

## Technical data sheet

### Smart camera

Part no.: 50131439

LSIS 472i M43-I1-H

#### Contents

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



Figure can vary



## Technical data

### Basic data

Series	LSIS 472i
Chip	CMOS

### Special design

Special design	Heating
----------------	---------

### Functions

Software functions	Compartment fine positioning Focus adjustment
--------------------	--

### Optical data

Working range	50 ... 10,000 mm
Light source	LED, Infrared
Camera resolution, horizontal	752 px
Camera resolution, vertical	480 px
Focal length	8 mm
Chip size	1/3 in
Frame rate (images per second), max.	50 pieces per second
Electronic shutter speed	0.054 ... 20 ms
Camera type	Monochrome

### Electrical data

<b>Performance data</b>	
Supply voltage $U_B$	18 ... 30 V, DC
Power consumption, max.	8 W
<b>Inputs/outputs selectable</b>	
Number of inputs/outputs selectable	8 Piece(s)
Voltage type, outputs	DC
Switching voltage, outputs	Typ. $U_B$ / 0 V
Voltage type, inputs	DC
Switching voltage, inputs	Typ. $U_B$ / 0 V

### Interface

Type	RS 232, Ethernet
<b>RS 232</b>	
Function	Process
<b>Ethernet</b>	
Function	Process Service

### Connection

<b>Connection 1</b>	
Function	Configuration interface Data interface Service interface
Type of connection	Connector
Designation on device	SERVICE
Thread size	M12

### Connection 2

Function	Signal IN Signal OUT Voltage supply
Type of connection	Connector
Designation on device	PWR
Thread size	M12

### Connection 3

Function	Data interface Signal IN Signal OUT
Type of connection	Connector
Designation on device	BUS OUT
Thread size	M12

### Mechanical data

Dimension (W x H x L)	75 mm x 55 mm x 113 mm
Housing material	Metal
Lens cover material	Glass
Net weight	500 g

### Operation and display

Type of configuration	Via web browser
-----------------------	-----------------

### Environmental data

Ambient temperature, operation	-35 ... 45 °C
Ambient temperature, storage	-20 ... 70 °C

### Certifications

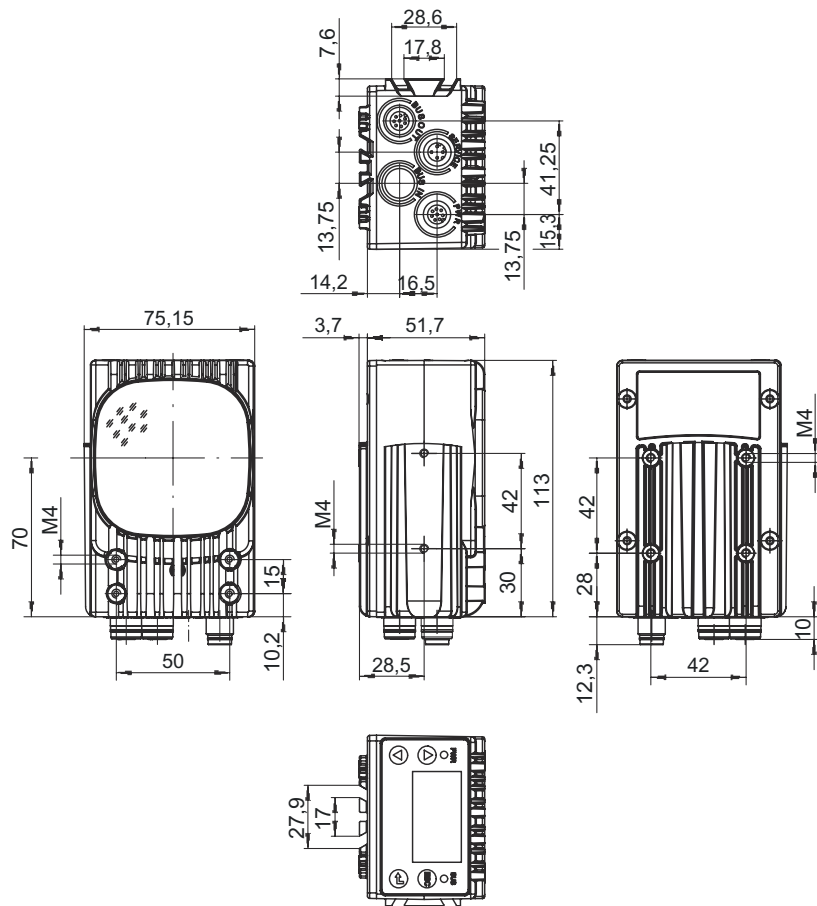
Degree of protection	IP 65 IP 67
US patents	US 8,288,706 B

### Classification

Customs tariff number	90318020
eCl@ss 8.0	27310201
eCl@ss 9.0	27310201
ETIM 5.0	EC002550
ETIM 6.0	EC002550

# Dimensioned drawings

All dimensions in millimeters



## Electrical connection

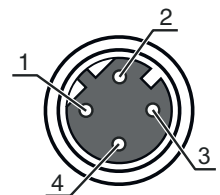
### Connection 1

### SERVICE

<b>Function</b>	Configuration interface Data interface Service interface
<b>Type of connection</b>	Connector
<b>Thread size</b>	M12
<b>Type</b>	Female
<b>Material</b>	Metal
<b>No. of pins</b>	4 -pin
<b>Encoding</b>	D-coded

### Pin Pin assignment

<b>1</b>	TD+
<b>2</b>	RD+
<b>3</b>	TD-
<b>4</b>	RD-



## Electrical connection

### Connection 2

### PWR

Function	Signal IN Signal OUT Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

Pin	Pin assignment
-----	----------------

1	VIN
2	IO1
3	GND
4	IO2
5	IO3
6	IO4
7	n.c.
8	FE



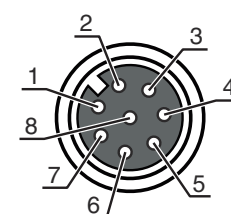
### Connection 3

### BUS OUT

Function	Data interface Signal IN Signal OUT
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

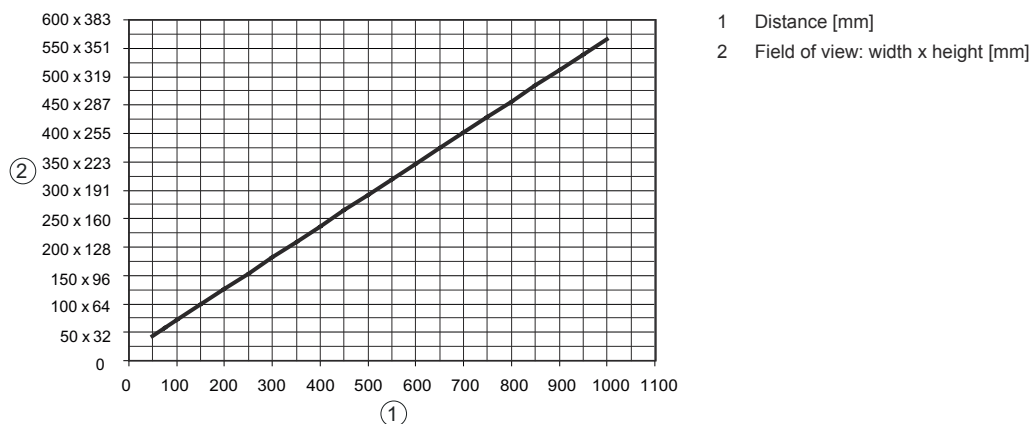
Pin	Pin assignment
-----	----------------

1	IO5
2	IO6
3	GND
4	IO7
5	IO8
6	RS 232-RX
7	RS 232-TX
8	FE



## Diagrams

### Relationship between working distance and field of view size



## Operation and display


LED	Display	Meaning
1 PWR	Off	No supply voltage
	Green, flashing	Device ok, initialization phase
	Green, continuous light	Device OK
	Orange, continuous light	Service operation
	Red, flashing	Device OK, warning set
	Red, continuous light	Device error
2 BUS	Off	No supply voltage
	Green, flashing	BUS initialization
	Green, continuous light	BUS OK
	Red, flashing	Bus error

## Part number code



Part designation: LSIS AABB CCD-EF-GG

LSIS	<b>Operating principle</b> Smart camera
AA	<b>Functions</b> 41: BLOB analysis 42: Code reading 46: BLOB analysis, code reading, measuring tool 47: Compartment fine positioning
BB	<b>Interface</b> 2: RS 232 / Ethernet + digital I/Os
CC	<b>Camera chip / resolution range</b> M4: Monochrome / 752 x 480px
D	<b>Lens</b> 3: 8 mm 5: 16 mm 9: depending on the used interchangeable lens
E	<b>Illumination</b> I: infrared light M: RGBW W: white X: external illumination

## Part number code



<b>F</b>	<b>Illumination type</b> 1: diffuse front illumination 9: none
<b>GG</b>	<b>Design</b> 01: plastic n/a: glass H: with heating
<b>Note</b>	
	A list with all available device types can be found on the Leuze website at <a href="http://www.leuze.com">www.leuze.com</a> .

## Notes


 <b>Observe intended use!</b>	
	<ul style="list-style-type: none"> <li>This product is not a safety sensor and is not intended as personnel protection.</li> <li>The product may only be put into operation by competent persons.</li> <li>Only use the product in accordance with its intended use.</li> </ul>

## Accessories

### Connection technology - Connection cables


	Part no.	Designation	Article	Description
	50135128	KD S-M12-8A-P1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR
	50135139	KS S-M12-8A-P1-050	Connection cable	Connection 1: Connector, M12, Axial, Male, A-coded, 8 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

### Connection technology - Interconnection cables




	Part no.	Designation	Article	Description
	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

## Accessories

### Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	50027375	BT 56	Mounting device	Functions: Static applications Design of mounting device: Mounting system Fastening, at system: For 16 mm rod, For 18 mm rod, For 20 mm rod Mounting bracket, at device: Clampable Material: Metal Tightening torque of the clamping jaws: 8 N·m

### Standard reflectors

	Part no.	Designation	Article	Description
	50130343	MTKZ 13-30 SET	Reflector	Design: Round Reflection surface diameter: 15 mm Material: Plastic Base material: Plastic Chemical designation of the material: PA Fastening: Clip Suitable for bore hole diameter: 12.5 ... 13.5 mm Suitable for material thickness: 0.8 ... 5 mm Processing temperature: 5 ... 45 °C
	50129092	MTKZ 15-30 SET	Reflector	Design: Round Reflection surface diameter: 15 mm Material: Plastic Base material: Plastic Chemical designation of the material: PA Fastening: Clip Suitable for bore hole diameter: 14.5 ... 15.5 mm Suitable for material thickness: 0.8 ... 5 mm Processing temperature: 5 ... 45 °C
	50140183	MTKZ 7-30 SET	Reflector	Design: Round Reflection surface diameter: 15 mm Material: Plastic Base material: Plastic Chemical designation of the material: PA Fastening: Clip Suitable for bore hole diameter: 6 ... 7 mm Suitable for material thickness: 0.8 ... 5 mm Processing temperature: 5 ... 45 °C

### Services

	Part no.	Designation	Article	Description
	S981014	CS30-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.
	S981019	CS30-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.

## Accessories

### Note



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