



Figure can vary

Part no.: 50141123
DDLS 538 200.4 S2
Optical data transmission



EtherCAT



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Technical data

Basic data	
Series	DDLS 500
Special design	
Special design	Not influenced by reflective surfaces Operation of parallel light axes
Optical data	
Working range	100 ... 200,000 mm
Light source	Laser
Usable opening angle transmitter	1 °
Electrical data	
Performance data	
Supply voltage U _B	18 ... 30 V , DC
Inputs	
Number of digital switching inputs	1 Piece(s)
Outputs	
Number of digital switching outputs	1 Piece(s)
Interface	
Type	EtherCAT
EtherCAT	
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 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
Net weight	1,185 g
Operation and display	

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Type of display

Bar graph
LED**Environmental data**

Ambient temperature, operation	-5 ... 50 °C
Ambient temperature, storage	-35 ... 70 °C

Certifications

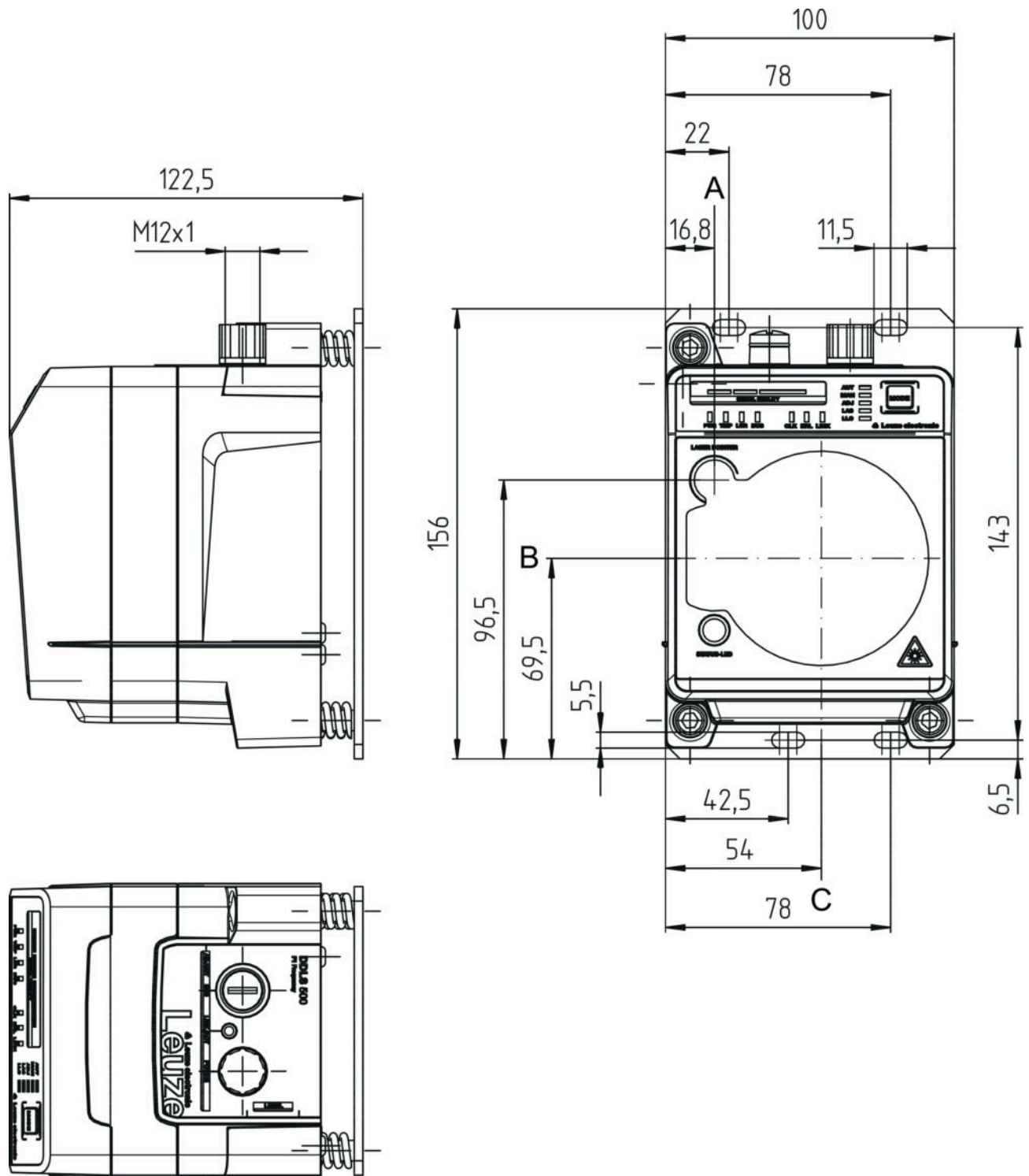
Degree of protection	IP 65
Test procedure for EMC in accordance with standard	EN 1000-6-4 EN 61000-6-2
Test procedure for noise in accordance with standard	EN 60068-2-64
Test procedure for oscillation in accordance with standard	EN 60068-2-6
Test procedure for shock in accordance with standard	EN 60068-2-27

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

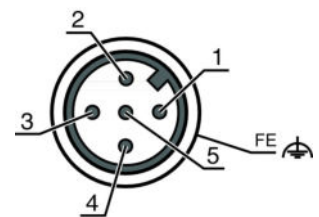


A Middleaxis Transmitter
 B Center axis of transmitter and receiver
 C Center axis of receiver

Electrical connection

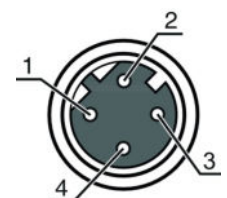
Connection 1	POWER
Function	Signal IN Signal OUT Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

Pin	Pin assignment
1	VIN
2	IO1
3	GND
4	IO2
5	FE/SHIELD



Connection 2	BUS
Function	BUS IN
Type of connection	Connector
Thread size	M12
Type	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

LED		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	Off	Operating mode not active
		Green, continuous light	Operating mode 'Alignment-laser mounting support'

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LED	Display	Meaning
5	LLC	Off
		Operating mode not active
		Green, continuous light
6	PWR	LLC without interruption
		Red, continuous light
		LLC interrupted at least once
		Off
		No supply voltage
		Green, flashing
7	TMP	Device ok, initialization phase
		Green, continuous light
		Data transmission active
		Red, flashing
8	LSR	Data transmission interrupted
		Red, continuous light
		Device error
9	MAS	Operating temperature OK
		Orange, continuous light
		Operating temperature critical
10	OLK	Operating temperature exceeded or not met
		Red, continuous light
11	ERL	With function reserve
		Off
12	LINK	Device OK, warning set
		Orange, continuous light
		Installation on slave side
13	SIGNAL QUALITY	Installation on master side
		Off
		Green, continuous light
14	OLK	Fault
		Green, continuous light
		No data transmission
15	ERL	Data transmission active
		Orange, continuous light
		Missing link (Ethernet cable connection) on the second device
16	LINK	No cable-connected link to the connected device
		Off
		Link OK
17	LINK	Link OK
		Green, continuous light
		Data transmission active
18	LINK	Data transmission active
		Orange, continuous light
		Received signal level

Suitable receivers

	Part no.	Designation	Article	Description
	50141122	DDLS 538 200.3 S2	Optical data transmission	Working range: 100 ... 200,000 mm Interface: Ethernet Connection: Connector, M12 Special design: Not influenced by reflective surfaces, Operation of parallel light axes

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

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A	Option: L: integrated laser alignment aid (for transmitter/receiver) n/a: standard
B	Special equipment: H: with heating n/a: no special equipment
CC	Special equipment: S2: Optimized for EtherCAT transmission 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).

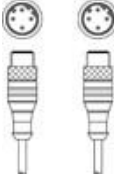
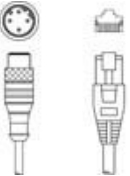
Accessories

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
	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.

Note

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