EQUIPMENT FOR WATER TREATMENT SYSTEMS

General

EMC problems

■ Description

The controllers from EWS are developed and manufactured according to the “CE-directives”.
In practice there are devices which are causing emissions higher then the limits as described in the CE directives.
The controllers can go into undefined states when the limits are exceeded.
We give you an overview of possible causes and an overview of checks you can make.

■ Overview for possible causes

1) Wires for inputs and outputs tight together with tire-wrap or together in one cable tray.
2) Softstarter not installed in the right way
3) Power supply “dirty“
4) Transformer in the neighbourhood.
5) Connected external relays, solenoid switches or solenoid valves without RC network or varistor over coils and / or switching contacts
6) Lightning or one time external noise.
7) Distance between external component and controller to short or to long.

■ Solutions

1) Remove tire wrap.
   If problem not solved separate wired for inputs and outputs
2) Earth connections right ?
   Shielding right ?
3) Connect a filter in the power supply to the controller, as close as possible to the controller.
   (e.g. Filter : Firm : “Belling Lee“ Article : PPF2140-6/01 Supplier : e.g. Farnell)
4) Increasing the distance between controller and transformer
5) Equip the connected relays, solenoid switches ot solenoid valves with a RC network or varistor over coils and (if necessary) varistors over switching contacts.
   Other possibility is to try an solid state relay instead of a standard relay.
   Note : Connect RC network or varistor directly to the coil or switching contact (so not to the terminals of the controller !)
6) A total reset of the controller.
   ATTENTION : After this reset, the controller has to be reprogrammed again.
7) Increase distance or decrease cable length between controller and external component.

■ Check for cause

Check for 1) and 5) :

Possibility a)
- Disconnect all wires connected to the inputs and set all inputs in an inactive state (bridged or opened).
- Switch on the plant and check if the problems are staying.
  (Please note that the controller is not responding to the pressure switches !!)

Possibility b
- Disconnect all wires connected to the outputs.
- Switch on the plant and check if the problems are staying.

If the problems have dissapeared, you can connect the inputs and outputs again and separate the inputs from outputs.
Now you can check again if the problems are staying or have disappeared.