



DT20-P214BS03

DT20 Hi

DISPLACEMENT SENSORS

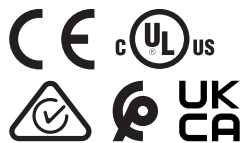
SICK
Sensor Intelligence.



Ordering information

Type	part no.
DT20-P214BS03	1051547

Other models and accessories → www.sick.com/DT20_Hi



Detailed technical data

Features

Measuring range	100 mm ... 600 mm ¹⁾
Repeatability	≥ 0.5 mm ^{1) 2) 3)}
Linearity	± 2,000 µm ... ± 2 mm ^{3) 4)}
Response time	≥ 2.5 ms ²⁾
Measuring frequency	≤ 400 Hz ¹⁾
Output time	≥ 2.5 ms
Emitted beam	
Light source	Laser, red
Typ. light spot size (distance)	3 mm x 6 mm (600 mm)
Key laser figures	
Normative reference	IEC 60825-1:2014, EN 60825-1:2014
Laser class	1
Additional function	Set moving average fast/medium/slow Switching mode: distance to object (DtO) Teach-in of digital output Invertable digital output Teach-in of analog output Invertable analog output Multifunctional input: laser off / external teach-in / deactivated Switch-off display Lock user interface

¹⁾ 6% ... 90% remission factor.
²⁾ Dependent on the set average or sensitivity.
³⁾ When calibrated in the application regularly.
⁴⁾ 90% remission factor.

Interfaces

Digital output	Number	1 ¹⁾
	Type	PNP
	Maximum output current I_A	$\leq 100 \text{ mA}$
Analog output	Number	1
	Type	Current output
	Current	4 mA ... 20 mA, $\leq 300 \Omega$
	Resolution	12 bit
Multifunctional input (MF)		1 x MF ²⁾

¹⁾ PNP: HIGH = $V_S - (< 2 \text{ V})$ / LOW = $< 2 \text{ V}$; NPN: HIGH = $< 2 \text{ V}$ / LOW = V_S .

²⁾ MF can be used as laser-off, external teach-in or deactivated.

Electronics

Supply voltage U_B	DC 10 V ... 30 V ¹⁾
Power consumption	$\leq 1.8 \text{ W}$ ²⁾
Ripple	$\leq 5 \text{ V}_{pp}$ ³⁾
Warm-up time	$\leq 10 \text{ min}$
Display	LC display, 2 x LED
Enclosure rating	IP65 (EN 60529)
Protection class	II
Connection type	Male connector

¹⁾ Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

²⁾ Without load.

³⁾ May not fall short of or exceed V_S tolerances.

Mechanics

Dimensions (W x H x D)	24.3 mm x 72.4 mm x 54.1 mm
Housing material	Metal (zinc diecast)
Window material	Plastic (PMMA)
Weight	135 g

Ambient data

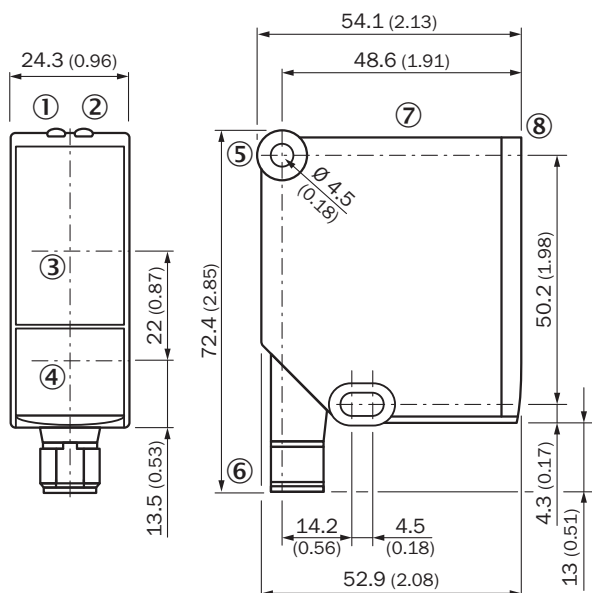
Ambient temperature, operation	-20 °C ... +55 °C, Operating temperature at $V_S = 24 \text{ V}$
Ambient temperature, storage	-20 °C ... +60 °C
Temperature drift	0.25 mm/K ¹⁾
Typ. Ambient light immunity	Artificial light: $\leq 3,000 \text{ lx}$ Sunlight: $\leq 10,000 \text{ lx}$
Vibration resistance	EN 60068-2-6, EN 60068-2-64
Shock resistance	EN 60068-2-27

¹⁾ 0,5 mm/K: for distances $> 600 \text{ mm}$.

Classifications

ECLASS 5.0	27270801
ECLASS 5.1.4	27270801
ECLASS 6.0	27270801
ECLASS 6.2	27270801
ECLASS 7.0	27270801
ECLASS 8.0	27270801
ECLASS 8.1	27270801
ECLASS 9.0	27270801
ECLASS 10.0	27270801
ECLASS 11.0	27270801
ECLASS 12.0	27270916
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825
UNSPSC 16.0901	41111613

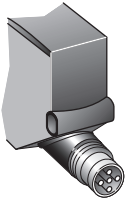
Dimensional drawing



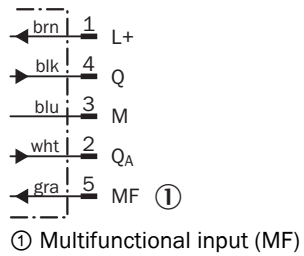
Dimensions in mm (inch)

- ① Status display for supply voltage active (green)
- ② status indicator digital output (orange)
- ③ Optical axis, receiver
- ④ Optical axis, sender
- ⑤ fixing hole
- ⑥ Connector M12, 5-pin, turnable
- ⑦ Control elements and display
- ⑧ Reference surface = 0 mm

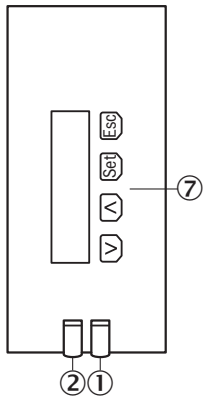
Connection type Plug, M12, 5-pin



Connection diagram



Adjustment possible



- ① Status display for supply voltage active (green)
- ② status indicator digital output (orange)
- ⑦ Control elements and display

Recommended accessories

Other models and accessories → www.sick.com/DT20_Hi

	Brief description	Type	part no.
Mounting systems			
	Description: Mounting bracket, stainless steel, without mounting material, for DT20 Hi Items supplied: Without mounting hardware	BEF-WN-DT20	4043524
device protection and care			
	Description: Cooling plate for Dx50/Dx50-2/DT20 (for water cooling) Usable for: DT20 Hi, Dx50, Dx50-2	BEF-KP-Dx50/DT20	2055755
connectors and cables			
	Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YF2A15-020VB5XLEAX	2096239
	Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YF2A15-C60VB5XLEAX	2145570
	Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YF2A15-030VB5XLEAX	2145572

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