



Industrial imaging

Accelerate pallet detection using 3D cameras



3D sensors



For all standard pallets with two pallet pockets

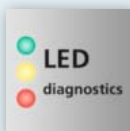
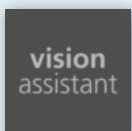
Position accuracy of $\pm 1\text{cm}$

Ranges up to 4 m

Detection time $< 1\text{ s}$

Communication via Ethernet or CAN

Support on GitHub



Powerful

The PDS pallet detection system is a tried-and-tested software solution for faster, fully automatic and position-independent detection of standard pallet types with two pockets. In combination with the O3D hardware, pallet position detection is extremely fast and accurate. This constitutes a significant reduction of the overall cycle time of pallet detection in autonomous and semi-autonomous pallet handling vehicles.

Efficient

Even in adverse environmental conditions, the sophisticated software solution will lead the lift fork reliably to its destination by means of the 3D point cloud of the ToF camera. The Pallet Detection System directly impacts the performance of the autonomous and semi-autonomous vehicles by increasing the speed of detecting the pallet position without sacrificing the quality of the detection.



Interface	Type of sensor	Material Front pane / LED window	Protection rating / Protection class	Angle of aperture [°]	Max. field of view size [m]	Order no.
PMD 3D sensors · O3D type · M12 connector · housing material: Aluminium						
Ethernet	PMD 3D ToF chip	Gorilla glass / polyamide	IP 65, IP 67 / III	40 x 30	2.61 x 3.47	O3DP01
CAN	PMD 3D ToF chip	Gorilla glass / polyamide	IP 65, IP 67 / III	40 x 30	2.61 x 3.47	O3DP21
Ethernet	PMD 3D ToF chip	Gorilla glass / polyamide	IP 65, IP 67 / III	60 x 45	3.75 x 5.00	O3DP03
CAN	PMD 3D ToF chip	Gorilla glass / polyamide	IP 65, IP 67 / III	60 x 45	3.75 x 5.00	O3DP23

Technical data Pallet detection

Operating distance	[m]	0.3...2 (4)
Position accuracy	[cm]	±1
Detection time	[s]	< 1
Angle of approach	[°]	+12 / -12

Accessories

Housing	Description	Order no.
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Mounting accessories

	Mounting set for O3D	E3D301
	Dissipators	E3D302
	Double cooling element	E3D304
	Heat conductor	E3D303

Connection technology

	Ethernet, cross-over patch cable, 2 m, PVC cable, M12 / RJ45	E11898
	Ethernet, jumper cable, 2 m, PVC cable, M12 / M12	E21138
	Socket, M12, 2 m black, PUR cable, 8-pole	E11950
	Socket, M12, 4-pole 2 m black, PUR cable	EVC001
	CAN connection cable, M12 socket, 2 m purple, PUR cable	E11596
	CAN connection cable, M12 socket, 5 m purple, PUR cable	E11597

Further technical data

Operating voltage	[V DC]	20.4...28.8
Current consumption	[mA]	< 2400 peak current pulsed; typ. mean value 420
Current rating (per switching output)	[mA]	100
Short-circuit protection, pulsed		•
Overload protection		•
Ambient temperature	[°C]	-10...50
Real chip resolution		25,000 / 100,000
Resulting resolution		176 x 132 pixels
Function display	LED	2 x yellow, 2 x green
Illumination		850 nm, infrared
Immunity to extraneous light	[klx]	8 (up to 100 klx possible with reduced measuring accuracy and repeatability)
Trigger		external; 24 V PNP / NPN according to IEC 61131-2 type 3
Switching inputs		2 (configurable), 24 V PNP / NPN according to IEC 61131-2 type 3
Switching outputs digital		3 (configurable), 24 V PNP / NPN, according to IEC 61131-2
Switching outputs analogue		1 (can be configured as current output 4...20 mA or voltage output 0...10 V)
Parameter setting interface Ethernet		10 Base-T / 100 Base-TX
Possible parameter settings		via PC / notebook
Dimensions (H, W, D)	[mm]	72 x 67.1 x 95

We reserve the right to make technical alterations without prior notice. · 04.2020