**TACHYON 1024 CORE**

Plug & play uncooled MWIR imaging module with USB connection and frame rates up to 10 kHz

- Electronic OEM module system with control and communications interface for TACHYON 1024 FPA (2nd gen. FPA with ROIC, 32x32)
- FPA included with the module
- Band of detection: MWIR (1 - 5 microns)
- Peak wavelength of detection: 3.7 microns
- Mechanical shutter incorporated in the module for 1-pt offset correction
- Integration time: selectable via software (100 – 1000 us)
- CORE versions & maximum frame rates (@ minimum integration time):
  - TACHYON 1024 CORE-S: 2000 Hz
  - TACHYON 1024 CORE-HS: 10000 Hz
- Slower acquisition speeds are possible using longer integration times
- FPA biasing voltage: selectable (0 V to 4 V, with current measurement)
- Minimum temperature of detection: 100 °C
- Communication interface: USB 2.0, high-speed (up to 480 Mbps)
- Data transmission: raw data, 10 bits
- Acquisition trigger (TRIGGER IN): SMA connector, 2 modes: start/stop, burst
- Output trigger (TRIGGER OUT): SMA connector, 1 pulse per image
- Power: 6W (external power, 12 VDC, 500 mA)
- Dimensions of the OEM electronic module (in mm): 54 (L) x 93 (W) x 53 (H)
- Metal housing available, with M35x1 optics interface, side connectors, fan and tripod screw [housing dimensions, in mm: 80 (L) x 90 (W) x 80 (H)]
- Software included: NIT SOFTWARE SUITE (Acquisition and visualization SW)
- DLL for custom software programming available
- Optics available (M35x1 interface): f=9 mm, f=24 mm, f=48 mm
- Modifications of the product: available upon request
- Industrial applications: industrial welding process monitoring, gas detection, machine vision, laser monitoring
- Defense applications: muzzle flash detection, Active Protection Systems, PICS
TACHYON 1024 CORE OEM module

TACHYON 1024 CORE with external housing and lens

TACHYON 1024 FPA

- FPA resolution: 32x32 (1024 pixels)
- Band of detection: MWIR (1 - 5 um)
- Peak detection wavelength: 3.7 um
- Pixel size: 130x130 um²
- Pixel pitch: 135 um
- A/D readout electronics: on-chip
- Dark current cancellation: on-chip
- Readout method: Snapshot
- Frame rate: 10000 fps (max)
- Integration time: 100 us – 1 ms
- Data format: raw, 10 bit
- Digital interface for FPA control and data acquisition/transmission
- Packaging: SMD / LCC 48 pins (4x12) / 560x560 mils / pitch: 40 mils
- Power supply: 3.3 V, 0.5 W

Typical applications
- Industrial manufacturing process control (welding, cutting, etc.)
- Laser process monitoring
- Gas and flame detection
- Machine vision
- OEM integration
- Defense applications: muzzle flash detection, Active Protection Systems, PICS

Industries of use
- Automotive industry
- Home appliance manufacturing
- Metallurgy and steel industry
- Petrochemical industry
- Defense