ibcflexSM 2.0

ibc-heater
HEATING-SYSTEM by LÖBBE

NEW 2023

TRM: Temperature Rise Monitoring
The controller monitors the rate of temperature rise. If this rises too quickly, the heat is not transported away correctly and there is a high probability of a flow fault; the system then switches off the heating process and outputs an error message.

SFM: Software Flow Monitoring
The temperature of the heating medium is monitored at two points in the system. If the differential temperature remains stable within a set range, the flow of the heating medium is in order. If the differential temperature drops, there is a flow fault, and a warning message is issued.

PCM: Power Contactor Monitoring
The mechanical main and circuit contactors in the system are switched at fixed intervals (once a day), the auxiliary contacts are monitored, and it is determined whether the contactor is still working reliably. In this way, any „sticking" of the contactor can be determined. If one of the two contactors no longer switches correctly, the system is disabled for heating processes and an error message is displayed.

DBM: Double Boost Mode
This mode is currently only available for the hybrid and dflexHP systems. When connected to the mains voltage, the system can also switch on the diesel burner in addition to the electric heating element. This is only possible for a certain period and is then blocked until the system is restarted.

SCM: Single Channel Monitoring (ibcflex only)
The single channel monitoring measures the temperature at each back flow connection of the ibcflex, thus the most accurate temperature control of the product is possible. This monitoring can also be carried out directly in the product, either cable-bound or by radio sensors.

ECO: Eco Mode
The eco mode is an automatic operating mode to make the heating process as energy-efficient as possible. In a system with a minimum of two heating elements, both are controlled in such a way that the heating phase is as short as possible, and the holding phase is as economical as possible.

STB: Safety Temperature Limiter
The safety temperature limiter is a standard component installed in every heating system, from Stage I to Stage III. It is the most important and, in case of a temperature rise monitoring (TRM) in the system, also the last instance for emergency shutdown of the heating process. The sensor of the STB is located directly on the heating rod and switches off the heating rod at a fixed defined overtemperature (e.g., 105 °C).

Stage I-III: Safety Level (I – lowest / III – highest level)
The individual safety levels are shown in a table, currently only levels II and III are used. Level I is only used in old or transitional systems.
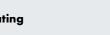
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Product group:	Glycol/water heating systems for external connection to the steam pipes of tank containers
Product details:	The weatherproof systems are designed for temperature control of tank containers in warehouses or depots
Housing formfactor:	Space-saving, robust cuboid housing. Optionally with storage space for hoses and accessories
Installation of operator panel:	The control panel attached to the control cabinet at the front of the device, all functions and status messages can be viewed and operated from there
Heating power:	Up to 38 kW (at 440 V)
System safety:	Stage II
Mains connection:	1x or 2x 32 A CEE - 380 to 440 VAC (50/60 Hz)
Ambient temperatures:	-20 °C to +40 °C
Max. preflow temperatures:	Up to 95 °C
Max. container connections:	2
Air compressor option:	Yes (the compressor option offers the possibility to return the heating/cooling medium to the storage tank of the ibcflex without an external device)
Control unit:	microflexPLC controlled
Control schematic:	The system has an intuitive visualization, almost all functions are operated using a touch display
Scope of functions:	Advanced functions (TRM, SFM, PCM, SCM, ECO)[4]
Telematics interface:	With data interface (all common protocols)
Telematics scalable:	Extended telematics functions, in addition to the simple telematics functions also detailed, historized fault messages incl. remote maintenance[4]
Installation positions:	ibcflex is set up on a straight surface; steep inclines and soft ground should be avoided
Maintenance:	The heating rod and other wearing parts are easy to reach and replace (partly by Tri-Clamp connections)
Housing:	The housing consists of a galvanized steel frame, powder-coated aluminum and a stainless-steel control cabinet. It is therefore hardly vulnerable to corrosion

[1]see list of abbreviations/special functions. [2]Remote maintenance access to the heating system is only possible with our self-developed telematics (working title teleflex).