pantec
m e t r o l o g y

EAGLE™
basic

pantec

- MC-WD
- AXIS 1 ERROR
- AXIS 2 ERROR
- AXIS 3 ERROR
- DC-POWER OFF
- SERVICE
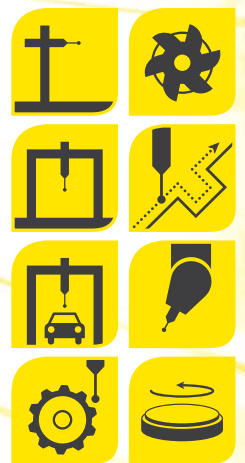- MC-READY
- +24V
- +5.2V
- +12V

EAGLE™

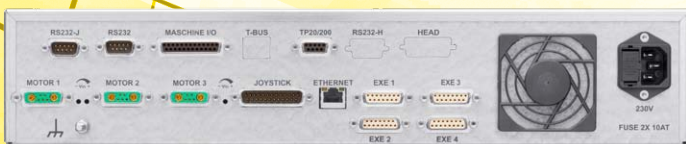Accuracy. Speed. Repeatability.
Motion Control Solutions for CMMs

EAGLE™

The EAGLE™ product family offers a comprehensive package of controllers for all kinds of coordinate measuring machines. Whether for machine builders or retrofitters, the EAGLE™ controller family stands for the highest speed, exceptional machine throughput and accurate results. 20 years of experience in metrology and some 15,000 Pantec-controlled CMMs installed worldwide mean a very high level of investment security, and assure you of maximum benefits.

EAGLE™ basic

EAGLE™ pro series

EAGLE™ basic
Reduced to the max. Pantec's EAGLE™ basic fulfills the requirements of medium profile CMMs, focusing on touch trigger probe applications at the highest performance level. Equipped with three servo drivers, interfaces to all established CMM softwares, and integrated power adaptor, all in a space-saving 3U 19˝ housing, EAGLE™ basic is the choice for standard applications.

EAGLE™ pro series
EAGLE™ pro/3 The EAGLE™ pro series are high-end controller systems with very high flexibility and unlimited measuring volume. By adding optional boards, the application areas can be easily extended.

EAGLE™ pro/4 Equipped with a fourth axis for all machine types, like gantry or CMMs with rotary tables, EAGLE™ pro/4 is the ideal solution for complex metrology applications.

EAGLE™ pro/4 HP The additional fourth axis plus 1000 W total power makes EAGLE™ pro/4 HP the ideal controller for power-demanding measuring machines.

APPLICATIONS AND HIGHLIGHTS

VERSATILITY

EAGLE™ controls a wide range of CMM sensor applications – tactile, scan, laser & multi-sensor. The scope of applications is limitless – horizontal arm CMM, bridge CMM, gear inspection, milling and gantry CMM. EAGLE™ is compatible with almost any software and supports standard touch trigger probes and motor types, and many scanning and probe head interfaces.

DIRECT INTERFACES

The direct connection to the CMM software driver ensures high data integrity for the end-user. No additional software is required, for higher user-friendliness and validity.

APPLICATIONS
. Bridge CMMs (1)
. Horizontal arm CMMs (2)
. Gantry CMMs (3)
. Gear inspection (4)
. Milling

FIT AND FORGET

After initial installation and straightforward tuning, the EAGLE™ controller runs smoothly and stably for extended periods without intervention. A 100% QC pass rate over the entire supply chain and strict internal quality controls (security, functionality and endurance tests) ensure top Swiss product quality.

EASY TO TUNE

The Pantec Support Tool with integrated Wizard makes machine tuning fast and easy, and ensures optimum handling. Guided processes, dynamic adaptation of system parameters, and menu-guided operations result in higher operating safety. The Wizard is easily upgradable and provides continuous performance improvement to meet evolving requirements.

OUTSTANDING REPEATABILITY, REPRODUCIBILITY AND HIGH SPEED

The high-end DSP technology ensures perfectly smooth machine movements and a very high sampling rate for reproducible, repeatable and accurate results at extraordinary speed. The fully digital T-Bus™ temperature monitoring, incorporated Geometric Error Compensation and sub-count interpolation for increased position resolution leave nothing to be desired

OPERATING UNITS

EAGLE™ Pad

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

SmartPad™

. Openly programmable
. Wireless connection
. Touchscreen with all
  important information
  at a glance

The EAGLE™ Pad and SmartPad™ operating units are intended for use with the entire Pantec controller range. Enclosed in a rugged yet lightweight housing, these operating units offer exceptional performance, ergonomic design and high functionality – even under challenging operating conditions like the shop floor.

EAGLE™ Pad – hand terminal for CMMs

Unquestionably in Command. With the robust and reliable EAGLE™ Pad units. With its proven technology, ergonomic design and intuitive operation, EAGLE™ Pad is the economical standard solution for CMM operations.
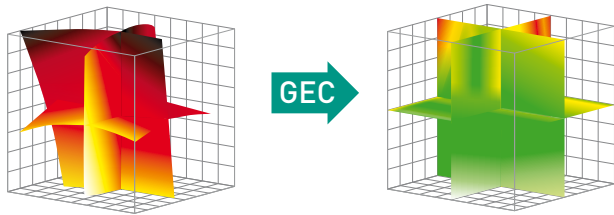
SmartPad™ – remote control for CMMs

In Command. Easily. With the new SmartPad™ units from Pantec. These devices provide multi-functional and comprehensive CMM operation with user-friendly wireless connection. Thanks to the open programmability of the SmartPad™ you can program the user interface, functions and interactions with the CMM software to meet your individual needs. The capacitive 4.3" color LCD display shows all information at a glance, and features single touch technology that ensures smooth and easy operation, even with gloves on. With optimal functionality, SmartPad™ ensures ideal measurement processes.

EAGLE™
TECHNICAL DATA

Specifications	EAGLE™ basic	EAGLE™ pro/3	EAGLE™ pro/4	EAGLE™ pro/4 HP
Configured for direct CNC controlled CMMs	✓	✓	✓	✓
Number of CMM axes controlled	3	3	4	4
Communications link with PC	Ethernet and RS232	Ethernet and RS232	Ethernet and RS232	Ethernet and RS232
Direct Software integration	EAGLE.driver	EAGLE.driver	EAGLE.driver	EAGLE.driver
Integrated motor power supply	✓	✓	✓	✓
Touch-trigger probing function	✓	✓	✓	✓
TP200 interface (with Head interface)	✓	✓	✓	✓
SP600 interface (with Option Board)	-	✓	✓	✓
SP25M interface (with Option Board)	-	✓	✓	✓
SP80 interface (with Option Board)	-	✓	✓	✓
Temperature sensor inputs (T-Bus™)	16 (with Head interface)	16	16	16
Digital scale input RS422	✓	✓	✓	✓
Pantec Support Tool	✓	✓	✓	✓
Emergency stop	✓	✓, extended	✓, extended	✓, extended
Measurement volume	X+Y=3800mm and Z=800mm	unlimited	unlimited	unlimited
Subcount interpolation	✓	✓	✓	✓
Drive power	4A / 60 V	5A / 60 V	5A / 60 V	5A / 120 V
Motor types	DC-Brush	DC-Brush	DC-Brush	DC-Brush
GEC (Geometric Error Compensation)	✓	✓	✓	✓
Electrical data				
Nominal input power	550 VA	550 VA	550 VA	1100 VA
Input voltage	115 VAC / 230 VAC	115 VAC / 230 VAC	115 VAC / 230 VAC	115 VAC / 230 VAC
Physical data				
Dimension (L x H x D)	490 x 90 x 380 mm	490 x 135 x 380 mm	490 x 135 x 380 mm	490 x 135 x 380 mm
Weight	10 kg	20 kg	20 kg	25 kg
Rack mounting	19"	19"	19"	19"

Upon request: Various interfaces, additional four axis (+/-10 V) for external servo amplifiers.

GEOMETRIC ERROR COMPENSATION (GEC)

GEC involves the compensation of inherent geometric and thermal errors of CMMs. To actively maintain CMM accuracy, GEC adds dynamic temperature monitoring and compensation into the Pantec controller. For convenience and ease of use, the entire compensation procedure is done through the Pantec Support Tool tuning and analysis software. The GEC Wizard incorporates the calibration laser and the machine type to add optimum flexibility in error capture, correction, and validation of results. An efficient design with minimal clicks offers a high level of operational convenience, while ensuring that the 21 or 23 parameterized compensation values cover virtually all possible scenarios. Understanding the importance of this feature, Pantec has chosen to include and standardize the GEC software package as an added-value benefit of the EAGLE™ controller.
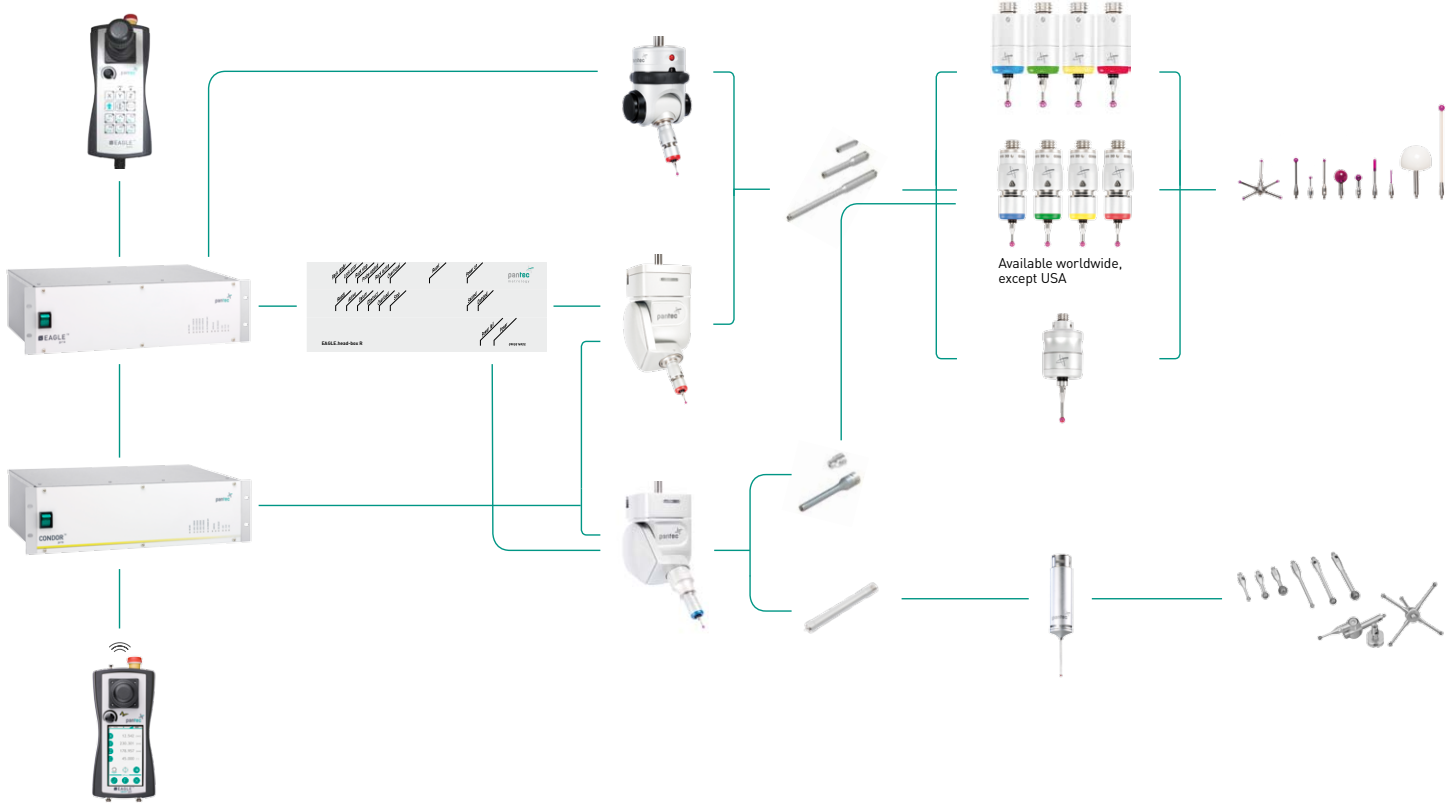
PRODUCT RANGE

| Controller | Probeheads M8/PKJ | Extensions | Bodies | Styli |
| Hand Terminals | | | | |

Available worldwide,
except USA

![pantec metrology]

Pantec Metrology, located in Ruggell, Liechtenstein, develops technologies that make CMM and vision systems more competitive. With an installed base of more than 12,000 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.

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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