Technical data sheet Optical distance sensor Part no.: 50127226 AMS 348i 300 H SSI





The Sensor People In der Braike 1, 73277 Owen

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Technical data

Basic data

Basic data	
Series	AMS 300i
pplication	Collision protection of cranes / gantry cranes
	Positioning of electroplating plants
	Positioning of skillet systems and side- tracking skates
	Positioning of stacker cranes
Functions	
unctions	Heating
Characteristic parameters	
MTTF	31 years
Optical data	
_ight source	Laser, Red
Navelength	655 nm
_aser class	2, IEC/EN 60825-1:2014
Measurement data	
Measurement value calculation time	8 ms
Measurement range	200 300,000 mm
Accuracy	5 mm
Reproducibility (3 sigma)	3 mm
Measurement value output	1.7 ms
Temperature drift	0.01 0.1 mm/K
Max. traverse rate	10 m/s
Performance data	
Supply voltage U _B	18 30 V, DC
nterface	
Гуре	PROFINET, SSI
PROFINET	
Conformance class	В
Protocol	PROFINET RT
Switch functionality	Integrated
Transmission speed	100 Mbit/s
SSI	
Clock frequency	80 800 kHz
Connection	
Number of connections	5 Piece(s)
Connection 1	
Function	BUS IN
	Data interface
Type of connection	Connector
Designation on device	BUS IN
Thread size	M12
Туре	Female
No. of pins	4 -pin
Encoding	D-coded

FunctionBUS OUTData interfaceType of connectionConnectorDesignation on deviceBUS OUTThread sizeM12TypeFemaleNo. of pins4 -pinEncodingD-codedConnection 3FunctionFunctionPWR / SWIN / OUTVoltage supplyYpe of connectionDesignation on devicePWRThread sizeM12Type of connectionConnectorDesignation on devicePWRThread sizeM12Type of connectionConnectorDesignation on deviceService interfaceType of connectionConnectorDesignation on deviceService interfaceType of connectionConnectorDesignation on deviceSERVICEThread sizeM12Type of connectionConnectorDesignation on deviceSERVICEThread sizeM12Type of connection 5FunctionFunctionData interface SSIType of connectionConnectorDesignation on deviceSSIType of connectionConnectorDesignCubic <t< th=""><th></th><th></th></t<>		
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Ambient temperature, operation-30 50 °CAmbient temperature, storage-30 70 °C		Membrane Reybuard
Ambient temperature, storage -30 70 °C	Environmental data	
Ambient temperature, storage -30 70 °C	Ambient temperature. operation	-30 50 °C

Leuze

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 We reserve the rig

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Technical data

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Certifications

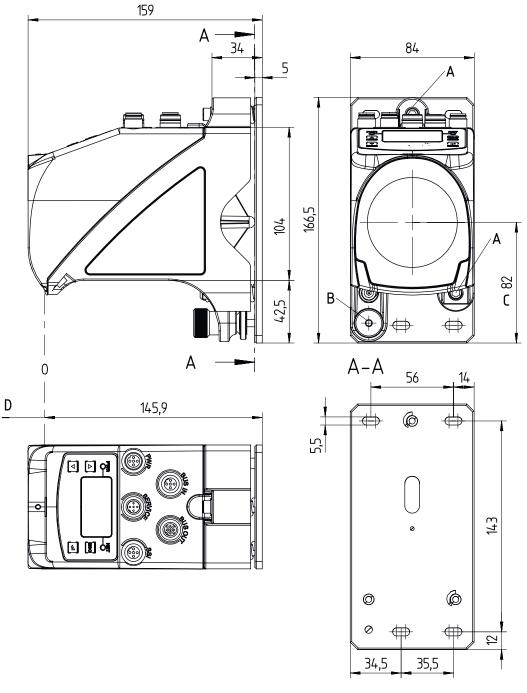
Degree of protection	IP 65
Protection class	III
Certifications	c UL US

Classification

Customs tariff number	90318020
ECLASS 5.1.4	27270801
ECLASS 8.0	27270801
ECLASS 9.0	27270801
ECLASS 10.0	27270801
ECLASS 11.0	27270801
ECLASS 12.0	27270916
ECLASS 13.0	27270916
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825

Dimensioned drawings

All dimensions in millimeters



А M5 screw for alignment

В

C Optical axis

Zero point of the distance to be measured

D

Knurled nut with WAF4 hexagon socket and M 5 nut for securing

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Electrical connection

Connection 1	BUS IN
Function	BUS IN
	Data interface
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-	

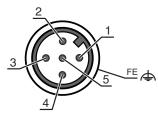
Connection 2	BUS OUT
Function	BUS OUT
	Data interface
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin assignment Pin

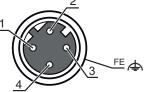
1	TD+	1
2	RD+	Ì
3	TD-	- (
4	RD-	``

Connection 3 PWR Function PWR / SW IN / 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	I/O 1	
3	GND	
4	I/O 2	
5	FE	



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<u>_</u>FE ♠

Electrical connection

Connection 4

SERVICE

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

Pin Pin assignment

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

SSI

Connection 5

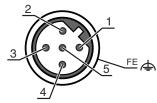
Function	Data interface
	SSI
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	5 -pin
Encoding	B-coded

Pin Pin assignment

	3	
1	DATA+	
2	DATA-	3 (10 4 4)
3	CLK+	
4	CLK-	
5	FE	4 / -

Operation and display

LED		Display	Meaning
I PV	NR	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
		Orange, flashing	PROFINET wave function activated
		Orange, continuous light	Configuration via display
BU	JS	Off	No supply voltage
		Green, flashing	Device ok, initialization phase
		Green, continuous light	Device OK
		Red, flashing	Communication error
		Red, continuous light	Bus error
		Orange, flashing	PROFINET wave function activated
BU	US IN	Green, continuous light	Link OK
		Orange, flashing	Data exchange active
BU	BUS OUT	Green, continuous light	Link OK
		Orange, flashing	Data exchange active



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Part number code

Part designation: AMS 3XXi YYY Z AAA



AMS	Operating principle AMS: absolute measurement system
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 355i: DeviceNet 355i: 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
N	te

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Notes

Observe intended use!

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

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

- The product may only be put into operation by competent persons.
- b Only use the product in accordance with its intended use.



ATTENTION! LASER RADIATION - CLASS 2 LASER PRODUCT

Do not stare into beam!

The device satisfies the requirements of IEC/EN 60825-1:2014 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. 56 from May 08, 2019.

- the 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.
- b When mounting and aligning the device, avoid reflections of the laser beam off reflective surfaces!
- to CAUTION! Use of controls or adjustments or performance of procedures other than specified herein may result in hazardous light exposure.
- $\ensuremath{{\diamondsuit}}$ 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.

Notes

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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.

Further information

- 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
W D	50104171	KB SSI/IBS-5000-BA	Connection cable	Suitable for interface: SSI, Interbus-S Connection 1: Connector, M12, Axial, Female, B-coded, 5 -pin Connector, LED: No 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 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

Reflective tapes for distance sensors

Part no.	Designation	Article	Description
50115022	Reflexfolie 914x914mm-H	Reflector	Special version: Heating Supply voltage: 230 V, AC Design: Rectangular Reflective surface: 914 mm x 914 mm Base material: Aluminum composite Fastening: Mounting plate, Through-hole mounting

Accessories

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 Part no.	Designation	Article	Description
50108988	Reflexfolie 914x914mm-S	Reflective tape	Design: Rectangular Reflective surface: 914 mm x 914 mm Chemical designation of the material: PMMA Fastening: Adhesive

Deflecting mirror

 Part no.	Designation	Article	Description
50104479	US AMS 01	Deflecting mirror	Type of fastening: Through-hole mounting

Services

	Part no.	Designation	Article	Description
с. С	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.

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