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PAUX

ATEX ABSOLUTE MULTITURN SSI ENCODER, PAUX RANGE

ATEX certified Explosion-proof encoders

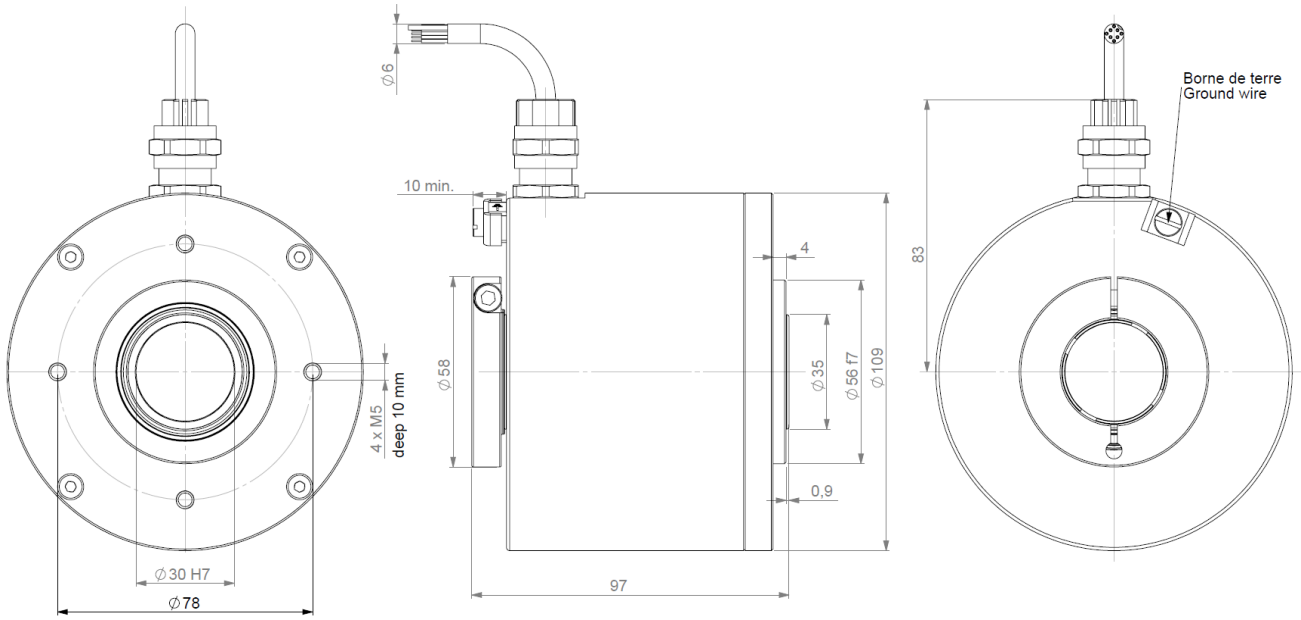
Explosion-proof rotary encoders for hazardous environments gas & dust.
Robust design for heavy-duty applications.
Hollow through shaft up to 30mm.
Application fields: explosive atmospheres.

LCIE ATEX & IECEX approved

II 2 GD
Ex d IIC T(*) Gb
Ex tb III T(*)°C Db IP 6x
* See below table

PEUX stainless steel version is also available with **I M2 / Ex d I Mb** certification: consult us.

PAUX – PEUX DIMENSIONS



Material	Cover: aluminum
Stainless steel option	Body: aluminum
Shaft	Stainless steel
Bearings	Ball bearings
Maximal load	Axial : 50 N
	Radial : 80 N
Shaft Inertia	≤ 50.10^{-6} kg.m²
Torque	≤ 25.10^{-3} N.m
Permissible max. speed	4 500 min^{-1}
Continuous max speed	3 000 min^{-1}
Shaft seal	Nitril
Shock (EN60068-2-27)	≤ 300 $m.s^{-2}$ (during 6 ms)

Vibration (EN60068-2-6)	≤ 100 $m.s^{-2}$ (10 ... 500 Hz)
EMC	EN 61000-6-4, EN 61000-6-2
Isolation	500 V (1 min)
Weight	2kg aluminium body & cover
	5kg stainless steel body & cover
Operating temperature	- 20... + 80 °C (encoder T°)
Storage temperature	- 20... + 80 °C
Protection(EN 60529)	IP 65
Torque (ring pressure screw)	4N.m
Theoretical mechanical lifetime 10^9 turns (F_{axial} / F_{radial})	
25 N / 40 N	140
50 N / 80 N	17

T_{amb}	Temperature class for gas atmosphere	Temperature class for dust atmosphere
-20°C ≤ Ta ≤ +40°C	T6	T80°C
-20°C ≤ Ta ≤ +55°C	T5	T95°C
-20°C ≤ Ta ≤ +60°C	T4	T100°C
-40°C ≤ Ta ≤ +70°C	T4	T110°C

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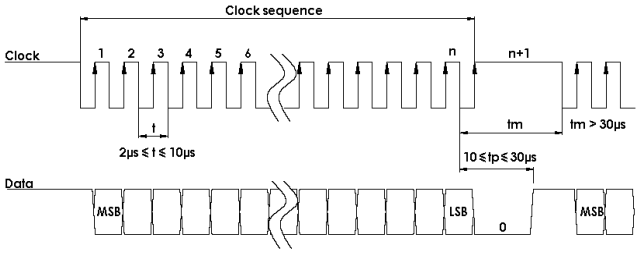
ELECTRICAL CHARACTERISTIC

Input signal clock CLK	per opto-coupler
Output signal DATA	line - driver RS422
Clock frequency CLK	100kHz – 500kHz
Precision	± ½ LSB (13 bits)

Power supply	5 – 30Vdc
Introduction	< 1 s
Cons. without load	< 100mA (typically 50-60mA at 24Vdc)
Position refresh	< 200µs

SSI TRANSMISSION



Transmission	Transmission up to 400m* at 100kHz in function of the cable characteristics
Cable	High security of transmission by using shielded cable and twisted pairs

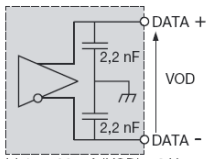
*Consult us for length > 100m

SSI CONNECTION

Type	Vcc	Gnd	Clk+	Data+	RAZ	Data-	Clk-	DIRECTION
S5	BN/GN Brown/Green	WH/GN White/Green	GN Green	GY Grey	BU Blue	PK Pink	BN Brown	WH White

Note : Do not connect other pinouts, connect DIRECTION and RAZ to a potential (RAZ at 0V if not used)

Data output RS422

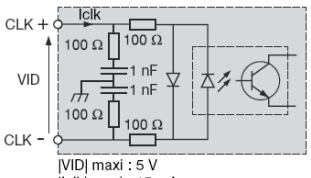


Idata = 20 mA |VOD| > 2 V

Protection against short circuits

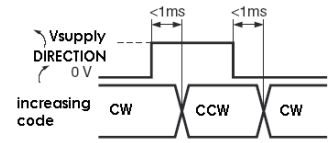
Isolated Clk input

Power supply: 5 to 30 V
Max ond. : 500mV for 11 to 30Vdc power supply
Protection against inversion of polarity
Cons. without load: 100mA max.



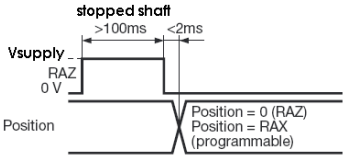
|VID| maxi : 5 V
|Iclk| maxi : 15 mA

DIRECTION input



	min	max	increasing
Level "0"	0V	0,3xVsupply	CW
Level "1"	0,7xVsupply	Vsupply	CCW
I direction	< 5mA		

RAZ / RAX input



	min	max
Level "0"	0 V	0,3xVsupply
Level "1"	0,7xVsupply	Vsupply
I RAZ/RAX	< 5mA	

ORDERING CODE

	Shaft Ø	Supply	Output stage	Code	Resolution Number of turns	Connection	Connection Orientation
PEUX (stainless steel) **PAUX** (aluminium)	**30**:30 mm	**P** : 5-30Vdc	**SS :** SSI without parity **SP :** SSI with even parity **SI :** SSI with odd parity	**B**: Binary **G** : Gray	**13B12D5** : Resolution : 13 bits Number of turns : 12 bits D5: 25bits frame	**S5**: PUR cable	Example : **R030** : radial cable 3m

PEUX _ 30 // P SS G // 13 B12 D5 // S5 R030

SPECIAL CONDITIONS FOR SAFE USE

The gaps of the different flamepath are less than the values specified in the tables of the IEC 60079-1 standard.
The width of the different flameproof joints are superior to these specified in tables of IEC 60079-1 standard.

ASSEMBLY CAUTION

NEVER OPEN THE ENCODER
NEVER CONNECT/DISCONNECT UNDER POWER SUPPLY/IN PRESENCE OF DUSTS ATMOSPHERE

For electrical installation use the standard EN/IEC 60079-14.
The customer obliges to take up and to use our products, according to our specifications and to the manners of the profession. Our company would not be responsible for any defect resulting from a defective or erroneous assembly. From a use superior to the standard, or in abnormal conditions. The breakdowns resultant of shocks, bad electric supply, put in low capacity or overcapacity of the product, the environment of bad conditions (humidity, projection, dust, etc) cannot be imputed to us. The converter doesn't require any maintenance. Any encoder presenting a dysfunction will have to be the object of immediate return for control in our facilities. The encoder mustn't be open in any case (cable gland and/or cover)
An earth situated on the cover must be linked with the ground of the installation

Made in FRANCE

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PAUX

CE

ATEX ABSOLUTE MULTITURN SSI ENCODER, PAUX RANGE

1) **Déclaration UE de conformité**

2) Nous, société BEI Sensors, certifions que ce matériel : capteurs antidéflagrants, type

CAUX, CEUX, GAUX, GEUX, NAUX, NEUX, PAUX, PEUX

3) Avec les inscriptions suivantes :

CE 0081 Ⓔx II 2 GD, Ex d IIC T(*) Gb
Ex tb IIIC T(*)°C Db IP 6x

A été conçu et fabriqué conformément à la directive applicable suivante :

ATEX : 2014/34/UE

CEM : 2014/30/UE

4) La certification a été obtenu grâce à l'application des normes suivantes :

(*) ATEX: EN60079-0:2012+A11:2013, EN60079-1:2014 , EN60079-31:2014
IECEx: IEC60079-0:2011+IS1 2013, IEC60079-1:2014, IEC60079-31:2013
(*) Une étude comparative des normes EN 60079-0 (2009 et 2012+A11 2013), EN 60079-1 (2007 et 2014) et EN 60079-31 (2009 et 2014) montre que le matériel n'est pas concerné par les modifications substantielles.

5) Une attestation d'examen CE de type a été obtenu :
LCIE 03 ATEX 6407
et une notification :
LCIE 03 ATEX Q8060

6) Un certificat de conformité IECEx a été obtenu :
IECEx LCIE 13.0030X
et une notification :
FR/LCI/QAR08.0002

7) L'application des normes suivantes a participé à l'obtention de la certification :

EN 60-529, NFC 23-520, NFC 23-539, EN 50081-1, EN 55022 classe B, EN 55014, EN 61000-6-2, CEI 61000-4-2, CEI 61000-4-3, CEI61000-4-4, CEI 61000-4-5, CEI 61000-4-6, CEI 61000-4-8, CEI 61000-4-11

8) L'organisme notifié responsable du suivi de la directive **ATEX** est le

LCIE,B.P.8, F92260 Fontenay-aux-Roses

Numéro d'identification : 0081

9) La société chargée de la certification **CEM** est nommée ci-après :

GRME, Cellule CEM, B.P.8, 68840 Pulversheim

10) Nous certifions que nos produits désignés ci-dessus sont conformes à la directive et aux normes spécifiées

1) **EU Declaration of conformity**

2) We, BEI Sensors, certify that this material : sensor explosion-proof standard

CAUX, CEUX, GAUX, GEUX, NAUX, NEUX, PAUX, PEUX

3) With the following inscriptions :

CE 0081 Ⓔx II 2 GD, Ex d IIC T(*) Gb
Ex tb IIIC T(*)°C Db IP 6x

Conceived and manufactured has the directive applicable following :

ATEX : 2014/34/EU

EMC : 2014/30/EU

4) Certification to summer obtained thanks to the application of the standards :

(*) ATEX: EN60079-0:2012+A11:2013, EN60079-1:2014, EN60079-31:2014
IECEx: IEC60079-0:2011+IS1 2013, IEC60079-1:2014, IEC60079-31:2013
(*) A comparative study of the standards EN 60079-0 (2009 and 2012+A11 2013), EN 60079-1(2007 and 2014) and EN 60079-31(2009 and 2014) shows that the product is not concerned by the substantial modifications.

5) EC type examination certificate was obtained :
LCIE 03 ATEX 6407
and a notification :
LCIE 03 ATEX Q8060

6) IECEx certificate of conformity was obtained :
IECEx LCIE 13.0030X
and a notification :
FR/LCI/QAR08.0002

7) The application of the following standards took part in obtaining certication :

EN 60-529, NFC 23-520, NFC 23-539, EN 50081-1, EN 55022 classe B, EN 55014, EN 61000-6-2, CEI 61000-4-2, CEI 61000-4-3, CEI61000-4-4, CEI 61000-4-5, CEI 61000-4-6, CEI 61000-4-8, CEI 61000-4-11

8) The notified organization responsible for the follow-up of the directive **ATEX** is the

LCIE,B.P.8, F92260 Fontenay-aux-Roses

Identification number : 0081

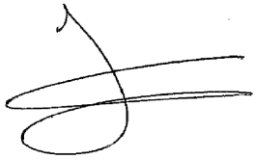
9) The company in charge of certification **CEM** is named :

GRME, Cellule CEM, B.P.8, 68840 Pulversheim

10) We certify that our indicated products so above are in conformity with the directive and the specified standards

Date :

ATEX Certified Product Approved Person
Jean-Marc HUBSCH



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