



## Incremental encoders DFS60, rotary

DFS60B-S1PA10000



**Type produit** > **DFS60B-S1PA10000**  
**Numéro de commande** > **1036755**



#### At a glance

- Compact installation depth
- High resolution up to 16 bits
- Optionally programmable: Output voltage, zero pulse position, zero pulse width and number of pulses
- Connection: Radial or axial cable outlet, M23 or M12 connector, axial or radial
- Electrical interfaces: 5V & 24V TTL/RS-422, 24 V HTL/push pull
- Mechanical interfaces: face mount or servo flange, blind or through hollow shaft
- Remote zero set possible

#### Your benefits

- Reduced storage costs and downtime due to programming by customer
- High variety of different mechanical and electrical interfaces enable the encoder to be optimally adapted to the installation situation for the specific application
- Excellent concentricity even at high speeds
- The high resolution of up to 16 bits makes applications with high measuring accuracy requirements possible
- Permanent and safe operation due to high enclosure rating, temperature resistance and bearing lifetime
- Programmability via the PGT-08 programming software and the PGT-10-S display programming tool allow the encoder to be adapted flexibly and quickly to customer needs.
- Programmable zero pulse position simplifies installation



#### Performance

Limites d'erreur:	± 0,05 °
Pas de mesure:	90 °/electronically/number of lines
Durée d'initialisation:	32 ms <sup>1)</sup> 30 ms
Nombre de pas max. par tour:	10.000

<sup>1)</sup> With mechanical zero pulse width

#### Données de mécanique

Mechanical interface:	Solid shaft, Bride synchro
Diamètre de l'arbre:	6 mm x 10 mm
Mass:	0,3 kg
Couple de démarrage:	0,5 Ncm (20 °C)

Couple de fonctionnement ::	0,3 Ncm (20 °C)
Maximum operating speed:	10.000 /min
Moment d'inertie du rotor:	6,2 gcm <sup>2</sup>
Durée de stockage:	3.6 x 10 <sup>10</sup> revolutions
Accélération angulaire max.:	500.000 rad/s <sup>2</sup>
Permissible shaft loading radial/axial:	80 N (radial) 40 N (axial)

### Données de électrique

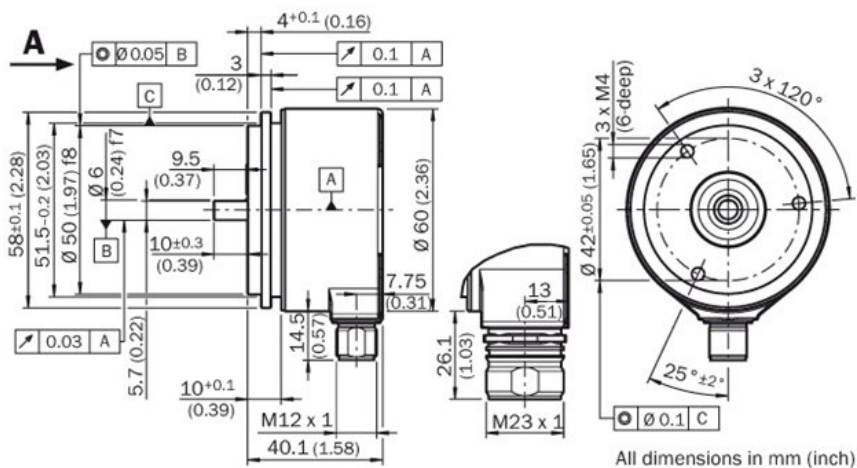
Interface électrique:	Connector M23, 12-pin, radial, TTL/HTL programmable
Raccordement:	Connector M23, 12-pin, radial
Maximum output frequency:	600 kHz
Signal de référence, nombre:	1
Signal de référence, position:	90 °, electronically, gated with A and B
Operating voltage range:	4,5 V ... 32 V
Load current max.:	30 mA
Puissance:	0,7 W (sans charge)

### Caractéristiques ambiantes

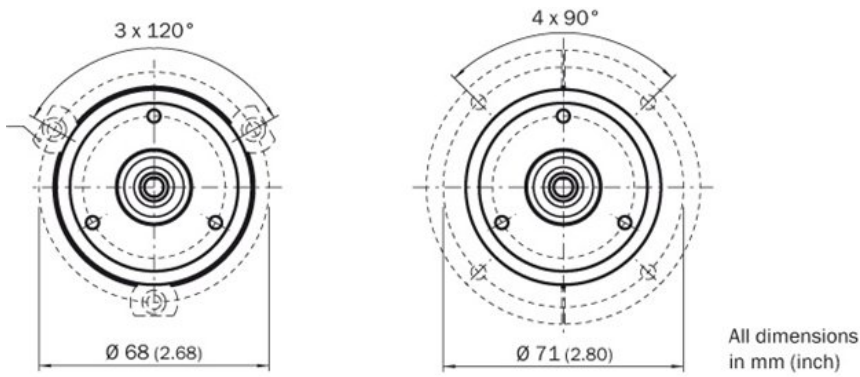
CEM:	According to EN 61000-6-2 and EN 61000-6-3
Working temperature range:	-30 °C ... 100 °C
Storage temperature range:	-40 °C ... 100 °C, without package
Résistance aux chocs:	70 g (according to EN 60068-2-27)
Résistance aux vibrations:	30 g, 10 Hz ... 2.000 Hz (according to EN 60068-2-6)
Indice de protection:	IP 67, according to IEC 60529 IP 65, according to IEC 60529, shaft side
Humidité relative admissible:	90 % (Condensation of the optical scanning not permitted)

1) With mating connector fitted

### Plan coté



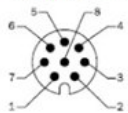
## Proposed fitting



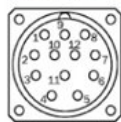
## PIN assignment

### 8-core cable

View of M12 device connector on encoder



View of M23 device connector on encoder



PIN, 8-pin, M12 connector	PIN, 12-pin, M23 connector	Core colors of encoders with cable outlet	TTL/HTL signal	Explanation
1	6	Brown	$\sim$ A	Signal cable
2	5	White	A	Signal cable
3	1	Black	$\sim$ B	Signal cable
4	8	Pink	B	Signal cable
5	4	Yellow	$\sim$ Z	Signal cable
6	3	Lilac	Z	Signal cable
7	10	Blue	GND	Ground connection of the encoder
8	12	Red	+U <sub>s</sub>	Supply voltage (volt-free to housing)
-	9	-	N.C.	Not assigned
-	2	-	N.C.	Not assigned
-	11	-	N.C.	Not assigned
-	7*	-	SET	Zero pulse teach
Shield	Shield	Shield	Shield	Shield connected to housing on side of encoder. Connected to ground on side of control.

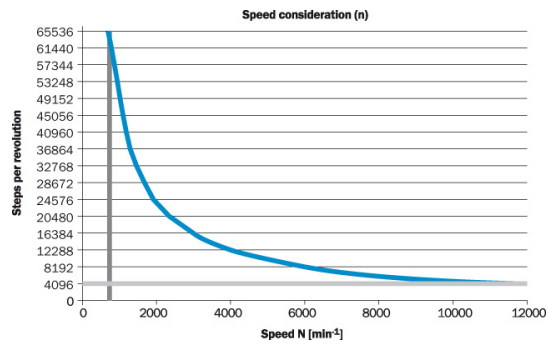
\* Only at 4.5 ... 32 V, TTL/HTL programmable

The SET input serves to carry out the zero pulse teach function. If the SET input is applied to U<sub>s</sub> for longer than 250 ms, after it has been open for at least 1,000 ms or applied to GND, the current shaft position is assigned the zero pulse signal "Z".

## Signalansgänge

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# Drehzahlbetrachtung



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