

Wireless Temperature control

New 'WirelessTEMP' products increase ease of use and flexibility in laboratories

Many tests in research laboratories involve substantial logistical and financial efforts. Sophisticated and expensive research materials and equipment are often required. Ideally results are obtained quickly and without error. Therefore the process should be monitored completely. It is not convenient to have to abort an experiment or batch process due to variations in the process parameters because of a lack of monitoring capabilities.

For many applications a temperature control unit is an important piece of the entire technical set-up. With the requirement to monitor and control processes, Julabo developed its new 'WirelessTEMP' products. This product series allows wireless communication with almost any Julabo unit, as long as the temperature control unit is equipped with a RS232 interface. Existing Julabo circulators, recirculating coolers and temperature control systems can be controlled and monitored wirelessly with little effort.

Application example with an ESCO-Labor AG Mixer

'WirelessTEMP' products can be utilized, for example, in a set-up using a ESCO-Labor AG mixer (Switzerland) in a laboratory or production environment. The application example



Fig.1.: 'WirelessTEMP' products in an application with an EL-*pm*-mixer

shows an ESCO-Labor EL-*pm*-mixer with a JULABO FP50-HE refrigerated circulator which is used in the process of manufacturing lubricants for eye implant patients. The JULABO temperature control unit can be placed outside of a cleanroom, or can be included in the base frame of the mixer, or placed directly next to the mixer (as shown). The 'WirelessTEMP' transmitter is simply attaches to the RS232-port of the temperature control unit. The unit is now able to receive control commands, as well as transmit data and status messages and measurements values to the 'WirelessTEMP' remote control. The range of the remote control and the transmitter varies indoors between 10 and 25 meters and increases to a range of approx. 70 meters in an open area. 'WirelessTEMP' allows the user to access the temperature control unit from a remote location outside the area of the application. The display and keyboard of the temperature control unit are transferred to the remote control utilizing the WirelessTEMP transmitter for un-interrupted use while the operation of the JULABO unit remains virtually unchanged. The communication with the temperature control unit is permanent, and data exchange with the selected circulators takes place every 0.7 seconds. While in sleep mode the sender/receiver module switches to standby state in order to save energy.

User advantages

The use of 'WirelessTEMP' products provides many advantages for the user: besides the time saving factor in monitoring the devices, 'WirelessTEMP' provides more flexibility in the selection of the temperature control unit's location. In many cases this results in cost reduction by eliminating expensive wiring or cabling. In addition wireless communication eases safety concerns for the end user by minimizing entry to the area and could potentially alleviate contamination issues in a cleanroom environment. You can now allow data to be transferred quickly and safely without the expensive wiring and cabling from the lab to your work station. For the laboratory personnel, inspection rounds are reduced to a minimum for laboratory personnel saving valuable time. Important operational parameters are now accessible through the WirelessTEMP product line and reduce operating expenses. Overall, the wireless solution provides more comfort throughout the day.



Fig.2.: The transmitter sends unit data, status messages and measurements values directly to the remote control.

Controls up to eight systems simultaneously

The remote control can manage a maximum of eight JULABO units (with RS232 interface). Each unit has to be equipped with a transmitter. After being switched-on the remote control searches for the transmitters within range. The temperature control units are then allocated to the memory spaces N1...N8. The sequence is saved and maintained when the remote control is reactivated the next time. The configuration software included with the wireless device allows the end user to set-up network of several independent groups of units. Thus undisturbed operation is possible even in neighbouring laboratories. The 'WirelessTEMP' products include Transmitter, Remote Control, Wireless USB-sticks and Routers.



For further information see www.julabo.de or the free of charge brochure.

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WirelessTEMP in action

“As a manufacturer of mixers for superior custom-made solutions, we once again were able to rely on JULABO’s HighTech series of refrigerated & heating circulators (FP50-HE). In combination with the very comfortable remote control device for the temperature control units, we can place the units either within the base frame or outside of a clean room whilst our system is within. Due to the large display we can easily recall the most important unit parameters like current temperature. Along with the EasyTemp software, which allows performing temperature ramps, the remote operation permits access to the program sequence even when working at some distance away from the JULABO unit. We consider the WirelessTemp products as a necessary complement to the Julabo program.”

Jörg Kaiser,
ESCO-Labor AG