

ATEX INCREMENTAL ENCODERS, IHO5 RANGE, INTRATEX™

Intrinsically safe encoders, specially designed for explosive GAZ or DUST atmospheres

For chemical applications (painting, solvent, fragrances, rubber), textile, food processing, wood, petrochemistry...

EC type examination certificate

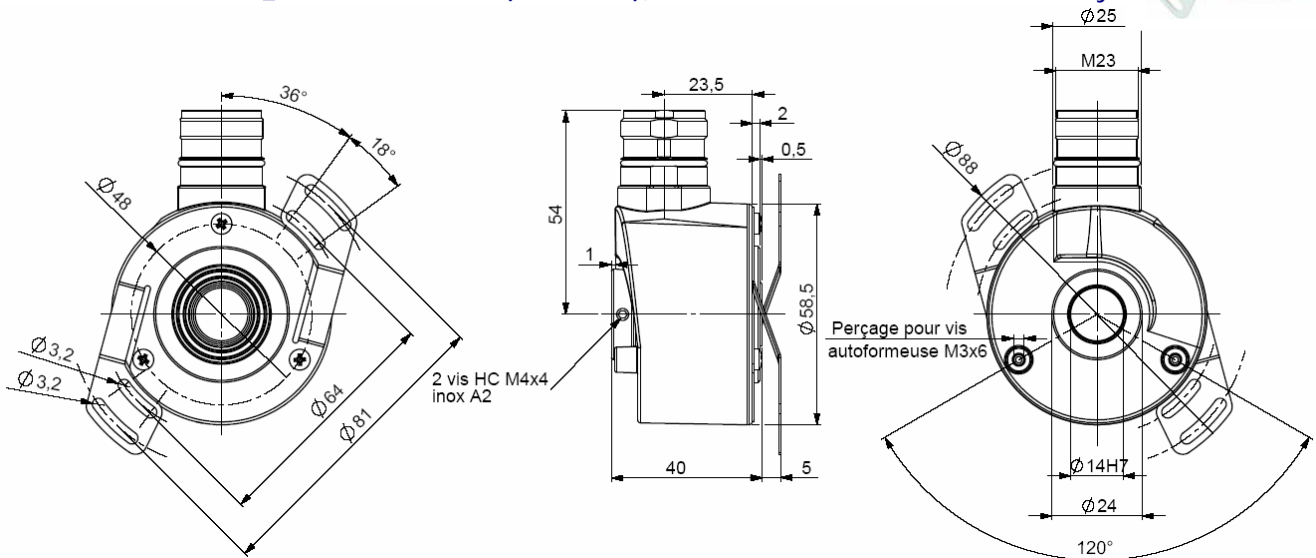
LCIE 04 ATEX 6109 X

CE 0081

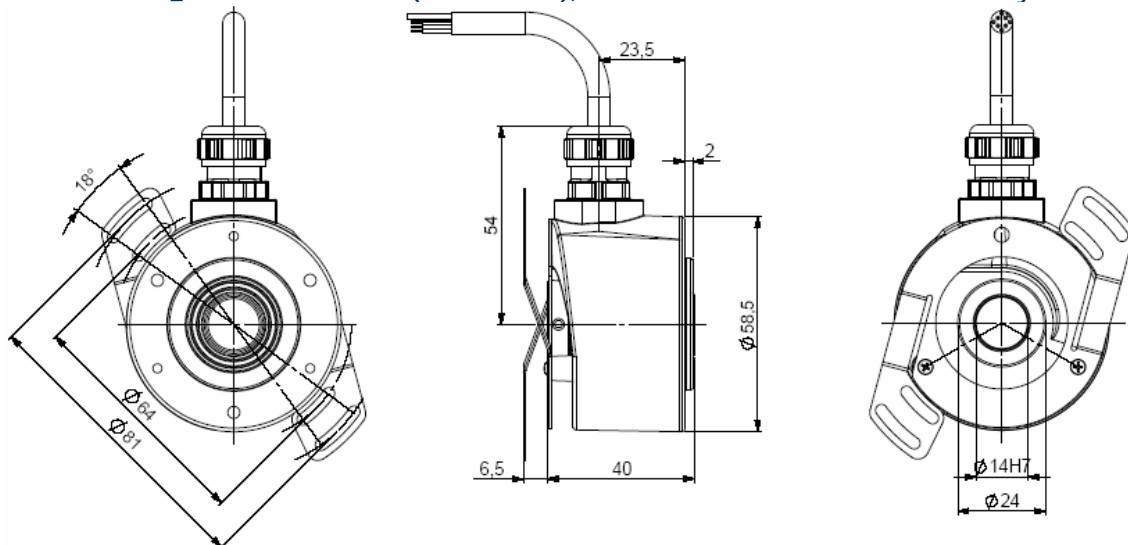
II 1 G/D EEx ia IIC/B T4 Ex iaD 20 T135°C



IHO5_14 connection G6R (radial M23), DAC 9445/015 mounted onto the body



IHO5_14 connection G3R (radial cable), DAC 9445/015 mounted onto the body

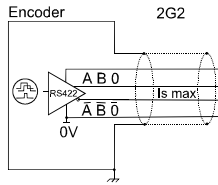


Material	Cover : zinc alloy
	Body: aluminium
	Shaft : stainless steel
Ball bearings	6 803 ZZ
Maximal loads	Axial : 20 N
	Radial : 50 N
Shaft inertia	≤ 22 g.cm ²
Torque	≤ 0.6 N.cm
Max. speed	6 000 rpm
Max. speed (continuous)	6 000 rpm
Max. acceleration	1.10 ⁵ rad.s ⁻²
Shaft seal	Viton
Shock (EN60068-2-27)	< 500m.s ⁻² (during 6ms)

Vibration (EN60068-2-6)	< 100m.s ⁻² (55Hz ... 2 000Hz)	
EMC	EN 61000-6-4, EN 61000-6-2	
Isolation voltage	2 000 V eff	
Electrical lifetime	> 10 ⁵ h	
Weight	300 g	
Operating temperature	- 30...+ 70°C, -40°C upon request	
Storage temperature	- 40... + 100°C	
Humidity	98 % (without condensation)	
Protection (EN 60529)	IP 65	
Torque (pressure screw ring)	Nominal: 1.5N.m, break: 2.0N.m	
Theoretical mechanical lifetime 10 ⁹ turns (F _{axial} / F _{radial})		
5N / 10N	10N / 25N	20N / 50N
2 400	230	29

ATEX INCREMENTAL ENCODERS, IHO5 RANGE, INTRATEX™

OUTPUT ELECTRONIC / SUPPLY - DIGITAL SIGNALS (SQUARE WAVE SIGNALS)



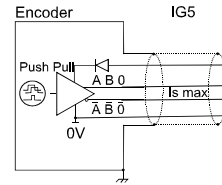
Electronic 2G2

Supply : 4.5 to 6Vdc Consumption : 75mA
Intern capacity: 1.3µF, intern inductance: 0mH
II 1 G/D EEx ia IIC T4, Ex iaD 20 T135°C
RS422, 40 mA, TTL 20mA, F_{max}=300kHz

Barrier to be used for supply:
Ui<10V, Li<750mA, Pi<1.875W

Barrier to be used for each output:
Ui<10V, Li<200mA, Pi<0.5W

Protection against short circuits (for both electronics) and polarity inversions (except for 2G2)



Electronic IG5

Supply : 8 to 12Vdc Consumption : 75mA
Intern capacity: 1.3µF, intern inductance: 0mH
II 1 G/D EEx ia IIC T4, Ex iaD 20 T135°C
Push Pull 50mA, F_{max}=300kHz

Barrier to be used for supply:
Ui<16V, Li<750mA, Pi<3W

Barrier to be used for each output:
Ui<16V, Li<150mA, Pi<0.6W

STANDARD CONNECTION

		-	+	A	B	0	A/	B/	0/	Ground
G6	12 pins CW	1	2	3	4	5	6	7	8	Connector body
G8	12 pins CCW	10 + 11	2 + 12	8	5	3	1	6	4	Connector body
G3	PVC cable 8 wires 8230/020	WH white	BN brown	GN green	YE yellow	GY grey	PK pink	BU blue	RD red	General shielding
GP	PUR cable 12 wires 8230/050	WH white + WH/GN white /green	BU blue + BN/GN brown / green	GY grey	BN brown	RD red	PK pink	GN green	BK black	General shielding

ORDERING REFERENCE

IHO5	Shaft Ø 14 : 14mm Reduction hubs available	Digital signals (square)				Connection G6 : M23 12pins CW G5 : M23 12pins CW G8 : M23 12 pins CCW G1 : solenoid valve 4pins G2 : DIN 5 pins GD : DIN 8 pins G3 : PVC cable 8 wires GP : PUR cable 12 wires	Orientation R : radial Example : R020: radial cable 2m
		Electronic : 2G2, IG5		Signals 9 : A,A/,B,B/,0,0/ (0 gated A&B)	Resolution 96 000 max		
		Supply 2: 5Vdc 1: 8-12Vdc	Output stage G2: driver RS422 G5: driver push-pull				
Ex: IHO5 _	14 //	2	G2	9 //	10 000 //	GP	R050

Available resolutions (2G2 and IG5): 50 60 100 120 125 127 150 180 200 240 250 256 300 314 360 375 400 500 512 600 720 750 762 768 800 927 1000 1024 1200 1250 1280 1440 1500 1800 2000 2048 2400 2500 3000 3600 4000 4096 5000

Interpolated available resolutions (2G2 only): 1080 2560 2880 3072 4320 5120 5760 6000 7200 7500 8000 8192 9000 10000 10240 10800 12000 12500 12288 14400 15000 16000 16384 18000 20000 20480 24000 25000 28800 30000 32000 32768 36000 40000 40960 43200 48000 49152 50000 57600 60000 64000 65536 72000 80000 96000

**NEVER CONNECT/DISCONNECT OR OPEN THE ENCODER UNDER POWER SUPPLY IN DUST ENVIRONMENTS.
RESPECT THE MOUNTING AND THE MECHANICAL RESTRICTIONS IN ORDER TO REMAIN IN LINE WITH THE MAXIMAL SURFACE TEMPERATURE VALUE ALLOWED BY THE CLASS T4 REQUIREMENTS**

LCIE 04 ATEX 6109 X : CE certification of Type for the encoder :

Operating temperature : -30°C to +70°C

The components of the device are intrinsically safe : they can be used in explosive atmospheres. The supply and output circuits can only be connected to associated devices which are intrinsically safe and that are certified by type (ia) or (ib). These devices must have electrical parameters that have a compatible supply with the above mentioned electronics

LCIE 04 ATEX 6155 X : CE certification of Type for the encoder's system (encoder in association with a BEI barrier) :

Operating temperature : barrier -20°C to +40°C and encoder -30°C to +70°C

System classification : EEx ia IIC T4 Ex iaD 20 T135°C

The interconnecting cables have to be sufficiently protected against damage and have to be separated from the non intrinsically safe circuits. They are described in the norm EN50020 paragraph 6.3, with the following characteristics C=100pF/m and L=1.2µH/m, or with cables with other C and L values, with respect to the maximum authorized :

Gases : Ca=3.9µF and L=0.4mH
Dust : Ca=38.7µF and L=0.8mH