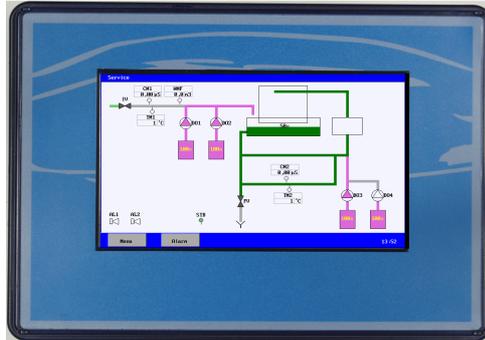




EQUIPMENT FOR WATER TREATMENT SYSTEMS

CTS8000

Controller for Cooling Tower



■ Description

The unit type CTS8000 is universal applicable for automatic monitoring and control of cooling tower plants. There are five possible stages : "Stand by", "Service", "Flushing", "Biociddosing" and "Maintenance".

This unit can monitor conductivity, temperature and several inputs e.g. water meters, level switches, alarm reset flush blocking, flush start etc.. Adaptable to user specific requirements by built-in programmable options. The programmed configuration will be stored into non volatile memory and therefore not be affected by power loss.

■ Features

User Interface

- Colour 7X TFT display (800x480)
- Control through touch panel
- Language : English, French, German, Dutch

Inputs

- 8x Input for potential free switch
- CTS : 1x Conductivity meter (cap, passive) + 1x Temperature meter
- CTI : 1x Conductivity meter (ind., 0-10V)

Expandable with :

- CTS : 3x Conductivity meter (cap, passive) + 3x Temperature meter
- CTI : 1x Conductivity meter (ind., 0-10V)
- Max. 12x input 0 (4) -20mA : Flow, pressure, conductivity, pH and tank level or pulse inputs : paddle wheel flow meter

Conductivity meter

- Automatic range switching
- Cell constants from 0,01 - 10,00 cm⁻¹
- Range from 0,5 - 100.000 µS/cm depending on used cell
- Manual or automatic temperature compensation
- Capacitive cell

Temperature meter

- Range from 0 - 94°C (Δ 32 - 201 °F)
- PT1000

Outputs

- 4x Relay output (powered)
- 3x Relay output (dry contact)

Outputs (optional)

- 7x Additional relay outputs (4x powered / 3x dry contact)
- 6x output 0 (4) -20mA (recorder, soft starter set point)

Memory

- Last twenty alarm messages will be stored.
- Real time clock with "lifetime" battery
- Programming will be stored and not be affected by power loss.

SD Card

- Software updates
- Programming (Save and Load)
- Data log, Process log and Alarm log

Communication (optional)

- RS485 (data log formats : CSV)
- RS232 (data log formats : CSV)
- Webservice
- Email messages (alarm)
- Modbus compatible data reading

Enclosure

- Suitable for wall mounting, panel mounting and plate mounting
- IP65

Power supply

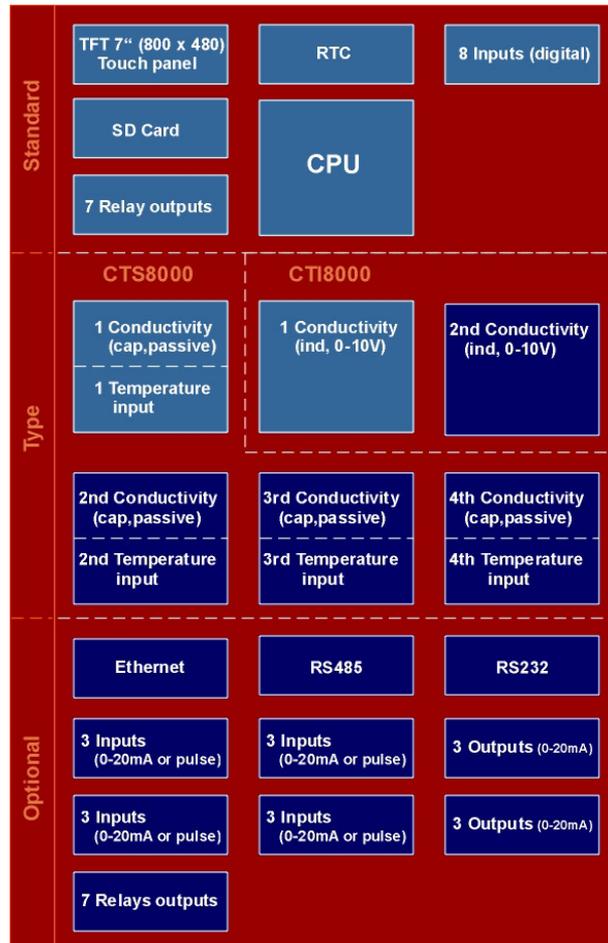
- 24 VAC input / (output = input or extern)
- 115 VAC input / (output = input or extern)
- 230 VAC input / (output = input or extern)
- ¹⁾ 115 VAC input / 24 VAC output
- ¹⁾ 230 VAC input / 24 VAC output
- ¹⁾ 240 VAC input / 24 VAC output



EQUIPMENT FOR WATER TREATMENT SYSTEMS

CTS8000

■ Block diagram



■ Function Table

The relay outputs, digital inputs and inputs 0-20mA are free programmable for the following functions :

| Relay Outputs | Digital Inputs | Inputs 0-20 mA | Outputs 0-20mA |
|---------------------|--------------------------|--------------------|-----------------------|
| Inlet valve | Water meter in | Conductivity meter | Recorder |
| Flush valve | Water meter flush | Temperature meter | Softstarter set point |
| Biocid dosing | Stand by | Flow meter | |
| Proportional dosing | High level switch | Pressure meter | |
| Circulation pump | Low level switch | Tank level | |
| Alarm | Remote alarm reset | pH | |
| Additional program | Level switch dosing tank | ORP | |
| Service | Pump protection switch | | |
| Stand by | Valve position switch | | |
| Flow pulse | Flush start | | |
| | Flush block | | |
| | | | |
| | | | |
| | | | |



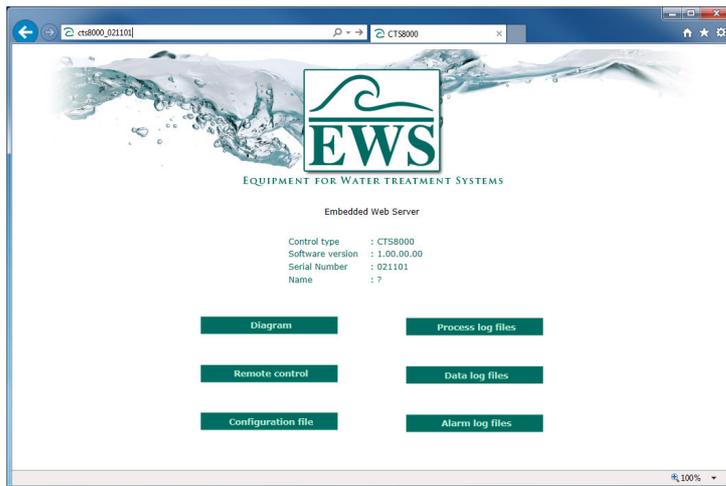
EQUIPMENT FOR WATER TREATMENT SYSTEMS

CTS8000

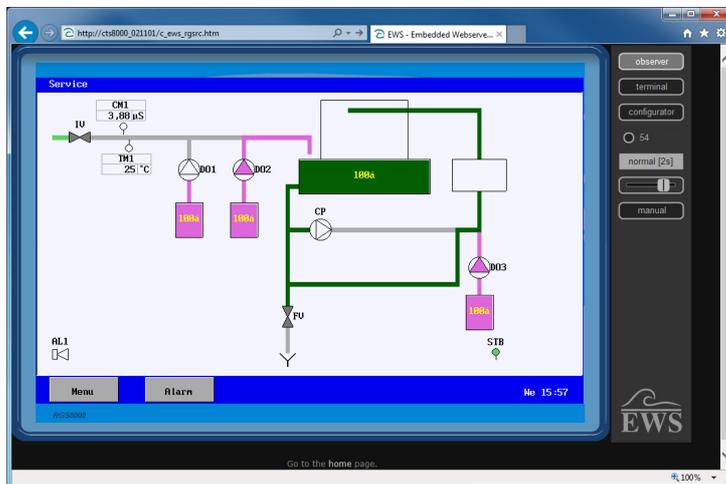
■ Ordering Information

| | | | |
|----------------|---|-----------|--|
| CTS8000 | | | |
| CCS8000 | With capacitive conductivity measurement (passive) | | |
| CIS8000 | With inductive conductivity measurement (0-10V) | | |
| Power supply : | 115 VAC / 24 VAC 230 VAC / 24 VAC 240 VAC / 24 VAC 24 – 240 VAC / output = input 24 – 240 VAC / output = external power | | |
| Communication | without RS232, RS485 and ethernet with RS232, RS485 and ethernet | | |
| Relay outputs | number of circuit boards with 7 relay outputs (4x powered, 3x dry) | (1 – 2) | |
| Conductivity | number of conductivity meters and temperature meters | (1 – 4) | |
| Inputs 0-20mA | number of additional circuit boards with 3 inputs 0-20 mA | (0 – 4) | |
| Outputs 0-20mA | number of additional circuit boards with 3 outputs 0-20 mA | (0 – 2) | |

■ Web browser screen shots



Main menu



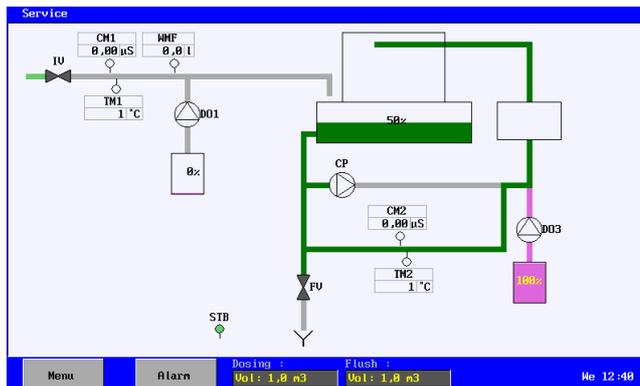
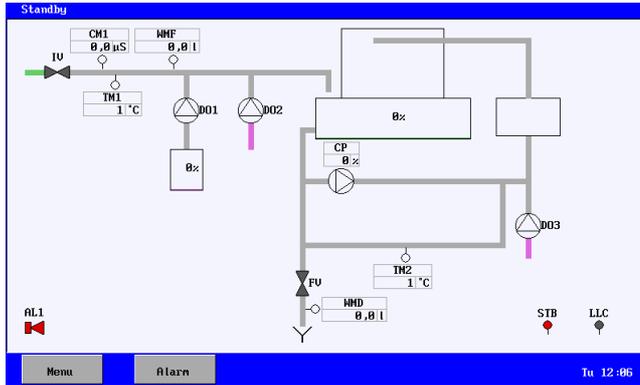
Remote control



EQUIPMENT FOR WATER TREATMENT SYSTEMS

CTS8000

■ General screen shots



| | | |
|----------------|------------|--|
| Main menu | Media 0000 | Ethernet 0100 |
| Manual control | Ethernet | <input checked="" type="checkbox"/> Auton. IP (DHCP) |
| Information | SD Card | IP 192 168 1 5 |
| User settings | Email | NM 255 255 255 0 |
| Installation | RS485 | GM 192 168 1 254 |
| Clock | Harddisk | Port 00 |
| Language | RS232 | |
| Media | | |
| Service | | |
| Security | | |
| Close | Close | Close |

| | | |
|------------------|-----------------|------------------------|
| Programming 2000 | Components 2001 | Conductivity 1 2011 |
| Components | Conductivity 1 | Properties |
| Cooling towers | Temperature 1 | Unity $\mu\text{S/cm}$ |
| | Temperature 2 | Factor 0.75 |
| | Dosing Pump 1 | Monitor Min. |
| | Dosing Pump 2 | Monitor Max. |
| | Dosing Pump 3 | Correction 1.0 |
| | Alarm | |
| | Coolwater tank | |
| | Dosing tank 1 | |
| Close | Close | Close |