



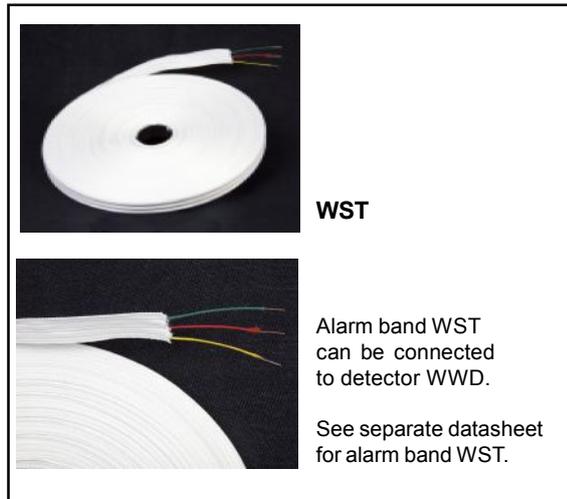
WWD 102N



WWD 103N

### Features

- Early detection = Early warning
- Detection of moisture and water
- Mounting
  - On wall with external alarm band WST
  - Direct on floor  
(WWD have 2 sensing pins under the unit)
- Power supply 12-30 Vac/dc
- Relay output
- Buzzer/Sirene on WWD 103N



Now also available  
for AC supply  
November 2011

**New functions (November 2011)  
via jumpers selections:**

- Memory function.
- Fixed or pulse signal on buzzer (only WWD 103N)
- Normally Open or Normally Closed relay function.
- Sensitivity (normal or reduced).

### Technical data

<b>Power supply</b>	12-30 Vac/dc
<b>Power consumption</b>	
- no alarm	9 mA
- alarm	30 mA
<b>Relay output</b>	1A at 24 Vdc
<b>Buzzer/sirene sound</b>	85 db (WWD 103N)
<b>Delay power on by alarm</b>	1 second
<b>Delay after alarm off</b>	4 seconds
<b>Housing material</b>	Plastic
<b>Dimensions</b>	95 x 95 x 40 mm
<b>Approval</b>	CE

### Ordering

Type no.	Description
WWD 102N	Liquid warning detector 12-30 Vac/dc, relay output
WWD 103N	Liquid warning detector 12-30 Vac/dc, relay output with buzzer/sirene

## Description

The WWD liquid warning detector is used to sense moisture and water.

The WWD detector senses the change in conductivity when moisture or water is in contact with the sensing pins or when moisture or water is in contact with the external alarm band WST.

The sensing pins are located under the WWD base unit for direct mounting on the floor.

The WWD can be mounted on the wall and the external alarm band WST can be connected on a terminal inside the WWD housing.

The WWD can be powered with 12 -30 Vac/dc and have a change over relay for passing the alarm on to a supervisory system.

Testing of the WWD detector is made by placing a wet finger at the sensing pins under the WWD unit.

Testing of the WWD detector together with the alarm band WST is made by placing a wet finger at the end of the wires of the alarm band WST.

The LED in the front on the WWD will light and the relay output will be activated.

The WWD 103N have also a buzzer that will sound.

When moisture or water disappear, the unit will be reset by automatic.

## Notes

If the detector WWD or the alarm band WST have been activated by moisture or water, power supply must be disconnected and drying must be made before connecting the units again. Otherwise the alarm will be reactivated.

The two outer wires of the alarm band WST should be connected under the same screw on the WWD detector's terminal and be looped in the other end of the band.

The middle wire should be connected under the screw beside the outer wires screw connection on the WWD detector's terminal.

The middle wire is used for indicating the presence of moisture and water between this wire and the outer wires (the loop).

If 25 metres of the three-wire alarm band WST is connected to the liquid warning detector WWD:

And there will be indication of moisture or water at the 15th metre of the alarm band WST and if there is break on the 10th metre in all three wires or only in the middle wire, there will be no indication from the alarm band WST to the liquid warning detector WWD, i.e. the WWD detector will not raise any alarm.

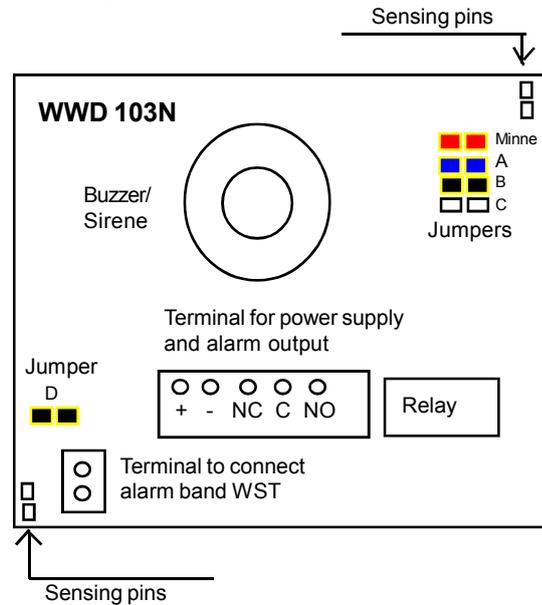
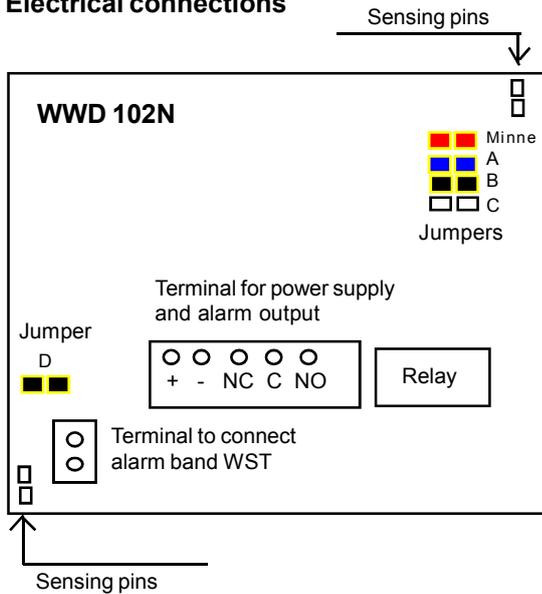
However, if only one of the two outer wires in the alarm band WST is broken, there will be moisture/water indication between the middle wire and the outer wire (the loop) that have no wire break to the WWD detector screw terminal, as the two outer wires are looped in the end of the alarm band WST.

i.e. there will be moisture/water indication on the 15th metre of the alarm band WST even if one of the two outer wires have a break on the 10th metre.

### Applications

- Computer flooring
- Record rooms
- Engineering rooms
- Operating rooms
- Compressor rooms
- Transforming stations
- District heating pipes
- District cooling pipes
- Insulated piping in district heating chambers
- Rock shelters
- Warehouses

**Electrical connections**



**Jumpers Clarifications**

**Jumpers clarifications for WWD 102N**

- Minne (Memory):  
Jumper off = No Memory.  
Jumper on = After alarm the relay de-activate.
- Jumper for A:  
(Not to be used for WWD 102N).
- Jumper for B (Normally Open or Normally Closed relay):  
Jumper off = The relay activate by alarm (Normally Open).  
Jumper on = The relay is Normally Closed and de-activate by alarm.
- Jumper for C:  
(Not to be used.)
- Jumper for D (Normal or Reduced Sensitivity):  
Jumper off = Normal sensitivity.  
Jumper on = Reduced sensitivity.

**Jumpers clarifications for WWD 103N**

- Minne (Memory):  
Jumper off = No Memory.  
Jumper on = After alarm the relay de-activate.
- Jumper for A (Fixed or Pulsed signal):  
Jumper off = Intermittent (pulsed) signal on the buzzer (sirene).  
Jumper on = Fixed (constant) signal on the buzzer (sirene).
- Jumper for B (Normally Open or Normally Closed relay):  
Jumper off = The relay activate by alarm (Normally Open).  
Jumper on = The relay is Normally Closed and de-activate by alarm.
- Jumper for C = Not to be used.
- Jumper for D (Normal or Reduced Sensitivity):  
Jumper off = Normal sensitivity.  
Jumper on = Reduced sensitivity.

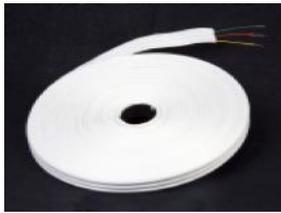
**Terminal to connect alarm band WST**

When the fitting of the thee-wire alarm band WST is completed:

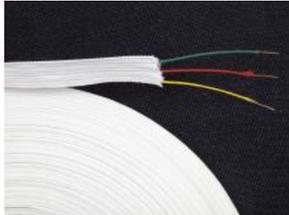
The two outer wires should be connected under the same screw on the WWD detector's terminal. The two outer wires on the other end of the alarm band WST should be looped.

The middle wire should be connected under the screw beside the outer wires screw connection on the WWD detector's terminal.

We reserve the right to make changes in our products without any notice which may effect the accuracy of the information contained in this leaflet.



**WST**



**Features**

- Early detection = Early warning
- Detection of moisture and water
- WST alarm band is made of texturiced stockinet-knitted polyester in which parallel uninsulated wires of soft annealed copper are woven
- Indicating the presence of moisture or water between the wires
- The alarm band WST can be used with the liquid warning detector WWD
- WST are available in standard lengths (rolls) of 25, 50 and 100 metres, WST can also be supplied in other lengths when required
- Lengths of band can be connected by using connection sleeves and clamping tong



**WWD 102N**



**WWD 103N**

Alarm band WST can be connected to detector WWD.

See separate datasheet for detector WWD.

**Ordering**

Type no.	Description
<b>WST 25</b>	A roll of 25 metres alarm band
<b>WST 50</b>	A roll of 50 metres alarm band
<b>WST 100</b>	A roll of 100 metres alarm band
<b>WST</b>	Alarm band per metre (if order other lengths than standard rolls)

## Material and lengths

WST alarm band is made of texturized stockinet-knitted polyester in which parallel uninsulated wires of soft annealed copper are woven.

The diameter of the wire is 0.66 mm and has a resistance of approx. 4.7 ohm / 100 m wire. The width of the band is 18 mm and the distance between the wires is 4 mm.

The alarm band WST is supplied in standard lengths (rolls) of 25, 50 and 100 metres but can also be supplied in other lengths if required.

Lengths of band can be connected using connection sleeves and clamping tongs.

If the band will be glued against floors we recommend Casco 3831, S9 Super glue.

## Function

The middle wire is used for indicating the presence of moisture and water between this wire and the outer wires (the loop).

In order to detect the presence of moisture and water, the wires of the alarm band WST must be connected to any measuring unit, example the liquid warning detector WWD.

The liquid warning detector WWD senses the change in conductivity when moisture or water is in contact with the alarm band WST.

When the fitting of the three-wire alarm band WST is completed:

The two outer wires should be connected under the same screw on the WWD detector's terminal.  
The two outer wires on the other end of the alarm band should be looped.

The middle wire should be connected under the screw beside the two outer wires screw connection on the WWD detectors terminal.

## Mounting

There are several different methods of installation depending on the area of use. Usually, the band is fitted so that moisture is able to penetrate the band easily.

The copper wires are woven into the band but it is imperative that the band is protected from sharp or metallic objects.

If the band is installed between the pipe insulation and the surrounding steel casing we recommend that a thicker tape, width 30-40 mm, is fitted over the moisture band. In certain cases double adhesive tape can be used to fasten the band.

## Technical details

The moisture alarm band can be subjected to a constant working temperature of +180°C, and the melting temperature is +257°C.

The wire loop resistance is 4,7 ohm/100 m alarm wire and the TDR – velocity is 278 m/μs. These data are valid for alarm band WST when it is in air, variation can occur depending on position of the alarm band WST.

## Notes

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i.e. the WWD detector will not raise any alarm.

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i.e. there will be moisture/water indication on the 15th metre of the alarm band WST even if one of the two outer wires have a break on the 10th metre.

See separate datasheet for further information about liquid warning detector WWD.

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