



the sensor people





Part no.: 50113669 AMS 301i 40 Optical distance sensor









Figure can vary

Contents

- Technical data
- · Dimensioned drawings
- Electrical connection
- · Operation and display
- · Part number code
- Notes
- Accessories



Technical data

Basic data	
Series	AMS 300i
Application	Collision protection of cranes / gantry cranes Positioning of electroplating plants Positioning of high-bay storage devices Positioning of skillet systems and side-tracking skates
Characteristic parameters	
MTTF	31 years
Optical data	
Light source	Laser , Red
Laser class	2 , IEC/EN 60825-1:2007
Measurement data	
Measurement range	200 40,000 mm
Accuracy	2 mm
Reproducibility (3 sigma)	0.9 mm
Max. traverse rate	10 m/s
Electrical data	
Performance data	
Supply voltage U _B	18 30 V , DC
Interface	
Туре	RS 485
RS 485	
Transmission speed	9,600 115,200 Bd
<u>-</u>	
Connection	
Number of connections	4 Piece(s)
Connection 1	
Type of connection	Connector
Designation on device	BUS IN
Function	BUS IN Data interface
Thread size	M12
Туре	Male
No. of pins	5 -pin
Encoding	B-coded
Connection 2	
Type of connection	Connector
Designation on device	BUS OUT
Function	BUS OUT Data interface
Thread size	M12
Туре	Female
No. of pins	5 -pin
Encoding	B-coded

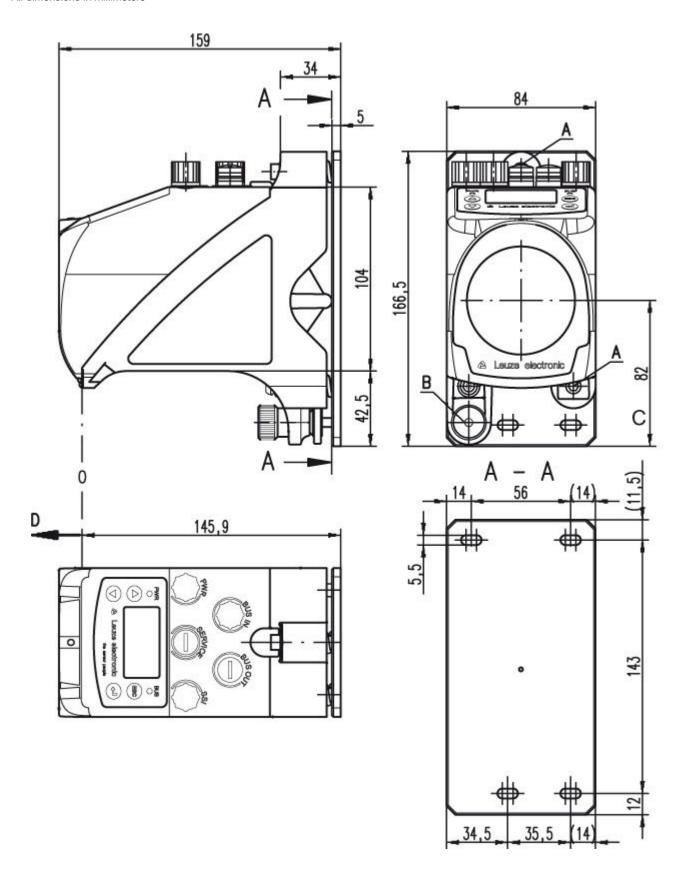


Cubic Standard S	Connection 3	
Pure SM INVOUT Voltage supply	Type of connection	Connector
Voltage supply	Designation on device	PWR
Type	Function	
No. of pins 5 - pin	Thread size	M12
Encoding	Туре	Male
Type of connection	No. of pins	5 -pin
Type of connection	Encoding	A-coded
Designation on device SERVICE	Connection 4	
Function Service interface Thread size M12 Type Female No. of pins 5-pin Encoding A-coded Cechanical data Sesign Cubic Immension (Wx H x L) 84 mm x 168.5 mm x 159 mm Ousing material Metal et weight 2,450 g Through-hole mounting Peration and display Use of display LC Display LED Perational controls Membrane keyboard Invironmental data mivironmental data mivironmental controls -550 °C mibient temperature, operation -550 °C mibient temperature, storage -3070 °C elative humidity (non-condensing) Peratications Segree of protection IP 65 retifications ertifications ertifications cult US Lassification Lassification Usess 8.0 27270801 Cloges 8.0 27270801 TIM 5.0 EC001825	Type of connection	Connector
Thread size	Designation on device	SERVICE
Type Female No. of pins 5 - pin Encoding A-coded	Function	Service interface
No. of pins 5 - pin	Thread size	M12
Encoding	Туре	Female
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Cubic Standard S	Encoding	A-coded
Cubic Standard S		
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CI@ss 9.0 27270801 TIM 5.0 EC001825		
TIM 5.0 EC001825		
	TIM 6.0	EC001825



Dimensioned drawings

All dimensions in millimeters



A M 5 screw for alignment

B Knurled nut with WAF 4 hexagon socket and M 5 nut for securing

C Optical axis

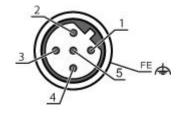
D Zero point of the distance to be measured



Electrical connection

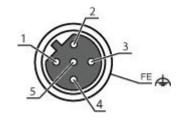
Connection 1	BUS IN
Type of connection	Connector
Function	BUS IN Data interface
Thread size	M12
Туре	Male
Material	Metal
No. of pins	5 -pin
Encoding	B-coded

Pin	Pin assignment
1	NC
2	RS 485 B
3	GND 485
4	RS 485 A
5	FE



Connection 2	BUS OUT
Type of connection	Connector
Function	BUS OUT Data interface
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	B-coded

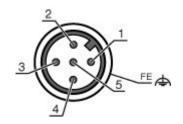
Pin	Pin assignment
1	V CC485
2	RS 485 B
3	GND 485
4	RS 485 A
5	FE



Connection 3	PWR
Type of connection	Connector
Function	PWR / SW IN/OUT Voltage supply
Thread size	M12
Туре	Male
Material	Metal
No. of pins	5 -pin
Encoding	A-coded A-coded

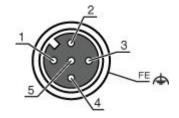


Pin	Pin assignment
1	VIN
2	I/O 1
3	GND
4	I/O 2
5	FE



Connection 4	SERVICE
Type of connection	Connector
Function	Service interface
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

Pin	Pin assignment
1	n.c.
2	RS 232-TX
3	GND
4	RS 232-RX
5	n.c.



Operation and display

LEDs

LED		Display	Meaning
1	PWR	Off	No supply voltage
		Green, flashing	Voltage connected / no measurement value output / initialization running
		Green, continuous light	Device OK, measurement value output
		Red, flashing	Device OK, warning set
		Red, continuous light	No measurement value output
2	BUS	Green, flashing	Device ok, initialization phase
		Green, continuous light	Data transmission active

Part number code

Part designation: AMS 3XXi YYY Z AAA

AMS	Operating principle: AMS: absolute measurement system

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3XXi	Series/interface (integrated fieldbus technology): 300i: RS 422/RS 232 301i: RS 485 304i: PROFIBUS DP / SSI 308i: TCP/IP 335i: CANopen 338i: EtherCAT 348i: PROFINET RT 355i: DeviceNet 358i: EtherNet/IP 384i: Interbus
YYY	Operating range: 40: max. operating range in m 120: max. operating range in m 200: max. operating range in m 300: max. operating range in m
Z	Special equipment: H: with heating
AAA	Interface: SSI: with SSI interface

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.

WARNING! LASER RADIATION - LASER CLASS 2

Never look directly into the beam!

The device satisfies the requirements of IEC 60825-1:2007 (EN 60825-1:2007) safety regulations for a product of **laser class 2** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24, 2007.

- Never look directly into the laser beam or in the direction of reflected laser beams! If you look into the beam path over a longer time
 period, there is a risk of injury to the retina.
- · Do not point the laser beam of the device at persons!
- Interrupt the laser beam using a non-transparent, non-reflective object if the laser beam is accidentally directed towards a person.
- When mounting and aligning the device, avoid reflections of the laser beam off reflective surfaces!
- CAUTION! Use of controls or adjustments or performance of procedures other than specified herein may result in hazardous light exposure.
- Observe the applicable statutory and local laser protection regulations.
- 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.

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NOTE

Affix laser information and warning signs!
Laser information and warning signs are affixed to the device. In addition, self-adhesive laser information and warning signs (stick-on labels) are supplied in several languages.

- Affix the laser information sheet to the device in the language appropriate for the place of use. When using the device in the US, use the stick-on label with the "Complies with 21 CFR 1040.10" note.
- Affix the laser information and warning signs near the device if no signs are attached to the device (e.g. because the device is too small) or if the attached laser information and warning signs are concealed due to the installation position.
- Affix the laser information and warning signs so that they are legible without exposing the reader to the laser radiation of the device or other optical radiation.
- For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).
- Use as safety-related component within the safety function is possible, if the component combination is designed correspondingly by the machine manufacturer.

Accessories

Connection technology - Connection cables

Part no.	Designation	Article	Description
50135243	KD PB-M12-4A- P3-050	Connection cable	Suitable for interface: PROFIBUS DP Connection 1: Connector, M12, Axial, Female, B-coded, 4 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR
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
50135248	KS PB-M12-4A- P3-050	Connection cable	Suitable for interface: PROFIBUS DP Connection 1: Connector, M12, Axial, Male, B-coded, 4 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

Reflective tapes for distance sensors

Part no.	Designation	Article	Description
	Reflexfolie 200x200mm-S	Reflective tape	Design: Rectangular Reflective surface: 200 mm x 200 mm Chemical designation of the material: PMMA Fastening: Adhesive

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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.