



# DBS60E-THFQ01024

DBS60

INCREMENTAL ENCODERS

**SICK**  
Sensor Intelligence.



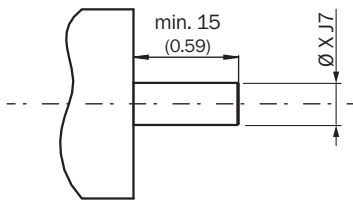




Type Through hollow shaft with front clamping	Shaft diameter XF7
DBS60x-T3xxxxxxx	
DBS60x-TDxxxxxxx DBS60x-T4xxxxxxx	10 mm
DBS60x-TExxxxxxx DBS60x-T5xxxxxxx	12 mm
DBS60x-TFxxxxxxx DBS60x-T6xxxxxxx	1/2"
DBS60x-TGxxxxxxx DBS60x-T7xxxxxxx	14 mm
DBS60x-THxxxxxxx DBS60x-T8xxxxxxx	15 mm
DBS60x-TJxxxxxxx	5/8"

### Attachment specifications

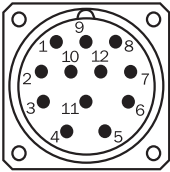
Through hollow shaft with front clamping



Customer side

Type Through hollow shaft with front clamping	Shaft diameter xj7
DBS60x-TAxxxxxxx DBS60x-T1xxxxxxx	6 mm
DBS60x-TBxxxxxxx DBS60x-T2xxxxxxx	8 mm
DBS60x-TCxxxxxxx DBS60x-T3xxxxxxx	3/8"
DBS60x-TDxxxxxxx DBS60x-T4xxxxxxx	10 mm
DBS60x-TExxxxxxx DBS60x-T5xxxxxxx	12 mm
DBS60x-TFxxxxxxx DBS60x-T6xxxxxxx	1/2"
DBS60x-TGxxxxxxx DBS60x-T7xxxxxxx	14 mm
DBS60x-THxxxxxxx DBS60x-T8xxxxxxx	15 mm
DBS60x-TJxxxxxxx	5/8"

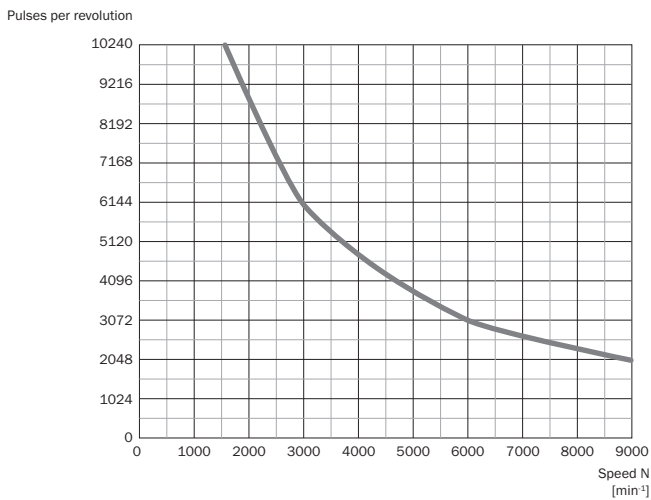
## PIN assignment



View of M23 male device connector on cable / housing

Wire colors (cable connection)	Male connector M12, 8-pin	Male connector M23, 12-pin	TTL/HTL 6-channel signal	Explanation
Brown	1	6	A-	Signal wire
White	2	5	A	Signal wire
Black	3	1	B-	Signal wire
Pink	4	8	B	Signal wire
Yellow	5	4	Z-	Signal wire
Purple	6	3	Z	Signal wire
Blue	7	10	GND	Ground connection
Red	8	12	+U <sub>s</sub>	Supply voltage
-	-	9	Not assigned	Not assigned
-	-	2	Not assigned	Not assigned
-	-	11	Not assigned	Not assigned
-	-	7	Not assigned	Not assigned
Screen	Screen	Screen	Screen	Screen connected to encoder housing

## Diagrams



Signal outputs for electrical interfaces TTL and HTL



Cw with view on the encoder shaft in direction "A", compare dimensional drawing.

Supply voltage	Output
4,5 V ... 5,5 V	TTL
10 V ... 30 V	TTL
10 V ... 27 V	HTL
4,5 V ... 30 V	TTL/HTL universal
4,5 V ... 30 V	TTL

### Operation note

Hollow shaft








Attention! If stator coupling is mounted, the zero pulse mark can be hidden by the stator coupling

- ① Zero pulse mark on flange
- ② Zero pulse is active when screw of clamping is inline with zero pulse mark on flange or housing mark





	Brief description	Type	Part no.
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Incremental</li> <li>• <b>Cable:</b> 10 m, 11-wire, PUR</li> <li>• <b>Description:</b> Incremental, shielded, Head A: female connector, M23, 12-pin, straight Head B: cable Cable: incremental, PUR, shielded, 4 x 2 x 0.25 mm<sup>2</sup> + 2 x 0.5 mm<sup>2</sup> + 1 x 0.14 mm<sup>2</sup>, Ø 7.8 mm</li> </ul>	DOL-2312-G10MLA3	2030688
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Incremental</li> <li>• <b>Cable:</b> 7 m, 11-wire, PUR</li> <li>• <b>Description:</b> Incremental, shielded, Head A: female connector, M23, 12-pin, straight Head B: cable Cable: incremental, PUR, shielded, 4 x 2 x 0.25 mm<sup>2</sup> + 2 x 0.5 mm<sup>2</sup> + 1 x 0.14 mm<sup>2</sup>, Ø 7.8 mm</li> </ul>	DOL-2312-G07MLA3	2030685
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M23, 12-pin, straight</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Incremental</li> <li>• <b>Cable:</b> 2 m, 11-wire, PUR</li> <li>• <b>Description:</b> Incremental, shielded, Head A: female connector, M23, 12-pin, straight Head B: cable Cable: incremental, PUR, shielded, 4 x 2 x 0.25 mm<sup>2</sup> + 2 x 0.5 mm<sup>2</sup> + 1 x 0.14 mm<sup>2</sup>, Ø 7.8 mm</li> </ul>	DOL-2312-G02MLA3	2030682
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M23, 12-pin, angled, A-coded</li> <li>• <b>Signal type:</b> HIPERFACE<sup>®</sup>, SSI, Incremental</li> <li>• <b>Description:</b> HIPERFACE<sup>®</sup>, SSI, Incremental, shielded, Head A: female connector, M23, 12-pin, angled, shielded, for cable diameter 4.2 mm ... 6.6 mm Head B: - Operating temperature: -20 °C ... +130 °C</li> <li>• <b>Connection systems:</b> Solder connection</li> </ul>	DOS-2312-W01	2072580
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M23, 12-pin, straight, A-coded</li> <li>• <b>Signal type:</b> HIPERFACE<sup>®</sup>, SSI, Incremental</li> <li>• <b>Description:</b> HIPERFACE<sup>®</sup>, SSI, Incremental, shielded, Head A: female connector, M23, 12-pin, straight, shielded, for cable diameter 5.5 mm ... 10.5 mm Head B: - Operating temperature: -40 °C ... +125 °C</li> <li>• <b>Connection systems:</b> Solder connection</li> </ul>	DOS-2312-G02	2077057

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SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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