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Detection of danger and automatic fire extinguishing in RACK cabinets

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Main goal of the work in Dubna was creating an extinguishing system to detect danger and initiate action in such case in the RACK cabinets. In the received extinguishing module, configuration of the software had to be performed using Slow Control System standards.
Firstly, the performance parameters of the extinguishing modules had to be evaluated. The properties such as the physico-chemical parameters of the extinguishing agent as well as the technical parameters of the module in working conditions have been checked. These actions were followed by analysis of the two types of fire detectors and conditions of the extinguishing action initiation.
Afterwards, the connection between the computer and the module was created in order to read the current parameters and to control the module's work. Then the LabView software was established to perform that communication. Thanks to this solution it is possible for the supervisor to observe a state of module and be informed about dangerous situations and incorrect work of a device.
The team has worked on an existing module with safety certificates so according to the extinguishing standards the manufacturer does not allow introducing any changes in the product. Therefore we could not perform improvements in this device which could be an external source of the extinguishing agent or creating a possibility to turn the device on and off remotely.

Primary authors: DOMALEWSKA, Agnieszka (Gdańsk University of Technology); ROWIŃSKI, Szymon (Politechnika Warszawska); KRZOSA, Radosław (Warsaw University of Technology)

Presenters: DOMALEWSKA, Agnieszka (Gdańsk University of Technology); ROWIŃSKI, Szymon (Politechnika Warszawska); KRZOSA, Radosław (Warsaw University of Technology)

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