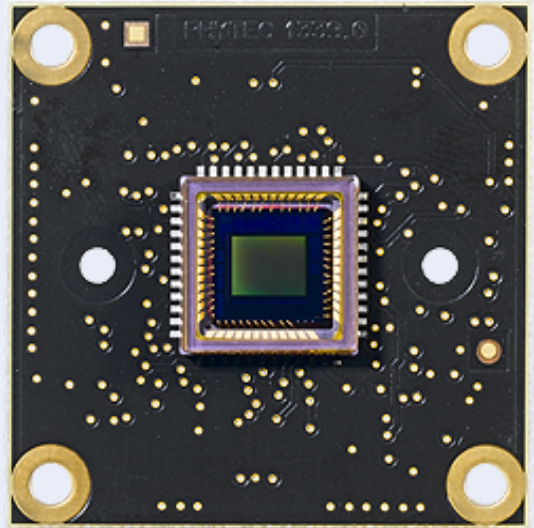


CAM



## Overview

Digital Camera Module with 1.3 Megapixel resolution for direct connection with SOM LVDS interface (color).

VM-009-LVDS is equipped with the Aptina MT9M131 color CMOS sensor. This sensor features an integrated pre-processing unit (IFP - *image flow processor*) for image correction and enhancement. The SOC architecture also enables image data conversion. Therefore six different 8-bit image formats are available.

VM-009-LVDS supports RGB and YUV formats as well as the Bayer Pattern.

VM-009-LVDS is equipped with the serial phyCAM-S+ interface. It can connect directly to the SOM LVDS camera interface. All PHYTEC phyCARD and phyFLEX SOMs offer this interface, which is implemented on the PCB.

All camera drivers and demo programs are already implemented in the Board Support Package for the respective SOM.

The camera module is available with three housing options: PCB-version (sensor only), with M12 or with C/CS-mount lens holder.

## Technical Details

### VM-009-COL

#### Camera Characteristics

<b>Resolution</b>	1.3 Mpixel
<b>Image Resolution (H x V)</b>	1280 x 1024
<b>Sensor Size</b>	1/3" 4.6 x 3.7 mm
<b>Pixel Size</b>	3.6 x 3.6 $\mu\text{m}$
<b>Color / Monochrome</b>	Color
<b>Sensor Technology</b>	CMOS
<b>Sensor Chip</b>	Aptina MT9M131
<b>Scanning System</b>	progressive
<b>Shutter Type</b>	rolling
<b>Frame Rate, max (fps)</b>	up to 11 fps
<b>Video Resolution</b>	n/a
<b>Sensitivity</b>	1.0 V/lux-sec
<b>Dynamic Range</b>	71 dB
<b>High Dynamic Range</b>	-
<b>Exposure Time</b>	programmable
<b>Gain</b>	programmable
<b>AEC</b>	yes
<b>AGC</b>	yes
<b>Gamma Correction</b>	yes
<b>White Balance/AWB</b>	yes / yes
<b>Ext. Trigger / Sync.</b>	Strobe
<b>ROI</b>	yes

<b>Binning</b>	2x2 / 4x4
<b>Mirror</b>	programmable
<b>Image Processor</b>	yes
<b>LED Lighting</b>	-
<b>Additional Functionalities</b>	sharpening, lens shade corr., color control...
<b>Electrical Interface</b>	
<b>Interface Type</b>	digital
<b>Connection</b>	phyCAM-S+
<b>Data Format</b>	8 Bit seriell
<b>Interface Mode</b>	YUV RGB-565 RGB-555 RGB-444 Raw RGGB (Bayer, processed)
<b>Dataline Shifting</b>	-
<b>Parameter Settings</b>	I <sup>2</sup> C
<b>Supply Voltage</b>	3.3 V
<b>Power Consumption</b>	500 mW
<b>Standby Power</b>	-
<b>Mechanical Specifications</b>	
<b>Lens Mount</b>	none / M12 / C-CS
<b>Dimensions (mm)</b>	34 x 34
<b>Mounting</b>	4 x M2.5
<b>Weight</b>	7g
<b>Operating Temperature</b>	-25 to 70°C
<b>Connections</b>	
<b>Signal Output</b>	Hirose 8 pol.
<b>Trigger / Sync.</b>	JST 3 pol.

Crimp

---

## Pricing plus VAT

**VM-009-COL-LVDS**

Quote

---

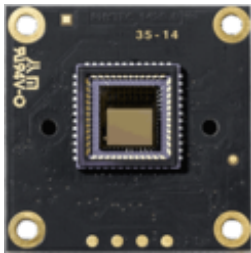
---

## Download

See here for the VM-009 phyCAM-S+ Color Download section.

---

## Related Products



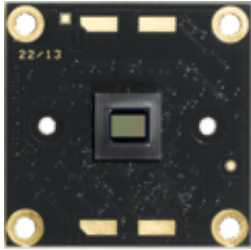
VM-012: phyCAM-P - monochrome



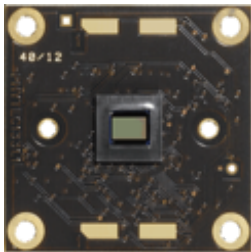
VM-011: phyCAM-P - monochrome



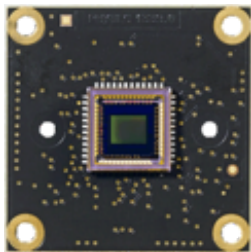
VM-011: phyCAM-P - color



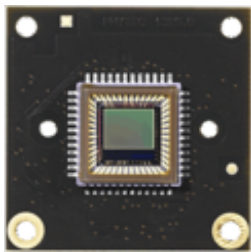
VM-010: phyCAM-P - monochrome



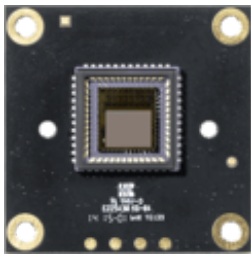
VM-010: phyCAM-P - color



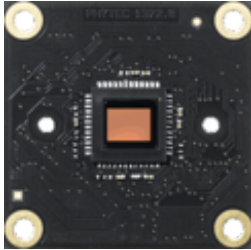
VM-009: phyCAM-P - color



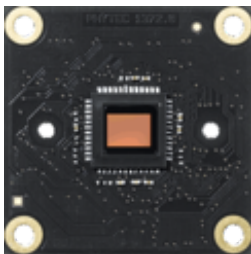
VM-006: phyCAM-P monochrome



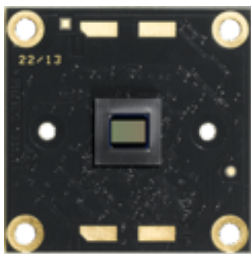
VM-012: phyCAM-S+ - monochrome



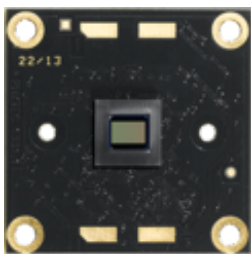
VM-011: phyCAM-S+ - monochrome



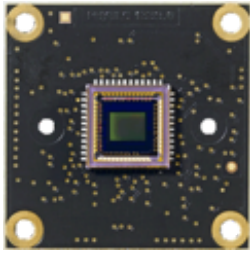
VM-011: phyCAM-S+ - color



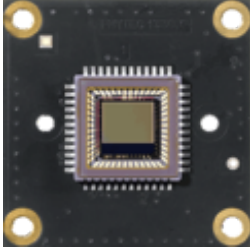
VM-010: phyCAM-S+ - monochrome



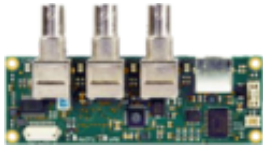
VM-010: phyCAM-S+ - color



VM-009: phyCAM-S+ - color



VM-006: phyCAM-S+ monochrome



VM-008 Video Converter



VM-050: Thermal Imaging Camera



VM-051: Thermal Imaging Camera

---

### Featured Products

- phyCORE-i.MX 8
- phyCORE-i.MX 7

phyCORE-i.MX 6UL/ULL  
phyCORE-i.MX 6  
phyCORE-AM57x  
phyCORE-AM335x  
phyBOARD-Segin  
phyBOARD-Zeta  
phyBOARD-Mira  
phyBOARD-Wega

### Custom Solutions

Custom SOMs  
Custom SBC+  
Housing Design


### Company

About PHYTEC  
Production in Germany  
Jobs  
Imprint  
EU-GDPR  
Contact

### Support

Events  
Knowledge Database  
RMA



 Deutschland  
deutsch  
english  
polski  
русский

 France

 America

 India

 中国