

SIEMENS ROMANIA – AUTOMATION AND DRIVE

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SIEMENS S.R.L.—Automation & Drives -- Romania

Abstract: This paper proposes to present the collaboration a Siemens with Romanian industrial and university partners. Emblem for this department is SINUMERIK equipments. There under name (mark) is offered a large spectrum of product hardware and software for machines tools automation with numerical control.

Keywords: automation, CNC, electrical drive

1. INTRODUCTION

Siemens Romania—Automation and Drive division offers the product and services for automations, electric drive, for distribution and down protection tension, as much in the industrial how much in the administrative and civil buildings area.

Emblem for this department is SINUMERIK equipments. There under name (mark) is offered a large spectrum of product hardware and software for machines tools automation with numerical control.

2. PRODUCTS

For all type of machines tools, device of handles and selected special machines is offered:

- Complete specification for solution of automation.
- Numerical control systems SINUMERIK and adjustable servo drive SIMODRIVE.
- Replacement Siemens parts.
- Service.
- Trainings.

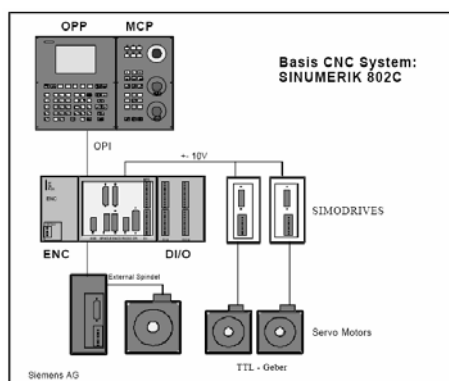


Figure 1. 802C Sinumeric CNC System

The SINUMERIK digital control and the adjustable drive SIMODRIVE are the modern system for machines tools, robots and special machines which answering the most requirement of flexible production and economical

efficiency.

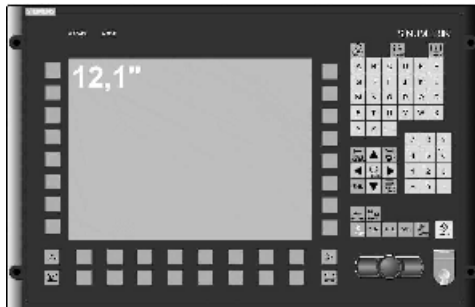


Figure 2. CNC 802D



Figure 3. CNC 840Di

The various types of numerical control are:

- 802S and 802C simple and economically numerical controls for 3 feed axes and 1 boring spindle for step by step or analogical drive unit, figure 1;
- Compact 802D CNC for 4 feed axes and 1 boring spindle for step by step or analogical drive unit, figure 1;
- Complete integrate 840Di CNC with digital multiprocessors for 18 feed or speed axes, 6 work processing and 6 work mode, figure 3;
- Modular construction 840D CNC multiprocessor numerical control, that permits an optimum set-up for machines tools, up to 31 feed or speed axes, 10 work processing and 10 work modes.

The principal electrical continuous and alternating current drive are SIMODRIVE series:

- 1FT6, 1FK7 – alternating current servomotors for machine tools feed (0,4Nm – 175Nm);
- 1FN1, 1FN3 -- linear electrical motors (200 – 20700 Nm);
- 1FW6 – motors for high torque (96,8 – 2450 Nm);
- 1PH7 -- serii de asynchronies motors with massive axis for machine tools speed axis (3,7 kW – 300 kW);
- 611D, 611U – electrical converters in modular construction for speed and feed digital and analogical control.

2. IMPORTANT REALIZATION IN MACHINE TOOLS AREA

Siemens S.R.L. Automation and Drives for Motion Control Machines Tools have good collaboration with World Machinery Works S.A. Bacau. The most new realizations are:

- Milling machine with included automatic work pieces feeding with SINUMERIK 840D si SIMODRIVE 611D, figure 4;



Figure 4. Milling Machine

Grinding machine for cylinder in automotive industry is made with SINUMERIK 840D si SIMODRIVE 611D, figure 5.



Figure 5. CNC grinding machine

At the cylinder grinding machine, Siemens Ostrich and World Machinery Works S.A. Bacau will develop a specific application for this type of machine. This application will permit the measurement and errors correction, in depending on the grinded cylinder profile. This is achieved with a supplementary axe when is parallel to grinding machine Z axe. On the Z axis is displaced two feed fingers, figure 6, which take over the information and transmit it to CNC unit.

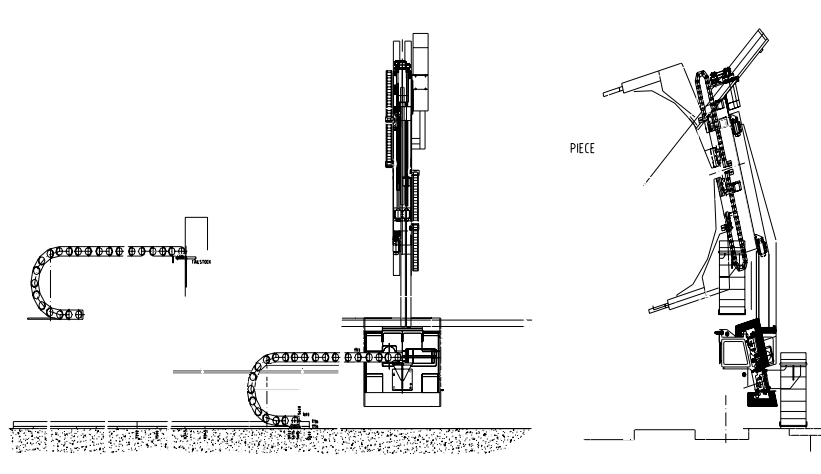


Figure 6. Measuring procedure

3. UNIVERSITY COLLABORATION

Siemens Austria along with Siemens Romania has signed a collaboration agreement with University of Bacau and has donated for it a software "SINUTRAIN" simulator for the numerical controls unit. The software price is approximately 9000 Euros.



4. CONCLUSION

Today, the principal markets for Siemens are Western Europe, America and the Asia-Pacific region, which together comprise some 95 percent of the world electrical market. Sales are focused on Europe, which accounts for almost 60 percent of total. Siemens have a good policy in Eastern Europe and with Romanian company.

References

- [1] Siemens AG., Betreibermodelle im internationalen Anlagengeschäft. Prepared by Corporate Finance and Economics and Corporate Relations (WPA). Munich and Erlangen, 1995.
- [2] Wilfried Feldenkirchen, SIEMENS, From Workshop to Global Player, Piper Verlag GmbH, Munich 2000.