

ALCOCONTROL: Technical Data

ALCOCONTROL –	ON-LINE ALCOHOL MEASURING DEVICE
Product Information	The ALCOCONTROL measuring system detects the concentration of alcohol in an aqueous solution. It measures the conductivity of a gas sensor, on the one hand, and the temperature of the solution, on the other. From both details the alcohol concentration is calculated. The controller embodies a 4 digit display from 0,000% to 99,99%. The reliable measuring range of the probe is between 0,000 and 7,000% alcohol.
Application	vinegar fermentation, yeast propagation, breweries, distilleries, biotechnological fermentation or reactions.
Size	The controller is build into a splash proof IP65 plastic housing with the following dimensions: H = 185, W = 195 D = 105
Analysis system	The plastic cabinet is splash-proof and complies with protection type IP 65. The probe is connected inside the cabinet at screwed terminals. The cable routing is handled through PG screw fittings at the bottom of the case. The controller should be situated in the vicinity of the probe.
Measuring head	The alcohol probe is offered in different types to be connected to the following fittings: VARIVENT is designed to high hygienic standards. INGOLD Ø25mm enabling a manual extraction of the probe during fermentation. Exchange fitting for pH-probes permits a special treatment of the probe during CIP process. The connection to the controller uses a plug at the back of the probe.
Temperature measuring	To measure the temperature a Pt100 resistance thermometer is sufficient. Any other measurement system, which provides a 4- 20mA signal, may also be used. The temperature probe is not provided with the system.
Accuracy	The deviation of repeated readings is ± 2 % of the measured value at a measuring range between 0.3 and 7 vol. %. Measuring an alcohol concentration of 0.5 vol. %, for instance, the deviation is ± 0.01 vol. %. If the system is calibrated for a range between 0.05 and 0.5 vol. %, the deviation is ± 2 % of the maximum value 0.5 vol. %, the absolute deviation is ± 0.01 vol. %.
Calibration	The system must be calibrated by the operating staff at intervals of 4-8 weeks. To do so, the resistance of the measuring head is noted, while at the same time a sample is taken and analysed. The resulting pairs of values are entered into the controller. The analysis system then automatically updates the calibration curve for the calculation of the alcohol content. Calibration may also be executed in temperature controlled defined alcoholic solutions.
Control components	The analysis system contains a relay contact which may be programmed as a limit contact either depending on the alcohol or on the temperature signal. The switching state is displayed by an LED on the front of the unit. The microcomputer provides a PROFIBUS DP as well as a RS232 data terminal. Moreover a 4-20 mA analogue output is generated (4 mA = 0.0 vol%, 20mA programmable from 0.3 to 10.0 vol%).
Error control	Measurement or system defaults are displayed on screen and provoke an interruption of the respective function. An error relay is opened at the same time and a red LED is illuminated on the front panel.
Power supply	24 V DC is needed for the analysis system