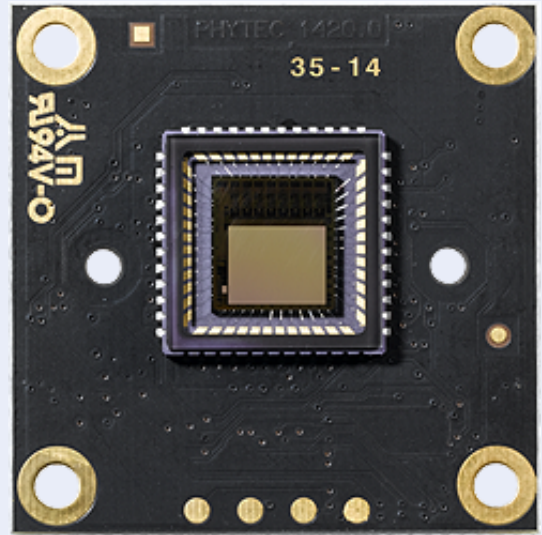


CAM



## Overview

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

VM-012-BW-LVDS is equipped with the ON Semiconductor monochrome CMOS Sensor VITA 1300. This sensor features a global as well as a rolling shutter (adjustable).

The sensor is highly sensitive up to 4,6 V/lux-s, even in the near-infra-red range (NIR). Due to the reduced resolution, the readout speed can be increased. Therefore frame rates of up to 150 fps at VGA resolution are possible. Customers can define up to 8 regions of interest (ROI) and only transmit the required pixels for those regions.

As for all phyCAM Modules, all parameters such as exposure time, gain and more can be adjusted via software.

VM-012-BW-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.

This camera board is equipped with a monochrome VITA 1300 (NOIV2SN1300A-QDC). Image data format is Y8 / Y10. Optional Y12 is available by jumper configuration. The camera is designed for an extended temperature range of -25°C to +85°C.

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-012- Monochrome

#### Camera Characteristics

<b>Resolution</b>	1.3 Mpixel
<b>Image Resolution (H x V)</b>	1280 x 1024
<b>Sensor Size</b>	1/2" 6.18 x 4.95 mm
<b>Pixel Size</b>	4,8 x 4,8 µm
<b>Color / Monochrome</b>	monochrome
<b>Sensor Technology</b>	CMOS
<b>Sensor Chip</b>	ON Semi VITA 1300
<b>Scanning System</b>	progressive
<b>Shutter Type</b>	global and rolling
<b>Programming via</b>	I2C Bus
<b>Operational Mode</b>	Master
<b>Frame Rate, max (fps)</b>	37 fps
<b>Video Resolution</b>	n/a
<b>Sensitivity</b>	4.6 V/lux-s

<b>Dynamic Range</b>	60 dB
<b>High Dynamic Range</b>	90 dB
<b>Exposure Time</b>	programmable
<b>Gain</b>	x1 ... x8
<b>AEC</b>	yes, can be switched off
<b>AGC</b>	yes, can be switched off
<b>White Balance/AWB</b>	n/a
<b>Ext. Trigger / Sync.</b>	Trigger / Strobe
<b>ROI</b>	yes, 8
<b>Binning</b>	2x1
<b>Mirror</b>	-
<b>Additional Functions</b>	high NIR response
<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>	Y8
<b>Dataline Shifting</b>	-
<b>Parameter Settings</b>	I <sup>2</sup> C
<b>Supply Voltage</b>	3.3 V
<b>Power Consumption</b>	650 mW
<b>Standby Power</b>	60 mW
<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

**Operating Temperature**

-25 to 85°C

**Connections**

'

**Signal Output**

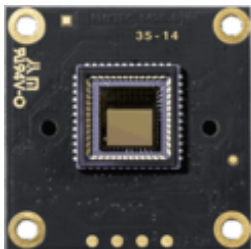
Hirose 8 pol.

**Trigger / Sync.**JST 3 pol.  
Crimp**Pricing plus VAT****VM-012-BW-LVDS**

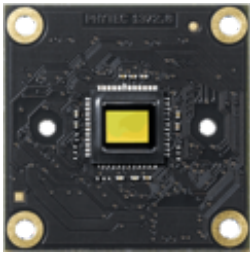
Quote

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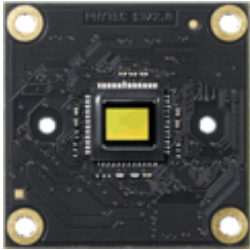
See here for the VM-012 phyCAM-S+ Monochrome Download section.

**Related Products**

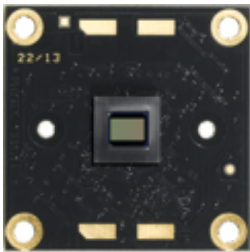
VM-012: phyCAM-P - monochrome



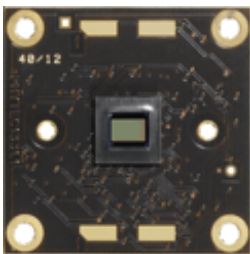
VM-011: phyCAM-P - monochrome



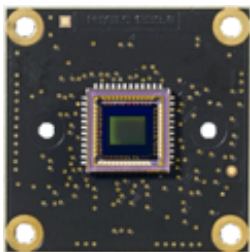
VM-011: phyCAM-P - color



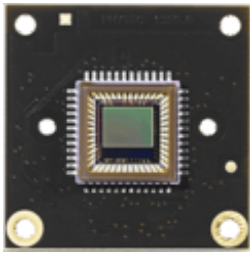
VM-010: phyCAM-P - monochrome



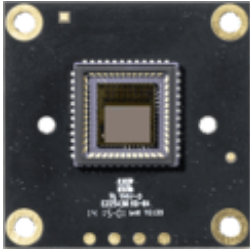
VM-010: phyCAM-P - color



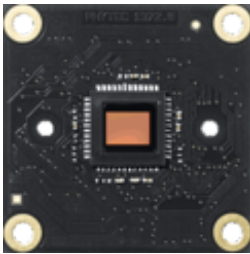
VM-009: phyCAM-P - color



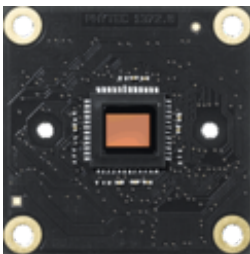
VM-006: phyCAM-P monochrome



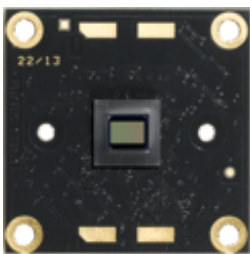
VM-012: phyCAM-S+ - monochrome



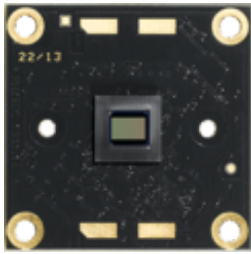
VM-011: phyCAM-S+ - monochrome



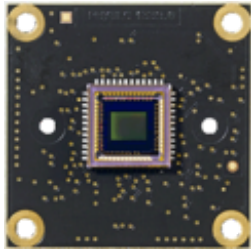
VM-011: phyCAM-S+ - color



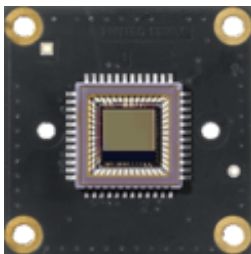
VM-010: phyCAM-S+ - monochrome



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

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