

Fire Detection & Extinguishing System

THM gas turbines



MAN PrimeServ provides a state-of-technology fire detection and extinguishing system for the modernization of existing THM gas turbines units.

The fire detection and extinguishing system shall detect and extinguish fires inside the enclosure automatically in order to protect the operating personnel and the equipment from damages due to fire. As the reliable detection and extinguishing of possible fires is of vital importance MAN PrimeServ provides a state-of-technology fire detection and extinguishing system based on an Hekatron digital fire monitor and extinguishing controller and a HI-FOG[®] extinguishing unit for the modernization of existing THM gas turbine units:

- Digital fire monitor and extinguishing controller Hekatron Integral IP
- Field mounted HI-FOG[®] extinguishing unit
- Infrared flame detectors, heat detectors and manual fire call points
- Optical and acoustical alarm devices
- Nozzles for high-pressure water mist injection

The HI-FOG[®] extinguishing unit creates a high-pressure water mist with a droplet size of approx. 50 µm offering a reaction surface approx. 400 times bigger than created by a conventional sprinkler system. Due to the great reaction surface the water mist abruptly expands up to approx. 1,700 times of its original volume displacing the enclosure air from the source of the fire and enabling a quick cooling-down withdrawing energy from the fire.

The Hekatron digital fire monitor and extinguishing controller is directly linked to the programmable logic controller and the safety-directed control of the unit control system. To ensure the correct function of the fire detection and extinguishing system the digital fire



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monitor and extinguishing controller continuously monitors the condition and function of all subcomponents for malfunctions as detector fault or wire break within detector loop, N₂ loss signal from the weighting devices or locking of the extinguishing unit.

In case of a possible fire is detected the digital fire monitor and extinguishing controller evaluates the signal and either releases a pre-alarm or directly initiates the extinguishing process and tripping of the gas turbine. Thereby, due to an internal voting logic false alarms and release of the extinguishing medium are avoided.

Benefits

The fire detection and extinguishing system facilitates a long-term reliable detection and extinguishing of possible fires inside the enclosure for an optimum protection of the operating personnel and the equipment:

- State-of-technology system based on industrial standard components for long-term service support
- Fire monitoring and extinguishing control grouped together in common system
- High reliability due to internal voting logic and continuous monitoring of condition and function of subcomponents
- Processing of trip signals via programmable logic controller and safety-directed control
- Design adjustable to specific requirements and regulations
- Minimum water damage

Comprehensive Modernization

MAN PrimeServ provides comprehensive modernization concepts to modernize your equipment – no matter if you want to optimize reliability, operating costs, environmental sustainability or anything else. Please contact us for further information.

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