

Drive innovation with One Cable Technology: Compact and cost-cutting solution



Woodworking center controls 47 axes with PC-based platform

With its "Logic-II – Absolute Automatic Drills," Brazilian company CRS Máquinas has introduced a fully automated drilling center for the production of furniture components. The system is controlled via a Beckhoff Industrial PC with EtherCAT as the fieldbus system as well as Beckhoff servo amplifiers and AM8000 servo motors with One Cable Technology.

CRS Máquinas, which is headquartered in Mirassol, Brazil, has produced machines for the furniture industry for over 10 years. "We developed the Logic-II woodworking center to differentiate ourselves from conventional offerings in the Brazilian machine-building market," explains Célio Renato Silva, the CEO of CRS Máquinas. "With its quick tool changes and easy reconfiguration capabilities to accommodate frequently changing production lots, Logic-II enables users to manufacture a wide range of components very efficiently. Reliability, high speed and exceptional productivity are just some of the advantages we offer our customers."

PC-based control provides more performance and faster engineering

CRS Máquinas has been using PC-based control technology from Beckhoff since 2009. "We picked PC-based control because all machine functions such as PLC, HMI and CNC can be run on the same hardware and software platform. Another reason for investing in this technology, which was new for us at the time, was the excellent relationship with Beckhoff's technical support in Brazil," says the CEO.

Today CRS Máquinas uses the C6920 control cabinet PC with TwinCAT NC PTP automation software. The user interface for the CNC was implemented in a C#



The "Logic-II - Absolute Automatic Drills" CNC drilling center employs a total of 47 Beckhoff AM8000-series servo drives with One Cable Technology (OCT).

application, which sends the X-, Y- and Z-target positions to TwinCAT – a solution that is only made possible by the open design of the Beckhoff technology.

"With the TwinCAT motion control libraries, which offer a multitude of time-saving function blocks, our developers have a very flexible tool for generating control software that speeds up the engineering process significantly," says Célio Renato Silva. The data traffic between the TwinCAT control software and the user interface developed by CRS Máquinas is handled via TwinCAT ADS.

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The Logic-II woodworking center uses a total of 47 Beckhoff servo motors from the AM8000 series with One Cable Technology (OCT). "By employing OCT we were able to reduce our drive technology costs since the required cabling was reduced by 50 percent," says Célio Renato Silva. Because the Beckhoff AX52xx-series servo drives support simultaneous control of two motors with multi-channel versions, the machine is also very compact.

Positive outlook

As far as the national market is concerned, CRS Máquinas forecasts a growth rate of roughly 50 percent for 2013, which is even greater than the Brazilian furniture industry's 2012 growth rate of 48.2 percent. "The machine-building market will benefit from further improvements in our CNC technology, which means that the production of conventional machines will decline," says Célio Renato Silva.

Further Information:

www.crsmaquinas.com.br

www.beckhoff.com.br