

# DFS60B-S4PD07142

DFS60

**INCREMENTAL ENCODERS** 





## Ordering information

Туре	Part no.
DFS60B-S4PD07142	1130947

Other models and accessories → www.sick.com/DFS60

Illustration may differ



## Detailed technical data

## Safety-related parameters

MTTF <sub>D</sub> (mean time to dangerous failure)	300 years (EN ISO 13849-1) <sup>1)</sup>

<sup>1)</sup> This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

## Performance

Pulses per revolution	7,142 <sup>1)</sup>
Measuring step	90°, electric/pulses per revolution
Measuring step deviation at non binary number of lines	± 0.01°
Error limits	± 0.05°

 $<sup>^{1)}</sup>$  See maximum revolution range.

## Interfaces

Communication interface	Incremental
Communication Interface detail	TTL / HTL
Factory setting	Factory setting: output level TTL
Number of signal channels	6-channel
Programmable/configurable	✓
Initialization time	32 ms, 30 ms <sup>1)</sup>
Output frequency	≤ 600 kHz
Load current	≤ 30 mA
Power consumption	≤ 0.7 W (without load)

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

## **Electronics**

Connection type	Male connector, M12, 8-pin, axial
Supply voltage	4.5 32 V

 $<sup>^{1)}</sup>$  Programming TTL with  $\geq$  5.5 V: short-circuit opposite to another channel or GND permissable for maximum 30 s.

 $<sup>^{2)}</sup>$  Programming HTL or TTL with < 5.5 V: short-circuit opposite to another channel, US or GND permissable for maximum 30 s.

Reference signal, number	1
Reference signal, position	90°, electric, logically gated with A and B
Reverse polarity protection	<b>√</b>
Short-circuit protection of the outputs	<b>✓</b> <sup>1) 2)</sup>

 $<sup>^{(1)}</sup>$  Programming TTL with  $\geq 5.5$  V: short-circuit opposite to another channel or GND permissable for maximum 30 s.

## Mechanics

Mechanical design	Solid shaft, face mount flange
Shaft diameter	10 mm With face
Shaft length	19 mm
Weight	+ 0.3 kg
Shaft material	Stainless steel
Flange material	Aluminum
Housing material	Aluminum die cast
Start up torque	0.5 Ncm (+20 °C)
Operating torque	0.3 Ncm (+20 °C)
Permissible shaft loading	80 N (radial) 40 N (axial)
Operating speed	≤ 9,000 min <sup>-1 1)</sup>
Moment of inertia of the rotor	6.2 gcm <sup>2</sup>
Bearing lifetime	3.6 x 10^10 revolutions
Angular acceleration	$\leq 500,000 \text{ rad/s}^2$

 $<sup>^{1)}</sup>$  Allow for self-heating of 3.3 K per 1,000 rpm when designing the operating temperature range.

## Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating	IP67, Housing side, male connector (IEC 60529) $^{1)}$ IP65, shaft side (IEC 60529)
Permissible relative humidity	90 % (Condensation not permitted)
Operating temperature range	-40 °C +100 °C <sup>2)</sup> -30 °C +100 °C <sup>3)</sup>
Storage temperature range	-40 °C +100 °C, without package
Resistance to shocks	70 g, 6 ms (EN 60068-2-27)
Resistance to vibration	30 g, 10 Hz 2,000 Hz (EN 60068-2-6)

<sup>1)</sup> With mating connector fitted.

## Classifications

ECLASS 5.0	27270501
ECLASS 5.1.4	27270501
ECLASS 6.0	27270590
ECLASS 6.2	27270590

<sup>&</sup>lt;sup>2)</sup> Programming HTL or TTL with < 5.5 V: short-circuit opposite to another channel, US or GND permissable for maximum 30 s.

<sup>2)</sup> Stationary position of the cable.

<sup>3)</sup> Flexible position of the cable.

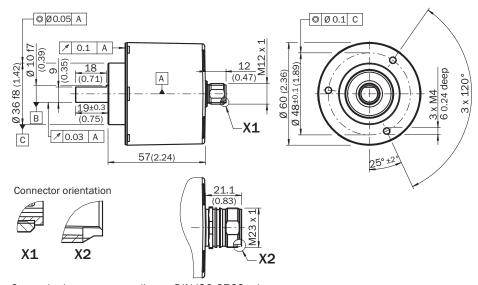
# DFS60B-S4PD07142 | DFS60

**INCREMENTAL ENCODERS** 

ECLASS 7.0	27270501
ECLASS 8.0	27270501
ECLASS 8.1	27270501
ECLASS 9.0	27270501
ECLASS 10.0	27270501
ECLASS 11.0	27270501
ECLASS 12.0	27270501
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

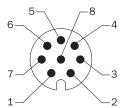
## Dimensional drawing (Dimensions in mm (inch))

Face mount flange, M12 and M23 axial male connector



General tolerances according to DIN ISO 2768-mk

## PIN assignment



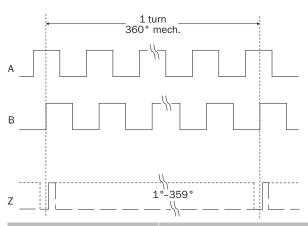
View of M12 male device connector on encoder

PIN Male connector M12, 8-pin	PIN Male connec- tor M23, 12-pin	Wire colors (ca- ble connection)	TTL/HTL signal	Sin/Cos 1.0 V <sub>PP</sub>	Explanation
1	6	Brown	_A	COS-	Signal wire
2	5	White	A	COS+	Signal wire
3	1	Black	_В	SIN-	Signal wire
4	8	Pink	В	SIN+	Signal wire
5	4	Yellow	-z	-z	Signal wire
6	3	Purple	Z	Z	Signal wire
7	10	Blue	GND	GND	Ground connection
8	12	Red	+U <sub>S</sub>	+U <sub>S</sub>	Supply voltage
-	9	-	N.c.	N.c.	Not assigned
-	2	-	N.c.	N.c.	Not assigned
-	11	-	N.c.	N.c.	Not assigned
-	7 1)	Orange	0-SET 1)	N.c.	Set zero pulse
Screen	Screen	Screen	Screen	Screen	Screen connected to housing on encoder side. Connected to ground on control side.
		1)			

For electrical interfaces only: M, U, V, W with 0-SET function on PIN 7 on M23 plug. The 0-SET input is used to set the zero pulse to the current shaft position. If the 0-SET input is applied to US for longer than 250 ms after it has previously been open or applied to GND for at least 1,000 ms, the current shaft position is assigned zero pulse signal "Z".

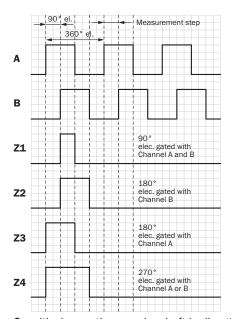
## **Diagrams**

Mechanical zero pulse width 1° to 359° programmable. Width of the zero pulse in relation to a mechanical revolution of the shaft.



Supply voltage	Output
4,5 V 32 V	TTL/HTL programmable

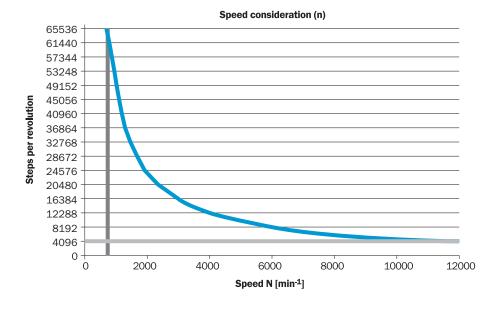
Electrical zero pulse width can be configured to 90°, 180°, or 270°. Width of the zero pulse in relation to a pulse period.



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

Supply voltage	Output	
4,5 V 32 V	TTL/HTL programmable	

Maximum revolution range



## Recommended accessories

Other models and accessories → www.sick.com/DFS60

	Brief description	Туре	Part no.
Programmin	g and configuration tools		
	<ul> <li>Accessory group: Programming and configuration tools</li> <li>Description: USB programming unit, for programmable SICK encoders AFS60, AFM60, DFS60, VFS60, DFV60 and wire draw encoders with programmable encoders</li> </ul>	PGT-08-S	1036616
A B · B V	<ul> <li>Accessory group: Programming and configuration tools</li> <li>Description: Programming unit display for programmable SICK DFS60, DFV60, AFS/AFM60, AHS/AHM36 encoders, and wire draw encoder with DFS60, AFS/AFM60 and AHS/AHM36. Compact dimensions, low weight, and intuitive operation.</li> <li>Items supplied: 1 x PGT-10-Pro stand-alone programming tool,4 x alkaline type batteries, 1.5 V Mignon (AA)</li> </ul>	PGT-10-Pro	1072254
Flanges			
0	<ul> <li>Description: Flange adapter, adaptation of face mount flange with 36 mm centering hub to 50 mm servo flange, aluminum, including 3 flat head screws M4 x 10</li> <li>Material: Aluminum</li> <li>Details: Aluminum</li> <li>Items supplied: Including 3 countersunk screws M3 x 10</li> </ul>	BEF-FA-036-050	2029160
6	<ul> <li>Description: Flange adapter, adaptation of face mount flange with 36 mm centering hub to 60 mm square mounting plate, aluminum, including 3 flat head screws M4 x 8</li> <li>Material: Aluminum</li> <li>Details: Aluminum</li> <li>Items supplied: Including 3 countersunk screws M4 x 8</li> </ul>	BEF-FA-036-060REC	2029162
	<ul> <li>Description: Flange adapter, adaptation of face mount flange with 36 mm centering hub to 58 mm square mounting plate with shock absorbers, aluminum</li> <li>Material: Aluminum</li> <li>Details: Aluminum</li> </ul>	BEF-FA-036-060RSA	2029163
	<ul> <li>Description: Flange adapter, adaptation of face mount flange with 36 mm centering hub to 63 mm square mounting plate, aluminum, including 3 flat head screws M4 x 10</li> <li>Material: Aluminum</li> <li>Details: Aluminum</li> <li>Items supplied: Including 3 countersunk screws M3 x 10</li> </ul>	BEF-FA-036-063REC	2034225
	<ul> <li>Description: Flange adapter, adaptation of face mount flange with 36 mm centering hub to 100 mm servo flange with 60 mm centering hub, aluminum</li> <li>Material: Aluminum</li> <li>Details: Aluminum</li> </ul>	BEF-FA-036-100	2029161
Mounting bra	ackets and plates		
( )	<ul> <li>Description: Mounting bracket for encoder with spigot 36 mm for face mount flange</li> <li>Items supplied: Mounting kit included</li> </ul>	BEF-WF-36	2029164
	<ul> <li>Description: Mounting angle spring-loaded, for flange with centerring collar 36 mm, working temperature range -40° +120°C</li> <li>Details: Aluminum</li> </ul>	BEF-WF36F	4084775
Other mount	ing accessories		
	• <b>Description:</b> Aluminium measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 200 mm	BEF-MR010020R	2055224
	• <b>Description:</b> Aluminium measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 300 mm	BEF-MR010030R	2049278
	• <b>Description:</b> Measuring wheel with O-ring (NBR70) for 10 mm solid shaft, circumference 500 mm	BEF-MR010050R	2055227
	Description: Aluminum measuring wheel with studded polyurethane surface for 6 mm solid shaft, circumference 200 mm	BEF-MR06200APN	4084747

	Brief description	Туре	Part no.
	Description: Aluminum measuring wheel with cross-knurled surface for 10 mm solid shaft, circumference 200 mm	BEF-MR10200AK	4084737
e hi	Description: Aluminum measuring wheel with smooth polyurethane surface for 10 mm solid shaft, circumference 200 mm	BEF-MR10200AP	4084738
	Description: Aluminum measuring wheel with studded polyurethane surface for 10 mm solid shaft, circumference 200 mm	BEF-MR10200APN	4084739
(d.	Description: Aluminum measuring wheel with cross-knurled surface for 10 mm solid shaft, circumference 500 mm	BEF-MR10500AK	4084733
(m.)	Description: Aluminum measuring wheel with smooth polyurethane surface for 10 mm solid shaft, circumference 500 mm	BEF-MR10500AP	4084734
	Description: Aluminum measuring wheel with ridged polyurethane surface for 10 mm solid shaft, circumference 500 mm	BEF-MR10500APG	4084736
	Description: Aluminum measuring wheel with studded polyurethane surface for 10 mm solid shaft, circumference 500 mm	BEF-MR10500APN	4084735
9-10-9-16	Description: SICK modular measuring wheel system for face mount flange encoder with S4 mechanical design (10 mm x 19 mm solid shaft), e.g., DFS60-S4: with 0-ring measuring wheel, circumference 200 mm     Suitable for: Face mount flange encoder DFS60, DBS60, AFM60, AFS60, mechanical design S4 (solid shaft 10 mm x 19 mm)	BEF-MRS-10-U	2085714
	Description: Flange adapter (adapts size 60 face mount flange encoder to bearing block with part. no. 2044591)	BEF-FA-036-050-019	2063378
	• <b>Description:</b> Bearing block for servo and face mount flange encoder. The heavy-duty bearing block is used to absorb very large radial and axial shaft loads. Particularly when using belt pulleys, chain sprockets, friction wheels. Operating speed max. 4,000 rpm^-1, axial shaft load 150 N, radial shaft load 250 N, bearing service life 3.6 x 10^9 revolutions	BEF-FA-LB1210	2044591
Shaft adaptat	ion		
	• <b>Description:</b> Bellows coupling, shaft diameter 6 mm / 10 mm, maximum shaft offset: radial $\pm$ 0.25 mm, axial $\pm$ 0.4 mm, angular +/- 4°; max. speed 10,000 rpm, -30 °C to +120 °C, max. torque 120 Ncm; material: stainless steel bellows, aluminum hub	KUP-0610-B	5312982
10	• <b>Description:</b> Double loop coupling, shaft diameter 6 mm / 10 mm, max. shaft offset: radially +/- 2,5 mm, axially +/-3 mm, angle +/- 10 degrees;max. speed 3.000 rpm, – 30 to +80 degrees Celsius, torsional spring stiffness of 25 Nm/rad	KUP-0610-D	5326697
(.·	• <b>Description:</b> Spring washer coupling, shaft diameter 6 mm / 10 mm, Maximum shaft offset: radial +/- 0.3 mm, axial +/- 0.4 mm, angular +/- 2.5°; max. speed 12,000 rpm, -10° to +80°C, max. torque 60 Ncm; material: aluminum flange, glass fiber-reinforced polyamide membrane and hardened steel coupling pin	KUP-0610-F	5312985
	• <b>Description:</b> Claw coupling, shaft diameter 6 mm $/$ 10 mm, damping element 80 shore blue, maximum shaft offset: radial $\pm$ 0.22 mm, axial $\pm$ 1 mm angular $\pm$ 1.3°, max. speed 19,000 rpm, angle of twist max. 10°, –30 °C to +80 °C, max. torque 800 Ncm, tightening torque of screws: ISO 4029 150 Ncm, material: aluminum flange, damping element: polyurethane	KUP-0610-J	2127056
	• <b>Description:</b> Bar coupling, shaft diameter 6 mm / 10 mm, max. shaft offset: radial $\pm$ 0,3 mm, axial $\pm$ 0,3 mm, angular $\pm$ 3°; max. speed 10.000 rpm, $-$ 10° to +80 °C, max. torque: 80 Ncm, material: fiber-glass reinforced polyamide, aluminum hub	KUP-0610-S	2056407

	Brief description	Туре	Part no.
	• <b>Description:</b> Double loop coupling, shaft diameter 8 mm / 10 mm, max. shaft offset: radially +/- 0,25 mm, axially +/-0,4 mm, angle +/- 4 degrees;max. speed 10.000 rpm, -30 to +120 degrees Celsius, torsional spring stiffness of 150 Nm/rad	KUP-0810-D	5326704
	• <b>Description:</b> Claw coupling, shaft diameter 8 mm $/$ 10 mm, damping element 80 shore blue, maximum shaft offset: radial $\pm$ 0.22 mm, axial $\pm$ 1 mm angular $\pm$ 1.3°, max. speed 19,000 rpm, angle of twist max. 10°, -30 °C to +80 °C, max. torque 800 Ncm, tightening torque of screws: ISO 4029 150 Ncm, material: aluminum flange, damping element: polyurethane	KUP-0810-J	2128267
	• <b>Description:</b> Bar coupling, shaft diameter $8 \text{ mm} / 10 \text{ mm}$ , max. shaft offset: radial $\pm$ 0,3 mm, axial $\pm$ 0,3 mm, angular $\pm$ 3°; max. speed 10.000 rpm, $-10^{\circ}$ to $+80^{\circ}$ C, max. torque: 80 Ncm, material: fiber-glass reinforced polyamide, aluminum hub	KUP-0810-S	5314178
	• <b>Description:</b> Bellows coupling, shaft diameter 10 mm/10 mm; maximum shaft offset: radial +/- 0.25 mm, axial +/- 0.4 mm, angular +/- 4°; max. revolutions 10,000 rpm, -30° to +120 °C, max. torque 120 Ncm; material: stainless steel bellows, aluminum clamping hubs	KUP-1010-B	5312983
10	• <b>Description:</b> Double loop coupling, shaft diameter $10 \text{ mm} / 10 \text{ mm}$ , Maximum shaft offset: radial +/- $2.5 \text{ mm}$ , axial +/- $3 \text{ mm}$ , angular +/- $10^\circ$ ; max. speed $3{,}000 \text{ rpm}$ , – $30^\circ$ to +80 °C, max. torque $1.5 \text{ Nm}$ ; material: polyurethane, galvanized steel flange	KUP-1010-D	5326703
(.s	• <b>Description:</b> Spring washer coupling, shaft diameter 10 mm / 10 mm, maximum shaft offset, radial $\pm$ 0.3 mm, axial $\pm$ 0.4 mm, angle $\pm$ 2.5°, torsion spring stiffness 30 Nm/rad; material: aluminum flange, glass-fiber reinforced polyamide membrane and hardened steel coupling pin	KUP-1010-F	5312986
	• <b>Description:</b> Claw coupling, shaft diameter 10 mm / 10 mm, damping element 80 shore blue, maximum shaft offset: radial $\pm$ 0.22 mm, axial $\pm$ 1 mm angular $\pm$ 1.3°, max. speed 19,000 rpm, angle of twist max. 10°, –30 °C to +80 °C, max. torque 800 Ncm, tightening torque of screws: ISO 4029 150 Ncm, material: aluminum flange, damping element: polyurethane	KUP-1010-J	2127054
0	• <b>Description:</b> Bar coupling, shaft diameter 10 mm / 10 mm; maximum shaft offset: radial $\pm$ 9.3 mm, axial $\pm$ 0.2 mm, angular $\pm$ 3°; speed 10,000 rpm, –10° to +80° Celsius, max. torque 80 Ncm; material: glass fiber-reinforced polyamide, aluminum hub	KUP-1010-S	2056408
	• <b>Description:</b> 10 mm / 12 mm; maximum shaft offset: radial +/- 0.25 mm, axial +/- 0.4 mm, angular +/- $4^\circ$ ; max. revolutions 10,000 rpm, $-30^\circ$ to +120 °C, max. torque 120 Ncm; material: stainless steel bellows, aluminum clamping hubs	KUP-1012-B	5312984
	• <b>Description:</b> Double loop coupling, shaft diameter 10 mm / 12 mm, Maximum shaft offset: radial +/- 2.5 mm, axial +/- 3 mm, angular +/- 10°; max. speed 3,000 rpm, – 30° to +80°C, max. torque 1.5 Nm; material: polyurethane, galvanized steel flange	KUP-1012-D	5326702
	• <b>Description:</b> Claw coupling, shaft diameter 10 mm / 12 mm, damping element 80 shore blue, maximum shaft offset: radial $\pm$ 0.22 mm, axial $\pm$ 1 mm angular $\pm$ 1.3°, max. speed 19,000 rpm, angle of twist max. 10°, –30 °C to +80 °C, max. torque 800 Ncm, tightening torque of screws: ISO 4029 150 Ncm, material: aluminum flange, damping element: polyurethane	KUP-1012-J	2128265
Others			
	<ul> <li>Connection type head A: Female connector, M12, 8-pin, straight</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Incremental, SSI</li> <li>Cable: 2 m, 8-wire, PUR, halogen-free</li> <li>Description: Incremental, SSI, shielded, Head A: female connector, M12, 8-pin, straight Head B: cable Cable: suitable for drag chain, PVC, shielded, 4 x 2 x 0.25 mm², Ø 7.0 mm</li> <li>Connection systems: Flying leads</li> </ul>	DOL-1208-G02MAC1	6032866

Brief description	Туре	Part no.
<ul> <li>Connection type head A: Female connector, M12, 8-pin, straight</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Incremental, SSI</li> <li>Cable: 5 m, 8-wire, PUR, halogen-free</li> <li>Description: Incremental, SSI, shielded, Head A: female connector, M12, 8-pin, straight Head B: cable Cable: suitable for drag chain, PVC, shielded, 4 x 2 x 0.25 mm², Ø 7.0 mm</li> <li>Connection systems: Flying leads</li> </ul>	DOL-1208-G05MAC1	6032867
<ul> <li>Connection type head A: Female connector, M12, 8-pin, straight</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Incremental, SSI</li> <li>Cable: 10 m, 8-wire, PUR, halogen-free</li> <li>Description: Incremental, SSI, shielded, Head A: female connector, M12, 8-pin, straight Head B: cable Cable: suitable for drag chain, PVC, shielded, 4 x 2 x 0.25 mm², Ø 7.0 mm</li> <li>Connection systems: Flying leads</li> </ul>	DOL-1208-G10MAC1	6032868
<ul> <li>Connection type head A: Female connector, M12, 8-pin, straight</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Incremental, SSI</li> <li>Cable: 20 m, 8-wire, PUR, halogen-free</li> <li>Description: Incremental, SSI, shielded, Head A: female connector, M12, 8-pin, straight Head B: cable Cable: suitable for drag chain, PVC, shielded, 4 x 2 x 0.25 mm², Ø 7.0 mm</li> <li>Connection systems: Flying leads</li> </ul>	DOL-1208-G20MAC1	6032869
<ul> <li>Connection type head A: Female connector, M12, 8-pin, straight, A-coded</li> <li>Signal type: Incremental, SSI</li> <li>Cable: CAT5, CAT5e</li> <li>Description: Incremental, SSI, shielded, Head A: female connector, M12, 8-pin, straight, A encoded, shielded, for cable diameter 4 mm 8 mm Head B: - Operating temperature: -40 °C +85 °C</li> <li>Connection systems: IDC quick connection</li> <li>Permitted cross-section: 0.14 mm² 0.34 mm²</li> </ul>	DOS-1208-GA01	6045001
 <ul> <li>Connection type head A: Female connector, M12, 8-pin, straight</li> <li>Connection type head B: Male connector, D-Sub, 9-pin, straight</li> <li>Signal type: Incremental</li> <li>Cable: 0.5 m, 8-wire</li> <li>Description: Incremental, shielded, Programming cable for PGT-08-S and PGT-10-S programming tool</li> <li>Note: Programming adapter cable for programming tool PGT-10-Pro and PGT-08-S</li> </ul>	DSL-2D08-G0M5AC3	2046579
<ul> <li>Connection type head A: Female connector, M12, 8-pin, angled</li> <li>Connection type head B: Flying leads</li> <li>Signal type: HIPERFACE<sup>®</sup>, Incremental</li> <li>Cable: 2 m, 8-wire, PUR, halogen-free</li> <li>Description: HIPERFACE<sup>®</sup>, Incremental, shielded</li> </ul>	DOL-1208-W02MAC1	6037724
<ul> <li>Connection type head A: Female connector, M12, 8-pin, angled</li> <li>Connection type head B: Flying leads</li> <li>Signal type: HIPERFACE<sup>®</sup>, Incremental</li> <li>Cable: 5 m, 8-wire, PUR, halogen-free</li> <li>Description: HIPERFACE<sup>®</sup>, Incremental, shielded</li> </ul>	DOL-1208-W05MAC1	6037725
<ul> <li>Connection type head A: Female connector, M12, 8-pin, angled</li> <li>Connection type head B: Flying leads</li> <li>Signal type: HIPERFACE<sup>®</sup>, Incremental</li> <li>Cable: 10 m, 8-wire, PUR, halogen-free</li> <li>Description: HIPERFACE<sup>®</sup>, Incremental, shielded</li> </ul>	DOL-1208-W10MAC1	6037726
<ul> <li>Connection type head A: Female connector, M12, 8-pin, angled</li> <li>Connection type head B: Flying leads</li> <li>Signal type: HIPERFACE<sup>®</sup>, Incremental</li> <li>Cable: 20 m, 8-wire, PUR</li> <li>Description: HIPERFACE<sup>®</sup>, Incremental, shielded</li> </ul>	DOL-1208-W20MAC1	6037727

	Brief description	Туре	Part no.
	<ul> <li>Connection type head A: Female connector, M12, 8-pin, angled</li> <li>Connection type head B: Flying leads</li> <li>Cable: 2 m, 8-wire, PVC</li> <li>Description: Shielded</li> <li>Connection systems: Flying leads</li> </ul>	DOL-1208-W02MA	6020992
	<ul> <li>Connection type head A: Female connector, M12, 8-pin, angled</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 2 m, 8-wire, PUR, halogen-free</li> <li>Description: Sensor/actuator cable, shielded</li> <li>Connection systems: Flying leads</li> </ul>	DOL-1208- W02MAS01	6029224
>	<ul> <li>Connection type head A: Female connector, M12, 8-pin, angled</li> <li>Connection type head B: Flying leads</li> <li>Cable: 2 m, 8-wire, PUR, halogen-free</li> <li>Description: Unshielded, Cable, M12, 8-pin, angled connector female with molded cable, 2 m, PUR halogen free</li> </ul>	DOL-1208-W02MC	6035623
	<ul> <li>Connection type head A: Female connector, M12, 8-pin, angled</li> <li>Connection type head B: Flying leads</li> <li>Cable: 5 m, 8-wire, PVC</li> <li>Description: Shielded</li> <li>Connection systems: Flying leads</li> </ul>	DOL-1208-W05MA	6021033
3	<ul> <li>Connection type head A: Female connector, M12, 8-pin, angled</li> <li>Connection type head B: Flying leads</li> <li>Cable: 5 m, 8-wire, PUR</li> <li>Description: Unshielded, Cable, M12, 8-pin, angled connector female with molded cable, 5 m, PUR halogen free</li> </ul>	DOL-1208-W05MC	6035624
3	<ul> <li>Connection type head A: Female connector, M12, 8-pin, angled</li> <li>Connection type head B: Flying leads</li> <li>Cable: 10 m, 8-wire, PUR, halogen-free</li> <li>Description: Unshielded, Cable, M12, 8-pin, angled connector female with molded cable, 10 m, PUR halogen free</li> </ul>	DOL-1208-W10MC	6035625

# SICK AT A GLANCE

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."

# **WORLDWIDE PRESENCE:**

Contacts and other locations -www.sick.com

