

2D/3D Profile Sensor

MLWL033

Part Number

weCat3D



- Blue light for applications on metal, organic or semi-transparent materials
- Ecolab
- IP69K
- Up to 12 million measuring points per second

2D/3D Profile Sensors project a laser line onto the object to be detected and generate an accurate, linearized height profile with an internal camera which is set up at a triangulation angle. Thanks to its uniform, open interface, the weCat3D series can be incorporated by means of the DLL program library or the GigE Vision standard without an additional control unit. Alternatively, wenglor offers its own software packages for implementing your application.



Technical Data

Optical Data

Working range Z	300...1000 mm
Measuring range Z	700 mm
Measuring range X	280...830 mm
Linearity Deviation	175 µm
Resolution Z	27...162 µm
Resolution X	181...446 µm
Light Source	Laser (blue)
Wavelength	405 nm
Service Life (T = +25 °C)	20000 h
Laser Class (EN 60825-1)	2M

Environmental conditions

Ambient temperature	0...45 °C
Storage temperature	-20...70 °C
Max. Ambient Light	5000 Lux
EMC	DIN EN 61000-6-2; 61000-6-4
Shock resistance per DIN IEC 68-2-27	30 g / 11 ms
Vibration resistance per DIN IEC 60068-2-6	6 g (10...55 Hz)
Atmospheric humidity	5...95%, non-condensing

Electrical Data

Supply Voltage	18...30 V DC
Current Consumption (U _b = 24 V)	300 mA
Subsampling	350...6000 /s
Output rate	180...6000 /s
Inputs/Outputs	4
Switching Output Voltage Drop	< 1,5 V
Switching Output/Switching Current	100 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Interface	Ethernet TCP/IP
Baud Rate	100/1000 Mbit/s
Protection Class	III
FDA Accession Number	2110262-000

Mechanical Data

Housing Material	Stainless steel, V2A (1.4305 / 303)
Degree of Protection	IP69K
Cable Length	5 m
Bending Radius	87 mm
Optic Cover	Plastic, PMMA
Cable Jacket Material	Plastic, TPE

Safety-relevant Data

MTTFd (EN ISO 13849-1)	3706,54 a
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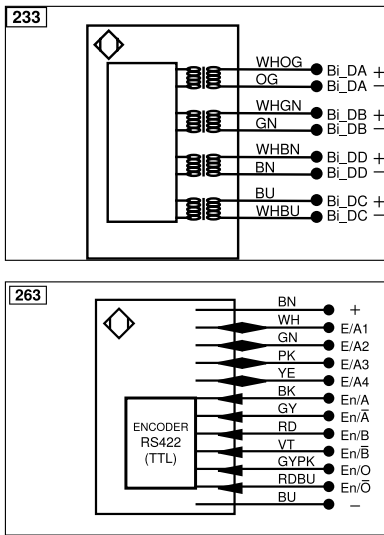
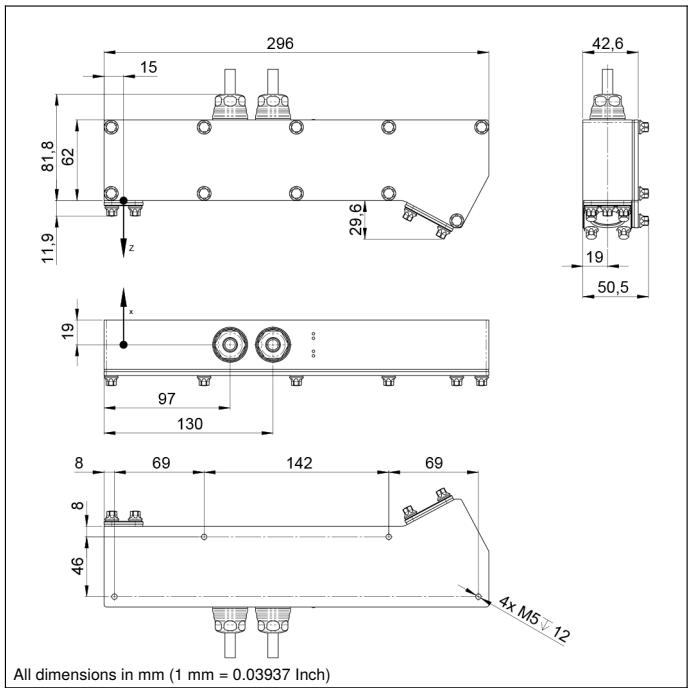
Push-Pull

Connection Diagram No.

233 **263**

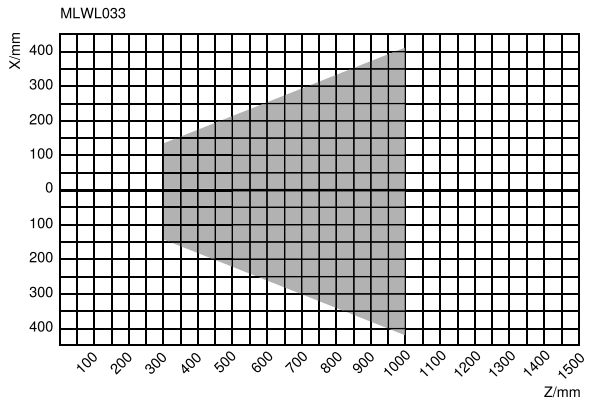
Complementary Products

Control Unit
Software
Switch EHSS001



Legend			
+	Supply Voltage +	nc	Not connected
-	Supply Voltage 0 V	U	Test Input
~	Supply Voltage (AC Voltage)	Ü	Test Input inverted
A	Switching Output (NO)	W	Trigger Input
Ä	Switching Output (NC)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
Ȳ	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach Input	Amv	Valve Output
Z	Time Delay (activation)	a	Valve Control Output +
S	Shielding	b	Valve Control Output 0 V
RxD	Interface Receive Path	SY	Synchronization
TxD	Interface Send Path	SY-	Ground for the Synchronization
RDY	Ready	E+	Receiver-Line
GND	Ground	S+	Emitter-Line
CL	Clock	±	Grounding
E/A	Output/Input programmable	SnR	Switching Distance Reduction
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)
OSSD	Safety Output	La	Emitted Light disengageable
Signal	Signal Output	Mag	Magnet activation
Bi_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
ENo RS422	Encoder 0-pulse 0/Ü (TTL)	EDM	Contact Monitoring
PT	Platinum measuring resistor	ENARs422	Encoder A/Ä (TTL)
ENBrs422	Encoder B/B (TTL)	ENA	Encoder A
ENb	Encoder B	AMIN	Digital output MIN
AMAX	Digital output MAX	Ack	Digital output OK
SY In	Synchronization In	SY OUT	Synchronization OUT
OLT	Brightness output	M	Maintenance
rsv	Reserved		
Wire Colors according to DIN IEC 60757			
BK	Black		
BN	Brown		
RD	Red		
OG	Orange		
YE	Yellow		
GN	Green		
BU	Blue		
VT	Violet		
GY	Grey		
WH	White		
PK	Pink		
GNYE	Green/Yellow		

Measuring field X, Z



Z = Working distance
X = Measuring Range

