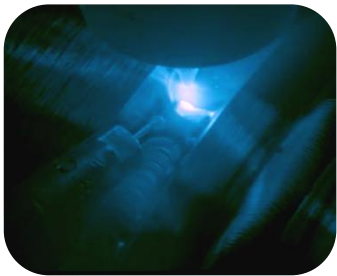




Welding Vision

- Achieving better goods quality and yield through vision has now become widely used for manufacturing industries. The welding markets are now massively adopting cameras for inspecting parts or monitoring processes. This trend is accelerating because of growing automation thanks to robot and artificial intelligence progress. Characterized by extremely high illumination with strong contrast, smoke and dust, imaging welding has always been a challenge. Moreover, the diversity of both processes (TIG/GTAW, MIG-MAG/GMAW, YAG Laser plasma,...) as well as materials to be assembled that might have high reflective properties are all problems that need to be solved. With long set-up effort including neutral density filter use, trade of on exposure time, people have been able to visualize processes but they are still lacking of important details.



- Short Wave InfraRed (SWIR) cameras based upon InGaAs imagers work in a reflective imaging mode (like visible) and at the same time in detection mode of infrared radiation emitted by hot objects (>250°C). With a spectral response from 900-1700 nm, they are particularly well adapted for welding vision. Both weld pool and solidified melt are clearly seen while plasma and metal vapor are not (1200 nm radiation for the first and 600 nm for the second). In addition, SWIR ability to see through smoke and high bandpass filter can allow users to image in real time numerous details of the weld bead, to assess its size, & shape and to control its heat profile.





Why WiDy SWIR for Welding Vision?



- Wide Dynamic Range >140 dB in all images (no double or multi-exposure) for better contrast view without saturation
- Plug and play, TEClass, USB2.0 or Camlink camera with small form factor and low power consumption
- Available in 320x256 25µm or 640x512 15 µm global shutter (snapshot)
- High frame rate with up to 100fps in VGA, 200fps in QVGA in camlink
- WiDyVISION software with advance image processing compatible with Windows and Linux (sdk provided for OEM proprietary software development)

WiDy SWIR 320U-S	WiDy SWIR 320M-S	WiDy SWIR 640U-S	WiDy SWIR 640M-S
InGaAs 320 x 256 25µm Snapshot Sensor response 0.9 to 1.7 µm 1/1.6 inch Optical format		InGaAs 640 x 512 15µm snapshot sensor Response 0.9 to 1.7 µm 2/3 inch optical format	
14bits USB2.0 output Up to 200 Hz	14 bits Camlink Output Up to 200Hz	14bits USB2.0 output Up to 50 Hz	14 bits Camlink Output Up to 100 Hz
Integration time 100µs to 200ms		Integration time 100µs to 25ms	
IN/OUT LVTTTL Mode		IN/OUT LVTTTL Mode	
Power consumption <1.5 W		Power consumption <1.5 W	
Operating range -40 to 70°C		Operating range -40 to 70°C	
Size 48.6 x 48.6 x 32.6 mm		Size 48.6 x 48.6 x 32.6 mm	
Weight < 125 g		Weight < 125 g	
WiDyVISION HMI	WiDyVISION Camlink HMI	WiDyVISION HMI	WiDyVISION Camlink HMI

For more information, write to
info@new-imaging-technologies.com

New Imaging Technologies

1 impasse de la Noisette, BP 426
 91730 Verrière le Buisson • France
 Tel: +33 1 64 47 88 58

www.new-imaging-technologies.com

ISO 9001
 BUREAU VERITAS
 Certification

