

## Incremental encoder with flameproof enclosure



- ▶ II 2 GD Ex d IIC T5/T6 IP65 Txx°C
- ▶ Ex d IIC Tx Ex tD A21 IP65 Txx°C
- ▶ High vibration and shock resistance according to IEC 68-2-6 and IEC 68-2-27
- ▶ 3 or 6 short-circuit protected outputs
- ▶ 9...30 Vdc, polarity protected power supply
- ▶ Available with advanced internal diagnostics, ADS



### ELECTRICAL SPECIFICATION

Supply voltage +EV	9-30V	
	Polarity protected	
Current consumption at no load	60mA @ 24V Max 80mA	
Line counts	360, 500, 1000, 1024, 2000, 2048, 2500, 3072, 3600, 4096, 5000, 6350, 10 000	
Measuring steps	4 x Line counts	
Accuracy		
Dividing error	± 50° el	
Channel separation	90° ± 25° el	
Outputs	High current HTL	
Load max	± 40mA	
Cable length max	350m @ 100kHz	
U <sub>high</sub> (at 40mA load)	> +EV - 4,0V	
U <sub>low</sub> (at 40mA load)	< 2,5V	
Frequency range	0...100kHz	
Option	Advanced Diagnostic System ADS	
Alarm output	Opto-coupler	
OK	Closed-circuit	V <sub>CE</sub> < 2V at 10mA
Error	Open-circuit	min 500ms
Voltage max	35V	
Current max	30mA	
PC communication	RS-232	Max 10m cable

### ACCESSORIES

Torque bracket	Part. No. 01209118
Torque arm M5	Part. No. 01208013
Torque arm M6	Part. No. 01208014
Cable gland	
Ex d IIC, M20x1,5	Part. No. 00208040
Accessory cable	Part. No. 01209128
ADS PC software kit	Part. No. 01209084

### POSSIBLE OPTIONS / PERFORMANCES OF Ex 841

The possible options/performances of Ex 841 are limited by the certificate (SP07ATEX3635X). The possible options/performances are:

1. Line counts other than mentioned in the specification on request. Only glass discs can be manufactured.
2. Temperature class: (Ta = ambient temperature)  
 T6, -40°C < Ta < +40°C, 4200rpm max  
 T5, -40°C < Ta < +60°C, 4200rpm max  
 T5, -40°C < Ta < +70°C, 1500rpm max  
 T5 means that the surface temperature of the encoder never exceeds 100°C (running). Most Ex-classified motors are working in class T3 (200°) which means that an encoder with T5 can be used together with these motors.
3. Electronics with screw terminal connection and 3 or 6 channel output, all short-circuit protected via PTC
4. ADS, Advanced Diagnostic System is available on request.

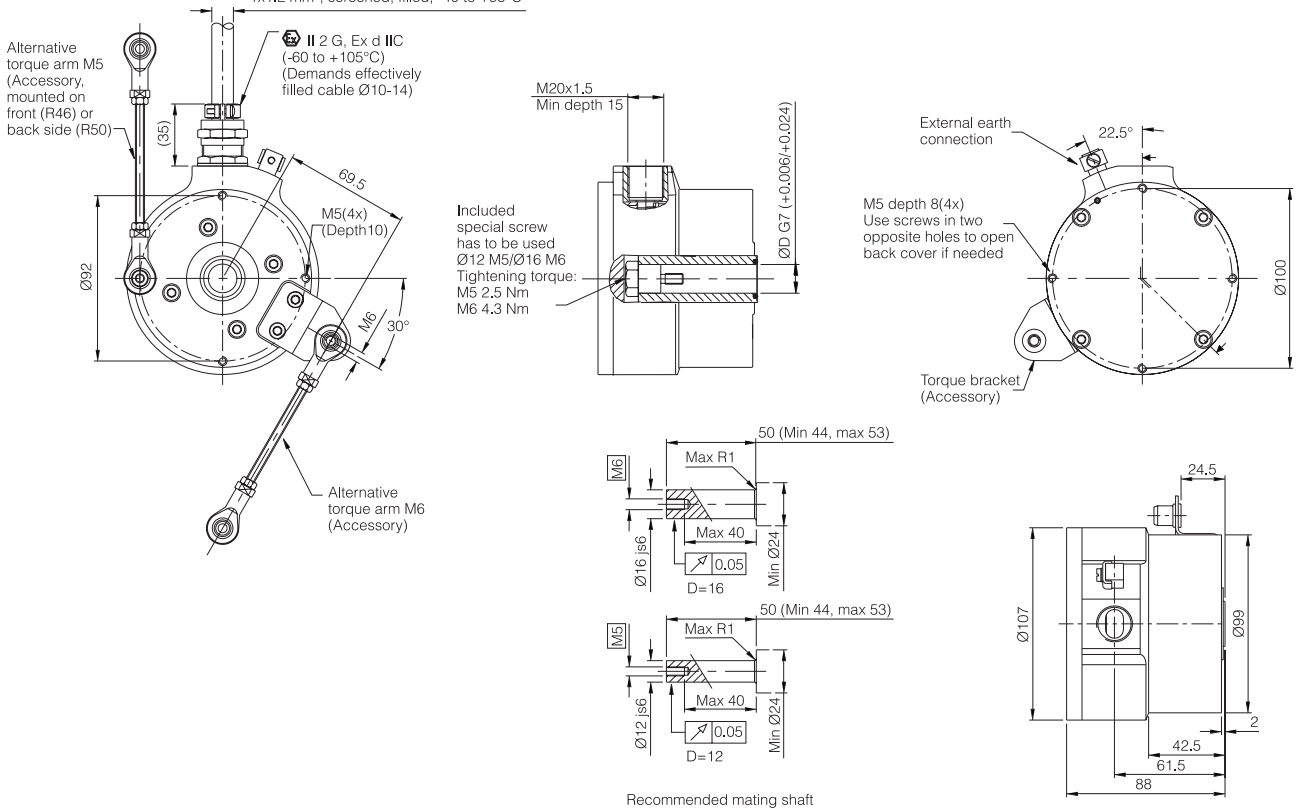
### CONNECTION

Function	Terminal	
+ E Volt	1	
0 Volt	2	
0	3	* 3 channel output
0 (0 Volt *)	4	All 0 Volt pins are internally connected on the PCB
1	5	
1 (0 Volt *)	6	
2	7	
2 (0 Volt *)	8	
Alarm +	9	ADS outputs
Alarm -	10	



Example of cable and Ex d IIC gland  
(Accessories)

ø12 (Accessory cable 5x2x0.5 mm<sup>2</sup>+  
1x1.2 mm<sup>2</sup>, screened, filled, -40 to +95°C)



Included special screw has to be used Ø12 M5/Ø16 M6  
Tightening torque:  
M5 2.5 Nm  
M6 4.3 Nm

Recommended mating shaft

## MECHANICAL SPECIFICATION

Hollow-shaft	Ø 12, 16mm	Stainless steel
Moment of inertia	62 x 10 <sup>-6</sup> kgm <sup>2</sup>	
Load max		
Radial	150 N	
Axial	100 N	
Speed max	4200 rpm	
Code disc	Extended temp	
Temperature		
Operating	-40°C ... +70°C	
Storage	-40°C ... +70°C	
Housing	Aluminum, anodized	
Weight	Approx. 1700g	
Protection class	IP 65 according to IEC 60529	
Vibration	<100m/s <sup>2</sup> (50...2000 Hz)	
Shock	<1000m/s <sup>2</sup> (11ms)	

## ORDERING INFORMATION

### Available models

#### 841910001

Ex d IIC T5, -40°C<Ta+60°C, 4200rpm max  
2048ppr, 6 outputs, 9-30Vdc, ø12mm

#### 841910002

Ex d IIC T5, -40°C<Ta+60°C, 4200rpm max  
1024ppr, 6 outputs, 9-30Vdc, ø12mm

#### 841910003

Ex d IIC T5, -40°C<Ta+60°C, 4200rpm max  
1024ppr, 6 outputs, 9-30Vdc, ø16mm

#### 841910004

Ex d IIC T5, -40°C<Ta+60°C, 4200rpm max  
2048ppr, 3 outputs, 9-30Vdc, ø12mm

#### 841910005

Ex d IIC T5, -40°C<Ta+60°C, 4200rpm max  
2048ppr, 3 outputs, 9-30Vdc, ø16mm

#### 841910006

Ex d IIC T5, -40°C<Ta+60°C, 4200rpm max  
1024ppr, 6 outputs, 9-30Vdc, ø16mm, ADS

Other combinations available upon request.