



# iPORT™ PT1000-CL IP Engines

High-performance, ultra efficient connectivity between Camera Link® cameras and Gigabit Ethernet

## Applications

- Quality inspection and sorting systems
- Medical and scientific imaging systems
- Intelligent traffic systems
- Military sensing systems

## Features

- Transmits imaging data from Camera Link® Base cameras at Gigabit Ethernet rates
- Ultra-low latency and jitter
- PLC independently synchronizes external system elements
- GigE Vision® and GenICam™ compliant

Pleora's iPORT™ PT1000-CL IP engines stream video and imaging data in real time over standard GigE connections between Base-configuration Camera Link® cameras and PCs using the industry-standard GigE Vision® protocol.

By leveraging the inherent capabilities of GigE, the iPORT PT1000-CL IP engines overcome the limitations of traditional Camera Link-based systems: the need for proprietary frame grabbers; short distances between cameras and PCs; and no networking flexibility for interconnecting multiple cameras or centralizing control and maintenance.

iPORT PT1000-CL IP engines grab data from Camera Link cameras, convert it to IP quickly and efficiently, and send it to PCs over GigE links using Cat-5 cables. These operations are performed by the engine's field-proven, purpose-built hardware with very low latency and jitter, at the full, 1-Gb/s line rate.

At the PC, the Cat-5 cable plugs into an economical GigE network interface card (NIC), eliminating the need for a frame grabber. Point-to-point connections extend 100 m. With affordable GigE switches, the reach is much further, and users gain immediate access to the wide range of Ethernet networking options.

The iPORT PT1000-CL IP engines use a sophisticated on-board Programmable Logic Controller (PLC) to manage control signals from host PCs and other system elements. This powerful capability allows users to precisely measure, trigger, and control the operation of system components — either independently from or in conjunction with the host PCs on the network.

As an element of Pleora's networked video connectivity solutions, the iPORT PT1000-CL IP engines are offered with field-proven software tools:

- **eBUS™ SDK** — a feature-rich toolkit that provides the building blocks needed to quickly and easily design high-performance video applications that consume minimal CPU resources; and
- **the AutoGEV™ XML generation tool** — a unique GenICam™ XML management utility for creating GenICam compliant devices.

The iPORT PT1000-CL IP engines are fully compliant with the GigE Vision and GenICam™ standards. In conjunction with the eBUS SDK, it gives users a range of options for camera control.



GEN<i>CAM

For more information visit  
[www.pleora.com/our-products/iport-video-transmitters/iport-pt1000-cl](http://www.pleora.com/our-products/iport-video-transmitters/iport-pt1000-cl)



# iPORT™ PT1000-CL IP Engines

## Networked Video Connectivity Solutions

<b>iPORT™ IP Engines</b>	<ul style="list-style-type: none"> <li>• Purpose-built hardware compatible with Camera Link® Base cameras</li> <li>• Highly reliable, 1 Gb/s data transfer rate with low, end-to-end latency</li> <li>• Enclosed unit or OEM board</li> </ul>
<b>eBUS™ SDK</b>	<ul style="list-style-type: none"> <li>• eBUS Universal Pro driver</li> <li>• Sample applications, including NetCommand™ sample application, a demonstration of multi-device network connectivity</li> <li>• Driver installation tool</li> <li>• Documentation</li> </ul>
<b>GigE Vision®</b>	<ul style="list-style-type: none"> <li>• Fully compliant firmware load</li> <li>• Guarantees delivery of all packets</li> <li>• Comprehensive data transfer diagnostics</li> </ul>

## Data Acquisition Features

<b>Accepts LVCMOS/LVTTL signals</b>	<ul style="list-style-type: none"> <li>• Compatible with all Base-configuration Camera Link cameras</li> </ul>
<b>Integrated acquisition engine</b>	<ul style="list-style-type: none"> <li>• Can acquire images from a wide variety of sources, with pixel depths up to 16 bits, color or B/W, and multi-tap at up to 66 MHz</li> </ul>
<b>Free running or externally triggered</b>	<ul style="list-style-type: none"> <li>• Flexible acquisition modes</li> </ul>

## Connectors

<b>Power</b>	<ul style="list-style-type: none"> <li>• <b>Enclosed:</b> Hirose 6-pin (HR10A-7R-6P)</li> <li>• <b>OEM:</b> Molex 4-pin 6373 series (22-23-2041)</li> </ul>
<b>Network</b>	<ul style="list-style-type: none"> <li>• RJ45</li> </ul>
<b>Video</b>	<ul style="list-style-type: none"> <li>• Female MDR-26 for Camera Link</li> </ul>
<b>I/O and serial control</b>	<ul style="list-style-type: none"> <li>• <b>Enclosed:</b> Hirose 12-pin (HR10A-10R-12S)</li> <li>• <b>OEM:</b> Sametec 16-pin 2 mm male header (TMM-108-01-G-D-SM)</li> </ul>

## Programmable Logic Controller Features

<b>Inputs</b> 2 TTL inputs 1 LVDS input 1 optically isolated input	<ul style="list-style-type: none"> <li>• Allows synchronization of multiple cameras or system elements</li> <li>• Flexible triggering capabilities, including Boolean combinations and Camera Link control signals</li> <li>• Wide range of interface signaling options</li> <li>• Electrically isolated control interface</li> <li>• Built-in debouncers</li> </ul>
<b>Outputs:</b> 2 TTL outputs 1 optically isolated output	
<b>2 UART serial links</b> 1 LVDS 1 LVCMOS/LVTTL	<ul style="list-style-type: none"> <li>• Serial control of camera and other devices via PC application over the GigE link</li> </ul>
<b>Delayer, rescaler, general-purpose counter</b>	<ul style="list-style-type: none"> <li>• Allows full synchronization to line scan cameras</li> <li>• Allows synchronized capture between multiple cameras</li> <li>• Allows camera acquisition to track changing speeds on conveyor belts</li> </ul>
<b>Timestamp trigger, counter, and reset</b>	<ul style="list-style-type: none"> <li>• Allows system actions to be triggered based on timestamps</li> <li>• Allows resets to be broadcast to all iPORTs in system from host</li> </ul>
<b>Host interrupts</b>	<ul style="list-style-type: none"> <li>• Allows host to be interrupted based on events on any input or internal signal</li> </ul>

## Networking Features

<b>Gigabit Ethernet-based</b>	<ul style="list-style-type: none"> <li>• Low-cost, easy-to-use equipment</li> <li>• Compatible with 10/100/1000 Mb/s IP/Ethernet networks</li> <li>• Supports IEEE 802.3 (Ethernet), IP, IGMP v.2, UDP and ICMP (ping)</li> <li>• Long reach: 100 m point-to-point, further with Ethernet switches or fiber</li> </ul>
<b>Multicast capability</b>	<ul style="list-style-type: none"> <li>• Enables advanced distributed processing and control architectures</li> </ul>

## Characteristics

<b>Size (LxWxH)</b>	<ul style="list-style-type: none"> <li>• <b>Enclosed:</b> 93 mm X 98 mm x 37 mm</li> <li>• <b>OEM:</b> 89 mm X 56 mm X 21 mm</li> </ul>
<b>Operating temperature</b>	<ul style="list-style-type: none"> <li>• <b>Enclosed:</b> 0°C to 45°C</li> <li>• <b>OEM:</b> 0°C to 70°C</li> </ul>
<b>Power supply</b>	<ul style="list-style-type: none"> <li>• 4.5 V to 16 V</li> </ul>
<b>Power consumption</b>	<ul style="list-style-type: none"> <li>• 2.5 W</li> </ul>
<b>Certification</b>	<ul style="list-style-type: none"> <li>• CE and FCC (enclosed unit only)</li> </ul>