

RedDetect system

Cable 3dc

Product sheet

In line with an all bigger expansion of district cooling systems, with insulated pipes, we have developed a unique alarm cable that eliminates the problems that other systems with conventional un-insulated alarm wires are afflicted with.

Our patented alarm cable, RedDetect Cable 3dc, is intended to be used in district cooling pipes with steel or plastic as media pipe.

Trough the cables unique design, earlier problems as condensed moisture between alarm wires and media pipe along the pipe lengths is now removed. But above all, condensed water on the pipes and the pipe ends in all parts of the pipe joints is not a problem any longer.

The exactly parallel cable wires in the RedDetect 3dc cable gives the same impedance along the cable length which facilitates leak search and detection of wet insulation and water faults.

At the production of district cooling pipes and fittings the RedDetect 3dc cable is assembled directly close to the media pipe - a fast and simple handling. Also in field joints the cable shall be located directly against the media pipe.

The special design of the cable permits that impedance changes from wet insulation, of certain size can be detected, although the cable is insulated along the whole cable length.

For monitoring with the RedDetect 3dc cable use our alarm unit RedDetect X3. The unit is available in two models for shorter or longer cables.

Advantages:

1. Minimizes condense problems in pipes and fittings
2. Fast installation in the production stage
3. Can be used to both steel - and plastic pipes
4. Easy to assemble and connect in the field
5. Constant distances between wires in the cable
6. Facilitates fault detection in fields



RedDetect system Cable 3dc

Technical information and requirements

Assembling of the different cable segments shall be done with assistance of un-insulated joint terminals and pressure tools according to conventional technology. This joint technology is surely tested and gives each joint very low serial resistance. Each joint is after assembling sealed with a crimp sleeve.

The outer conductors (red / red) form a loop and the water measurement is done against the middle conductor (black).

Alarms are registered and handled by the associated software RedDetect XTool.

The Cable 3dc has to be monitored via our alarm unit **RedDetect X3** that continuous transfer information from alarm cable / pipe insulation to the systems software XTool. RedDetect X3 sends information as in XTool is drawn up in a curve feature. For information about the software XTool see product sheet.

RedDetect X3 S monitor 1000 m of cable.
RedDetect X3 L monitor 3000 m of cable.

RedDetect X3 has an integrated TDR – module (Time Domain Reflectometry). Then you are able to find the place for the fault.

Transfer of information from the alarm units RedDetect X3 are done as standard via broad band or GPRS.

Connecting of cables in a T-branch. This item is prefabricated. Cable length: main pipe 2 x 2 m, branch pipe 3 m.



The cables are connected to each other with un-insulated joint terminals and crimp sleeves. The crimping tool has a ratchet system to guarantee a fully closed crimp.



60 pcs of joint terminals and 60 pcs of crimp sleeves (for 20 cable joints) are packed in a plastic bag.



3dc cable joint ready for use.

Slit the cable 30 respective 60 mm and remove 5 mm insulation from each conductor before mounting of joint terminals and crimping sleeves.

Technical information:

Cable 3dc for district cooling pipe
Width: 11 mm
Thickness: 2 mm
Conductors: 3 copper wires, area 0,75 mm², diameter 0,98 mm
Cable insulation: EXU (Halogen free cross linked polyethylene)
Distance between conductors: 5 mm
Colour: red with a black stripe in the middle
Loop resistance: 25,4 ohm per 1000 m wire
Impedance: 200 ohm
Continuous working temperature: -40 °C to +120 °C
Temperature range short use: 200 °C / 4 h.
Pulse velocity: 170 – 190 m/μs (depends on the density of the surrounding material - polyurethane foam or mineral wool)

Art.no. 9701833 Cable 3dc, 800 m bobbin
Art.no. 9701834 T-cable 3dc, pre-fabricated
Art.no. 9701850 Tape for 3 dc cable, 50 m x 15 mm
Art.no. 9701851 Joint kit for 20 cable joints
Art.no. 8801984 Crimping tool HD0325