



Complete Vision Solutions

# Smart Reader M4

Powerful Embedded Complete Vision System



High performance Embedded Vision System

## FEATURES

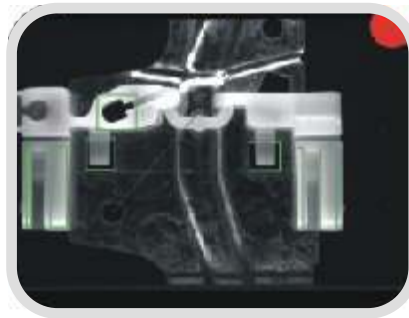
- Stand alone complete vision system
- Performance equivalent to 4 GHz. Pentium
- Fully IP addressable, Fast Ethernet interface
- 2 Camera Link Cameras Input
- Optimized vision library TIL
- Open system to port your own C Application
- Realignment of the 3 color lines in FPGA
- Intuitive graphical development environment
- Wide range of camera resolutions
- Secure Digital removable storage media
- Very low power consumption

## Typical Applications

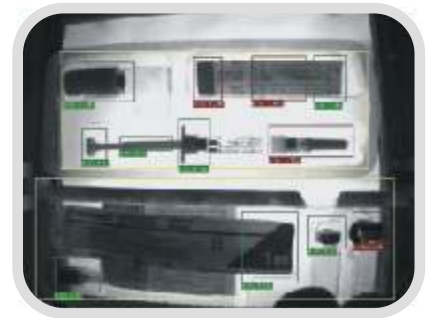
OCR/OCV



Inspection



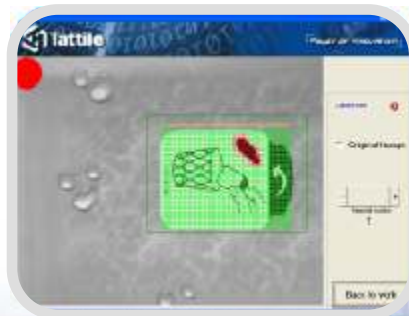
Blob Analysis



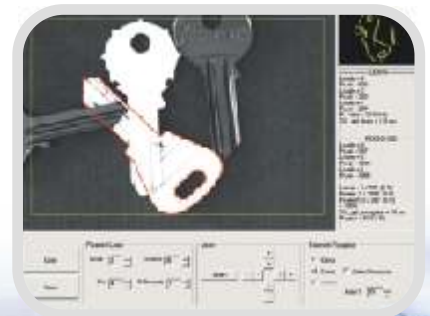
Color Analysis



Surface Inspections



Pattern Recognition



SOFTWARE FEATURES	
<b>OPERATING SYSTEM</b>	
Proprietary Tattile O.S. - TOS	Multitask Operating System for custom application
Linux	Real time Linux embedded
<b>PROGRAMMING LANGUAGES</b>	
Antares Explorer	Intuitive graphical development environment with optimized vision library TIL (Tattile Image Library)
Ansi C	Standard C environment
ARM Assembler	ARM Assembler environment
<b>COMMUNICATION</b>	
Firmware Update	Updatable via Ethernet or serial ports
Data Exchange	TCP/IP, UDP/IP, RS232 or RS485
Data Storage	Secure Digital Port (max 4 GB)
<b>CUSTOMIZING TOOLS</b>	
Custom Tool	Ability to add custom C functions to the standard Antares development environment with direct access to TIL (Tattile Image Library)
Custom Program	You can write a complete new C application program
Software Porting	Software team to support the porting of your new or existing applications



TECHNICAL FEATURES	
<b>SYSTEM</b>	
Microprocessor	Intel® XScale® @ 733 MHz.
Flash	8-16-32 MByte
SDRAM micro	128/256 MByte 64bit 100 MHz.
Synchronization	External trigger without delay
Camera	2 Camera Link Head (Base Configuration) 1 Camera Link Head (Full & Medium Configuration)
Frame Rate	30 fps @ UXGA 1600 x 1200 Full Resolution 200 fps @ VGA Full Resolution 9000 Hz. @ Trilinear Color Line Scan
<b>DIGITAL I/O</b>	
Inputs	6 PNP optoisolated Inputs 24 Vdc 20 mA
Outputs	4 opto-isolated outputs 24 Vdc 500 mA
Strobe Outputs	2 Strobe output
Encoder Inputs (only for M4 w/e)	1 encoder + 1 optional (A,B,Z) line Driver 5Vdc Zero Reference: Optional
M4 w/expansion	8 optoisolated outputs PNP 24 Vdc 500 mA 8 optoisolated power digital outputs PNP 24 Vdc 1 A
M4 w/expansion v2	12 optoisolated outputs PNP 24 Vdc 500 mA 10 optoisolated power digital outputs PNP 24 Vdc 1 A
<b>COMMUNICATION</b>	
Ethernet 10/100 MB/s	TCP, UDP, FTP, HTTP
RS 232	1 line, baud rate 1200:115200
RS 485	1 line half duplex, baud rate 1200:115200
SD Interface	Supports all mass memories (transfer rate 1 MB/s)
<b>ENVIRONMENTAL</b>	
Operating Temp.	-10° to 50° C
Operating Humid.	10 to 90% non cond.
Storage Temp.	-20° to 65° C
Storage Humidity	10 to 90% non cond.
Power Supply	24 Vdc ± 5% 7W
Package body	Anodized aluminum
Size / Weight	M4: 178 x 150 x 33 mm (L x H x W) - 1200g M4w exp. : 178 x 150 x 53 mm (L x H x W) - 1300g M4w exp. v2: 178 x 150 x 65 mm (L x H x W) - 1500g
Protection Level	IP 42



Smart Reader M4 with extension - Connector side



Multitasking  
O.S. On Board



Programming  
Language



Smart Reader M4 with extension - Camera Link connectors