

EXPLOSION PROTECTION

CERTIFICATE OF CONFORMITY

Cert NO.GYJ18.1383

This is to certify that the product

Coriolis Mass Flowmeter

manufactured by Endress + Hauser Flowtec AG

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

which model is Proline Promass A/E/F/G/H/I/O/P/S/X 100, Cubemass C 100

Ex marking

**Ex iaIIC/IIB T1~T6 Gb Ex iaIIC/IIB T1~T6 Ga/Gb
Ex nAIIIC T1~T6 Gc Ex tD A21 IP6X T***

product standard /

drawing number FEK3149-0000ZDD

**has been inspected and certified by NEPSI, and that it conforms
to GB 3836.1-2010,GB 3836.4-2010,GB 3836.8-2014,GB 3836.20-2010,
GB 12476.1-2013,GB 12476.5-2013**

This Approval shall remain in force until 2023.08.28

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. Safe parameters specified in the attachment to this certificate.
4. This certificate is also applicable for the product with the same type manufactured by Endress+Hauser Flowtec (China) Co., Ltd. (address: Su Hong Zhong Lu No.465, Suzhou-SIP, China)

Director

**National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation**

Issued Date 2018.08.29

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

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国家级仪器仪表防爆安全监督检验站

National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation

(GYJ18.1383)

(Attachment I)

Attachment I to GYJ18.1383

(translation)

1. Description

Proline Promass A/E/F/G/H/I/O/P/S/X 100 and Cubemass C 100 series Coriolis Mass 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:

GB3836.1-2010 Explosive atmospheres-Part 1: Equipment-General requirements

GB3836.4-2010 Explosive atmospheres-Part 4: Equipment protection by intrinsic safety "i"

GB3836.8-2014 Explosive atmospheres-Part 8: Equipment protection by type of protection "n"

GB3836.20-2010 Explosive atmospheres-Part 20: Equipment with equipment protection level (EPL) Ga

GB12476.1-2013 Electrical apparatus for use in the presence of combustible dust- Part 1: General requirements

GB12476.5-2013 Electrical apparatus for use in the presence of combustible dust- Part 5: Protection by enclosures "tD"

The Ex marking is Ex ia II C/ II B T1~T6 Gb, Ex ia II C/ II B T1~T6 Ga/Gb, Ex nA II C T1~T6 Gc, Ex tD A21 IP6X T*, its certificate number is GYJ18.1383.

The order code of the approved product is detailed as below:

8a1b cc-dd e f g h □ □ □ □ □ □ □ □ + # * * #

08a1b cc-dd e f g h □ □ □ □ □ □ □ □ + # * * #

8a1b cc-dd e f g h □ □ □ □ □ □ □ □ + # * * #

08a1b cc-dd e f g h □ □ □ □ □ □ □ □ + # * * #

a indicates type of sensor, including

A = Promass A	E = Promass E	F = Promass F
G = Promass G	H = Promass H	I = Promass I
O = Promass O	P = Promass P	S = Promass S
X = Promass X		
C = Sensor C (exclusively for Cubemass C 100)		

b indicates generation, including

B= Promass A/E ($T_{med}=140^{\circ}\text{C}$)/F/G/H/I/O/P/S/X and Sensor C

C= Promass E ($T_{med}=205^{\circ}\text{C}$)/S

cc indicates size, including 01 = DN1 02 = DN2 04 = DN4 06 = DN6

08 = DN8 15 = DN15 16 = DN16 25 = DN25

26 = DN26 40 = DN40 41 = DN41 50 = DN50

51 = DN51 80 = DN80 1H = DN100 1F = DN150

2F = DN250 3F, 3R, 3E = DN350

dd indicates NEPSI approval code, including NG (Ex ia II C/ II B T1~T6 Gb Ex ia II C/ II B T1~T6 Ga/Gb
Ex tD A21 IP6X T*)

NF (Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb Ex tD A21 IP6X T*)

NU (Ex ia II C/ II B T1~T6 Gb Ex ia II C/ II B T1~T6 Ga/Gb)

NV (Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb)

NJ (Ex nA II C T1~T6 Gc)

e indicates power supply, including D = 24 VDC;

f indicates input/output, including B = 4~20mA HART+Pulse/Frequency/Status

L = Profibus DP

M = Modbus RS485

N = EtherNet/IP

R = PROFINET

g indicates display/operation, could be any single number or letter;

h indicates housing, including A = aluminium compact, G300

B = stainless steel compact, G301

C = stainless steel compact, G302

□ indicates cable entry, measuring tube material, process connection, calibration, device model and customer version;

** indicates option;

#, + indicates optional abbreviation of extended order code.

Note 1: The associated Safety Barrier is approved Ex nA [ia Ga] II C T4 Gc.

For the details, see the instruction manual.

2. Conditions for Safe Use

2.1 The external earth connection facility of the enclosure shall be connected reliably; The intrinsically safe circuits of the transmitter should be connected to earth.

2.2 When symbol **dd** = NJ, any maintenance shall be performed only when the warning "Do not disconnect equipment while circuits are alive, unless the area is known to be non-hazardous" is observed.

2.3 Ambient temperature range: -50°C ~ +60°C.

Process temperature range: -50°C ~ +150°C

-40°C ~ +140°C for Promass E 100 (8E1B... and O8E1B...)

-50°C ~ +240°C for extended temperature version of Promass F only

-50°C ~ +205°C for extended temperature versions.

2.4 The relationship between ambient temperature range, max. medium temperature and temperature class is shown as following:

2.4.1 sensor code for all types: **a** = A/C/E/F/G/H/I/O/P/S/X, approval code **dd** = NG, NF, NU or NV

2.4.1.1 standard temperature versions

Code h	Temp. Class (T*)	T _{med}					
		T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (200°C)	T1 (200°C)
	Ta						

(GYJ18.1383)**(Attachment I)**

A, B	-50°C ~ +35°C	50°C	85°C	120°C	150°C ¹⁾	150°C ¹⁾	150°C ¹⁾
	-50°C ~ +50°C	-	85°C	120°C	150°C ¹⁾	150°C ¹⁾	150°C ¹⁾
	-50°C ~ +60°C	-	-	120°C	150°C ¹⁾	150°C ¹⁾	150°C ¹⁾
C	-50°C ~ +35°C	50°C	85°C	120°C	150°C ¹⁾	150°C ¹⁾	150°C ¹⁾
	-50°C ~ +45°C	-	85°C	120°C	150°C ¹⁾	150°C ¹⁾	150°C ¹⁾
	-50°C ~ +50°C	-	-	120°C	150°C ¹⁾	150°C ¹⁾	150°C ¹⁾

Note 1): For Promass E 100 (**a** = E and **b** = B), the maximum medium temperature is 140°C.

2.4.1.2 extended temperature versions

Code h	Temp. Class (T*)	T _{med}					
		T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (300°C)
	Ta						
A, B	-50°C ~ +35°C	50°C	85°C	120°C	170°C	205°C ¹⁾	205°C ¹⁾
	-50°C ~ +50°C	-	85°C	120°C	170°C	205°C ¹⁾	205°C ¹⁾
	-50°C ~ +60°C	-	-	120°C	170°C	205°C ¹⁾	205°C ¹⁾
C	-50°C ~ +35°C	50°C	85°C	120°C	170°C	205°C ¹⁾	205°C ¹⁾
	-50°C ~ +45°C	-	85°C	120°C	170°C	205°C ¹⁾	205°C ¹⁾
	-50°C ~ +50°C	-	-	120°C	170°C	205°C ¹⁾	205°C ¹⁾

Note 1): Max process temperature = 240°C for Promass F version with max. T_{med} = 240°C.

For process temperature above 205°C, the transmitter shall not be installed above the sensor.

2.4.2 sensor code for all types: **a** = A/C/E/F/G/H/I/O/P/S/X, approval code **dd** = NJ

2.4.2.1 standard temperature versions

Code h	Temp. Class	T _{med}					
		T6	T5	T4	T3	T2	T1
	Ta						
A, B	-50°C ~ +35°C	50°C	85°C	120°C	150°C ¹⁾	150°C ¹⁾	150°C ¹⁾
	-50°C ~ +50°C	-	85°C	120°C	150°C ¹⁾	150°C ¹⁾	150°C ¹⁾
	-50°C ~ +60°C	-	-	120°C	150°C ¹⁾	150°C ¹⁾	150°C ¹⁾
C	-50°C ~ +50°C	-	85°C	120°C	150°C ¹⁾	150°C ¹⁾	150°C ¹⁾
	-50°C ~ +60°C	-	-	120°C	150°C ¹⁾	150°C ¹⁾	150°C ¹⁾

Note 1): For Promass E 100 (**a** = E and **b** = B), the maximum medium temperature is 140°C.

2.4.2.2 extended temperature versions

Code h	Temp. Class	T _{med}					
		T6	T5	T4	T3	T2	T1
	Ta						
A, B	-50°C ~ +35°C	50°C	85°C	120°C	170°C	205°C ¹⁾	205°C ¹⁾
	-50°C ~ +50°C	-	85°C	120°C	170°C	205°C ¹⁾	205°C ¹⁾
	-50°C ~ +60°C	-	-	120°C	170°C	205°C ¹⁾	205°C ¹⁾
C	-50°C ~ +50°C	-	85°C	120°C	170°C	205°C ¹⁾	205°C ¹⁾
	-50°C ~ +60°C	-	-	120°C	170°C	205°C ¹⁾	205°C ¹⁾

(GYJ18.1383)**(Attachment I)**

Note ¹⁾: Max process temperature = 240°C for Promass F version with max. T_{med} = 240°C.

For process temperature above 205°C, the transmitter shall not be installed above the sensor.

2.5 When the symbol **dd** = NG, NF, NU or NV, this product should be used in explosive gas atmospheres together with approved associated apparatus, follow the instruction manual of this product and associated apparatus when connecting the wiring. Connect the wiring terminals correctly.

2.5.1 Safe parameters

Safety barrier Promass 100:

Power supply (Terminals 1 and 2)	Modbus RS485 (Terminals 26 and 27)
$U_N = 20\sim 30 \text{ Vdc}$ $U_m = 260 \text{ Vac}$ $P \leq 4.8 \text{ W}$	$U_N = 5 \text{ Vdc}$ $U_m = 260 \text{ Vac}$
Intrinsically safe output circuits	
Power supply (Terminals 10 and 20)	Modbus RS485 (Terminals 62 and 72)
$U_o = 16.24 \text{ V}$ $I_o = 0.623 \text{ A}$ (limited by fuse of 0.25A) $P_o = 2.45 \text{ W}$ $L_o = 92.8\mu\text{H}$ (II C) or $372\mu\text{H}$ (II B) $C_o = 0.433\mu\text{F}$ (II C) or $2.57\mu\text{F}$ (II B) $L_o/R_o = 14.6\mu\text{H}/\Omega$ (II C) or $58.3\mu\text{H}/\Omega$ (II B)	

All intrinsically safe wiring may be installed in explosive atmospheres requiring the use of equipment of EPL Ga.

Transmitter Promass A/E/F/G/H/I/O/P/S/X 100 and Cubemass C 100:

circuits	terminals	U_i	I_i	P_i	C_i	L_i
Power supply	10, 20	16.24V	0.623A	2.45W	6nF	0μ H
Modbus RS485	62, 72					

2.5.2 Connecting cable between this product and associated apparatus should be insulated screen cable; connect the cable screen functionally to earth ground.

2.5.3 This product can be connected to an separated certified interface, with following maximum values:

$U_o=7.5\text{V}$ $I_o=100\text{mA}$ $P_o=160\text{mW}$ $C_i=0\text{nF}$ $L_i=0\text{mH}$

All intrinsically safe wiring may be installed in explosive atmospheres requiring the use of equipment of EPL Ga.

2.6 When the symbol **dd** = NJ, the electrical data is shown as follows:

2.6.1 input/output code **f** = B

circuits	terminals	electrical data
Power supply	1, 2	$U_N = 20\sim 30 \text{ Vdc}$ $P \leq 3.5 \text{ W}$
Output 4~20mA HART	26, 27	$U_N \leq 30 \text{ Vdc}$
Output PFS	24, 25	$U_N \leq 30 \text{ Vdc}$

2.6.2 input/output code **f** = L

circuits	terminals	electrical data
Power supply	1, 2	$U_N = 20 \sim 30 \text{ Vdc}$ $P \leq 3.3 \text{ W}$
Profibus DP	26, 27	$U_N \leq 30 \text{ Vdc}$

2.6.3 input/output code **f** = M

circuits	terminals	electrical data
Power supply	1, 2	$U_N = 20 \sim 30 \text{ Vdc}$ $P \leq 2.5 \text{ W}$
Modbus RS485	26, 27	$U_N = 5 \text{ Vdc}$

2.6.4 input/output code **f** = N, R

circuits	terminals	electrical data
Power supply	1, 2	$U_N = 20 \sim 30 \text{ Vdc}$ $P \leq 3.3 \text{ W}$
EtherNet/IP, PROFINET	connector RJ45	$U_N = 5 \text{ Vdc}$

2.6.5 Service connector: $U_m = 7.5 \text{ Vdc}$; only to be used if the location is known to be non-hazardous. The service connector is limited for use with E+H interfaces only.

2.7 The relationship between the approval codes and the markings are shown as follows:

Promass A/E/F/G/H/I/O/P/S/X 100:

dd = Approval	f = I/O	a = Type of sensor	cc = Size	Marking of Ex protection
				Transmitter/ Sensor
NG	M	A	01, 02, 04	Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb ¹⁾ Ex tD A21 IP6X T*
		E, F	08, 15, 25, 40, 50	
		G	08, 15, 25	
		H, P, S	08, 15, 25, 40	
		I	08, 15, 16, 25, 26, 40	
		E	80	Ex ia II B T1~T6 Gb Ex ia II B T1~T6 Ga/Gb ¹⁾ Ex tD A21 IP6X T*
		F, O	80, 1H, 1F, 2F	
		H, P, S	50	
		I	41, 50, 51, 80	
		X	3F, 3R, 3E	
NF	M	E	80	Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb ¹⁾ Ex tD A21 IP6X T*
		F, O	80, 1H, 1F, 2F	
		H, P, S	50	
		I	41, 50, 51, 80	
		X	3F, 3R, 3E	
NU	M	A	01, 02, 04	Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb ¹⁾
		E, F	08, 15, 25, 40, 50	
		G	08, 15, 25	
		H, P, S	08, 15, 25, 40	
		I	08, 15, 16, 25, 26, 40	
		E	80	Ex ia II B T1~T6 Gb Ex ia II B T1~T6 Ga/Gb ¹⁾
		F, O	80, 1H, 1F, 2F	
		H, P, S	50	

(GYJ18.1383)**(Attachment I)**

NV	M	I	41, 50, 51, 80	Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb ¹⁾
		X	3F, 3R, 3E	
		E	80	
		F, O	80, 1H, 1F, 2F	
		H, P, S	50	
		I	41, 50, 51, 80	
		X	3F, 3R, 3E	

Note ¹⁾: Not for Proline Promass **a** 100 (**a** = A, **cc** = 01), (**a** = H) and (**a** = I).

dd = Approval	f = I/O	a = Type of sensor	cc = Size	Marking of Ex protection
				Safety Barrier Promass 100
NG, NF NU, NV	M	*	**	Ex nA [ia Ga] II C T4 Gc

dd = Approval	f = I/O	a = Type of sensor	h = Housing	Marking of Ex protection
				Transmitter/ Sensor
NJ	B, L M, N R	A, E, F, G, H, I, O, P, S, X	A, B	Ex nA II C T1~T6 Gc
			C	Ex nA II C T1~T5 Gc

Cubemass C 100:

dd = Approval	f = I/O	a = Type of sensor	cc = Size	Marking of Ex protection
				Transmitter/ Sensor
NG	M	C	01, 02, 04, 06	Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb Ex tD A21 IP6X T*
NU	M	C	01, 02, 04, 06	Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb

dd = Approval	f = I/O	a = Type of sensor	cc = Size	Marking of Ex protection
				Safety Barrier Promass 100
NG, NU	M	*	**	Ex nA [ia Ga] II C T4 Gc

dd = Approval	f = I/O	a = Type of sensor	h = Housing	Marking of Ex protection
				Transmitter/ Sensor
NJ	B, L M, N R	C	A, B	Ex nA II C T1~T6 Gc
			C	Ex nA II C T1~T5 Gc

2.8 Clean the surface of this product termly when using in combustible dust atmosphere.

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

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

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

GB 3836.13-2013 "Explosive atmospheres- Part 13:Equipment repair, overhaul and reclamation".

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

GB/T 3836.16-2017 "Explosive atmospheres- Part 16:Electrical installations inspection and maintenance".

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

GB 12476.2-2010 "Electrical apparatus for use in the presence of combustible dust- Part 2: Selection and installation". (Only if installed in dust hazardous areas)

GB 15577-2007 "Safety regulations for dust explosion prevention and protection". (Only if installed in dust hazardous areas).

3. Manufacturer's Responsibility

3.1 Conditions for safe use, as specified above, should be included in the documentation the user is provided with.

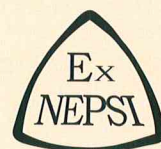
3.2 Manufacturing should be done according to the documentation approved by NEPSI.

3.3 Nameplate should at least include these contents listed below:

- 1) NEPSI logo 
- 2) Ex marking
- 3) certificate number
- 4) ambient temperature range
- 5) medium temperature range
- 6) Safety parameters

In case the nameplate does not provide enough space, information can be given in the manual, provided the nameplate shows a link to the appropriate documentation.

National Supervision and Inspection Center
for Explosion Protection and Safety of Instrumentation
2018.08.29



防爆合格证

证号: GYJ18.1383

由 恩德斯+豪斯公司

制造的产品:

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

名 称 质量流量计

型号规格 Proline Promass A/E/F/G/H/I/O/P/S/X 100, Cubemass C 100

防爆标志 Ex ia II C/II B T1~T6 Gb Ex ia II C/II B T1~T6 Ga/Gb
Ex nA II C T1~T6 Gc Ex tD A21 IP6X T*

产品标准 /

图样编号 FEK3149-0000ZDD

经图样及技术文件的审查和样品检验, 确认上述产品
符合 GB 3836.1-2010、GB 3836.4-2010、GB 3836.8-2014、
GB 3836.20-2010、GB 12476.1-2013、GB 12476.5-2013 标准,
特颁发此证。

本证书有效期: 2018 年 8 月 29 日至 2023 年 8 月 28 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. 电气安全参数见本证书附件。
4. 本证书同时适用于恩德斯豪斯流量仪表技术(中国)有限公司(地址: 苏州工业园区苏虹中路465号)
生产的同型号产品。

站长



国家级仪器仪表防爆安全监督检验站
颁发日期二〇一八年八月二十九日

本证书仅对与认可文件和样品一致的产品有效。

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国家级仪器仪表防爆安全监督检验站

National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation

(GYJ18.1383)

(Attachment I)

GYJ18.1383防爆合格证附件 I

由恩德斯+豪斯公司生产的Proline Promass A/E/F/G/H/I/O/P/S/X 100和Cubemass C 100系列质量流量计, 经国家级仪器仪表防爆安全监督检验站(NEPSI)检验, 符合下列标准:

GB3836.1-2010 爆炸性环境 第1部分: 设备 通用要求

GB3836.4-2010 爆炸性环境 第4部分: 由本质安全型“i”保护的设备

GB3836.8-2014 爆炸性环境 第8部分: 由“n”型保护的设备

GB3836.20-2010 爆炸性环境 第20部分: 设备保护级别(EPL)为Ga级的设备

GB12476.1-2013 可燃性粉尘环境用电气设备 第1部分: 通用要求

GB12476.5-2013 可燃性粉尘环境用电气设备 第5部分: 外壳保护型“tD”

产品防爆标志Ex ia II C/II B T1~T6 Gb、Ex ia II C/II B T1~T6 Ga/Gb、Ex nA II C T1~T6 Gc、Ex tD A21 IP6X T*, 防爆合格证号GYJ18.1383。

本证书认可产品的订购号如下:

8a1b cc-dd e f g h □ □ □ □ □ □ □ □ + # * * #

O8a1b cc-dd e f g h □ □ □ □ □ □ □ □ + # * * #

8a1b cc-dd e f g h □ □ □ □ □ □ □ □ + # * * #

O8a1b cc-dd e f g h □ □ □ □ □ □ □ □ + # * * #

其中: a表示传感器, 可为A = Promass A E = Promass E F = Promass F

G = Promass G H = Promass H I = Promass I

O = Promass O P = Promass P S = Promass S

X = Promass X

C = Sensor C (仅Cubemass C 100)

b表示产品代系识别码, 可为

B = Promass A/E ($T_{med}=140^{\circ}\text{C}$)/F/G/H/I/O/P/S/X 和Sensor C

C = Promass E ($T_{med}=205^{\circ}\text{C}$)/S

cc表示测量口径, 可为01 = DN1 02 = DN2 04 = DN4 06 = DN6

08 = DN8 15 = DN15 16 = DN16 25 = DN25

26 = DN26 40 = DN40 41 = DN41 50 = DN50

51 = DN51 80 = DN80 1H = DN100 1F = DN150

2F = DN250 3F, 3R, 3E = DN350

dd表示NEPSI认证代码, 可为NG (Ex ia II C/II B T1~T6 Gb Ex ia II C/II B T1~T6 Ga/Gb
Ex tD A21 IP6X T*)

NF (Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb
Ex tD A21 IP6X T*)

NU (Ex ia II C/II B T1~T6 Gb Ex ia II C/II B T1~T6 Ga/Gb)

NV (Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb)

NJ (Ex nA II C T1~T6 Gc)

e表示电源电压，可为D = 24 VDC；
f表示输入/输出型式，可为B = 4~20mA HART+Pulse/Frequency/Status
L = Profibus DP
M = Modbus RS485
N = EtherNet/IP
R = PROFINET
g表示显示/操作，可为任意单个数字或字母；
h表示外壳，可为A = 一体式铝合金G300
B = 一体式不锈钢G301
C = 一体式不锈钢G302
□代码表示电缆引入装置、测量管材料、过程连接、校准、设备型号和客户信息。
**表示备选信息
#, +表示附加信息
注：关联设备Promass 100防爆标志Ex nA [ia Ga] II C T4 Gc。
详见产品使用说明书。

一、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；产品的本安电路须等电位连接。
- 2、产品在现场维护使用时应遵循“危险场所严禁通断设备”的原则（**dd** = NJ）。
- 3、产品使用环境温度范围：-50℃~+60℃；
产品介质温度范围：-50℃~+150℃
-40℃~+140℃（Promass E 100，8E1B...和O8E1B...）
-50℃~+240℃（Promass F高温型适用）
-50℃~+205℃（高温型）
- 4、产品使用环境温度、最高介质温度和温度组别的关系如下：
4.1 适用于传感器代码**a** = A/C/E/F/G/H/I/O/P/S/X，认可代码**dd** = NG、NF、NU或NV
4.1.1 标准温度型

代 码 h	温度组别 (T*)	T _{med}					
		T6 (85℃)	T5 (100℃)	T4 (135℃)	T3 (200℃)	T2 (200℃)	T1 (200℃)
	Ta						
A 或 B	-50℃~+35℃	50℃	85℃	120℃	150℃ ¹⁾	150℃ ¹⁾	150℃ ¹⁾
	-50℃~+50℃	-	85℃	120℃	150℃ ¹⁾	150℃ ¹⁾	150℃ ¹⁾
	-50℃~+60℃	-	-	120℃	150℃ ¹⁾	150℃ ¹⁾	150℃ ¹⁾
C	-50℃~+35℃	50℃	85℃	120℃	150℃ ¹⁾	150℃ ¹⁾	150℃ ¹⁾
	-50℃~+45℃	-	85℃	120℃	150℃ ¹⁾	150℃ ¹⁾	150℃ ¹⁾
	-50℃~+50℃	-	-	120℃	150℃ ¹⁾	150℃ ¹⁾	150℃ ¹⁾

注¹⁾：对于产品Promass E 100（**a** = E和**b** = B），最高介质温度140℃。

4.1.2 高温型

代 码 h	温度组别 (T*)	T _{med}					
		T6 (85℃)	T5 (100℃)	T4 (135℃)	T3 (200℃)	T2 (300℃)	T1 (300℃)
	Ta						
A 或 B	-50℃~+35℃	50℃	85℃	120℃	170℃	205℃ ¹⁾	205℃ ¹⁾
	-50℃~+50℃	-	85℃	120℃	170℃	205℃ ¹⁾	205℃ ¹⁾
	-50℃~+60℃	-	-	120℃	170℃	205℃ ¹⁾	205℃ ¹⁾
C	-50℃~+35℃	50℃	85℃	120℃	170℃	205℃ ¹⁾	205℃ ¹⁾
	-50℃~+45℃	-	85℃	120℃	170℃	205℃ ¹⁾	205℃ ¹⁾
	-50℃~+50℃	-	-	120℃	170℃	205℃ ¹⁾	205℃ ¹⁾

注1): 对于产品Promass F, 最高介质温度240℃。

介质温度超过205℃时, 转换器不得安装在传感器上方。

4.2 适用于传感器代码 **a** = A/C/E/F/G/H/I/O/P/S/X, 认可代码 **dd** = NJ

4.2.1 标准温度型

代 码 h	温度组别	T _{med}					
		T6	T5	T4	T3	T2	T1
	Ta						
A 或 B	-50℃~+35℃	50℃	85℃	120℃	150℃ ¹⁾	150℃ ¹⁾	150℃ ¹⁾
	-50℃~+50℃	-	85℃	120℃	150℃ ¹⁾	150℃ ¹⁾	150℃ ¹⁾
	-50℃~+60℃	-	-	120℃	150℃ ¹⁾	150℃ ¹⁾	150℃ ¹⁾
C	-50℃~+50℃	-	85℃	120℃	150℃ ¹⁾	150℃ ¹⁾	150℃ ¹⁾
	-50℃~+60℃	-	-	120℃	150℃ ¹⁾	150℃ ¹⁾	150℃ ¹⁾

注1): 对于产品Promass E 100 (**a** = E和**b** = B), 最高介质温度140℃。

4.2.2 高温型

代 码 h	温度组别	T _{med}					
		T6	T5	T4	T3	T2	T1
	Ta						
A 或 B	-50℃~+35℃	50℃	85℃	120℃	170℃	205℃ ¹⁾	205℃ ¹⁾
	-50℃~+50℃	-	85℃	120℃	170℃	205℃ ¹⁾	205℃ ¹⁾
	-50℃~+60℃	-	-	120℃	170℃	205℃ ¹⁾	205℃ ¹⁾
C	-50℃~+50℃	-	85℃	120℃	170℃	205℃ ¹⁾	205℃ ¹⁾
	-50℃~+60℃	-	-	120℃	170℃	205℃ ¹⁾	205℃ ¹⁾

注1): 对于产品Promass F, 最高介质温度240℃。

介质温度超过205℃时, 转换器不得安装在传感器上方。

5、当 $dd = NG、NF、NU$ 或 NV 时，产品必须与已通过防爆认证的关联设备配套共同组成本安防爆系统方可使用于爆炸性气体环境。其系统接线必须同时遵守本产品 and 所配关联设备的使用说明书要求，接线端子不得接错。

5.1 电气参数

关联设备Promass 100:

电源 (Terminals 1 and 2)	Modbus RS485 (Terminals 26 and 27)
$U_N = 20\sim 30\text{ Vdc}$ $U_m = 260\text{ Vac}$ $P \leq 4.8\text{ W}$	$U_N = 5\text{ Vdc}$ $U_m = 260\text{ Vac}$
本安输出电路	
电源 (Terminals 10 and 20)	Modbus RS485 (Terminals 62 and 72)
$U_o = 16.24\text{ V}$ $I_o = 0.623\text{ A}$ (0.25A 熔丝保护) $P_o = 2.45\text{ W}$ $L_o = 92.8\text{ }\mu\text{H}$ (II C) or $372\text{ }\mu\text{H}$ (II B) $C_o = 0.433\text{ }\mu\text{F}$ (II C) or $2.57\text{ }\mu\text{F}$ (II B) $L_o/R_o = 14.6\text{ }\mu\text{H}/\Omega$ (II C) or $58.3\text{ }\mu\text{H}/\Omega$ (II B)	

流量计Proline Promass A/E/F/G/H//O/P/S/X 100和Cubemass C 100:

电路	端子	U_i	I_i	P_i	C_i	L_i
电源	10, 20	16.24V	0.623A	2.45W	6nF	0μ H
Modbus RS485	62, 72					

5.2 产品与关联设备的连接电缆应为带绝缘护套的屏蔽电缆，其屏蔽层应接地。

5.3 产品可外接经防爆认证的接口设备，本安输出参数如下：

$U_o=7.5V$ $I_o=100mA$ $P_o=160mW$ $C_i=0nF$ $L_i=0mH$

6、当 $dd = NJ$ 时，电气参数如下：

6.1 输入/输出代码 $f = B$

电路	端子	电气参数
电源	1, 2	$U_N = 20\sim 30\text{ Vdc}$ $P \leq 3.5\text{ W}$
4~20mA HART输出	26, 27	$U_N \leq 30\text{ Vdc}$
PFS输出	24, 25	$U_N \leq 30\text{ Vdc}$

6.2 输入/输出代码 $f = L$

电路	端子	电气参数
电源	1, 2	$U_N = 20\sim 30\text{ Vdc}$ $P \leq 3.3\text{ W}$
Profibus DP	26, 27	$U_N \leq 30\text{ Vdc}$

6.3 输入/输出代码 $f = M$

电路	端子	电气参数
电源	1, 2	$U_N = 20 \sim 30 \text{ Vdc}$ $P \leq 2.5 \text{ W}$
Modbus RS485	26, 27	$U_N = 5 \text{ Vdc}$

6.4 输入/输出代码 $f = N, R$

电路	端子	电气参数
电源	1, 2	$U_N = 20 \sim 30 \text{ Vdc}$ $P \leq 3.3 \text{ W}$
EtherNet/IP, PROFINET	连接器RJ45	$U_N = 5 \text{ Vdc}$

6.5 接口设备参数: $U_m = 7.5 \text{ Vdc}$; 仅能使用于非爆炸危险场所。仅可使用E+H接口连接器。

7、产品认可代码和防爆标志的关系如下:

Proline Promass A/E/F/G/H/I/O/P/S/X 100:

dd	f	a	cc	防爆标志
				本产品
NG	M	A	01, 02, 04	Ex ia II C T1~T6 Gb
		E, F	08, 15, 25, 40, 50	Ex ia II C T1~T6 Ga/Gb ¹⁾
		G	08, 15, 25	Ex tD A21 IP6X T*
		H, P, S	08, 15, 25, 40	
		I	08, 15, 16, 25, 26, 40	
		E	80	Ex ia II B T1~T6 Gb
		F, O	80, 1H, 1F, 2F	Ex ia II B T1~T6 Ga/Gb ¹⁾
		H, P, S	50	Ex tD A21 IP6X T*
		I	41, 50, 51, 80	
		X	3F, 3R, 3E	
NF	M	E	80	Ex ia II C T1~T6 Gb
		F, O	80, 1H, 1F, 2F	Ex ia II C T1~T6 Ga/Gb ¹⁾
		H, P, S	50	Ex tD A21 IP6X T*
		I	41, 50, 51, 80	
		X	3F, 3R, 3E	
NU	M	A	01, 02, 04	Ex ia II C T1~T6 Gb
		E, F	08, 15, 25, 40, 50	Ex ia II C T1~T6 Ga/Gb ¹⁾
		G	08, 15, 25	
		H, P, S	08, 15, 25, 40	
		I	08, 15, 16, 25, 26, 40	
		E	80	Ex ia II B T1~T6 Gb
		F, O	80, 1H, 1F, 2F	Ex ia II B T1~T6 Ga/Gb ¹⁾
		H, P, S	50	
		I	41, 50, 51, 80	
		X	3F, 3R, 3E	

续上表:

NV	M	E	80	Ex ia II C T1~T6 Gb
		F, O	80, 1H, 1F, 2F	Ex ia II C T1~T6 Ga/Gb ¹⁾
		H, P, S	50	
		I	41, 50, 51, 80	
		X	3F, 3R, 3E	

注¹⁾: 不适用于Proline Promass **a** 100 (**a** = A, **cc** = 01), (**a** = H)和(**a** = I)

dd	f	a	cc	防爆标志
				关联设备Promass 100
NG, NF NU, NV	M	*	**	Ex nA [ia Ga] II C T4 Gc

dd	f	a	h	防爆标志
				本产品
NJ	B, L M, N R	A, E, F, G, H, I, O, P, S, X	A, B	Ex nA II C T1~T6 Gc
			C	Ex nA II C T1~T5 Gc

Cubemass C 100:

dd	f	a	cc	防爆标志
				本产品
NG	M	C	01, 02, 04, 06	Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb Ex tD A21 IP6X T*
NU	M	C	01, 02, 04, 06	Ex ia II C T1~T6 Gb Ex ia II C T1~T6 Ga/Gb

dd	f	a	cc	防爆标志
				关联设备Promass 100
NG, NU	M	*	**	Ex nA [ia Ga] II C T4 Gc

dd	f	a	h	防爆标志
				本产品
NJ	B, L M, N R	C	A, B	Ex nA II C T1~T6 Gc
			C	Ex nA II C T1~T5 Gc

8、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。

9、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。

10、产品的安装、使用和维护应同时遵守产品使用说明书、GB 3836.13-2013“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 3836.16-2017“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”、GB 15577-2007“粉尘防爆安全规程”及GB 12476.2-2010“可燃性粉尘环境用电气设备 第2部分：选型和安装”的有关规定。

二、制造厂责任

- 1、产品制造厂必须将上述使用注意事项纳入产品使用说明书；
- 2、制造厂必须严格按照NEPSI认可的文件资料生产；
- 3、产品铭牌中应至少包括下列内容：
 - a) NEPSI认可标志（见防爆合格证书）
 - b) 产品防爆标志
 - c) 防爆合格证号
 - d) 使用环境温度
 - e) 介质温度范围
 - f) 产品电气参数

国家级仪器仪表防爆安全监督检验站

二〇一八年八月二十九日