# CENTURIO TOWER

Data Sheet

## CONTROL SYSTEM FOR COOLING TOWERS

CENTURIO TOWER

CENTURIO TOWER is the control instrument in cooling tower water treatment, with the ease and safety you need and with the stylish box designed by Giugiaro Design.

CENTURIO is equipped with a Linux operating system, a high-performance ARM A5 microprocessor, a large, touchscreen, color display, in order to give you total and simultaneous control.

Modbus ERMES RS-485 CE

R3-06-20
Specs subject to change without advise

- Parameters: conductivity, chlorine, pH, ORP, tracers, inductive conductivity, corrosion, mA Input.
- 5 channels to combine
- Real-time graphs
- Permanent data storage with system log
- USB Download
- Data import/export (backup & restore) via USB port to other CENTURIO.
- Internet connection (WIFI, 3G/4G or LAN), configuration and control by ERMES web app using PC, smartphone or tablet with any browser.
- MODBUS serial communication to be connected to other devices on RS485 networks and TCP/IP MODBUS.
- Remote software updating preserving settings and data.
- Current feed & bleed display
- Simultaneous multiple view for probes reading
- N.O./N.C. Levels selection
- Inhibitor proportional dosing to wm1, wm2 or both
- Biocide proportional dosing to water meter
- Programmable biocide feed (max 10 per day), selection stop/no alarms for high/low feeding
- Working mode auto/manual/stop
- Permanent data storage with system log
- Stand-by input
- Different working modes (on/off, impulsive proportional, proportional pwm and fixed pwm)
- Pre-bleed (educed water system conductivity before biocide dosing)
- Blow down (discharge control on conductivity values)
- Lockout (discharge valve locked for a settable time, after biocide dosage)
- Timeout (maximum discharge valve opening time)
- Programmable delay at dosing start-up (up to 99 minutes)
- PT 100 temperature compensation
- Alarms and log report (hourly, daily, weekly, monthly).

### HARWARE

- Large 4.3" LCD Full Color Touchscreen Display
- High-performance ARM A5 microprocessor
- Large capacity storage for logging

### SOFTWARE

- ERMES Remote Control
- Multi-language
- Cross platform software
- Communication WIFI - 3G/4G ETHERNET - MODBUS
- High performance with LINUX operating system

### PARAMETERS

- CENTURIO TOWER with conductivity measurement
- 5 Modular channels to combine
- MODBUS TCP/IP and RTU module included
- ETHERNET module included
- USB module included
- WIFI or GSM module as option
- 0-20 mA input module as option to control different parameters remotely

### BOX

- Box design by GIUGIARO DESIGN
- New "EASY-MOUNT" system
- Designed for mounting on pipes
- Opening with side zipper and captive screws

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ISO 9001:2015
ISO 14001:2015
BS OHSAS 18001:2007

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**4 CHANNELS AVAILABLE AND 7 MODULES TO CHOOSE FROM**

CD OR CDIND

\+ CHANNEL 2

\+ CHANNEL 3

\+ CHANNEL 4

\+ CHANNEL 5

+ **pH**
0-14 pH

+ **ORP**
-999/+999 mV

+ **CHLORINE**
DIFFERENT SCALES

+ **TRACERS**
0/999.9 PPM

+ **mA INPUT**
0-20 mA
analog input module

+ **CD**
0.1µS-100MS (K=1)
0.01µS-10MS (K=01)
0.001µS-1MS (K=001)
1µS-1S (K=10)

+ **CDIND**
0-3.000 µS
0-30.000 µS

+ **CORROSION**
MPY
MILS PER YEAR

| TECHNICAL FEATURES | |
|---|---|
| POWER SUPPLY | 85-264 VAC; 50/60 Hz |
| AVERAGE CONSUMPTION | 25 W |
| ON/OFF OUTPUT | 2 relays; 5A @ 230 VAC (fuse protected) |
| ALARM OUTPUT | 85-264VAC alarm output |
| ENVIRONMENT TEMPERATURE | -10°C ... 50°C (14°F ... 122°F) |
| PROTECTION | IP65 - % working RH: 85% with ≤40 °C; 70% at 50 °C (non condensing) |
| POLLUTION LEVEL | 2 |
| ENCLOSURE | ABS |
| TEST/CERTIFICATION | CE |
| DIMENSIONS | refer to the drawing |
| INSTALLATION | vertical wall (4 fixing holes) |
| COMMUNICATION | ETHERNET / USB / MODBUS |
| OPTIONS [1] | • WIFI configuration [2]<br>• GSM/GPRS configuration [2] |

[1] On request

[2] For configuration features refer to the table at the end of the document.

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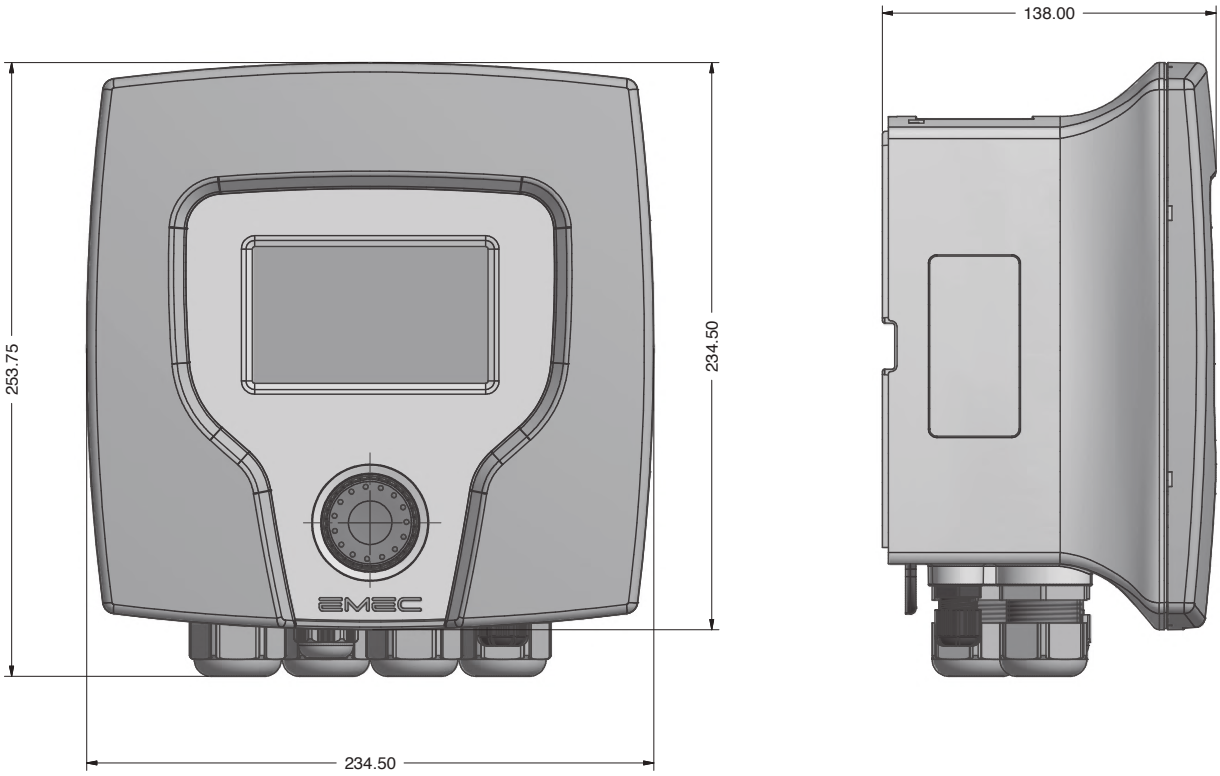
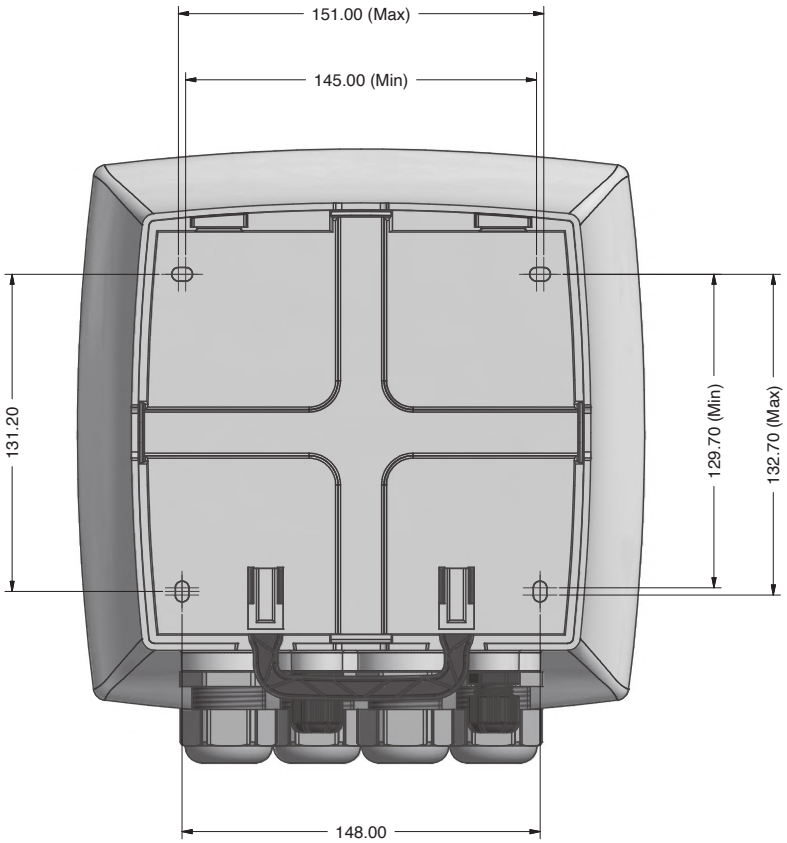
## DIMENSIONS

mm

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| pH MODULE | |
|---|---|
| MEASURING PARAMETER | pH |
| RANGE | 0-14 pH; resolution: 0,01 |
| TEMPERATURE COMPENSATION | PT100 |
| INPUT SIGNAL | PCB |
| INPUT | Stand-by<br>Flow<br>pH level<br>pH probe<br>Temperature probe |
| OUTPUT | 1 relay output (pH)<br>1 Opto coupled output (pH)<br>Alarm output (relay) |

| ORP MODULE | |
|---|---|
| MEASURING PARAMETER | ORP |
| RANGE | -999/+999 mV; resolution: 0,1 |
| INPUT SIGNAL | PCB |
| INPUT | Stand-by<br>Flow<br>ORP level<br>ORP probe<br>Temperature probe |
| OUTPUT | 1 relay output (ORP)<br>1 Opto coupled output (ORP)<br>Alarm output (relay) |

| CHLORINE MODULE | |
|---|---|
| MEASURING PARAMETER | Chlorine |
| RANGE | 0-10 mg/l |
| INPUT SIGNAL | PCB |
| INPUT | Stand-by<br>Flow<br>Chlorine level<br>Chlorine probe<br>Temperature probe |
| OUTPUT | 1 relay output (Cl)<br>1 Opto coupled output (Cl)<br>Alarm output (relay) |

| CONDUCTIVITY MODULE | |
|---|---|
| MEASURING PARAMETER | Conductivity with temperature reading (°C or °F) |
| RANGE | 0.1µS-100mS (K=1)<br>0.01µS-10mS (K=01)<br>0.001µS-1mS (K=001)<br>1µS-1S (K=10) |
| TEMPERATURE COMPENSATION | PT100 |
| INPUT SIGNAL | PCB |
| INPUT | Stand-by<br>Flow<br>Conductivity probe<br>Temperature probe |
| OUTPUT | 2 relay output (Conductivity and alarm)<br>Alarm output (relay) |

| INDUCTIVE CONDUCTIVITY MODULE | |
|---|---|
| MEASURING PARAMETER | Inductive conductivity with temperature reading (°C or °F) |
| RANGE | 0-3.000 µS<br>0-30.000 µS |
| TEMPERATURE COMPENSATION | PT100 |
| INPUT SIGNAL | PCB |
| INPUT | Stand-by<br>Flow<br>Sonda conducibilità<br>Temperature probe |
| OUTPUT | 2 relay output (Conductivity and alarm)<br>Alarm output (relay) |

| TRACERS MODULE | |
|---|---|
| MEASURING PARAMETER | Tracers |
| RANGE | 0-999.9 ppm; resolution: 0,1 ppm |
| INPUT SIGNAL | PCB |
| INPUT | Stand-by<br>Flow<br>Trc level<br>Trc probe<br>Temperature probe |
| OUTPUT | 1 relay output (Trc)<br>1 Opto coupled output (Trc)<br>Alarm output (relay) |

| mA MODULE | |
|---|---|
| MEASURING PARAMETER | 0-20 mA analog generic input module (editable measuring unit) |
| INPUT SIGNAL | PCB |
| INPUT | Stand-by<br>Flow<br>level<br>Temperature probe |
| OUTPUT | 1 relay output<br>1 Opto coupled output<br>Alarm output (relay) |

## CONFIGURATIONS

| INSTRUMENT CONFIGURATION | PLUS | WHEN | REQUIREMENTS | FUNCTION |
|---|---|---|---|---|
| **USB** | USB output | You do not need a PC on your plant: you can download data log on a USB device | / | RS485 output to link other EMEC instruments<br>Data Log on USB device |
| **ETHERNET** | LAN network between instrument and web | Remote control via WEB ERMES | LAN wiring (RJ-45) | RS485 output to link other EMEC instruments<br>Web ERMES remote control (PC, smartphone or tablet)<br>Alarm messages via email |
| **MODBUS** | Connection to other devices (PLC) via RS485 | PLC plant management | / | PLC connection output for reading and modifying parameters |
| **GSM/GPRS** [1] | 3G/4G modem between instrument and web | Remote control via WEB ERMES | Network coverage | RS485 output to link other EMEC instruments<br>Web ERMES remote control (PC, smartphone or tablet)<br>Alarm messages via email<br>Alarm messages via SMS |
| **WIFI** [1] | WIFI network between instrument and web | Remote control via WEB ERMES | Network coverage | RS485 output to link other EMEC instruments<br>Web ERMES remote control (PC, smartphone or tablet)<br>Alarm messages via email |

**[1] Option**