



Electronic Control Systems for Drilling Machines

Hydraulic Crawler Drills C6XP by Casagrande



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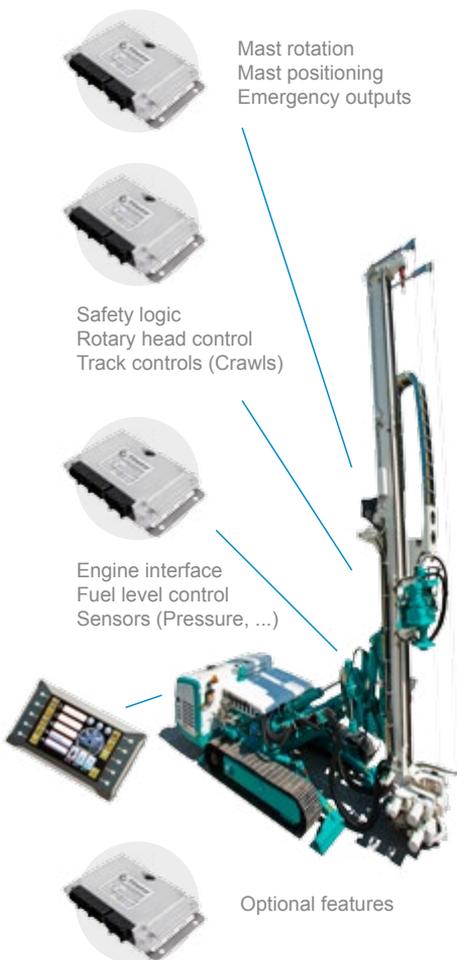
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“ We have chosen TTControl because of the company’s know-how in both electronic control and visualization. The high-level performance and safety specifications of the TTControl solution are responding ideally to the needs and requirements of our strong, compact and versatile XP series of drilling machines. ”

Mario Marchese
Design Manager at Casagrande



TTControl, a joint-venture company of TTTech and HYDAC International specializing in robust and flexible control systems and intelligent displays for mobile working machines and special vehicles, has been selected by leading foundation equipment manufacturer Casagrande to provide electronic control systems and operator interfaces for the new XP generation of drilling machines.

With this new XP generation of hydraulic crawler drills, Italian-based company Casagrande offers a machine suited for harsh environments and different application areas. For the control and visualization system of these machines, Casagrande has decided to choose TTControl as a technology partner. The strengths of the TTControl hardware components are a high degree of safety and reliability, and excellent performance.

With TTControl's HY-TTC 90, a robust control unit compliant with the international IEC 61508 and ISO/EN 13849 standards on functional safety, it was possible to meet all safety requirements of the drilling machine. HY-TTC 90 fulfills SIL 2 (Safety Integrity Level) and PL d (Performance Level) requirements. It is comprised of a main CPU for executing the user application, and a smaller diagnostic CPU, which continuously monitors the main CPU as well as the safety-critical inputs and outputs. In case an error is detected, an internal switch opens, disconnecting all output stages from power supply and shifting the vehicle to a safe state.

“ TTControl’s products offer the level of robustness and reliability that is essential for this kind of work environment. Drilling machines, and in particular the new series from Casagrande, require high-level technological solutions with complex control functions. It is a great opportunity for us to equip the XP series with our platform control and visualisation and ensure compliance to the specifications of the new functional safety standards. ”

*Marc Weissengruber
Director Sales & Marketing at TTControl*

The supervision system of the XP series was actualized with an HY-eVision² operator interface. All diagnostics of the drilling system and other functions such as displaying parameters of work and alert functions are enabled by the 7-inch variant of the interface. These intelligent monitors are setting new standards with respect to maximum resolution, programmability with CODESYS[®] 3.x, and user friendliness – for example, through the ability to display and create PDF[®] documents.



The operator interface has a powerful built-in display controller and is perfectly suited for the harsh conditions in off-highway vehicles due to the aluminium front. It is designed to become the central operator interface in mobile equipment such as mobile cranes, excavators or large drilling machines, like the Casagrande XP series.

With the HY-eVision² operator panel, Casagrande benefits from optimized visualization of the various parameters of the drilling system. Object-oriented programming concepts allow fast and easy adaption of HMI to different languages. Specific additions like transparency effects, graphic library and unicode fonts are providing the ability to fully customize the display to customer needs and to differentiate from the competition.

▶ CUSTOMER / PROJECT

Casagrande – XP generation of hydraulic crawler drills

▶ CHALLENGE

The customer needed a partner with profound know-how in both electronic control and visualization.

▶ SOLUTION

With TTControl's HY-TTC 90 ECU it was possible for Casagrande to meet all relevant safety requirements of the drilling machine. An advanced supervision system was actualized with the robust operator interface HY-eVision².

Constructing Efficient Working Environments with High-Performance Control Solutions

About TTControl

TTControl, a joint-venture company of TTTech and HYDAC International with locations in Vienna and Brixen, offers electronic control systems for mobile machinery and off-highway vehicles, such as fork lifts, cranes, municipal vehicles and snow groomers, construction and agricultural equipment. Being leaders in functional safety, TTControl's software and hardware platforms enable equipment manufacturers to develop highly reliable electronic control systems quickly and economically.

Further information on TTControl available at

www.ttcontrol.com



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About Casagrande

Casagrande S.p.A. is leader in the design and manufacture of machines for piles, diaphragm systems, surveys, anchors, micropiles and jet grouting, and special equipment for the tunnels consolidation. Casagrande is a brand recognized around the world, synonymous of strength and stability, chosen by those who want to build a solid foundation for your company and your country. Concrete values such as reliability and advanced technology, combined with entrepreneurial talent have made of Casagrande a solid group to meet every need in geotechnical engineering.

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