AbN
automation

Leuze

Technical data sheet

Vision sensor

Part no.: 50147796

IVS 1048i ADJ-8F4-102-M4-TPRD

Contents

For Illustration purposes only

Leuze electronic GmbH + Co. KG
In der Braike 1, D-73277 Owen/Germany

info@leuze.com • www.leuze.com

Phone: +49 7021 573-0 • Fax: +49 7021 573-199

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The Sensor People

Technical data

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Basic data

Series	IVS 1000i
Imager	Sony global shutter

Functions

Software functions	Locate: surface, edge, form
	Parts detection: brightness, contrast, surface pixels, edge pixels

Optical data

Reading distance	50 ... 2,000 mm
Light source	LED, red / white, internally switchable
Transmitted-signal shape	Pulsed
Camera resolution, horizontal	1,440 px
Camera resolution, vertical	1,080 px
Focal length	8 mm
Electronic shutter speed	0.025 ... 2 ms
Camera type	Monochrome

Electrical data

Protective circuit	Polarity reversal protection
	Short circuit protected

Performance data

Supply voltage U_B	18 ... 30 V, DC
Power consumption, max.	24 W, at 24 V DC

Inputs

Number of digital switching inputs	3 Piece(s)

Switching inputs

Voltage type	DC

Outputs

Number of digital switching outputs	5 Piece(s)

Switching outputs

Voltage type	DC
Switching current, max.	100 mA
Switching voltage	high: ≥(U_B-2V)
	low: ≤ 2 V

Switching output 1

Switching element	MOSFET semiconductor
Switching principle	Push-pull

Switching output 2

Switching element	MOSFET semiconductor
Switching principle	Push-pull

Switching output 3

Switching element	MOSFET semiconductor
Switching principle	Push-pull

Switching output 4

Switching element	MOSFET semiconductor
Switching principle	Push-pull

Interface

Type	Ethernet, PROFINET

Ethernet

Architecture	Client
	Server
Address assignment	DHCP
	Manual address assignment
Transmission speed	10 / 100 Mbit/s
Function	Process
Switch functionality	None
Transmission protocol	TCP/IP, UDP, Telnet, FTP/SFTP, PROFINET

PROFINET

Function	Process
Conformance class	B
Protocol	PROFINET RT
Transmission speed	100 Mbit/s

Connection

Number of connections	2 Piece(s)

Connection 1

Function	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	12 -pin
Encoding	A-coded

Connection 2

Function	Data interface
	Ethernet, input
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	8 -pin
Encoding	X-coded

Mechanical data

Design	Cubic
Dimension (W x H x L)	45 mm x 85 mm x 35 mm
Housing material	Metal
Metal housing	Diecast zinc
Lens cover material	Plastic / PMMA
Net weight	265 g
Housing color	Silver
Type of fastening	Mounting thread
	Via optional mounting device

Operation and display

Number of LEDs	3 Piece(s)
Type of configuration	Vision Studio software

Environmental data

Ambient temperature, operation	0 ... 50 °C
Ambient temperature, storage	-20 ... 70 °C
Relative humidity (non-condensing)	90 %

Certifications

Degree of protection	IP 67, EN 60529 with various connectors or screwed-on caps
Protection class	III
Approvals	c UL US
Test procedure for EMC in accordance with standard	EN 61000-6-2
	EN 61000-6-3
Test procedure for continuous shock in accordance with standard	IEC 60068-2-27, test Ea
Test procedure for vibration in accordance with standard	IEC 60068-2-6, test Fc

Classification

Customs tariff number	90318020
ECLASS 5.1.4	27310101
ECLASS 8.0	27310101
ECLASS 9.0	27310201
ECLASS 10.0	27310101
ECLASS 11.0	27310101
ECLASS 12.0	27310101
ECLASS 13.0	27310101
ECLASS 14.0	27310101
ECLASS 15.0	27310101
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550
ETIM 9.0	EC002550
ETIM 10.0	EC002550

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Dimensioned drawings

All dimensions in millimeters
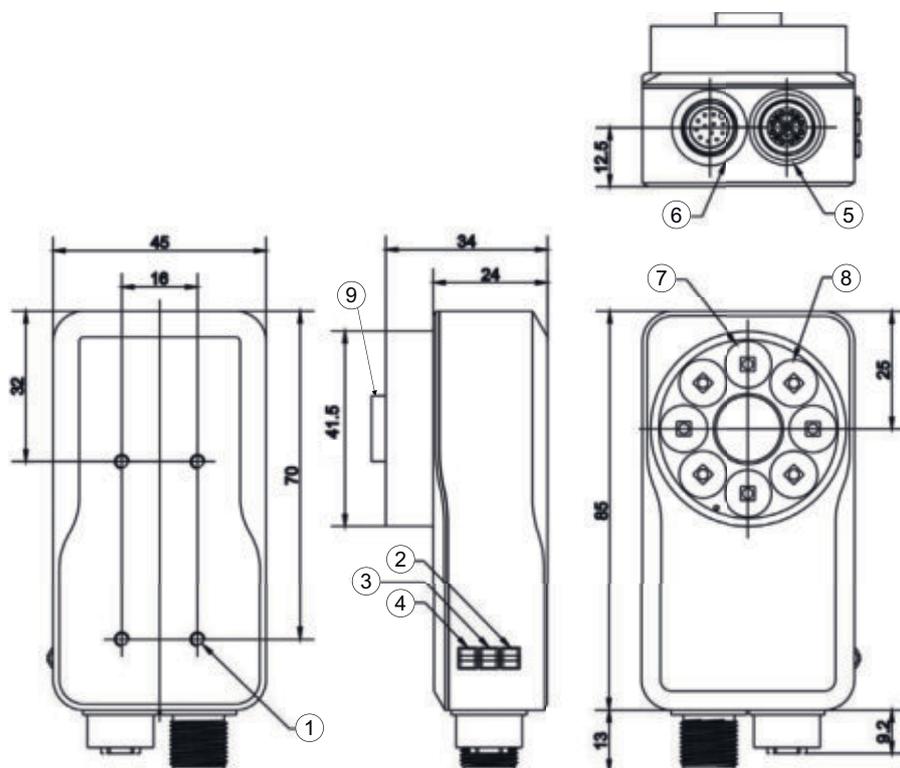
1 4 x M3 mounting thread
2 Green LED, operation
3 Yellow LED, LAN (Ethernet)
4 Yellow LED, trigger
5 M12 Ethernet connection, X-coded, female
6 Connection for operating voltage and I/O, M12, A-coded, 12-pin, male
7 Integrated high power LED illumination, red
8 Integrated high power LED illumination, white
9 Lens

Electrical connection

Connection 1

Function	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	12 -pin
Encoding	A-coded

Pin	Pin assignment	Conductor color
1	IN 0	Brown
2	IN 1	Blue
3	OUT 2	White
4	OUT 3	Green
5	READY	Pink
6	COMMON INTERFACE	Yellow
7	VIN	Black
8	GND	Gray
9	n.c.	Red
10	Trigger IN	Violet
11	OUT 0	gray / pink
12	OUT 1	red / blue
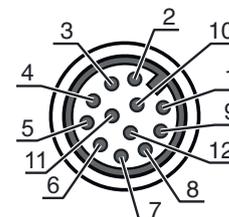
Electrical connection

Connection 2

Function	Data interface
	Ethernet, input
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	8 -pin
Encoding	X-coded

Pin	Pin assignment
1	LAN A+
2	LAN A-
3	LAN B+
4	LAN B-
5	LAN D+
6	LAN D-
7	LAN C-
8	LAN C+
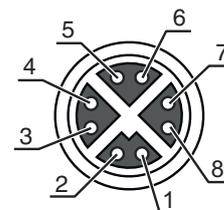
Part number code

Part designation: **IVS XXXXX YYY AAA BBB C D EFFF**

IVS	**Operating principle**	
	IVS: Vision Sensor for inspection tasks	
XXXXX	**Series/interface (integrated fieldbus technology)**	
	1048i: PROFINET, Ethernet TCP/IP + FTP, SFTP	
YYY	**Focus position**	
	ADJ: adjustable (manually)	
AAA	**Optics model**	
	8: focal length 8 mm	
	F4: diaphragm f/4.0	
BBB	**Beam exit**	
	102: front	
C	**Illumination**	
	M: multicolor	
D	**Resolution range**	
	4: 1440 x 1080 pixels	
	1: 736 x 480 pixels	
E	T: toolset	
FFF	**Version**	
	n/a: 1D/2D-code reading	
	DPM: 1D-, 2D-code reading + DPM (directly marked codes)	
	PRD: presence detection	
	MEC: presence detection, measuring, counting	
	ALL: presence detection, measuring, counting, 1D/2D-code reading + DPM	

Note	
i	↳ 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. ✎ The product may only be put into operation by competent persons. ✎ Only use the product in accordance with its intended use.

Further information

- The specified core colors apply when using connection cables from Leuze.

Accessories

Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50130282	KD S-M12-CA-P1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 12 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR
	50134943	KD S-M12-CW-P1-050	Connection cable	Connection 1: Connector, M12, Angled, Female, A-coded, 12 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR

## Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50137380	KSS GB-M12-8A-RJ45-A-P7-050	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, X-coded, 8 -pin Connection 2: RJ45 Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR
	50136188	KSS GB-M12-8W-RJ45-A-P7-050	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Angled, Male, X-coded, 8 -pin Connection 2: RJ45 Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

Accessories

Mounting technology - Mounting brackets

Part no.	Designation	Article	Description
50121433	BT 300 W	Mounting device	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Adjustable Material: Metal

Mounting technology - Swivel mounts
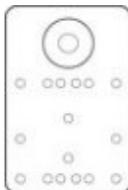
Part no.	Designation	Article	Description
50149698	BTK IVS 1048	Mounting device	Fastening, at system: Screw type Mounting bracket, at device: Spherical head Material: Aluminum

Lenses

Part no.	Designation	Article	Description
50148541	Lens S-M12-4F4	Lens	Working range: 65 ... 150 mm Focal length: 3.6 mm F-stop (F): 4 Resolution: 5 megapixel Design, housing: Cylindrical

Cover hoods

Part no.	Designation	Article	Description
50148549	AC IVS 1048-RED	Cover hood	Type: Cover hood with bandpass filter for red light Suitable for: DCR 1048i, IVS 1048i Outer diameter: 11.8 mm Material: BOROFLOAT®

Illuminations

Part no.	Designation	Article	Description
50148126	IL AL 023/096 RD 301	Illumination	Functions: Triggered operation, Integrated power control
50148122	IL BA 012/065 RD 301 L D	Illumination	Special version: Protective cover, lenticular Functions: Continuous operation

Accessories

Leuze

	Part no.	Designation	Article	Description
	50148123	IL BA 012/130 RD 301 L D	Illumination	Special version: Protective cover, lenticular Functions: Continuous operation
	50148124	IL BA 012/240 RD 301 L D	Illumination	Special version: Protective cover, lenticular Functions: Continuous operation
	50148130	IL SP 021/007 300	Illumination	Functions: Integrated power control, Triggered operation
	50148131	IL SP 021/014 300	Illumination	Functions: Triggered operation, Integrated power control

Note

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