

Technical data sheet

Vision sensor

Part no.: 50147799

IVS 1048i ADJ-8F4-102-M1-TALL



For illustration purposes only

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Ethernet



Technical data

Basic data

Series	IVS 1048i
Imager	Sony global shutter

Functions

Software functions	Count codes
	Counting: surfaces, edges, forms
	Detect codes
	Locate codes
	Locate: surface, edge, form
	Measuring: angle, circle, distance, point-to-point, point-to-line
	Parts detection: brightness, contrast, surface pixels, edge pixels

Read data

Code types, readable	2/5 Hong Kong
	2/5 IATA
	2/5 Interleaved
	2/5 Matrix
	2/5 NEC
	2/5 Straight
	Aztec
	Codabar
	Code 128
	Code 39
	Data Matrix Code
	DotCode
	EAN 8/13
	GS1 Databar Expanded
	GS1 Databar Expanded Stacked
	GS1 Databar Limited
	GS1 Databar RSS 14
	GS1 Databar RSS 14 Stacked
	Micro QR
	PDF417
	PDF417 Micro
	Pharma Code
	QR 2005
	QR Model 1
	UPC-A
	UPC-E

Optical data

Reading distance	50 ... 2,000 mm
Light source	LED, red / white, internally switchable
Transmitted-signal shape	Pulsed
Camera resolution, horizontal	736 px
Camera resolution, vertical	480 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)
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Switching inputs

Voltage type	DC
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Outputs

Number of digital switching outputs	5 Piece(s)
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Switching outputs

Voltage type	DC
Switching current, max.	100 mA
Switching voltage	high: $\geq(U_B-2V)$ low: $\leq 2 V$

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
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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)
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Technical data

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

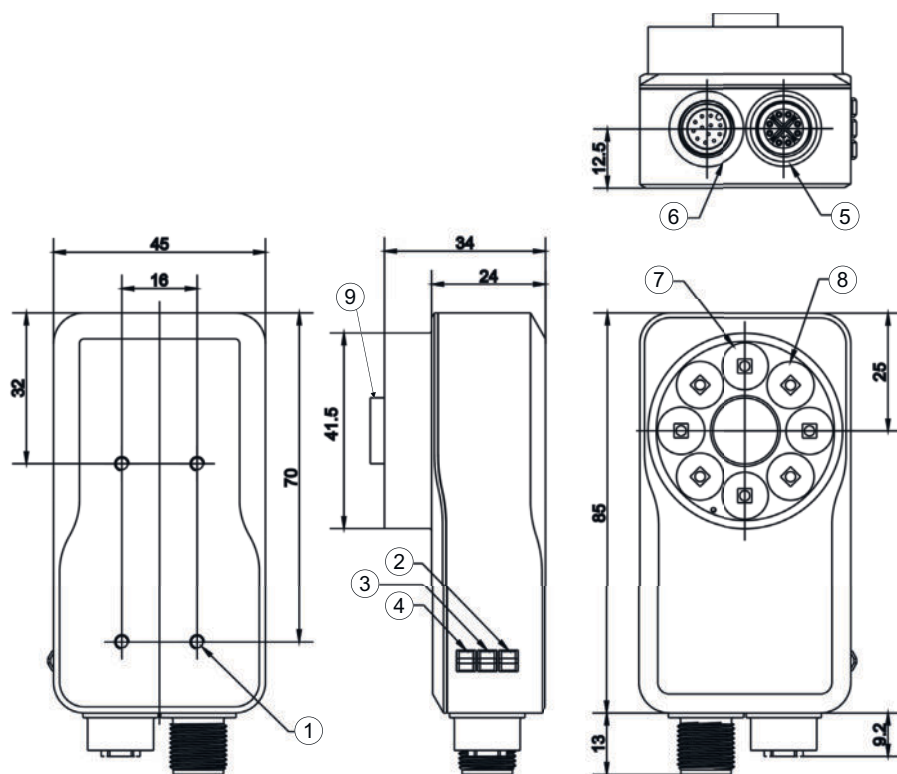
Degree of protection	IP 67, EN 60529 with various connectors or screwed-on caps
Protection class	III
Certifications	c UL US
Test procedure for EMC in accordance with standard	EN 61000-6-2 EN 61000-6-3
Test procedure for continuous shock in accordance with standard	IEC 60068-2-27, test Ea
Test procedure 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
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550
ETIM 9.0	EC002550

Dimensioned drawings

All dimensions in millimeters



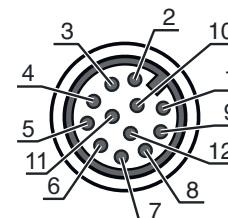
- 1 4 x M3 mounting thread
- 2 Green LED, operation
- 3 Yellow LED, LAN (Ethernet)
- 4 Yellow LED, trigger
- 5 M12 Ethernet connection, X-coded, female
- 6 Connection for operating voltage and I/O, M12, A-coded, 12-pin, male
- 7 Integrated high power LED illumination, red
- 8 Integrated high power LED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

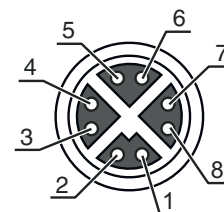


Electrical connection

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



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

Notes

Observe intended use!	
	<ul style="list-style-type: none"> ⌘ 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

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

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


Accessories

Part no.	Designation	Article	Description
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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

Illuminations

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

Note



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