

# TinyUSB Line Camera 3301

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The *TinyUSB Line Camera 3301* is a low cost board-level 102-pixel line scan camera with an 8-bit resolution. The 100 inner pixels measure 85µm (H) by 77µm (W) and the end pixels are 132µm (H) by 49µm (W). The camera offers trigger input and output, three operation modes and programmable integration time. The sensor array is split into three 34-pixel zones, with each zone having programmable gain and offset levels.

The *TinyUSB Line Camera 3301* is USB Bus-powered, therefore no separate power packs for voltage supply are needed.

Drivers, DLL for Windows, library for Linux and sample programs are included in delivery.

Features:

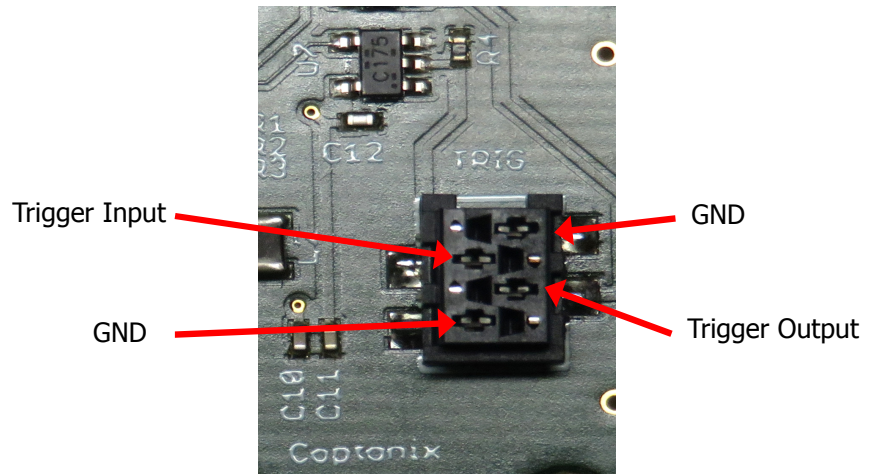
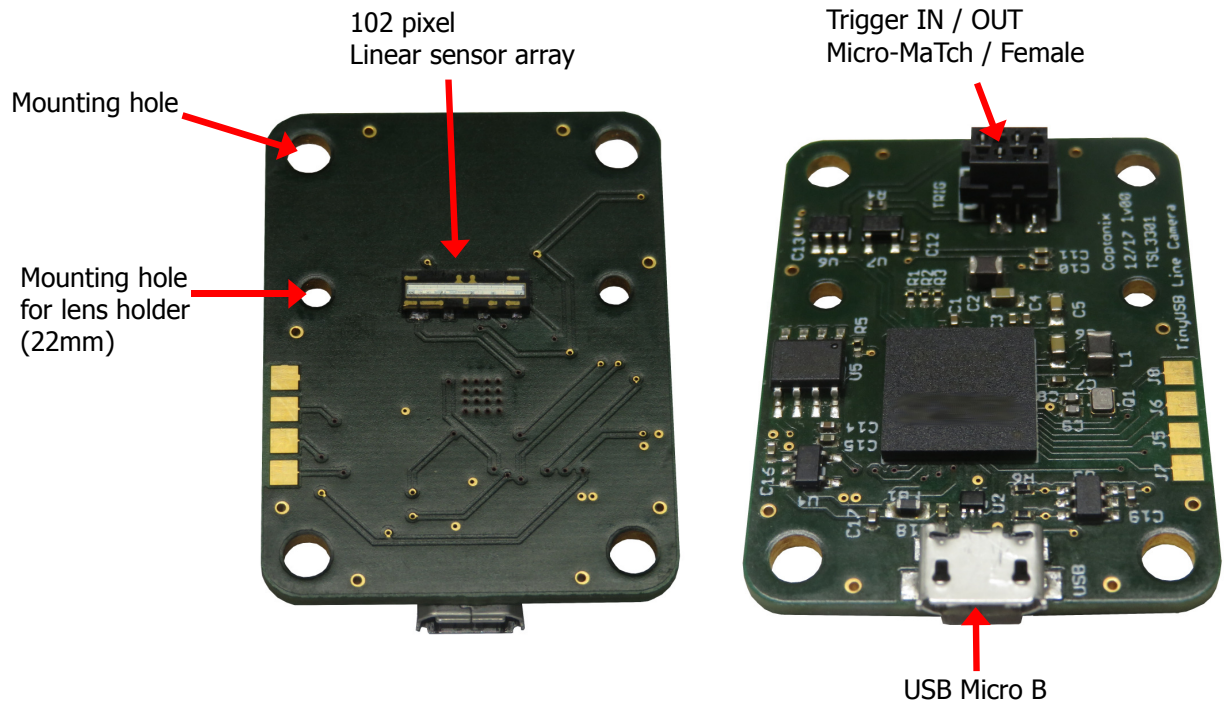
- 480 Mbit/s high-speed USB 2.0
- USB Bus-powered
- Plug & Play
- Linear sensor array TSL3301CL
- 102 Pixel, 100 inner pixels 85µm (H) x 77µm (W) and 2 end pixels 132µm (H) x 49µm (W)
- 9000 lines / second
- 8-bit ADC
- 1-2.94x programmable gain, 32 increments
- Programmable offset, 256 increments
- Trigger input
- Trigger output
- Software development kit with drivers, libraries and sample programs
- Supports Windows, Linux and Raspbian (Raspberry PI)
- Very compact design 40 x 30 mm<sup>2</sup>

## Characteristics

	Min.	Typ	Max.	Unit
<b>Power-Supply</b>				
Supply Voltage (USB Bus-Powered)	4.75	5.0	5.25	V
Current consumption		115		mA
<b>Trigger Output</b>				
Output voltage	0		3.3	V
High-level output current			-16	mA
Low-level output current			16	mA
<b>Trigger Input (active High)</b>				
Input Voltage	0		5.5	V
<b>A/D Converter</b>				
ADC Resolution		8		Bits
<b>Amplifier</b>				
PGA Gain	1		2.94	Rel. gain
PGA Gain Resolution		32		Increments
Programmable Offset	-128		+127	Increments
Programmable Offset Resolution		256		Increments
Programmable offset step size	Gain = 1		0.5	LSB
	Gain = 2.94		1.5	LSB
<b>Sensor array</b>				
Active pixels	102			
Pixel size	Inner 100 pixels	85 (H) x 77 (W)		µm
	End pixels	132 (H) x 49 (W)		µm
Integration time	109			µs
Line rate	Free running		9000	Lines / Second
	With Ext. trigger		4500	Lines / Second

Gain Code	Rel. Gain	% Increase	Gain Code	Rel. Gain	% Increase
<b>0</b>	1		<b>16</b>	1.52	3.23
<b>1</b>	1.02	2.17	<b>17</b>	1.57	3.33
<b>2</b>	1.05	2.22	<b>18</b>	1.62	3.45
<b>3</b>	1.07	2.27	<b>19</b>	1.68	3.57
<b>4</b>	1.09	2.33	<b>20</b>	1.74	3.70
<b>5</b>	1.12	2.38	<b>21</b>	1.81	3.85
<b>6</b>	1.15	2.44	<b>22</b>	1.88	4.00
<b>7</b>	1.18	2.50	<b>23</b>	1.96	4.17
<b>8</b>	1.21	2.56	<b>24</b>	2.05	4.35
<b>9</b>	1.24	2.63	<b>25</b>	2.14	4.55
<b>10</b>	1.27	2.70	<b>26</b>	2.24	4.76
<b>11</b>	1.31	2.78	<b>27</b>	2.35	5.00
<b>12</b>	1.34	2.86	<b>28</b>	2.48	5.26
<b>13</b>	1.38	2.94	<b>29</b>	2.61	5.56
<b>14</b>	1.43	3.03	<b>30</b>	2.77	5.88
<b>15</b>	1.47	3.13	<b>31</b>	2.94	6.25

**Interfaces**



Trigger IN / OUT  
Micro-MaTch / Female

**Dimensions**