DANISH TECHNOLOGICAL INSTITUTE

Evaluation of DanTaet KMP-C

DanTaet Electronics a/s

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Requester

DanTaet Electronics a/s
Højmevej 36 – 38
5250 Odense SV

Prepared by

Teknologisk Institut - Gregersensvej 1 2630 Taastrup
Energy and Climate
Leon Steen Buhl

Responsible

Leon Steen Buhl
Energy and Climate

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1 Description of the task

Teknologisk Institut has been tasked to evaluate DanTaet System KMP-C, which comprises a leakage protection and refill system for central heating installations. The evaluation is based on a technical review of the system undertaken together with the manufacturer, and a subsequent review of User and Factory manuals for the system.

2 Description of the system

DanTaet system KMP-C is a leakage protection system for use in central heating installations. The system employs a pulsing ultrasonic flow meter, possibly accessed via a data interface, a pressure transmitter, and in semi- and fully automatic versions a spring-return, normally closed cutoff valve. The system continually monitors the operating pressure of the central heating installation, as well as refill activity, whether manual, semi- or fully automatic, limiting volume and frequency hereof.

DanTaet System KMP-C comprises the following main components:

	• 1 control unit model 200 • 1 flow meter, possibly including a water meter • 1 pressure transmitter • 1 electrically actuated spring-return normally closed cut-off valve (option) • 1 check valve

The system integrates with AERS for alarm propagation, visualization and remote control.

AERS is a system for propagation of alarms and acquisition of consumption data from DanTaet leakage protection systems, and for the remote control thereof. The customer receives alarms as text or e-mail and can access his DanTaet systems in an Internet browser on a smartphone, tablet, laptop or PC. AERS visualizes the build-up to an alarm

and permits the customer to restart the system. Likewise, AERS provides access for DanTaet technicians to the system's configuration interface.

In addition to leakage monitoring, the system regularly provides self-testing with subsequent alarm on failure for the following:

- Flow meter error
- Valve error
- Liquid sensor error, if liquid sensor attached
- Pressure transmitter error
- Power supply error
- Mains error (230 V ac error)

The system is factory preset to a standard configuration but is subsequently adapted to the actual installation and its pattern of consumption by DanTaet's technicians by way of AERS.

3 Installation of the system

A complete installation guide for plumbing and electrical installation is provided.

4 Description of operation

The system design emphasizes an uncomplicated user interface to minimize risk of user errors.

The system's user manual explains functions available on the front panel.

The front panel of the KMP-C features a text display which either conveys actual status and key function, or error state in case of alarm. The front also features keys for Alarm Reset, and refill control.

5 Description of functions

The system may be used with or without a cut-off valve. Valve-equipped systems can do semi- or fully automatic refills, while valveless systems assist manual refilling.
Automatic refills may be subject to a time window, allowing refills only in the presence of staff.
Automatic refills may commence when operating pressure drops below a preset level, without

being critically low. The refill will stop when the operating pressure exceeds a preset, higher limit.
An alarm is raised, and refill is stopped when single or daily refill volume, or refill frequency exceeds a preset limit.

6 Overall assessment

The view of the Institute is that KMP-C offers a series of integrated functions for monitoring alarming, cut-off and user-friendly control, providing optimal leakage protection as well as flexibility in operation and settings.

KMP-C is an advanced leakage protection system, suitable for small and large buildings. It ensures monitoring, error reporting and fast cut-off, and is suitable for integration with building automation.

The system is highly functional on a technical level, offering the customer substantial protection from water damage. The system is further developed for ease of use, even for non-technical personnel, thus avoiding misconceptions.