DT50 – A new age in Laser Distance Measurement

Redefining Performance

SICK
Sensor Intelligence.

Maximum performance for your application

Automation solutions, and sequences, are becoming increasingly complex, making the full control of all processes even more important. The DT50 Distance Measurement Sensor offers the speed, precision and reliability to meet those challenges.

The DT50's high level of precision, user-friendly menu, ambient light immunity, compact size, and 10-meter range allows it to be used in many different measurement applications. Due to the DT50's built-in "high definition distance measurement" (HDDM) technology, users will get the best performance – no matter what the application or industry.

HDDM technology raises the bar for performance in distance measurement solutions. Developed by SICK, HDDM is an innovative evaluation method for time-of-flight sensors. This technology enables the DT50's high level of precision, best ambient light and high measuring rate.

SICK
DT50

DC 10 ... 30V
Q out ≤100mA
$Q_A$out 4mA...20mA

brown 1 — L+
blue 3 — M
black 4 — Q
white 2 — Q_A
gray 5 — MF

LASER APERTURE
LASER-LIGHT
DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT

MAX. OUTPUT < 22mW
PULSE LENGHT = 4ns
WAVELENGTH = 655nm

EN 60825-1 : 2001
IEC 60825-1 / AM.2 : 2001

Complies with 21 CFR 1040.10 and
1040.11 except for deviations pursuant
to laser notice No.50, July 2001

CE

Possible areas of application:

Warehouse logistics
- Crane positioning and detecting load presence
- Bay assignment control: DT50 checks whether pallet spaces are free.

Ports
- Container detection: DT50 checks for the presence of containers.
- Crane positioning: DT50 measures the distance from crane to object, enabling accurate positioning.
- Anti-collision systems for gantry cranes: DT50 monitors the distance between cranes and reduces speed, to a standstill if necessary.

Print and paper industry
- Paper rolls: The DT50 measures the diameter to detect the end of the roll and to adjust the speed, which maintains constant output.
- Loop control: DT50 measures the length of the loop to ensure smooth module paper transition.

Automotive industry, robotics
- Welding robots: DT50 ensures accurate positioning of robots with respect to the welding spot.
- Distance monitoring on gantry cranes and overhead conveyors.

User-friendliness makes the DT50 impressive.

The DT50's 360° status LEDs can be seen from all directions, allowing the fast, easy, and efficient diagnosis of operating conditions.

A standard M12 5-pin connection allows for communication to and from the sensor, including remote teach-in for effortless machine setup.

A display with intuitive menu offers maximum flexibility and fast adjustment.

Reach precision faster

SICK's innovative HDDM operating method makes the DT50 flexible and virtually maintenance free, allowing users to adjust it to meet their needs and enable the highest level of machine availability. **To put it simply – the DT50 saves customers time and money.**


HDDM technology enables the DT50's industry-leading ambient light immunity, fast response time, high resolution and high level of repeatability, even at 10 m.

A wide temperature range from −30 °C to +65 °C permits use in both cold storage and high-temperature installations, such as steel mills. The high-quality die-cast housing, made from a zinc alloy, protects the sensor from harsh ambient conditions.

The sensor's small size allows installation in tight spaces and thus opens up new areas of application.

The red laser light with its small, temperature-stable light spot enables easy and fast alignment, even at long distances.
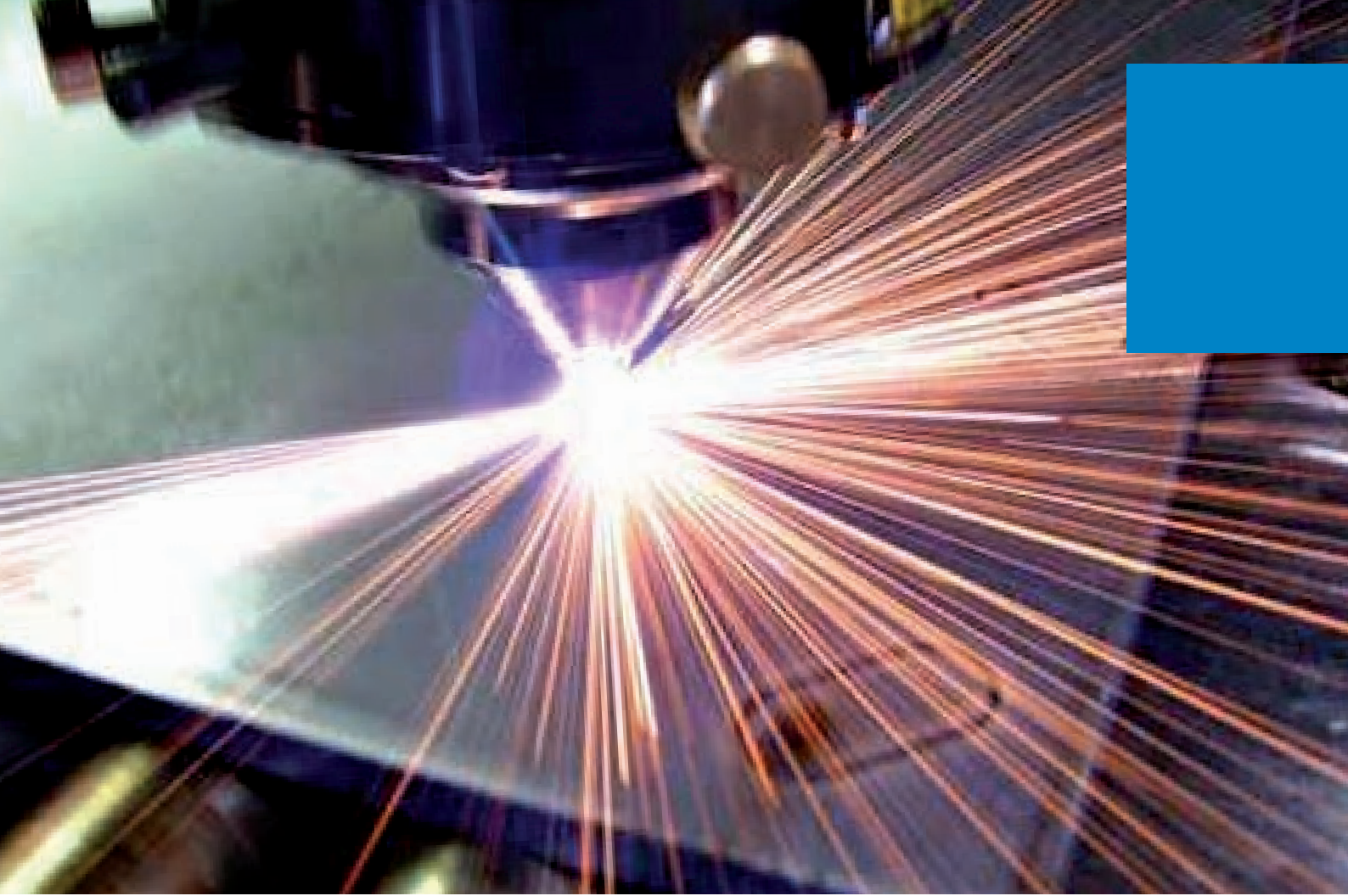
Accessories

The flexible mounting plate permits universal mounting options and facilitates exact alignment.

The clip-on front protection window protects the view of the DT50 in harsh applications such as welding robots. If damaged, the protection window can be replaced quickly and with little cost.

The weather-proof housing offers additional protection for outdoor applications.

The sensor you have been waiting for ...

Complex operations, comprehensive automation and high speed place extreme demands on modern sensors.

The DT50 combines features, which make it the ideal solution for many different applications.

CE

RoHs

IP65

Technical data	
DT50	
Measurement range	200 ... 10,000 mm on a white target 200 ... 6,500 mm on a grey target 200 ... 4,000 mm on a black target
Light source	Laser, red / Class 2
Analog output	4 ... 20 mA 0 ... 10 V
Resolution	1 mm
Reproducibility	± 5 mm
Accuracy	± 10 mm
Response time	20 ms
Operating temperature	-30 ... +65°C
Ambient light immunity	≤ 40 klux

FACTORY AUTOMATION

With its intelligent sensors, safety systems, and auto ident applications, SICK realises comprehensive solutions for factory automation.

- Non-contact detecting, counting, classifying, and positioning of any types of object
- Accident protection and personal safety using sensors, as well as safety software and services

LOGISTICS AUTOMATION

Sensors made by SICK form the basis for automating material flows and the optimisation of sorting and warehousing processes.

- Automated identification with bar code and RFID reading devices for the purpose of sorting and target control in industrial material flow
- Detecting volume, position, and contours of objects and surroundings with laser measurement systems

PROCESS AUTOMATION

Analyzers and Process Instrumentation by SICK MAIHAK provides for the best possible acquisition of environmental and process data.

- Complete systems solutions for gas analysis, dust measurement, flow rate measurement, water analysis or, respectively, liquid analysis, and level measurement as well as other tasks

Worldwide presence with subsidiaries in the following countries:

Australia

Belgium/Luxembourg

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Ceská Republika

China

Danmark

Deutschland

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Please find detailed addresses and additional representatives and agencies in all major industrial nations at **www.sick.com**

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