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Technical data sheet Optical data transmission

Part no.: 50132919 DDLS 508 40.3 H



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Technical data

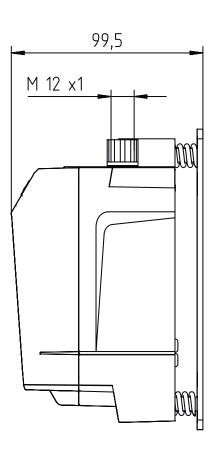
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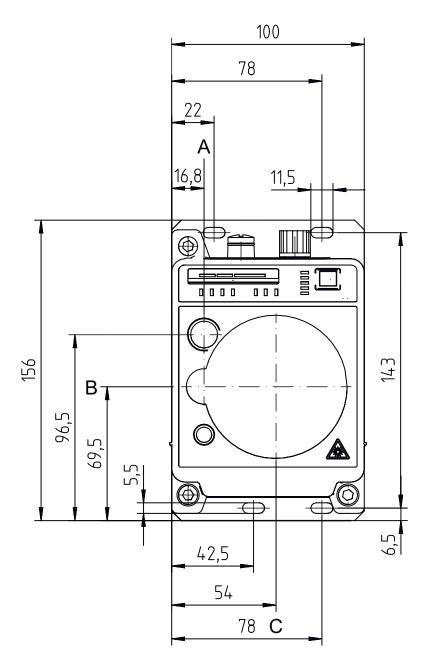
Series	DDLS 500
pecial version	
pecial version	Heating Not influenced by reflective surfaces Operation of parallel light axes
optical data	
orking range	100 40,000 mm
ight source	Laser
ransmission frequency	F3
pening angle	1 °
lectrical data	
Performance data	
Supply voltage U _B	18 30 V, DC
Inputs	1 Piece(s)
Number of digital switching inputs	1 Piece(s)
Outputs	
Number of digital switching outputs	1 Piece(s)
nterface	
уре	PROFINET IRT
ansmission protocol	EtherNET/IP
	PROFINET IO / RT
	PROFINET IRT
	PROFINET/PROFIsafe
	TCP/IP 100 Mbit
гре	EtherNet TCP/ IP, PROFINET, PROFIsafe over PROFINET
Ethernet	
Architecture	Transparent
Address assignment	None
Transmission speed	100 Mbit/s
Function	Process
Switch functionality	None
Transmission protocol	TCP/IP , UDP
PROFINET	
	Process
Function	
Conformance class	В
Conformance class Switch functionality	B None
Conformance class	В
Conformance class Switch functionality Transmission speed	B None
Conformance class Switch functionality Transmission speed	B None
Conformance class Switch functionality Transmission speed connection umber of connections Connection 1	B None 100 Mbit/s
Conformance class Switch functionality Transmission speed Connection Iumber of connections Connection 1 Type of connection	B None 100 Mbit/s 2 Piece(s) Connector
Conformance class Switch functionality Transmission speed Connection lumber of connections Connection 1 Type of connection Designation on device	B None 100 Mbit/s 2 Piece(s) Connector POWER
Conformance class Switch functionality Transmission speed Connection Iumber of connections Connection 1 Type of connection	B None 100 Mbit/s 2 Piece(s) Connector

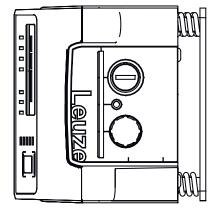
Connection 2	
Type of connection	Connector
Designation on device	BUS
Thread size	M12
Туре	Female
No. of pins	4 -pin
Encoding	D-coded
Encouning	Dioucu
Mechanical data	
Dimension (W x H x L)	100 mm x 156 mm x 99.5 mm
Housing material	Metal
Net weight	1,255 g
Operation and display	
Type of display	Bar graph
	LED
Environmental data	
Ambient temperature, operation	-35 50 °C
Ambient temperature, storage	-35 70 °C
Certifications	
Degree of protection	IP 65
Certifications	c UL US
Test procedure for EMC in accordance with standard	
	EN 61000-6-2
Test procedure for noise in accordance with standard	ce 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	84718000
ECLASS 5.1.4	19039001
ECLASS 8.0	19179090
ECLASS 9.0	19179090
ECLASS 10.0	19170506
ECLASS 11.0	19170506
ECLASS 12.0	19170506
ECLASS 13.0	19170506
ECLASS 14.0	19170506
ETIM 5.0	EC000515
ETIM 6.0	EC000515
ETIM 7.0	EC000515
ETIM 8.0	EC000515
ETIM 9.0	EC000515

Dimensioned drawings

All dimensions in millimeters







A Middleaxis Transmitter

B Center axis of transmitter and receiver

C Center axis of receiver

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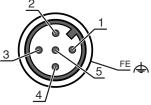
Electrical connection

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	IO1	
3	GND	3
4	102	
5	FE/SHIELD	4





Connection 2

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

LED		Display	Meaning
1 /	AUT	Off	Operating mode not active
		Green, continuous light	Operating mode "Automatic"
2 1	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"
1 1	LAS	Off	Operating mode not active
		Green, continuous light	Operating mode "Alignment-laser mounting support"
	LLC	Off	Operating mode not active
		Green, continuous light	LLC without interruption
		Red, continuous light	LLC interrupted at least once
	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
	ТМР	Off	Operating temperature OK
		Orange, continuous light	Operating temperature critical

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 eng • 2024-07-11

Operation and display

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LED)	Display	Meaning
7	ТМР	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 508
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
	SIGNAL QUALITY	2 red, 2 orange and 4 green	Received signal level

Suitable receivers

 Part no.	Designation	Article	Description
50132920	DDLS 508 40.4 H	Optical data transmission	Special version: Not influenced by reflective surfaces, Heating, Operation of parallel light axes Working range: 100 40,000 mm Transmission frequency: F4 Interface: EtherNet TCP/IP, PROFINET Connection: Connector, M12

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

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

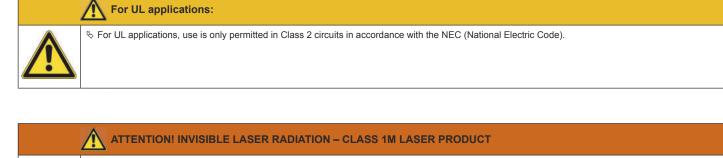
Notes

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Observe intended use!

✤ This product is not a safety sensor and is not intended as personnel protection.

b The product may only be put into operation by competent persons.



Do not expose users of telescopic optics!

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

✤ Do not expose users of telescopic optics!

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

- Looking into the beam path for extended periods using telescope optics may damage the eye's retina. Never look using telescope optics into the laser beam or in the direction of reflecting beams.
- CAUTION! The use of operating and adjusting devices other than those specified here or the carrying out of differing procedures may lead to dangerous exposure to radiation!

The use of optical instruments or devices (e.g., magnifying glasses, binoculars) in combination with the device increases the danger of eye damage.

 $\ensuremath{\circledast}$ Observe the applicable statutory and local laser protection regulations.

th The device must not be tampered with and must not be changed in any way. There are no user-serviceable parts inside the device. Repairs must only be performed by Leuze electronic GmbH + Co. KG.

Accessories

Connection technology - Connection cables

	Part no.	Designation	Article	Description
Ŵ	50132079	KD U-M12-5A-V1- 050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC
Ŵ	50135074	KS ET-M12-4A-P7- 050	Connection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR

Accessories

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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: 5,000 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, M12, Axial, Female, A-coded, 5 -pin
Committee of the second	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.
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.

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