SICK.COM



PALLOC

DATA SHEET

PALLOC-VS

PALLOC
Robot guidance systems

SICK Sensor Intelligence



Illustration may differ

ROBOT GUIDANCE SYSTEMS

PALLOC-VS

ORDERING INFORMATION

Type	part no.
PALLOC-VS	1139985

Further device versions and accessories at www.sick.com/PALLOC

DETAILED TECHNICAL DATA

FEATURES

Example field of view	1,600 mm x 1,300 m
Working distance	1,200 mm ... 3,500 mm
Laser class	1 (IEC 60825-1:2014) [1] EN 60825-1:2014+A11:2021
Localization principle	Deep Learning neural networks
System features	Deep learning-based standalone sensor for localizing parts using 3D color imaging
Technology	3D snapshot stereoscopy
Detection angle	60° x 50°
Angular resolution	0.094° x 0.098°
Lighting	Integrated
Illumination color	Infrared, laser, invisible, 808 nm
Description	PALLOC SensorApp with pretrained neural network and software license, preinstalled on the device

[1] Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to IEC 60825-1 Ed. 3. according to Laser Notice No. 56 dated May 08, 2019.

MECHANICS/ELECTRONICS

Supply voltage	24 V DC ± 15 %
Power consumption	19 W, Typical (without digital I/Os)
Housing color	Blue, black
Dimensions (L x W x H)	162 mm x 93 mm x 78 mm (without cooling fins)
Weight	1.7 kg, without cooling fins
Enclosure rating	IP67
Protection class	III
Connection types	Power/I/O: M12 17-pin, A-coded Gigabit Ethernet: M12, 8-pin, X-coded
Peak current	3 A

PERFORMANCE

Part localization time	1 s (Fast mode, robot mounted at distance of 1.2 m) 3 s (Long distance mode, stationary mounting at distance of 1.5...3.5 m)
Localization accuracy	< +/- 5 mm and < +/- 1° (typical)
Part size	> 100 x 100 mm at a distance of 1.2 m > 250 x 250 mm at a distance of 3.5 m
Pixel count	640 px x 512 px
Switch-on delay	< 25 s (typical)
Processor	1.2 GHz, 4 × ARM Cortex A72 [1]

[1] Part of the processor resources are required for internal processing. The current processor load is displayed in the CPU monitor in SICK AppStudio.

INTERFACES

Ethernet	✓
Data transmission rate	Communication interface Gigabit Ethernet (TCP/IP)
Protocol	TCP/IP JSON, XML and CSV (robot), TCP/IP (operator) FTP
User interface	Web server
Optical indicators	2 status LEDs
Data storage and retrieval	Image and data logging via microSD memory card and external FTP

AMBIENT DATA

Ambient temperature, operation	0 °C ... +40 °C, without cooling fins
Ambient temperature, storage	–20 °C ... +70 °C
Shock load	EN 60068-2-27
Vibration resistance	EN 60068-2-6, EN 60068-2-64
Ambient light immunity	< 40 klx, Sunlight
Electromagnetic compatibility (EMC)	EN 61000-6-2:2005-08, EN 61000-6-3:2007-01

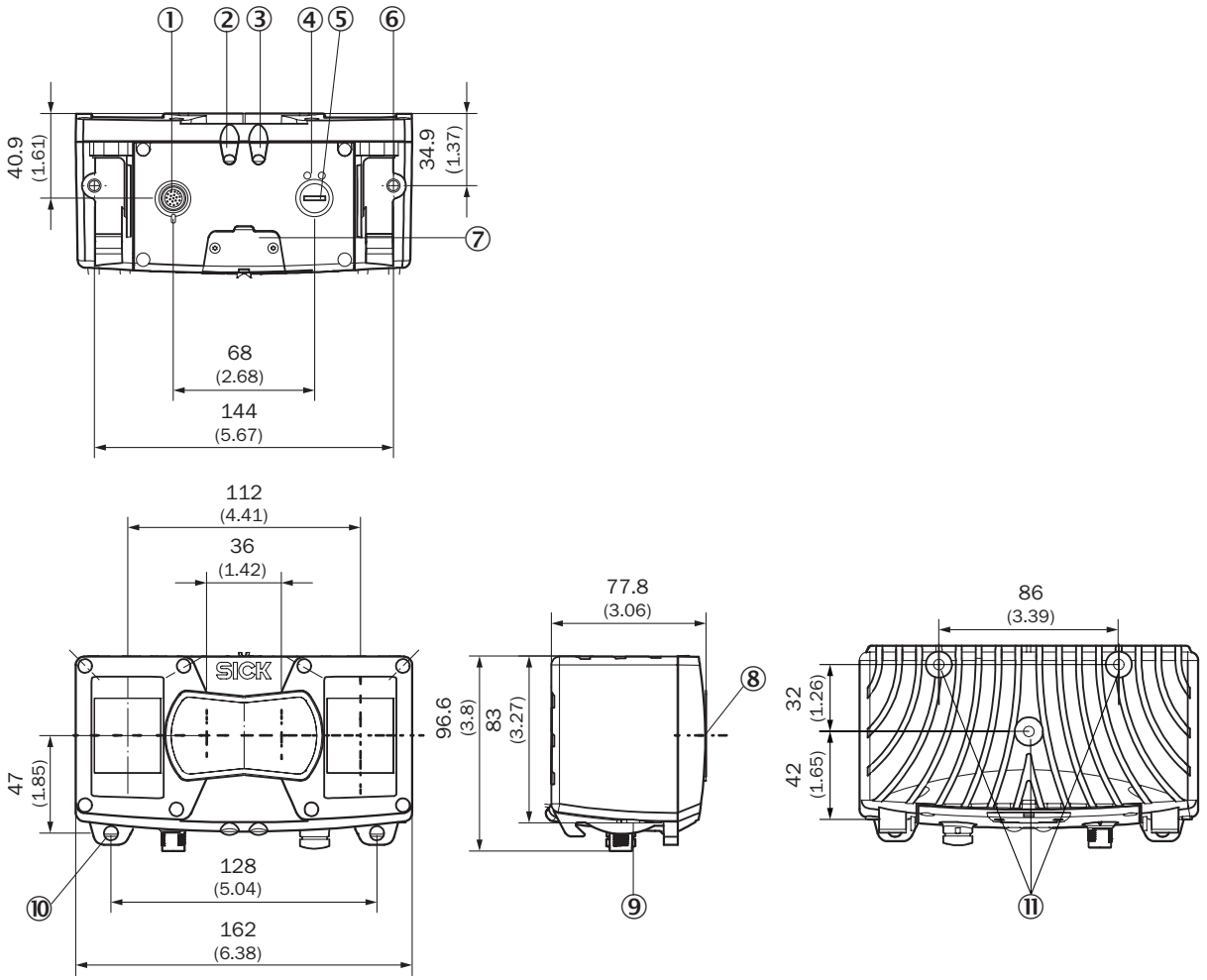
GENERAL NOTES

Factory calibrated	✓
Mounting	Robot or stationary mounted sensor

CERTIFICATES

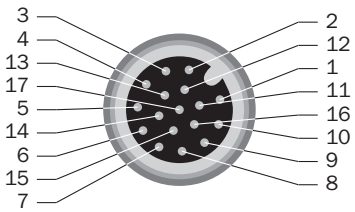
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING



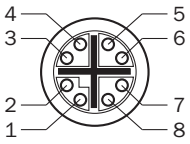
Dimensions in mm (inch)
① Power/I/O: M12 17-pin, A-coded
② device display
③ application display
④ ethernet status displays
⑤ Gigabit Ethernet: M12, 8-pin, X-coded
⑥ M6 threaded hole, 7 mm deep (2x), for mounting
⑦ service interface
⑧ Optical axis
⑨ bracket interface
⑩ bracket attachment
⑪ M6 threaded hole, 10 mm deep (3x), for mounting

CONNECTION: POWER/I/O



Power/I/O: M12 17-pin, A-coded
① GND – reference mass
② Supply voltage
③ CAN L – reserved, not implemented. Do not connect to VCC!
④ CAN H – reserved, not implemented. Do not connect to VCC!
⑤ TD+ (RS-422/485) Host – reserved, not implemented. Do not connect to VCC!
⑥ TD- (RS-422/485) Host, TxD (RS-232), Host – reserved, not implemented. Do not connect to VCC!
⑦ TxD (RS-232), Aux – service only
⑧ RxD (RS-232), Aux – service only
⑨ SENS GND – GND for electrically decoupled inputs
⑩ SENS IN1 – switch input, electrically decoupled
⑪ RD+ (RS-422) Host – reserved, not implemented. Do not connect to VCC!
⑫ RD- (RS-422/485) Host, RxD (RS-232), Host – reserved, not implemented. Do not connect to VCC!
⑬ INOUT 1 - Programmable digital I/O
⑭ INOUT 2 - Programmable digital I/O
⑮ SENS IN2 – switch input, electrically decoupled
⑯ INOUT 3 - Programmable digital I/O
⑰ INOUT 4 - Programmable digital I/O

GIGABIT ETHERNET



Gigabit Ethernet: M12, 8-pin, X-coded
① TRD0_P
② TRD0_N
③ TRD1_P
④ TRD1_N
⑤ TRD3_P
⑥ TRD3_N
⑦ TRD2_P
⑧ TRD2_N

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1139985

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GERMANY
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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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