

The intelligent camera

See your World  
through a  
new Eye.

www.matrix-vision.de



- versatile, powerful video sensor and intelligent camera
- compact Embedded Linux OS with optimum network integration
- mvIMPACT as well as different standard solutions available
- C/C++ - software - development environment on standard PC
- area and line scan sensor versions available



## mvBlueLYNX

more and up-to-date infos see ▼

[www.matrix-vision.com/mvBlueLYNX](http://www.matrix-vision.com/mvBlueLYNX)

The new mvBlueLYNX design with its fast PowerPC processor covers video sensor and intelligent camera applications.

Easy development and smooth integration in your network offer a significant reduction of time-to-market for image processing solutions.

The compact, integrated design forms the base for reliable usage in harsh environments.

Hardware			
▶ PowerPC - CPU with MMU & FPU			
▶ FLASH memory for OS and applications			
▶ CCD with trigger input and add. illumination connector			
▶ image acquisition with DMA			
▶ C-mount lens, on request: S-mount, CS-mount, F-mount (CCD Line 2k)			
▶ TV interface on request			
▶ dig. I/O to PLC and peripherals			
▶ power supply 12..24 V DC, typ. 10 W			
Series	200	400	600
CPU [MHz]	133	200	400
FLASH [MB]	32+4	32+4	32+4
SDRAM [MB]	32	32	64
Display	SVGA	XGA	XGA
LAN [Mbps]	10/100	10/100	10/100
Serial I/O	2	2	2
USB	-	-	1
I/O	8/8	8/8	8/8
Weight [g]	390	390	450
Size (w x h x l in [mm])	50 x 88 x 81	50 x 88 x 81	50 x 88 x 107
Perm. ambient temp. [°C]	0..45	0..45	0..40
Software			
▶ comes with free mvIMPACT Base			
▶ many open source applications available			

Application areas	
<b>General purpose</b>	
▶ replaces complete PC based image processing systems	
▶ replaces div. sensors: light barriers, color sensors, laser sensors	
▶ replaces central image processing systems with many cameras by distributed intelligence	
<b>Machine Vision</b>	<b>Security/Surveillance</b>
▶ 2D/3D - measurement	▶ video sensors
▶ OCR, OCV	▶ motion detection
▶ barcode reader	▶ video compression
▶ data matrix code reader	▶ image transfer via LAN
▶ pattern recognition	▶ digital alarm I/Os
▶ color control	
▶ production control	
▶ robotics	
▶ inspection	

**Legal notice:** The contents of this brochure are intended to provide information only and to show possible examples. We reserve the right to change technical data and construction at any time without prior notice. The technical specifications of customer systems and of our current products have to be clarified when ordering. Date 10/2008



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## Area scan sensors

Model name	-X20		-X20a		-X21		-X24		-X00		-X02		-X02a
	G Gray	C Color	G Gray	C Color	G Gray	C Color	G Gray	C Color	G Gray	C Color	G Gray	C Color	G Gray
▶ Sensor supplier	Sony		Sony		Sony		Sony		Kodak		Kodak		Micron
▶ Sensor name	ICX098AL/BL		ICX424AL/AQ		ICX204AL/AQ		ICX274AL/AQ		KAC-9638/28		KAC-9638/48		MT9M001
▶ Sensor type	CCD		CCD		CCD		CCD		CMOS		CMOS		CMOS
▶ Indication of lens category to be used	1/4"		1/3"		1/3"		1/1.8"		1/3"		1/2"		1/2"
▶ Resolution of sensor's active area (width x height in [pixels])	640 x 480		640 x 480		1024 x 768		1600 x 1200		640 x 480		1280 x 1024		1280 x 1024
▶ Pixel size (width x height in [ $\mu\text{m}$ ])	5.6 x 5.6		7.4 x 7.4		4.65 x 4.65		4.4 x 4.4		7.5 x 7.5		6 x 6		5.2 x 5.2
▶ Readout type (CCD only)	progressive		progressive		progressive		progressive		-		-		-
▶ Transfer type (CCD only)	full frame		full frame		full frame		full frame		-		-		-
▶ Shutter type (CMOS only)	-		-		-		-		rolling		rolling		rolling
▶ Overlap capabilities	yes		yes		yes		yes		yes		yes		yes
▶ Maximum frame rate [Hz]	62		100		39		16		30		18		30
▶ Integration time	64 $\mu\text{s}$ - 128 s		64 $\mu\text{s}$ - 128 s		64 $\mu\text{s}$ - 128 s		80 $\mu\text{s}$ - 128 s		64 $\mu\text{s}$ - 262 ms		64 $\mu\text{s}$ - 1 s		31 $\mu\text{s}$ - 0.5 s

## Line scan sensors

Model name	-X40		-X41		-X42	
	G Gray	C Color	G Gray	C Color	G Gray	C Color
▶ Sensor supplier	Dalsa		Dalsa		Dalsa	
▶ Sensor name	IL-P3-B		IL-P3-B		IL-P3-B	
▶ Sensor type	CCD Line		CCD Line		CCD Line	
▶ Resolution of sensor's active lines (pixels)	512		1024		2048	
▶ Pixel size (width x height in [ $\mu\text{m}$ ])	14 x 14		14 x 14		14 x 14	
▶ Low speed mode (KHz)	35 @ 20 MHz		18 @ 20 MHz		9 @ 20 MHz	
▶ High speed mode (KHz)	70 @ 40 MHz		36 @ 40 MHz		18 @ 40 MHz	
▶ Shutter control	SW / HW		SW / HW		SW / HW	
▶ Integration time	1 $\mu\text{s}$ - 52.4 ms		1 $\mu\text{s}$ - 52.4 ms		1 $\mu\text{s}$ - 52.4 ms	

## Product name examples:

mvBlueLYNX-400CX 200MHz, 640 x 480 pixels, CMOS, color  
 mvBlueLYNX-620GX 400MHz, 640 x 480 pixels, CCD, gray scale  
 mvBlueLYNX-641GX 400MHz, 1024 pixels, CCD Line, gray scale

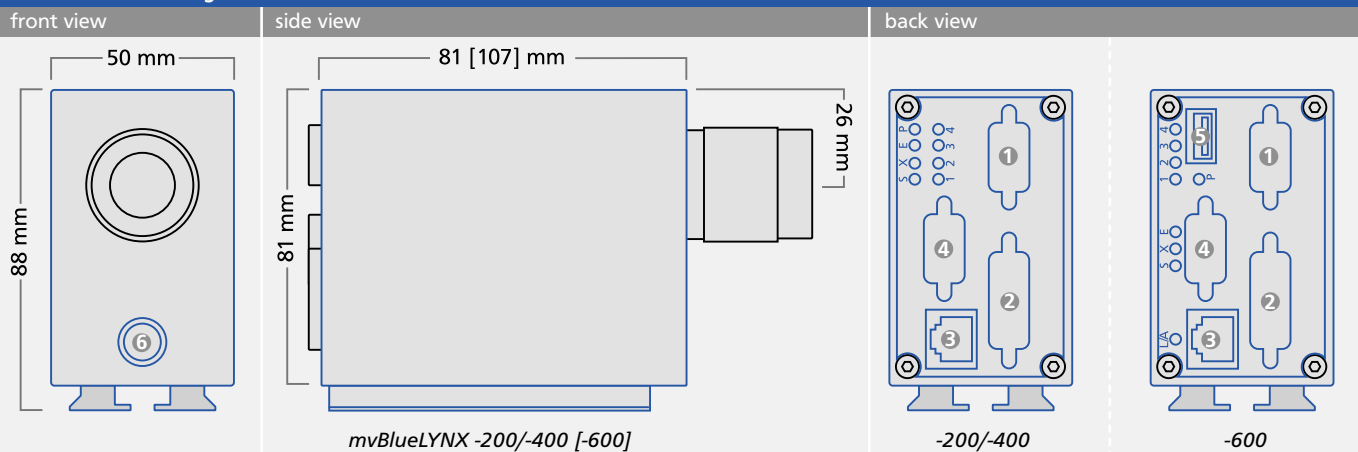
## mvBlueLYNX modules

mvBlueLYNX-M7XX modules are practical and complete single-board image processing systems, which can be used as stereo system for three-dimensional image acquisitions.

### The modules features:

- ▶ PowerPC CPU with 400 MHz
- ▶ Linux operating system
- ▶ 2 sensors-I/F for stereo usage (sync/async)
- ▶ 512 MB DDR2-RAM
- ▶ 8 + 32 MB Flash
- ▶ 2x LAN 10/100/1000
- ▶ 4x USB 2.0
- ▶ SD/SDHC Card
- ▶ mini-PCI
- ▶ 2x RS-232
- ▶ 8x DigIn/DigOut
- ▶ 2x FlashControl
- ▶ real-time clock (RTC)
- ▶ HW watchdog
- ▶ temperature monitoring

## Dimensional drawing



**Interfaces:** ① SUB-D HD15: VGA display output ② SUB-D HD26: digital input / output & power ③ RJ45: 10/100 MBit Ethernet  
 ④ SUB-D 9: async. serial I/O (RS232-2) ⑤ USB A: USB (only mvBlueLYNX-600) ⑥ M12: additional flash connector (only CCD versions)

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