec)

Size / DN	T _{med} to be measured at reference point at sensor neck [°C]					
	T6	T5	T4	T3	T2	T1
all	---	71	75	77	77	77

Notes:
(1) for versions with pressure sensor, the pressure sensor shall not be insulated
(2) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- Ta.min = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperature and minimum medium temperature see nameplate
(3) versions with pressure sensor shall not exceed temperatures as listed in table beside for insulated and not insulated sensor
(4) location of reference point



Installation Drawing NEPSI (acc. to FES0322B)

Zone 2

Thermal Parameter

Proline Prosonic Flow G 300/500

Flowtec AG, Kätenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0340B

2/2

Versionen:

A	B	C	D	E
15.01.2019 / ENE	16.01.2023 / BEOE	---	---	---

Alle gesetzlichen Untersuchungen, vorzuziehen.
Diese Zeichnung darf ohne unsere
Genehmigung weder vervielfältigt werden noch
dritten Personen und Kontinenten
zugänglich gemacht werden.

Erstellt durch:

Erstellt für:

Ersteller: RDES / BEOE

FILE: M:\Zuehlf\FES0340\FES0340B.doc

Gezeichnet

Geprüft

Ex-geprüft

Gesehen

15.01.2019

16.01.2023

EKE

BEOE

第 12 页 / 共 20 页

Proline Prosonic Flow P 500

Notes:

This page applies to versions with extended order code covering:
DK9013-dd...
with approval option:
dd = NS

9*5*** – dd*****B...
DK9013-dd...
with approval option:
dd = NS

O9*5*** – dd*****B...
ODK9013-dd...
with approval option:
dd = NS

O9*5Bxx – dd*****B...
O9*5Bxx – dd*****B...

Transmitter: Temperature table for all versions

Type of sensor	T _{a,max}		T ₄ (135°C)
	T ₆ (85°C)	T ₅ (100°C)	
C-030-A	---	45	60

Notes: (1) T_{a,min} = -50°C (for limitation see name plate)

Sensor: Temperature table for versions with sensor Insulated and not insulated

Type of sensor	T _{amb}		T _{med,max} [°C]									
	min [°C]	max [°C]	T ₆ (85°C)	T ₅ (100°C)	T ₄ (135°C)	T ₃ (200°C)	T ₂ (300°C)	T ₁ (450°C)				
C-030-A	-50	120	80	95	120	120	120	120				
C-050-A	-20	80	75	80	80	80	80	80				
C-100-A	-20	80	75	80	80	80	80	80				
C-100-B	-40	80	70	70	80	80	80	80				
C-100-C	0	170	70	70	80	80	80	80				
C-200-B	-40	80	75	75	80	80	80	80				
C-200-B	-40	80	75	75	80	80	80	80				
C-200-C	0	170	75	75	80	80	80	80				
C-500-A	-40	150	75	75	80	80	80	80				
I-100-A	-40	80	75	75	80	80	80	80				
CH-050-A	-50	435	75	75	80	80	80	80				
CH-100-A	-50	435	75	75	80	80	80	80				

Notes: (1) for type of sensor, temperature range and applicable Group see name plate

Änderungen:

A 03.03.2020 / EKE

B 20.08.2020 / EKE

C 16.01.2023/BECE

D

E

F

G

H

I

K

Alle gesetzlichen Umwandeltabellen, vorbehalten.
Diese Zeichnung darf ohne unsere
Genehmigung weder vervielfältigt werden noch
an Dritte Personen und Konkurrenzfirmen
ausgeliefert gemacht werden.

Ersatz durch:

Ersatz für:

Ersatzler: ROES / BECE

FILE: M:\Ziehugi\FES0366C\FES0366C.doc

Installation Drawing NEPSI (acc. to FES0352C)

Zone 2

Thermal Parameter

Proline Prosonic Flow P 500

Gezeichnet

20.08.2020

EKE

Geprüft

16.01.2023

BECE

Gesehen

FES0366C

1/1

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5、产品防爆标志详细如下：

Proline G 300:

dd 代码	ff 代码	气体防爆标志	粉尘防爆标志
NB	HA, TA, CA, CB, CC, CD, MC, RC	Ex db eb ia [ia Ga] IIC T1...T6 Gb	Ex tb [ia Da] IIIC T** °C Db
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db eb ia IIC T1...T6 Gb	Ex tb IIIC T** °C Db
ND	HA, TA, CA, CB, CC, CD, MC, RC	Ex db ia [ia Ga] IIC T1...T6 Gb	Ex tb [ia Da] IIIC T** °C Db
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db ia IIC T1...T6 Gb	Ex tb IIIC T** °C Db
NS	HA, TA, CA, CB, CC, CD, MC, RC	Ex ec nC ic [ic] IIC T1...T5 Gc	---
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC ic IIC T1...T5 Gc	---

Proline G 500 传感器外壳内置ISEM:

dd 代码	ff 代码	转换器	传感器
		气体/粉尘防爆标志	气体/粉尘防爆标志
NJ	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	non-Ex	Ex db ia IIC T1...T6 Gb Ex ia tb IIIC T** °C Db
NL	HA, TA, CA, CB, CC, CD, MC, RC	[Ex ic] II C	Ex ec ic IIC T1...T5 Gc
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	non-Ex	

NN	HA, TA, CA, CB, CC, CD, MC, RC	Ex ec nC [ic] IIC T4...T5 Gc	Ex db ia IIC T1...T6 Gb Ex ia tb IIIC T** °C Db
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC IIC T4...T5 Gc	
NS	HA, TA, CA, CB, CC, CD, MC, RC	Ex ec nC [ic] IIC T4...T5 Gc	Ex ec ic IIC T1...T5 Gc
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC IIC T4...T5 Gc	

Proline P 500 转换器外壳内置ISEM:

dd 代码	ff 代码	转换器	传感器
		气体/粉尘防爆标志	气体/粉尘防爆标志
NB	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Ex db eb ia [ia Ga] IIC T5... T6 Gb Ex tb [ia Da] IIIC T85°C Db	Ex ia IIC T1...T6 Gb Ex ia IIIC T** °C Db
ND	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Ex db ia [ia Ga] IIC T5... T6 Gb Ex tb [ia Da] IIIC T85°C Db	Ex ia IIC T1...T6 Gb Ex ia IIIC T** °C Db
NS	HA, TA, CA, CB, CC, CD, MC, RC	Ex ec nC ic [ic] IIC T4...T5 Gc	Ex ic IIC T1...T6 Gc 或 Ex ic IIB T1...T6 Gc ¹⁾
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC ic [ic] IIC T4...T5 Gc	

注¹⁾：传感器C-200-A和I-100-A仅适用于IIB等级

6、产品电气参数:

电源			
dd e 代码	端子	参数	
NBD, NDD	No. 1(L+/L), 2(L-/N)	$U_N = 19.2\sim 28.8V_{dc}$ $U_M = 250Vac$	
NBE, NDE	No. 1(L+/L), 2(L-/N)	$U_N = 85\sim 264Vac$ $U_M = 250Vac$	
NSI, NJI NLI, NNI	No. 1(L+/L), 2(L-/N)	$U_N = 19.2\sim 28.8V_{dc}/ 85\sim 264Vac$ $U_M = 250Vac$	
输入/输出1			
ff 代码	端子	参数	
BA, BB, MA	No. 26, 27	$U_N = 30V_{dc}$ $U_M = 250Vac$	
LA, GA, SA	No. 26, 27	$U_N = 32V_{dc}$ $U_M = 250Vac$	
CA, CB	No. 26, 27	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0$ $C_i = 6nF$	
CC, CD	No. 26, 27	dd = NB, ND: $U_o = 21.8V$ $I_o = 90mA$ $P_o = 491mW$ $L_o = 4.1mH$ (IIC)/ 15mH (IIB) $C_o = 160nF$ (IIC)/ 1160nF (IIB) $U_i = 30V$ $I_i = 10mA$ $P_i = 0.3W$ $L_i = 5\mu H$ $C_i = 6nF$	dd = NS, NL, NN: $U_o = 21.8V$ $I_o = 90mA$ $P_o = 491mW$ $L_o = 9mH$ (IIC)/ 39mH (IIB) $C_o = 600nF$ (IIC)/ 4000nF (IIB) $U_i = 30V$ $I_i = 10mA$ $P_i = 0.3W$ $L_i = 5\mu H$ $C_i = 6nF$
HA, TA	No. 26, 27	dd = NB, ND: PA/FF $U_i = 30V$ $I_i = 570mA$ $P_i = 8.5W$ $L_i = 10\mu H$ $C_i = 5nF$	dd = NS, NL, NN: PA/FF $U_i = 32V$ $I_i = 570mA$ $P_i = 8.5W$ $L_i = 10\mu H$ $C_i = 5nF$

MB, RB	No. 26, 27	APL port profile SLAX / SPE PoDL classes 10, 11, 12 $U_N = 30\text{VDC}$ $U_M = 250\text{VAC}$	
MC, RC	No. 26, 27	dd ¹⁾ = NB, ND: 2-WISE power load APL port profile SLAA $U_i = 17.5\text{V}$ $I_i = 380\text{mA}$ $P_i = 5.32\text{W}$ $L_i \leq 10\mu\text{H}$ $C_i \leq 5\text{nF}$	dd ¹⁾ = NS, NL, NN: 2-WISE power load APL port profile SLAA $U_i = 17.5\text{V}$ $I_i = 380\text{mA}$ $P_i = 5.32\text{W}$ $L_i \leq 10\mu\text{H}$ $C_i \leq 5\text{nF}$
NA, RA	IO1 / RJ45	$U_N = 30\text{Vdc}$ $U_M = 250\text{Vac}$	

1) 对于输出参数来说没有额外的内部电容

输入/输出2		
g 代码	端子	参数
C, G, K	No. 24, 25	$U_i = 30\text{V}$ $I_i = 100\text{mA}$ $P_i = 1.25\text{W}$ $L_i = 0$ $C_i = 0$
B, D, E, F, I, J, L	No. 24, 25	$U_N = 30\text{Vdc}$ $U_M = 250\text{Vac}$
H	No. 24, 25	$U_N = 30\text{Vdc}$ $I_N = 100\text{mA} / 500\text{mA}$ $U_M = 250\text{Vac}$

输入/输出3		
h 代码	端子	参数
C, G, K	No. 22, 23	$U_i = 30\text{V}$ $I_i = 100\text{mA}$ $P_i = 1.25\text{W}$ $L_i = 0$ $C_i = 0$
B, D, E, F, I, J, L	No. 22, 23	$U_N = 30\text{Vdc}$ $U_M = 250\text{Vac}$
H	No. 22, 23	$U_N = 30\text{Vdc}$ $I_N = 100\text{mA} / 500\text{mA}$ $U_M = 250\text{Vac}$

输入/输出4		
i 代码	端子	参数
C, G, K	No. 20, 21	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0$ $C_i = 0$
B, D, E, F, I, J, L	No. 20, 21	$U_N = 30Vdc$ $U_M = 250Vac$
H	No. 20, 21	$U_N = 30Vdc$ $I_N = 100mA/ 500mA$ $U_M = 250Vac$

服务接口		
dd 代码	端子	参数
NB	服务接口	服务接口仅能安装在非爆炸危险场所的非本质安全电路: $U_N = 3.3 V$, $U_M = 250 Vac$ 或者 本质安全电路: $U_i = 10V$, $I_i = n.a.$, $P_i = na.$, $C_i = 200nF$, $L_i = 0$
ND	服务接口	服务接口仅能安装于非本质安全电路: $U_N = 3.3 V$, $U_M = 250 Vac$ 或者 本质安全电路: $U_i = 10V$, $I_i = n.a.$, $P_i = na.$, $C_i = 200nF$, $L_i = 0$
不适用于 NB, ND	服务接口	$U_N = 3.3V$

天线套管		
dd 代码	端子	参数
NB, NJ, NL, NN, NS	N connector	使用Endress+Hauser提供的RF天线: 或使用符合下列要求带或不带电缆的RF天线: - 最小阻抗 50Ω - 频率范围不超过 $1710MHz...6000MHz$ -配有N型连接器插头(MIL-STD-348)

远程显示		
dd 代码	端子	参数
NB, ND	No. 81, 82, 83, 84	$U_o = 3.9V$ $I_o = 1.5A$ (spark) $200mA$ (power) $P_o = 600mW$ $R_i = 2.6\Omega$ $L_o = 0$ $C_o = 670\mu F$
NS	No. 81, 82, 83, 84	$U_N = 3.3V$ $I_N = 150mA$

认证代码 **dd** = NB或ND的产品连接E+H公司远程显示单元DKX001或ODKX001时，连接电缆应满足 $L/R \leq 0.024mH/\Omega$ 的要求。

7、传感器电路电气参数：

Prosonic Flow G:

dd k 代码	转换器	
NJA, NNA	端子61, 62	$U_N = 35V$
	端子63, 64	$U_N = 3.3V$
	传感器	
	端子61, 62	$U_N = 35V$
	端子63, 64	$U_N = 3.3V$

dd k 代码	转换器	
NLA, NSA	端子61, 62	$U_N = 35V$
	端子63, 64	$U_N = 3.3V$
	传感器	
	端子61, 62	$U_N = 35V$
	端子63, 64	$U_N = 3.3V$

Prosonic Flow P:

dd k 代码	转换器	
NBB, NDB	CH1, CH2	$U_o = 40V$, $I_o = 36.7mA$, $P_o = 459mW$, $L_i = N/A$, $C_i = N/A$
	传感器	
	连接器	$U_i = 40V$, $I_i = N/A$, $P_i = N/A$, $L_i = N/A$, $C_i = N/A$

dd k 代码	转换器	
NSB	CH1, CH2	U _o = 50V, I _o = 45.9mA, P _o = 459mW, Li = N/A, Ci = N/A
	传感器	
	连接器	Ui = 50V, li = N/A, Pi = N/A, Li = N/A, Ci = N/A

8、产品的电缆引入口须配用经防爆检验认可的、符合相应防爆型式和防爆等级的电缆引入装置或堵头；当接线腔为增安型时，可使用厂家指定的Ex e电缆引入装置。产品装配完整后，外壳防护等级不得低于GB/T 4208-2017规定的IP66/67。

9、产品在现场维护使用时应遵循“断电源后开盖”的原则。

10、产品在粉尘环境使用维护时，应定期采取清洁措施，以防止表面积聚粉尘。

11、用户不得自行随意更换该产品的电气零部件，应会同产品制造商共同解决运行中出现的故障，以免影响防爆性能和损坏现象的发生。

12、产品的安装、使用和维护应同时遵守产品使用说明书、GB/T 3836.13-2021“爆炸性环境 第13部分：设备的修理、检修、修复和改造”、GB/T 3836.15-2017“爆炸性环境 第15部分：电气装置的设计、选型和安装”、GB/T 3836.16-2022“爆炸性环境 第16部分：电气装置的检查与维护”、GB/T 3836.18-2017“爆炸性环境 第18部分：本质安全电气系统”、GB 50257-2014“电气设备安装工程爆炸和火灾危险环境电气装置施工及验收规范”及GB 15577-2018“粉尘防爆安全规程”的有关规定。

三、制造厂责任

1、产品制造厂必须将上述产品安全使用特殊条件和使用注意事项纳入该产品使用说明书；

2、制造厂必须严格按照NEPSI认可的文件资料生产。

上海仪器仪表自控系统检验测试所有限公司

国家级仪器仪表防爆安全监督检验站

二〇二四年三月十八日



(GYJ24.1039X)

(Attachment I)

Attachment I to GYJ24.1039X

1. Description

Proline Prosonic Flow 300/500 Series Ultrasonic Flowmeter, manufactured by Endress+Hauser Flowtec AG, has been certified by National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI). This type of product accords with following standards:

GB/T 3836.1-2021 Explosive atmospheres-Part 1: Equipment-General requirements

GB/T3836.2-2021 Explosive atmospheres-Part 2: Equipment protection by flameproof enclosure“d”

GB/T3836.3-2021 Explosive atmospheres-Part 3: Equipment protection by increased safety“e”

GB/T 3836.4-2021 Explosive atmospheres-Part 4: Equipment protection by intrinsic safety“i”

GB/T 3836.8-2021 Explosive atmospheres-Part 8: Equipment protection by type of protection“n”

GB/T3836.31-2021 Explosive atmospheres-Part 31: Equipment dust ignition protection by enclosure“t”

The Ex marking is shown as following section, its certificate number is GYJ24.1039X.

Type approved in this certificate is detailed as below:

Proline Prosonic Flow G 300:

9G3**b** **cc** -**dd** **e** **ff** **g** **h** **j** **l** **p** **ss** **t** **uuu** **v** **ww** +**###**

O9G3**b** **cc** -**dd** **e** **ff** **g** **h** **j** **l** **p** **ss** **t** **uuu** **v** **ww** **yy** +**###** for OEM-version

Proline Prosonic Flow G 500:

9G5**b** **cc** -**dd** **e** **ff** **g** **h** **i** **j** **k** **m** **n** **o** **p** **ss** **t** **uuu** **v** **ww** +**###**

O9G5**b** **cc** -**dd** **e** **ff** **g** **h** **i** **j** **k** **m** **n** **o** **p** **ss** **t** **uuu** **v** **ww** **yy** +**###** for OEM-version

Proline Prosonic Flow G 300

Proline Prosonic Flow G 500

9x3**b** **xx** -**dd** **e** **ff** **g** **h** **j** **l** **p** **rr** **ss** **ww** +**###** for replacement transmitter

O9x3**b** **xx** -**dd** **e** **ff** **g** **h** **j** **l** **p** **rr** **ss** **ww** **yy** +**###** for replacement transmitter OEM

9x5**b** **xx** -**dd** **e** **ff** **g** **h** **i** **j** **k** **m** **o** **p** **qq** **rr** **ss** **ww** +**###** for replacement transmitter

O9x5**b** **xx** -**dd** **e** **ff** **g** **h** **i** **j** **k** **m** **o** **p** **qq** **rr** **ss** **ww** **yy** +**###** for replacement transmitter OEM

b indicates generation, including B = Generation of Flowmeter;

cc indicates size, any double digits with combination of number or letter;

dd indicates NEPSI approval code, refer to Clause 3.5 for the detail;

e indicates power supply, including D = 24Vdc, E = 100~230Vac, I = 100~230Vac/ 24Vdc, X=sensor only;

ff indicates input/output 1, including BA = 4~20mA HART;

BB = 4~20mA WHART;

CA = 4~20mA HART Ex i (passive);

CB = 4~20mA WHART Ex i (passive);

CC = 4~20mA HART Ex i (active);

CD = 4~20mA WHART Ex i (active);

GA = Profibus PA;

HA = Profibus PA Ex i;

LA = Profibus DP;

MA = Modbus RS485;

MB= Modbus TCP;

MC= Modbus TCP Ex i;

NA = EtherNet/IP;

RA = Profinet IO;

RB= Profinet;

RC= Profinet Ex i;

SA = Foundation Fieldbus;

TA = Foundation Fieldbus Ex i;

XX = sensor only;

g indicates input/output 2, including A = without input/output 2;

B = 4~20mA;

C = 4~20mA Ex i (passive);

D = configurable IO;

E = pulse/frequency/switch output;

F = pulse output phase-shifted;

G = pulse/frequency/switch output Ex i;

H = relay;

I = 4~20mA input;

J = status input;

K = Pulse output Ex i;

L = Pulse output;

X = sensor only;

h indicates input/output 3, including A = without input/output 3;

B = 4~20mA;

C = 4~20mA Ex i (passive);

D = configurable IO;

E = pulse/frequency/switch output;

F = pulse output phase-shifted;
 G = pulse/frequency/switch output Ex i;
 H = relay;
 I = 4~20mA input;
 J = status input;
 K = Pulse output Ex i;
 L = Pulse output;
 X = sensor only;

i indicates input/output 4, including A = without input/output 4;
 (Proline 500 only)

B = 4~20mA;
 C = 4~20mA Ex i (passive);
 D = configurable IO;
 E = pulse/frequency/switch output;
 F = pulse output phase-shifted;
 G = pulse/frequency/switch output Ex i;
 H = relay;
 I = 4~20mA input;
 J = status input;
 K = Pulse output Ex i;
 L = Pulse output;
 X = sensor only;

j indicates display/operation, including O (with remote display) or any single number or letter except O (without remote display);

k indicates integrated ISEM electronic (Proline 500 only), including A = Sensor;

l indicates housing (Proline 300 only), any single number or letter;

m indicates transmitter housing (Proline 500 only), any single number or letter;

n indicates sensor housing (Proline 500 only), any single number or letter;

o indicates cable sensor connection (Proline 500 only), any single number or letter;

p indicates cable entry, any single number or letter;

qq indicates upgrade kit, any double digits with combination of number or letter;

rr indicates existing product, including GA=Prosonic Flow G;

ss indicates measuring tube material, sensor version, any double digits with combination of number or letter;

t indicates pressure component, any single number or letter;

uuu indicates process connection, any triple digits with combination of number or letter;

v indicates calibration, any single number or letter;

ww indicates device model(two digit), including A1= product version 1, A2 = product version 2;

yy indicates customer version, any double digits with combination of number and/or letter;

** indicates option in two digits, none or any combination of number and/or letter;

#, + indicates signs used as indicator for optional abbreviation of extended order codes.

Proline Prosonic Flow P 500:

9P5**b****cc**-**dd****e****ff****g****h****j****k****m****o****ss****t****uu****vv****ww**+###

O9P5**b****cc**-**dd****e****ff****g****h****j****k****m****o****ss****t****uu****vv****ww****yy**+### for OEM-version

Proline Prosonic Flow P 500:

9x5**b**_{xx}-**dd****e****ff****g****h****i****j****k****m****n****o****pp****rr****ss****ww**+###

for replacement transmitter only

O9x5**b**_{xx}-**dd****e****ff****g****h****i****j****k****m****n****o****pp****rr****ss****ww****yy**+###

for replacement transmitter OEM

b indicates generation, including B = Generation of Flowmeter;

cc indicates mounting type, any double digits with combination of number or letter;

dd indicates NEPSI approval code, refer to Clause 3.5 for the detail;

e indicates power supply, including D = 24Vdc, E = 100~230Vac, I = 100~230Vac/ 24Vdc;

ff indicates input/output 1, including BA = 4~20mA HART;

BB = 4~20mA WHART;

CA = 4~20mA HART Ex i (passive);

CB = 4~20mA WHART Ex i (passive);

CC = 4~20mA HART Ex i (active);

CD = 4~20mA WHART Ex i (active);

GA = Profibus PA;

HA = Profibus PA Ex i;

LA = Profibus DP;

MA = Modbus RS485;

MB = Modbus TCP;

MC = Modbus TCP Ex i;

NA = EtherNet/IP;

RA = Profinet IO;

RB = Profinet;

RC = Profinet Ex i;

SA = Foundation Fieldbus;

TA = Foundation Fieldbus Ex i;

XX = Sensor only;

g indicates input/output 2, including A = without input/output 2;

B = 4~20mA;

C = 4~20mA Ex i (passive);

D = configurable IO;

E = pulse/frequency/switch output;

F = pulse output phase-shifted;
 G = pulse/frequency/switch output Ex i;
 H = relay;
 I = 4~20mA input;
 J = status input;
 K = Pulse output Ex i;
 L = Pulse output;
 X = Sensor only;

h indicates input/output 3, including A = without input/output 3;

B = 4~20mA;
 C = 4~20mA Ex i (passive);
 D = configurable IO;
 E = pulse/frequency/switch output;
 F = pulse output phase-shifted;
 G = pulse/frequency/switch output Ex i;
 H = relay;
 I = 4~20mA input;
 J = status input;
 K = Pulse output Ex i;
 L = Pulse output;
 X = Sensor only;

i indicates input/output 4, including A = without input/output 4,

X = Sensor only;

j indicates display/operation, any single number or letter;

k indicates integrated ISEM electronic, including A = Sensor, B = Transmitter;

m indicates transmitter housing, any single number or letter;

n indicates cable sensor connection, any single number or letter;

o indicates cable entry, any single number or letter;

pp indicates upgrade kit, including AA = not used;

rr indicates existing product, PA = Prosonic Flow P,00 = not used;

ss indicates sensor version, any double digits with combination of number and/or letter;

t indicates process temperature, any single number or letter;

uu indicates cable, any double digits with combination of number and/or letter;

vv indicates installation set, any double digits with combination of number and/or letter;

ww indicates device model(two digits), including A2 = product version 2;

yy indicates customer version, any double digits with combination of number or letter;

****** indicates option in two digits, none or any combination of number and/or letter;

#, + indicates signs used as indicator for optional abbreviation of extended order codes.

Proline Prosonic Flow P 500 Clamp-On sensor:

DK9013 - **dd qq r ww**+##

ODK9013 - **dd qq r ww yy**+## for OEM-version

dd indicates NEPSI approval code, refer to Clause 3.5 for the detail;

qq indicates sensor version, any double digits with combination of number and/or letter;

r indicates process temperature, any single number or letter;

ww indicates device model, including 00 = not used;

yy indicates customer version, any double digits with combination of number or letter;

** indicates option in two digits, none or any combination of number and/or letter;

#, + indicates signs used as indicator for optional abbreviation of extended order codes.

For the details, see the instruction manual.

Note: Clamp-on sensors types DK9013 and ODK9013 are intended for use as replacement of sensors for product Prosonic Flow P500 types 9P5B and O9P5B or for extension of Prosonic Flow P500 types 9P5B and O9P5B from one sensor set to two sensor sets.

2. Special Conditions for Safe Use

The suffix "X" placed after the certificate number indicates that this product is subject to special conditions for safe use, that is:

2.1 All equipment of the measurement system shall be included in the equipotential bonding. Along the intrinsically safe sensor circuits potential equalization must exist.

2.2 The flameproof joints are not intended to be repaired.

2.3 The sensors may only be used for those process media, for which the wetted parts are known to be suitable.

2.4 Plastic transmitter enclosures of product Proline 500 with approval code **dd** = NJ, shall be installed in an area of at least pollution degree 2.

2.5 If the flowmeter system is connected to remote display type (O)DKX001, they should be paired as the following:

Approval code dd of Proline Prosonic 300	Approval code bb of remote display (O)DKX001 as covered by GYJ21.1084
NB or ND	NE, NF or NG
NS	NS

2.6 The Proline 300/500 Flowmeter that may include, stainless steel label tag with rope, when not bonded to earth used on coated transmitter and/or sensor enclosure, shall be prevented from risk of electrostatic charging caused by friction and/or cleaning.

2.7 Only use battery Renata type lithium CR1632, 3V.

3. Conditions for Safe Use

3.1 The external earth connection facility shall be connected reliably. For the remote version, potential must be

equalized along the intrinsically safe circuits between sensor and transmitter.

3.2 All the sensors can be assigned to sensor group L1 or L2.

3.3 Thermal Parameters (Zone 1)

Proline Prosonic Flow G 300

Notes:

This page applies to versions with extended order code covering:

9*3B** – dd...
with approval option: dd = NB, ND

OG*3B** – dd...
with approval option: dd = NB, ND

9x3Bxx – dd...
OGx3Bxx – dd...

Temperature table for versions with sensor insulated and not insulated (for insulation refer to manual of Endress+Hauser Flowtec)

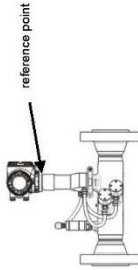
Size / DN	T _{amb}		T _{med, max} [°C]						
	min [°C]	max [°C]	T ₆	T ₅	T ₄	T ₃	T ₂	T ₁	
25 ... 300	-50	90	---	40	90	90	90	90	(450 °C)
150 (1)	---	150 (1)	---	85	120	150	150	150	(150)

Notes: (1) temperatures not applicable for versions with pressure sensor
(2) T_{1, min} = -40°C, -50°C respectively (see nameplate)
(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor

Temperature table for versions with sensor insulated (for insulation not in compliance to manual of Endress+Hauser Flowtec)

Size / DN	T _{min} to be measured at reference point at sensor neck [°C]							
	T ₆ (85 °C)	T ₅ (100 °C)	T ₄ (135 °C)	T ₃ (200 °C)	T ₂ (300 °C)	T ₁ (450 °C)		
all	85	88	72	74	74	74		

Notes: (1) for versions with pressure sensor, the pressure sensor shall not be insulated
(2) for safe use temperatures shall not exceed all of the following:
- temperature of the sensor shall not exceed the value listed (refer to table above)
- temperature at reference point as listed in this table
- T_{1, min} = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperature and minimum medium temperature see nameplate
(3) versions with pressure sensor shall not exceed temperatures as listed in table beside for insulated and not insulated sensor
(4) location of reference point



Änderungen:	A	15.01.2019 / EKE	F	Alle gezeichneten Unklarheiten, Vorklärungen, Dies Zeichnung darf ohne unsere Genehmigung weiter vervielfältigt werden nach dem Namen und Konformitätsnormen zugänglich gemacht werden.	Ersetzt durch:		
	B		G		Erstellt für		
	C		H		Ersteller: FES / EKE		
	D		I		FILE: IN-Zeichnung/FES0339A/FES0339A.doc		
	E		K				
Installation Drawing NEPSI (acc. to FES0321A)					Gezeichnet	15.01.2019	EKE
Zone 1, Zone 21					Geprüft		
Thermal Parameter					Er-geprüft	15.01.2019	EKE
Proline Prosonic Flow G 300/500					Gesehen		
 Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL 1, Postfach					FES0339A 1/2		

Proline Prosonic Flow G 500

Notes:

This page applies to versions with extended order code covering:

9*5*** – dd*****A...

O9*5*** – dd*****A...

9x5Bxx – dd*****A...

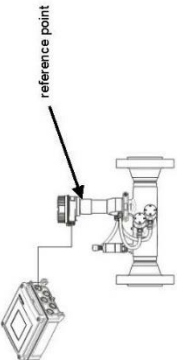
O9x5Bxx – dd*****A...

with approval option: dd = NJ, NN

Sensor: Temperature table for versions with sensor insulated and not insulated (for insulation refer to manual of Endress+Hauser Flowtec)

Size / DN	T _{med}		T _{max}						
	min [°C]	max [°C]	T6 [°C]	T5 [°C]	T4 [°C]	T3 [°C]	T2 [°C]	T1 [°C]	
25 ... 300	-50	90	40	40	40	90	90	90	
			55	40	40	90	90	90	
			60	---	90	90	90	90	
			150 (1)	60 (1)	70	85	120	150	150

Notes: (1) temperatures not applicable for versions with pressure sensor
(2) T_{a,min} = -40°C, -50°C respectively (see nameplate)
(3) for applicable version with maximum medium temperature and minimum medium temperature see nameplate

Size / DN	T _{max} to be measured at reference point at sensor neck [°C]						
	T6 (85°C)	T5 (100°C)	T3 (135°C)	T2 (200°C)	T1 (300°C)	T1 (450°C)	
all	69	71	75	77	77	77	
Notes: (1) for versions with pressure sensor, the pressure sensor shall not be insulated (2) for safe use temperatures shall not exceed all of the following: - temperature table for versions with sensor not insulated (refer to table above) - temperature at reference point as listed in this table - T _{a,min} = -40°C, -50°C respectively (see nameplate) - for maximum medium temperature and minimum medium temperature see nameplate (3) versions with pressure sensor shall not exceed temperatures as listed in table beside for insulated and not insulated sensor (4) location of reference point							
							

Transmitter for all versions

Type of enclosure	T _{a,max} [°C]			
	Ordinary location (°C)	T6 (85°C)	T5 (100°C)	T4 (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---
Note: (1) aluminium enclosure: T _{a,min} = 50°C (for limitation see name plate) plastic enclosure: T _{a,min} = -40°C				

Änderungen	A	15.01.2019 / EKE	E																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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Proline Prosonic Flow P 500

Notes:
This page applies to versions with extended order code covering:
9*5*** – dd*****B... O9*5*** – dd*****B... O9x5Bxx – dd*****B...
DK9013-dd... ODK9013-dd... 9x5Bxx – dd*****B...
with approval option : dd = NB, ND

Transmitter: Temperature table for all versions

T _{trans}	
T ₆ (85 °C)	T ₅ (100 °C)
55	60

Notes: (1) T_{a min} = -50 °C (for limitation see name plate)

Sensor: Temperature table for versions with sensor
Insulated and not insulated

Type of sensor	T _{res}		T _a		T _{res,max} (°C)									
	min [°C]	max [°C]	min [°C]	max [°C]	T ₆ (85 °C)	T ₅ (100 °C)	T ₄ (135 °C)	T ₃ (200 °C)	T ₂ (300 °C)	T ₁ (450 °C)				
C-030-A	-50	120	-50	80	80	80	95	120	120	120				
C-100-B	-40	80	-40	80	50	50	80	80	80	80				
C-100-C	0	170	-40	80	80	80	95	130	170	170				
C-200-B	-40	80	-40	80	65	65	80	80	80	80				
C-200-C	0	170	-40	80	65	65	95	130	170	170				
C-500-A	-40	150	-40	75	75	75	95	130	150	150				
CH+050-A	-50	435	-50	75	75	75	95	130	190	285				
CH+100-A	-50	435	-50	75	75	75	95	130	190	285				

Notes: (1) for type of sensor, temperature range and applicable Group see name plate

Revisions:

A	B	C	D	E	F	G
08.03.2010 / ENE	20.04.2020 / ENE	16.01.2022 / ENE				

Alle geneigten Änderungen vorbehalten.
Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch
offen hergeben und kopiert werden.
zugänglich gemacht werden.

Erstellt durch:
Erstellt für:
Ersteller: RDES / BEOE
P.L.E. in Zürich/FES0365C-FE 9008C.doc

Installation Drawing NEPSI (acc. to FES0351C)
Zone 1, Zone 21
Thermal Parameter
Proline Prosonic Flow P 500

Geprüft	20.08.2020	EKE
Geprüft		
Ergeprüft	16.01.2023	BEOE
Geprüft		

FES0365C 1/1

Flowtec AG, Kärntenstrasse 7, CH-4153 Reinach BL 1, Postfach

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3.4 Thermal Parameters (Zone 2)

9"3B** – dd...
with approval option : dd = NS

O9"3B** – dd...
9x3Bxx – dd...
O9x3Bxx – dd...

Proline Prosonic Flow G 300

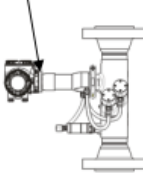
Notes:
This page applies to versions with extended order code covering:

Temperature table for versions with sensor insulated and not insulated
(for insulation refer to manual of Endress+Hauser Flowtec)

Size / DN	T _{amb}		T _{fluid} [°C]									
	min [°C]	max [°C]	T ₆	T ₅	T ₄	T ₃	T ₂	T ₁				
25 ... 300	-50	90	---	40	90	90	90	90	90	90	90	
												150 (1)
Notes:	(1) temperatures not applicable for versions with pressure sensor	(2) T _{a,min} = -40°C, -50°C respectively (see nameplate)	(3) values in brackets are applicable for installation where the transmitter is not installed above the sensor	(4) versions with transmitter enclosure stainless steel (metal sheet) only for installation where transmitter is not installed above the sensor	(5) Versions with transmitter enclosure stainless steel (metal sheet) installed in temperature class T ₅ , a degree of 3°C for ambient temperature shall be taken into account							

Temperature table for versions with sensor insulated
(for insulation not in compliance with manual of Endress+Hauser Flowtec)

Size / DN	T _{ref} to be measured at reference point at sensor neck [°C]									
	T ₆ (85°C)	T ₅ (100°C)	T ₄ (135°C)	T ₃ (200°C)	T ₂ (300°C)	T ₁ (450°C)				
all	---	62	72	73	73	73				
Notes:	(1) for versions with pressure sensor, the pressure sensor shall not be insulated	(2) for safe use temperatures shall not exceed all of the following: - temperature table for versions with sensor not insulated (refer to table above) - temperature at reference point as listed in this table - T _{a,min} = -40°C, -50°C respectively (see nameplate) - for maximum medium temperature and minimum medium temperature see nameplate	(3) versions with pressure sensor shall not exceed temperatures as listed in table beside for insulated and not insulated sensor	(4) location of reference point						



reference point

Zone 2

Thermal Parameter

Proline Prosonic Flow G 300/500

Installation Drawing NEPSI (acc. to FES0322B)

Zone 2

Thermal Parameter

Proline Prosonic Flow G 300/500

Flowtec AG, Känenstrasse 7, CH-4153 Reinach BL 1, Postfach

FES0340B

1/2

Änderungen:

A	15.01.2019 / EKE	F	G
B	16.01.2023/BEOE	G	
C		H	
D		I	
E		K	

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Erstellt durch:
Erstellt für:
Entwickler: RDES / BEOE
FILE: M:\Zugriff\FES0340\FES0340B.dwg

Gezeichnet

15.01.2019

EKE

Geprüft

16.01.2023

BEOE

Gesehen

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Proline Prosonic Flow G 500

Notes:
This page applies to versions with extended order code covering:
9'5*** – dd*****A... with approval option
cCSAus / CSA: dd = CS, CZ
IECEX / ATEX: dd = BL, BS

09'5*** – dd*****A...
9x5Bxx – dd*****A...
09x5Bxx – dd*****A...

Sensor: Temperature table for versions with sensor insulated and not insulated
(for insulation refer to manual of Endress+Hauser Flowtec)

Size / DN	T _{max} to be measured at reference point at sensor neck [°C]									
	T _{min} [°C]	T _{max} [°C]	T ₆ (85°C)	T ₅ (100°C)	T ₄ (135°C)	T ₃ (200°C)	T ₂ (300°C)	T ₁ (450°C)		
25 ... 300	-50	90	---	40	90	90	90	90		
	150 (1)	60 (1)	---	85	120	150	150	150		

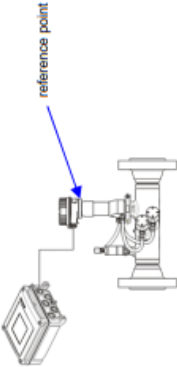
Notes:
(1) temperatures not applicable for versions with pressure sensor
(2) T_{a,min} = -40°C, -50°C respectively (see nameplate)

Sensor: Temperature table for versions with sensor insulated

(for insulation not in compliance to manual of Endress+Hauser Flowtec)

Size / DN	T _{max} to be measured at reference point at sensor neck [°C]						
	T ₆ (80°C)	T ₅ (100°C)	T ₄ (135°C)	T ₃ (200°C)	T ₂ (300°C)	T ₁ (450°C)	
all	---	71	75	77	77	77	

Notes:
(1) for versions with pressure sensor, the pressure sensor shall not be insulated
(2) for safe use temperatures shall not exceed all of the following:
- temperature table for versions with sensor not insulated (refer to table above)
- temperature at reference point as listed in this table
- T_{a,min} = -40°C, -50°C respectively (see nameplate)
- for maximum medium temperature and minimum medium temperature see nameplate
(3) versions with pressure sensor shall not exceed temperatures as listed in table beside for insulated and not insulated sensor
(4) location of reference point



Transmitter for all versions

Type of enclosure	T _{a,max}			
	Ordinary location (°C)	T ₆ (85°C)	T ₅ (100°C)	T ₄ (135°C)
aluminium	60	---	45	60
plastic	60	---	---	---

Notes: (1) aluminium enclosure: T_{a,min} = -50°C (for limitation see name plate)
plastic enclosure: T_{a,min} = -40°C

Installation Drawing NEPSI (acc. to FES0322B)

Zone 2

Thermal Parameter

Proline Prosonic Flow G 300/500

Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach

FES0340B

2/2

Änderungen:

A	15.01.2019 / EKE	F
B	16.01.2023/BEOE	G
C		H
D		J
E		K

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Erstellt durch:
Erstellt für:
Ersteller: RDES / BEOE
FILE: M:\Zusatz\FES0340\FES0340B.dwg

Gezeichnet	15.01.2019	EKE
Geprüft		
Ex-geprüft	16.01.2023	BEOE
Gesehen		

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Notes:

This page applies to versions with extended order code covering:

9*5*** - dd*****B...
DK9013-dd...
with approval option:

O9*5*** - dd*****B...
ODK9013-dd...
dd = NS

9x5Bxx - dd*****B...

O9x5Bxx - dd*****B...

Transmitter: Temperature table for all versions

T _{a, max}			
	T6 (85°C)	T5 (100°C)	T4 (135°C)
		45	60

Notes: (1) T_{a, min} = -50°C (for limitation see name plate)

Sensor: Temperature table for versions with sensor Insulated and not insulated

Type of sensor	T _{ind}		T _a		T _{ind,max} [°C]						
	min [°C]	max [°C]	min [°C]	max [°C]	T6 (85 °C)	T5 (100 °C)	T4 (135 °C)	T3 (200 °C)	T2 (300 °C)	T1 (450 °C)	
C-030-A	-50	120	-50	80	80	95	120	120	120	120	
C-050-A	-20	80	-20	75	80	80	80	80	80	80	
C-100-A	-20	80	-20	75	---	80	80	80	80	80	
C-100-B	-40	80	-40	70	---	80	80	80	80	80	
C-100-C	0	170	-40	70	---	80	80	80	80	80	
C-200-B	-40	80	-40	75	---	80	80	80	80	80	
C-200-C	-40	80	-40	75	---	80	80	80	80	80	
C-500-A	-40	150	-40	75	75	95	130	170	170	170	
I-100-A	-40	80	-40	75	---	80	80	80	80	80	
CH-050-A	-50	435	-50	75	75	95	130	190	285	435	
CH-100-A	-50	435	-50	75	---	95	130	190	285	435	

Notes: (1) for type of sensor, temperature range and applicable Group see name plate

Änderungen:		A	03.03.2020 / EKE	F	Alle gesetzlichen Unaberechte. vorbehalten.	
		B	20.08.2020 / EKE	G	Diese Zeichnung darf ohne unsere	
		C	16.01.2023/BEDE	H	Genehmigung weder vervielfältigt werden noch	
		D		I	an Dritte Personen und Kopierschneisen	
		E		K	zugänglich gemacht werden.	



Elyon AG, Kärntnerstrasse 7, 9141453, Berlin, BL 1, Postfach

FES0366C

1/1

Installation Drawing NEPSI (acc. to FES0352C)

Zone 2

Thermal Parameter

Proline Prosonic Flow P 500

Ersatz durch:		Ersatz für:		Erläuterer: ROES / BEDE		FILE: M-Zeichn\FES0366C\FES0366C.dwg	
Gezeichnet		20.08.2020		EKE			
Geprüft							
Ex-geprüft		16.01.2023		BEDE			
Gelesen							

3.5 The Ex marking of this product is detailed as following:

Proline G 300:

dd code	ff code	Marking Gas	Marking Dust
NB	HA, TA, CA, CB, CC, CD, MC, RC	Ex db eb ia [ia Ga] IIC T1...T6 Gb	Ex tb [ia Da] IIIC T** °C Db
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db eb ia IIC T1...T6 Gb	Ex tb IIIC T** °C Db
ND	HA, TA, CA, CB, CC, CD, MC, RC	Ex db ia [ia Ga] IIC T1...T6 Gb	Ex tb [ia Da] IIIC T** °C Db
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex db ia IIC T1...T6 Gb	Ex tb IIIC T** °C Db
NS	HA, TA, CA, CB, CC, CD, MC, RC	Ex ec nC ic [ic] IIC T1...T5 Gc	---
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC ic IIC T1...T5 Gc	---

Proline G 500 with ISEM integrated in sensor:

dd code	ff code	Transmitter	Sensor
		Marking Gas & Dust	Marking Gas & Dust
NJ	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	non-Ex	Ex db ia IIC T1...T6 Gb Ex ia tb IIIC T** °C Db
NL	HA, TA, CA, CB, CC, CD, MC, RC	[Ex ic] II C	Ex ec ic IIC T1...T5 Gc
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	non-Ex	
NN	HA, TA, CA, CB, CC, CD, MC, RC	Ex ec nC [ic] IIC T4...T5 Gc	Ex db ia IIC T1...T6 Gb Ex ia tb IIIC T** °C Db
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC IIC T4...T5 Gc	

NS	HA, TA, CA, CB, CC, CD, MC, RC	Ex ec nC [ic] IIC T4...T5 Gc	Ex ec ic IIC T1...T5 Gc
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC IIC T4...T5 Gc	

Proline P 500 with ISEM integrated in transmitter:

dd code	ff code	Transmitter	Sensor
		Marking Gas & Dust	Marking Gas & Dust
NB	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Ex db eb ia [ia Ga] IIC T5... T6 Gb Ex tb [ia Da] IIIC T85°C Db	Ex ia IIC T1...T6 Gb Ex ia IIIC T** °C Db
ND	CA, CB, CC, CD, HA, TA, BA, BB, GA, LA, NA, RA, RB, RC, SA, MA, MB, MC	Ex db ia [ia Ga] IIC T5... T6 Gb Ex tb [ia Da] IIIC T85°C Db	Ex ia IIC T1...T6 Gb Ex ia IIIC T** °C Db
NS	HA, TA, CA, CB, CC, CD, MC, RC	Ex ec nC ic [ic] IIC T4...T5 Gc	Ex ic IIC T1...T6 Gc or Ex ic IIB T1...T6 Gc ¹⁾
	BA, BB, GA, LA, NA, RA, SA, MA, MB, RB	Ex ec nC ic [ic] IIC T4...T5 Gc	

Note ¹⁾: Sensors type C-200-A and I-100-A are available only for group IIB

3.6 Electrical parameters

Power supply		
dd e code	terminal no.	values
NBD, NDD	No. 1(L+/L), 2(L-/N)	U _N = 19.2~28.8Vdc U _M = 250Vac
NBE, NDE	No. 1(L+/L), 2(L-/N)	U _N = 85~264Vac U _M = 250Vac
NSI, NJI NLI, NNI	No. 1(L+/L), 2(L-/N)	U _N = 19.2~28.8Vdc/ 85~264Vac U _M = 250Vac

Input/output 1		
ff code	terminal no.	values
BA, BB, MA	No. 26, 27	U _N = 30Vdc U _M = 250Vac
LA, GA, SA	No. 26, 27	U _N = 32Vdc

		$U_M = 250V_{ac}$	
CA, CB	No. 26, 27	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0$ $C_i = 6nF$	
CC, CD	No. 26, 27	$dd = NB, ND:$ $U_o = 21.8V$ $I_o = 90mA$ $P_o = 491mW$ $L_o = 4.1mH$ (IIC)/ 15mH (IIB) $C_o = 160nF$ (IIC)/ 1160nF (IIB) $U_i = 30V$ $I_i = 10mA$ $P_i = 0.3W$ $L_i = 4.1mH$ $C_i = 6nF$	$dd = NS, NN:$ $U_o = 21.8V$ $I_o = 90mA$ $P_o = 491mW$ $L_o = 9mH$ (IIC)/ 39mH (IIB) $C_o = 600nF$ (IIC)/ 4000nF (IIB) $U_i = 30V$ $I_i = 10mA$ $P_i = 0.3W$ $L_i = 4.1mH$ $C_i = 6nF$
HA, TA	No. 26, 27	$dd = NB, ND:$ PA/FF $U_i = 30V$ $I_i = 570mA$ $P_i = 8.5W$ $L_i = 10\mu H$ $C_i = 5nF$	$dd = NS, NN:$ PA/FF $U_i = 32V$ $I_i = 570mA$ $P_i = 8.5W$ $L_i = 10\mu H$ $C_i = 5nF$
MB,RB	No. 26, 27	APL port profile SLAX / SPE PoDL classes 10, 11, 12 $U_N = 30V_{DC}$ $U_M = 250V_{AC}$	
MC.RC	No. 26, 27	$dd^1 = NB, ND:$ 2-WISE power load APL port profile SLAA $U_i = 17.5V$ $I_i = 380mA$ $P_i = 5.32W$ $L_i \leq 10\mu H$ $C_i \leq 5nF$	$dd^1 = NS, NL,$ NN: 2-WISE power load APL port profile SLAC $U_i = 17.5V$ $I_i = 380mA$ $P_i = 5.32W$ $L_i \leq 10\mu H$ $C_i \leq 5nF$
NA, RA	IO1 / RJ45	$U_N = 30V_{dc}$ $U_M = 250V_{ac}$	

Note ¹⁾: no additional internal capacitances are effective to the output value

Input/output 2		
g code	terminal no.	values
C, G, K	No. 24, 25	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0$ $C_i = 0$
B, D, E, F, I, J, L	No. 24, 25	$U_N = 30Vdc$ $U_M = 250Vac$
H	No. 24, 25	$U_N = 30Vdc$ $I_N = 100mA/ 500mA$ $U_M = 250Vac$

Input/output 3		
h code	terminal no.	values
C, G, K	No. 22, 23	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0$ $C_i = 0$
B, D, E, F, I, J, L	No. 22, 23	$U_N = 30Vdc$ $U_M = 250Vac$
H	No. 22, 23	$U_N = 30Vdc$ $I_N = 100mA/ 500mA$ $U_M = 250Vac$

Input/output 4		
i code	terminal no.	values
C, G, K	No. 20, 21	$U_i = 30V$ $I_i = 100mA$ $P_i = 1.25W$ $L_i = 0$ $C_i = 0$
B, D, E, F, I, J, L	No. 20, 21	$U_N = 30Vdc$ $U_M = 250Vac$
H	No. 20, 21	$U_N = 30Vdc$ $I_N = 100mA/ 500mA$ $U_M = 250Vac$

Service interface		
dd code	terminal no.	values
NB	Service interface	Service interface shall only be installed in areas which are known to be non hazardous with a non intrinsically safe circuit $U_N = 3.3 \text{ V}$, $U_M = 250 \text{ Vac}$ or to an intrinsically safe circuit with $U_i = 10\text{V}$, $I_i = \text{n.a.}$, $P_i = \text{na.}$, $C_i = 200\text{nF}$, $L_i = 0$
ND	Service interface	Service interface shall only be installed to an non intrinsically safe circuit with $U_N = 3.3 \text{ V}$, $U_M = 250 \text{ Vac}$ or to an intrinsically safe circuit with $U_i = 10\text{V}$, $I_i = \text{n.a.}$, $P_i = \text{na.}$, $C_i = 200\text{nF}$, $L_i = 0$
not for NB, ND	Service interface	$U_N = 3.3\text{V}$

Antenna bushing		
dd code	terminal no.	values
NB, NJ, NL, NN, NS	N connector	RF antenna supplied by Endress+Hauser; As an alternate, any passive omni-directional RF antenna with or without cable is permitted to be connected to the output of the antenna bushing when meeting the following parameters: - have an impedance of at least 50Ω - frequency range not exceeding $1710\text{MHz} \dots 6000\text{MHz}$ - fitted with a Type N connector plug (MIL-STD-348)

Remote display		
dd code	terminal no.	values
NB, ND	No. 81, 82, 83, 84	$U_o = 3.9\text{V}$ $I_o = 1.5\text{A}$ (spark) 200mA (power) $P_o = 600\text{mW}$ $R_i = 2.6\Omega$ $L_o = 0$ $C_o = 670\mu\text{F}$
NS	No. 81, 82, 83, 84	$U_N = 3.3\text{V}$ $I_N = 150\text{mA}$

For transmitter with approval code **dd** = NB and ND connected to the remote display of Endress+Hauser, Type DKX001 or ODKX001, the cable parameter with ration $L/R \leq 0.024 \text{mH}/\Omega$ applies.

3.7 Electrical parameters of sensor circuits:

Prosonic Flow G:

dd k code	Transmitter:	
NJA, NNA	Terminals 61, 62	$U_N = 35\text{V}$
	Terminals 63, 64	$U_N = 3.3\text{V}$
	Sensor:	
	Terminals 61, 62	$U_N = 35\text{V}$
	Terminals 63, 64	$U_N = 3.3\text{V}$

dd k code	Transmitter:	
NLA, NSA	Terminals 61, 62	$U_N = 35\text{V}$
	Terminals 63, 64	$U_N = 3.3\text{V}$
	Sensor:	
	Terminals 61, 62	$U_N = 35\text{V}$
	Terminals 63, 64	$U_N = 3.3\text{V}$

Prosonic Flow P:

dd k code	Transmitter:	
NBB, NDB	CH1, CH2	$U_o = 40\text{V}$, $I_o = 36.7\text{mA}$, $P_o = 459\text{mW}$, $L_i = \text{N/A}$, $C_i = \text{N/A}$
	Sensor:	
	Connector	$U_i = 40\text{V}$, $I_i = \text{N/A}$, $P_i = \text{N/A}$, $L_i = \text{N/A}$, $C_i = \text{N/A}$

dd k code	Transmitter:	
NSB	CH1, CH2	$U_o = 50\text{V}$, $I_o = 45.9\text{mA}$, $P_o = 459\text{mW}$, $L_i = \text{N/A}$, $C_i = \text{N/A}$
	Sensor:	
	Connector	$U_i = 50\text{V}$, $I_i = \text{N/A}$, $P_i = \text{N/A}$, $L_i = \text{N/A}$, $C_i = \text{N/A}$

3.8 For cable entries, appropriate separately certified cable glands or blind plugs shall be used. Otherwise/alternatively Ex e cable glands specified/provided by the manufacture can be used (terminal compartment in increased safety only). After installation, the ingress protection shall be at least IP66/67 according to GB/T 4208-2017.

3.9 Any maintenance shall be done after power off or the area known to be non hazardous.

3.10 Clean the surface of this product termly when using in combustibile dust atmospheres.

3.11 The user shall not change the configuration in order to maintain/ensure the explosion protection performance of this product. Any change may impair safety.

3.12 For installation, use and maintenance of this product, the end user should observe the instruction manual and the following standards:

GB/T 3836.13-2021 "Explosive atmospheres- Part 13:Equipment repair,overhaul,reclamation and modification".

GB/T 3836.15-2017 "Explosive atmospheres- Part 15:Electrical installations design, selection and erection".

GB/T 3836.16-2022 "Explosive atmospheres- Part 16:Electrical installations inspection and maintenance".

GB/T 3836.18-2017 "Explosive atmospheres-Part 18: Intrinsically safe electrical systems".

GB 50257-2014 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".

GB 15577-2018 "Safety regulations for dust explosion prevention and protection". (Only if installed in dust hazardous areas)

4. Manufacturer's Responsibility

4.1 Conditions for safe use and special conditions for safe use, as specified above, should be included in the documentation the user is provided with.

4.2 Manufacturing should be done according to the documentation approved by NEPSI.

Shanghai Inspection and Testing
Institute of Instruments and Automation Systems Co. Ltd.
National Supervision and Inspection Center
for Explosion Protection and Safety of Instrumentation
2024.03.18