

Pantec Metrology

Controllers and accessories for industrial metrology



## EAGLE™ R6

Accuracy. Speed. Repeatability.  
Motion Control Solutions for CMMs

# EAGLE™ R6

The new EAGLE™ R6 is the sixth generation of our well-established and successful motion controller family for a variety of coordinate measuring machines. EAGLE™ R6 combines proven technics with the latest state of the art technology, resulting in a high-end and smart controller solution. The separation of complex logic and application dependent interfaces ensure maximum speed, exceptional machine throughput and accurate measuring results. The EAGLE™ R6 ensures, mechanical and electrical, fully backward compatibility to all EAGLE™ controllers, making an upgrade to the new generation easy and simple.



- Ultrafast data processing for best touched and scanned probing performance
- Geometric Error Compensation integrated in controller
- Certified software and hardware for safety features
- Backward compatibility with all EAGLE™ controllers
- EtherCAT interface for integration in automation system

## EAGLE™ R6 pro series

**EAGLE™ R6 pro/3** The EAGLE™ R6 pro series are high-end controller systems with very high flexibility and unlimited measuring volume. By softkey or pluggable optional hardware boards, the application can be easily extended.

**EAGLE™ R6 pro/4** Equipped with an additional motor output to control up to four axes, for machine types like gantry or CMMs with rotary table, EAGLE™ R6 pro/4 is the ideal solution for complex metrology applications.

**EAGLE™ R6 pro/4 HP** The HP variant for control of up to four axes delivers 1000 W power in total and makes EAGLE™ R6 pro/4 HP the ideal controller for high power-demanding systems.

# EAGLE™ R6 – DESIGNED TO SUPPORT YOUR SUCCESS

## GEOMETRIC ERROR COMPENSATION (GEC)

Geometric Error Compensation is one of the key technologies for operation of Coordinate Measurement Machines in order to ensure a high accuracy. GEC not only involves the compensation of inherent geometric errors, but also compensates errors due to material thermal expansion. In the new Pantec EAGLE™ R6 controller all compensation calculations are included and can be enabled via softkey. For convenience and ease of use, the entire error map gathering and GEC configuration procedure is done over the GEC Wizard, which is part of the Pantec Support Tool tuning and analysis software.

### APPLICATIONS

- Bridge CMMs [1]
- Horizontal arm CMMs [2]
- Gantry CMMs [3]
- Gear inspection [4]
- Milling



## PROBEPOINT PLUS

Eagle™ R6 provides increased scan performance, with samples containing fully calibrated probe deflections and interpolated motor positions, delivering probed points at rates of up to 64kSpS. Various trigger input sources for mixed probe types boost the scope of the Eagle™ R6 for demanding measuring applications. Single probed point measurements with scanning probes are optimized by hardware accelerated probe deflection matrix calculations. The new sophisticated oscilloscope tool included in Pantec Support Tool, that delivers data for analysis of machine conditions during measurement tasks, can be used for new optimization methods, maximizing CMM performance.

## SUPPORT TOOL

Support.Tool is a PC based program for commissioning and servicing of Pantec controllers and connected devices aimed at technician's level. It provides a multiwindow graphical user interface with a wide range of toolboxes, that simplify the controller's configuration and diagnosis in an intuitive and user friendly way. The guided step-by-step wizard toolbox is very useful for first start-up or upgrading systems, which accompanies the user through the parametrization and functionality checks all over the process. Additionally, dedicated toolboxes for geometrical and thermal compensation (GEC) or probe calibration (TP/SP) are available.

# HAND TERMINAL DEVICE

The EAGLE™ Pad and the EAGLE™ Pad RC hand terminal devices are intended for the use with the entire Pantec controller range. Enclosed in a rugged lightweight housing, these devices offer an exceptional performance, ergonomic design and high functionality – even under challenging operating conditions like manufacturing environments.

## EAGLE™ Pad

- Robust and reliable
- Economical standard solution
- Proven technology
- Ergonomic design, intuitive operation



## EAGLE™ Pad RC

- Wireless connection



...Coming soon

## EAGLE™ Pad – hand terminal

Unquestionably easy to command on a robust and reliable enclosure. Its proven technology, ergonomic design and intuitive use, make the EAGLE™ Pad the economical standard solution for operation of all EAGLE™ controllers.

## EAGLE™ Pad RC – hand terminal remote control

The EAGLE™ Pad RC with its integrated battery and wireless module, communicates to the controller wirelessly and offers similar functionality as the cable variant. Allowing remote control of the machine from longer distance ranges and freedom of handling without an attached cable. A safety performance level D is achieved with this device.

# Technical Specifications

Specifications	EAGLE™ R6 pro/3	EAGLE™ R6 pro/4	EAGLE™ R6 pro/4 HP
• Configured for direct CNC controlled CMMs	✓	✓	✓
• Number of CMM axes controlled	3	4	4
• Communications link with PC	Gigabit Ethernet	Gigabit Ethernet	Gigabit Ethernet
• Direct Software integration	EAGLE.driver	EAGLE.driver	EAGLE.driver
• Integrated motor power supply	✓	✓	✓
• Emergency stop SS1 PL d, Kat. 3	✓ extended	✓ extended	✓ extended
• Drive power	5A / 60V	5A / 60V	5A / 120V
• Motor types	DC-Brush	DC-Brush	DC-Brush
• Touch-trigger probing function	✓	✓	✓
• Probepoint Plus	up to 64kHz	up to 64kHz	up to 64kHz
• Temperature sensor inputs (T-Bus™)	16	16	16
• Digital scale input RS422	✓	✓	✓
• Subcount interpolation	✓	✓	✓
• Absolute encoder interface	✓	✓	✓
• Configuration over USB (e.g. firmware update)	✓	✓	✓
• Measurement volume	unlimited	unlimited	unlimited
• Distance-coded reference mark support	✓	✓	✓
• Pantec Support Tool	✓	✓	✓
<b>Electrical data</b>			
• Nominal input power	500 VA	500 VA	1100 VA
• Input voltage	115 VAC / 230 VAC	115 VAC / 230 VAC	115 VAC / 230 VAC
<b>Physical data</b>			
• Dimension (L x H x D)	490 x 135 x 380 mm	490 x 135 x 380 mm	490 x 135 x 380 mm
• Weight	20 kg	20 kg	25 kg
• Rack mounting	19"	19"	19"
<b>Product configuration</b>			
	230 VAC	115 VAC	
• EAGLE™ R6 pro/3	55605	55606	
• EAGLE™ R6 pro/4	55607	55610	
• EAGLE™ R6 pro/4 HP	55611	55612	
<b>HW - Options</b>			
• SP25/600 Interface	33506		
• SP80 Interface	33507		
• SP25/80/600/PHS Interface	33508		
• TP200 Interface	34478		
• Analog Interface ±10V	34480		
• SP25/80/600/PHS, Analog Interface	34481		
• Brushless Axis with Scan Interface	55598		
• Brushless Axis	55599		
<b>SW Key - Options</b>			
• SP600 / SP25 interface	80520		
• Optical Probe Interface	80521		
• EtherCAT Master	80522		
• GEC (integrated in the controller)	80523		



Pantec Metrology, located in Ruggell, Liechtenstein, develops technologies that make CMM and vision systems more competitive. With an installed base of more than 15,000 CMM controllers worldwide, the company plays a leading role in the field of CMM machine control. Pantec Metrology is a Business Unit of Pantec Engineering AG.

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Pantec Engineering AG provides solutions in automation and mechatronics for the mechanical engineering and medical device industries worldwide. Through its rigorous focus on niche strategies and high degree of service orientation, the company has become a world leader in its five primary markets.

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