

Robust universal control unit from Liebherr for agricultural machinery

- Universal control unit with protection classes IP67 and IP6K9K for safety-critical applications
- Control unit can be extended to a complete system with camera, multi-touch display and keyboards

Lindau (Germany), November 2015 – At the trade fair for electric automation SPS IPC Drives 2015 in Nuremberg, from November 24 until 26 Liebherr is presenting a universal control unit for mobile machines.

At the Lindau location, Liebherr is able to make use of its many years of experience in developing and manufacturing electronics for mobile construction machines. Liebherr has developed a universal control unit especially for use in mobile construction and agricultural machinery.

The versatile and freely programmable Compact Control Unit is guaranteed to perform well even when exposed to the most severe environmental conditions, for example vibrations, dust, water or electromagnetic interference. The robust die-cast aluminium housing enables the universal control unit to satisfy the strict requirements of protection class IP67 (dust-tight and protected against brief immersion in water) and IP6K9K (dust-tight and protected against water from high-pressure/steam-jet cleaners) and to work at operating temperatures from minus 40°C to plus 85°C.

The Compact Control Unit is equipped with a 32-bit processor and up to 70 inputs and outputs, allowing it to perform complex and safety-critical applications. If specific customer applications require additional inputs and outputs, there is an option for cascading further intelligent control systems or miniature controls via the CAN interface. Applications can be programmed in the high-level language “C” and also via the development environment CODESYS.

The Compact Control Unit enables the user to realize safety-critical applications up to performance level “d” as specified in ISO 13849. A special feature is that the safety-

relevant part of the application is not programmed but configured. This facilitates entry into functional safety immensely. In order to connect other electronic components to the Compact Control Unit, the communications interfaces Ethernet and CAN with connectible bus termination are available.

Complete system with display and operation units

The operation and display units from Liebherr – which include displays, digital cameras and keyboards – permit a comprehensive complete system to be created, corresponding to the standards of CE conformity and to the latest industrial standards.

The Liebherr digital camera has also been specially developed for use in tough off-road applications, and is especially suitable for monitoring areas which are difficult for the machine operator to see. It delivers about 30 images per second, creating a continual sequence of images in real time, and it features a screen heating system which reliably prevents the front glass from becoming iced or misted over. An Ethernet switch allows additional cameras to be cascaded.

Liebherr's Touch Display is fully sunlight readable and a multifunctional display unit for decentralised control systems in mobile machinery. It can visualise different information for the machine operator and can also be used as an input device. The integrated touch function allows the user to simply and directly call up functions and to check information. The TFT display also enables images from up to four Liebherr digital cameras to be shown.

The different Liebherr keyboards are input devices which are linked to the decentralised control system via the CAN. All keys feature switched red LEDs and also have programmable background illumination and a brightness sensor. The customer can individually choose whether the LEDs are to be arranged horizontally or vertically in the respective console. The keyboards are used to actuate essential basic functions such as ventilation, parking brake and heating system.

Bildunterschriften

liebherr-compact-control-unit-300dpi.jpg

The universal control unit CCU70 with 32-bit processor offers up to 70 inputs and outputs

liebherr-digital-camera-300dpi.jpg

Die digital camera by Liebherr delivers about 30 images per second and features a screen heating system to prevents the front glass from becoming iced or misted over

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