



the sensor people





Part no.: 50134414 DDLS 508i 200.4 L H **Optical data transmission** 



Ethernet



Figure can vary

# **Contents**

- Technical data
- · Dimensioned drawings
- Electrical connection
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### **Technical data**

Secial design		
Special design  Special design  Heating Integrated laser alignment aid Not Influenced by reflective surfaces Operation of parallel light axes Remote maintenance via web server   Optical data  Working range 100 200,000 mm  Light source Laser  Usable opening angle transmitter 1°  Electrical data  Performance data Supply voltage Un 18 30 V , DC  Inputs Number of digital switching inputs 1 Piece(s)  Outputs Number of digital switching outputs 1 Piece(s)  Interface Type Ethernet  Ethernet Transmission speed 100 Mbit/s  Connection  Number of connections 2 Piece(s)  Connection 1 Type of connection Connector Designation on device POWER Thread size Mt12 Type Male Encoding A-coded Connection 2 Type of connection Connector Designation on device BUS Thread size Mt2 Type of connection Connector Designation on device BUS Thread size Mt2 Type of connection Connector Designation on device BUS Thread size Mt12 Type for connection Connector Designation on device BUS Thread size Mt12 Type for connection Connector Designation on device BUS Thread size Mt12 Type Female No. of pins 4-pin Encoding D-coded  Mechanical data  Dimension (W x H x L L) 100 mm x 156 mm x 99.5 mm Housing material Metal	Basic data	
Special design  Heating Integrated laser alignment aid Not influenced by reflective surfaces Operation of parallel light axes Remote maintenance via web server   Optical data  Working 100 200,000 mm  Light source Laser  Laser  Laser  Light source Laser  Supply voltage Us 18 30 V . DC  Inputs  Number of digital switching inputs 1 Plece(s)  Outputs  Number of digital switching outputs 1 Plece(s)  Interface  Type Ethernet  Ethernet  Transmission speed 100 Mbit/s  Connection  Designation on device POWER  Thread size Mt12  Type Male  No. of pins 5-pin Encoding A-coded  Connector  Designation on device BUS  Thread size Mt2  Type Connection Connector  Designation on device BUS  Thread size Mt2  Type for connection Connector  Designation on device BUS  Thread size Mt2  Type for connection Connector  Designation on device BUS  Thread size Mt2  Type for connection Connector  Designation on device BUS  Thread size Mt2  Type for connection Connector  Designation on device BUS  Thread size Mt2  Type for connection Connector  Designation on device BUS  Thread size Mt2  Type Female  No. of pins 4-pin Encoding D-coded  Mechanical data  Dimension (W x H x L)  Housing material Metal	Series	DDLS 500
Special design  Heating Integrated laser alignment aid Not influenced by reflective surfaces Operation of parallel light axes Remote maintenance via web server  Working range  100 200,000 mm  Light source  Laser  Laser  Light source  La		
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Interface Type Ethernet  Ethernet Transmission speed 100 Mbit/s  Connection Number of connections 2 Piece(s)  Connection 1 Type of connection Connector Designation on device POWER Thread size M12 Type Male No. of pins 5-pin Encoding A-coded  Connection Connector Designation on device BUS Type of connection Connector  Encoding A-coded  Connection 4 Type of connection Connector Designation on device POWER Thread size M12 Type Bus Bus Encoding A-coded  Connection 2 Type of connection Connector Designation on device BUS Thread size M12 Type Female No. of pins 4-pin Encoding D-coded  Mechanical data  Dimension (W x H x L) 100 mm x 156 mm x 99.5 mm  Housing material Metal		111000(0)
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Connection 1         Connector           Type of connection         Connector           Designation on device         POWER           Thread size         M12           Type         Male           No. of pins         5 -pin           Encoding         A-coded           Connection 2         Type of connection           Type of connection         Connector           Designation on device         BUS           Thread size         M12           Type         Female           No. of pins         4 -pin           Encoding         D-coded    Mechanical data  Dimension (W x H x L)  Metal  Metal	Connection	
Connection 1         Connector           Designation on device         POWER           Thread size         M12           Type         Male           No. of pins         5 -pin           Encoding         A-coded           Connection 2         Connector           Type of connection         Connector           Designation on device         BUS           Thread size         M12           Type         Female           No. of pins         4 -pin           Encoding         D-coded           Mechanical data           Dimension (W x H x L)         100 mm x 156 mm x 99.5 mm           Housing material         Metal		2 Piece(s)
Type of connection         Connector           Designation on device         POWER           Thread size         M12           Type         Male           No. of pins         5 -pin           Encoding         A-coded           Connection 2         Connector           Type of connection         Connector           Designation on device         BUS           Thread size         M12           Type         Female           No. of pins         4 -pin           Encoding         D-coded           Mechanical data           Dimension (W x H x L)         100 mm x 156 mm x 99.5 mm           Housing material         Metal	Connection 1	
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Thread size         M12           Type         Male           No. of pins         5 -pin           Encoding         A-coded           Connection 2         Type of connection           Designation on device         BUS           Thread size         M12           Type         Female           No. of pins         4 -pin           Encoding         D-coded           Mechanical data           Dimension (W x H x L)         100 mm x 156 mm x 99.5 mm           Housing material         Metal		
Type         Male           No. of pins         5 -pin           Encoding         A-coded           Connection 2           Type of connection         Connector           Designation on device         BUS           Thread size         M12           Type         Female           No. of pins         4 -pin           Encoding         D-coded           Mechanical data           Dimension (W x H x L)         100 mm x 156 mm x 99.5 mm           Housing material         Metal		
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Encoding         A-coded           Connection 2         Connector           Type of connection         Connector           Designation on device         BUS           Thread size         M12           Type         Female           No. of pins         4 -pin           Encoding         D-coded           Mechanical data           Dimension (W x H x L)         100 mm x 156 mm x 99.5 mm           Housing material         Metal		
Connection 2           Type of connection         Connector           Designation on device         BUS           Thread size         M12           Type         Female           No. of pins         4 -pin           Encoding         D-coded           Mechanical data           Dimension (W x H x L)         100 mm x 156 mm x 99.5 mm           Housing material         Metal		
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Thread size         M12           Type         Female           No. of pins         4 -pin           Encoding         D-coded              Mechanical data           Dimension (W x H x L)         100 mm x 156 mm x 99.5 mm           Housing material         Metal		
Type         Female           No. of pins         4 -pin           Encoding         D-coded             Mechanical data           Dimension (W x H x L)         100 mm x 156 mm x 99.5 mm           Housing material         Metal		
No. of pins         4 -pin           Encoding         D-coded           Mechanical data           Dimension (W x H x L)         100 mm x 156 mm x 99.5 mm           Housing material         Metal		
Encoding         D-coded           Mechanical data         Dimension (W x H x L)         100 mm x 156 mm x 99.5 mm           Housing material         Metal		
Mechanical data Dimension (W x H x L) 100 mm x 156 mm x 99.5 mm Housing material Metal		
Dimension (W x H x L)         100 mm x 156 mm x 99.5 mm           Housing material         Metal	-	
Housing material Metal	Mechanical data	
	Dimension (W x H x L)	100 mm x 156 mm x 99.5 mm
Net weight 1.185 a	Housing material	Metal
	Net weight	1,185 g

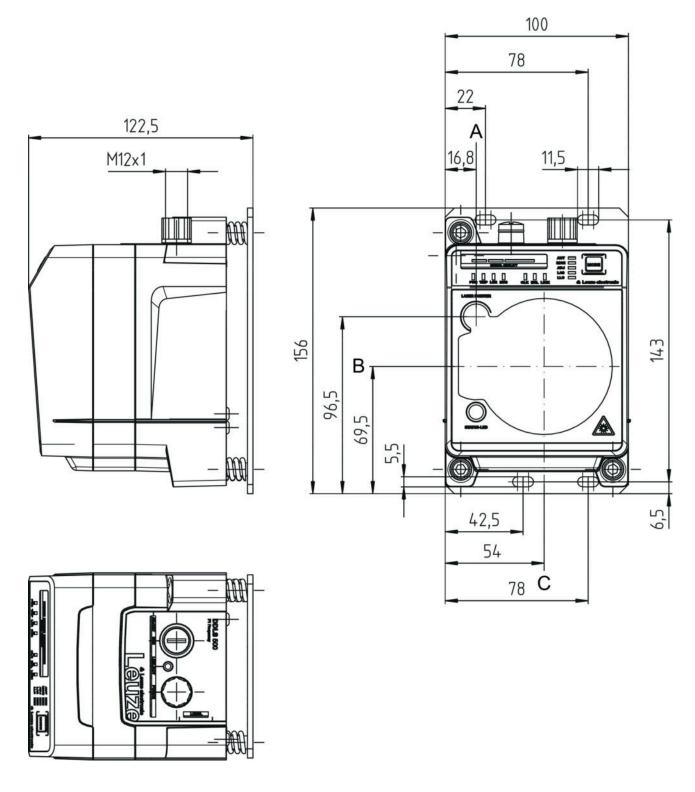


Operation and display	
Type of display	Bar graph
	LED LED
Type of configuration	Software
	Via web browser
Environmental data	
	-35 50 °C
Ambient temperature, operation	
Ambient temperature, storage	-35 70 °C
Certifications	
	ID OF
Degree of protection	IP 65
Test procedure for EMC in accordance with standard	EN 1000-6-4 EN 61000-6-2
Test procedure for noise in accordance with standard	EN 60068-2-64
Test procedure for oscillation in accordance with standard	EN 60068-2-6
Test procedure for shock in accordance with standard	EN 60068-2-27
Classification	
Customs tariff number	85365019
eCl@ss 8.0	19179090
eCl@ss 9.0	19179090
ETIM 5.0	EC000515
ETIM 6.0	EC000515

### **Dimensioned drawings**

All dimensions in millimeters





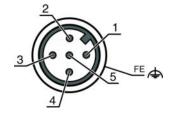
- A Center axis of transmitter and alignment laser
- B Center axis of transmitter and receiver
- C Center axis of receiver



### **Electrical connection**

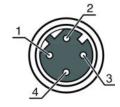
Connection 1	POWER
Function	Signal IN Signal OUT Voltage supply
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

Pin	Pin assignment	
1	VIN	
2	101	
3	GND	
4	102	
5	FE/SHIELD	



Connection 2	BUS
Function	BUS IN
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin	Pin assignment
1	TD+
2	RD+
3	TD-
4	RD-



### **Operation and display**

### **LEDs**

LI	ĒD	Display	Meaning
1	AUT	Off	Operating mode not active
		Green, continuous light	Operating mode 'Automatic'
2	MAN	Off	Operating mode not active
		Green, continuous light	Operating mode 'Manual'
3	ADJ	Off	Operating mode not active
		Green, continuous light	Operating mode 'Adjust'
4	LAS	AS Off Operating mode not active	
		Green, continuous light	Operating mode 'Alignment-laser mounting support'



LI	ED	Display	Meaning
5	LLC	Off	Operating mode not active
		Green, continuous light	LLC without interruption
		Red, continuous light	LLC interrupted at least once
6	PWR	Off	No supply voltage
		Green, flashing	Device ok, initialization phase
		Green, continuous light	Data transmission active
		Red, flashing	Data transmission interrupted
		Red, continuous light	Device error
7	TMP	Off	Operating temperature OK
		Orange, continuous light	Operating temperature critical
		Red, continuous light	Operating temperature exceeded or not met
8	LSR	Off	With function reserve
		Orange, continuous light	Device OK, warning set
9	BUS	Off	not active for the DDLS 508i
10	OLK	Off	Fault
		Green, continuous light	No data transmission
		Orange, continuous light	Data transmission active
11	ERL	Off	Link OK
		Orange, continuous light	Missing link (Ethernet cable connection) on the second device
		Red, continuous light	No cable-connected link to the connected device
12	LINK	Off	No cable-connected link to the connected device
		Green, continuous light	Link OK
		Orange, continuous light	Data transmission active
13	SIGNAL QUALITY	2 red, 2 orange and 4 green	Received signal level

### Suitable transmitters

Part no.	Designation	Article	Description
50134413	DDLS 508i 200.3 L H	Optical data transmission	Working range: 100 200,000 mm Interface: Ethernet Connection: Connector, M12 Special design: Integrated laser alignment aid, Not influenced by reflective surfaces, Heating, Operation of parallel light axes, Remote maintenance via web server

### Part number code

Part designation: DDLS 5XXX YYY.Z A B CC

DDLS	Optical transceiver for digital data transmission	
5XXX	Series: 508i: without integrated web server for remote diagnostics 508i: with integrated web server for remote diagnostics 538: without integrated web server for remote diagnostics (EtherCAT) 548i: with integrated web server for remote diagnostics	
YYY	Range for data transmission in m	
Z	Frequency of the transmitter:  0: Frequency F0 1: Frequency F1 2: Frequency F2 3: Frequency F3 4: Frequency F4	
A Option: L: integrated laser alignment aid (for transmitter/receiver) n/a: standard		



В	Special equipment: H: with heating n/a: no special equipment
	Special equipment: W: transmission optics with larger opening angle (on request) n/a: no special equipment

#### Note

A list with all available device types can be found on the Leuze electronic website at www.leuze.com.

#### **Notes**

#### Observe intended use!

- · This product is not a safety sensor and is not intended as personnel protection.
- The product may only be put into operation by competent persons.
- · Only use the product in accordance with its intended use.

#### For UL applications:

For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).

### WARNING! LASER RADIATION - CLASS 1 LASER PRODUCT (alignment laser)

The device satisfies the requirements of IEC 60825-1:2007 (EN 60825-1:2007) safety regulations for a product of **laser class 1** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24, 2007.

- The device satisfies the requirements of IEC 60825-1:2007 (EN 60825-1:2007) safety regulations for a product of **laser class 1** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24, 2007.
- Observe the applicable statutory and local laser protection regulations.

#### **Accessories**

### Connection technology - Connection cables

Part no.	Designation	Article	Description
50132079	KD U-M12-5A- V1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC
50135074	KS ET-M12-4A- P7-050	Connection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

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## Connection technology - Interconnection cables

Part no.	Designation	Article	Description
50137078	KSS ET-M12-4A- M12-4A-P7-050	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: Connector, M12, Axial, Male, D-coded, 4 -pin Shielded: Yes Cable length: 1,000 mm Sheathing material: PUR
50135081	KSS ET-M12-4A- RJ45-A-P7-050	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: RJ45 Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

## Connection technology - Connectors

	Part no.	Designation	Article	Description
<b>1</b>	50020501	KD 095-5A	Connector	Connection: Connector with screw terminals, M12, Axial, Female, A-coded, 5 -pin
	50112155	S-M12A-ET	Connector	Suitable for interface: Ethernet Connection: Connector, M12, Axial, Male, D-coded, 4 -pin

### Services

Part no.	Designation	Article	Description
S981001	CS10-S-110	Start-up support	Details: Performed at location of customer's choosing, duration: max. 10 hours. Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses. Restrictions: No mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment.
S981005	CS10-T-110	Product training	Details: Location and content to be agreed upon, duration: max. 10 hours. Conditions: Price not including travel costs and, if applicable, accommodation expenses. Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure.

A list with all available accessories can be found on the Leuze electronic website in the Download tab of the article detailed page.