

Device GIGAtronic TWD on the base of PLC Schneider Electric

GIGAtronic TWD serves for:

- Monitoring and registration of parameters of the crane according to ISO 12482-1
- Protection against overloading and unloading, control of lifting
- Technological weighing the load by means of tensiometer sensors
- Positioning of the travel mechanisms

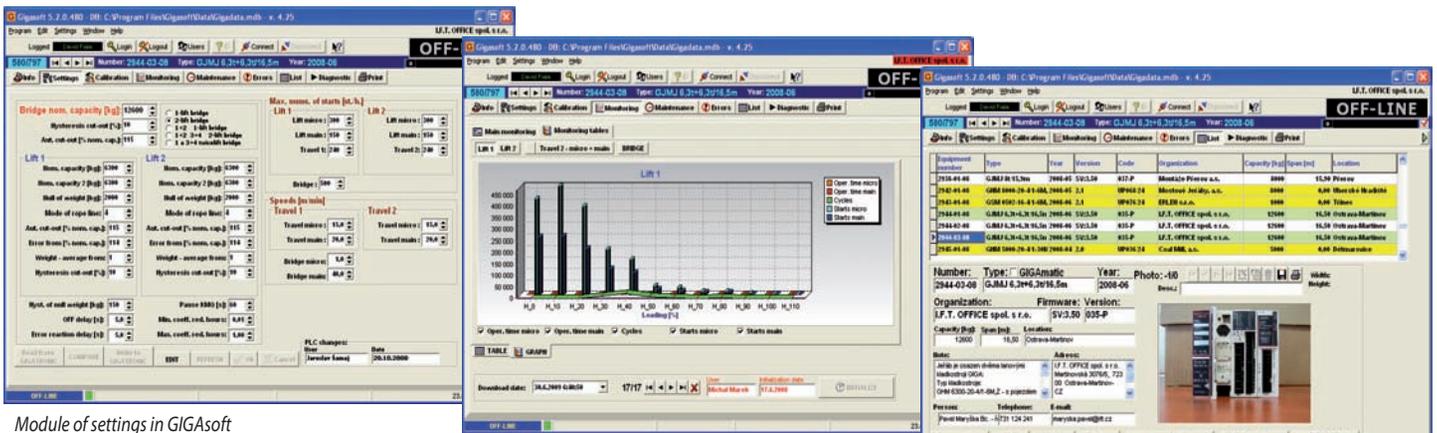
GIGAtronic with software GIGAsoft offers following standard functions:

- Storing all cranes' data in a sophisticated database
- Adjusting an optional overload limit for the crane girder and the hoists 1 and 2
- Easy two-step calibration with automatic calculation of the limit
- Working time for the monitored drives
- Number of switching-on for all monitored drives
- Number of working cycles for the main and axillary lifting mechanisms
- Data of the load spectrum for the crane (hoist), including calculation of reduced working hours
- Maintenance intervals for different parts of the crane, including signalization with using the visualization software
- History of overloads and alarms with real data and time
- Displaying the status of the remote inputs and outputs
- Displaying the actual weight on the large-screen segment display
- Photo archive for every new application in the database (for example, photos of production plates, a general view of the crane etc.)
- Wireless print of weight protocols, incl. sophisticated database (for example, the name of the firm, date, time, gross and net weight, tare)



GIGAtronic TWD

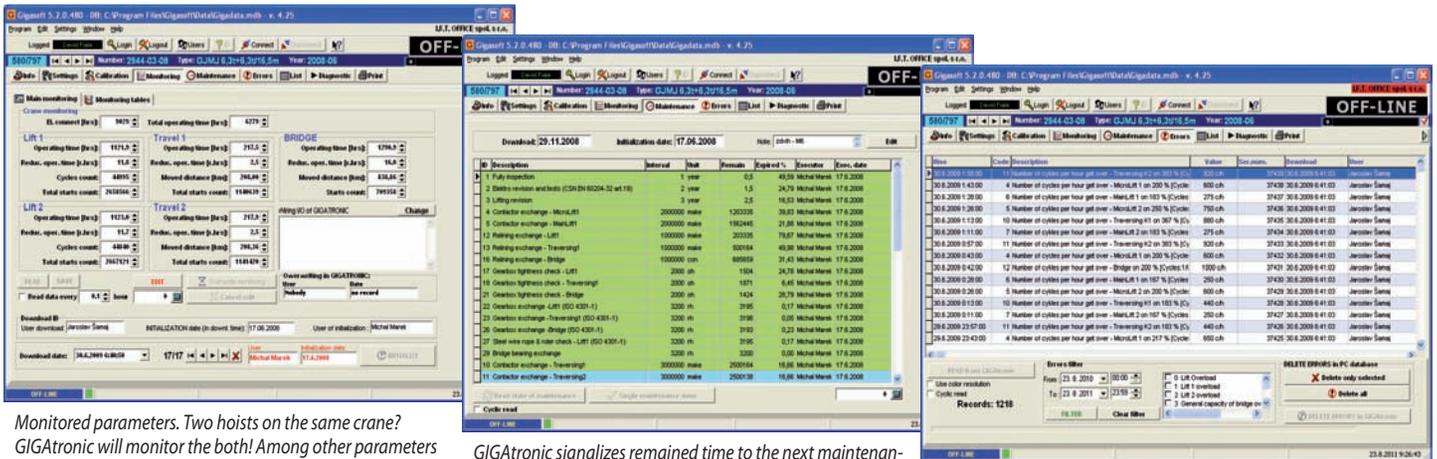
Examples of GIGAsoft screens:



Module of settings in GIGAsoft

Displaying the load spectrum of the operated crane with respect of reduced working hours - it can be showed as a table or graphic. Step of displaying - 10% of loading.

Database with archive of all cranes with full text searching, including photo documentation.

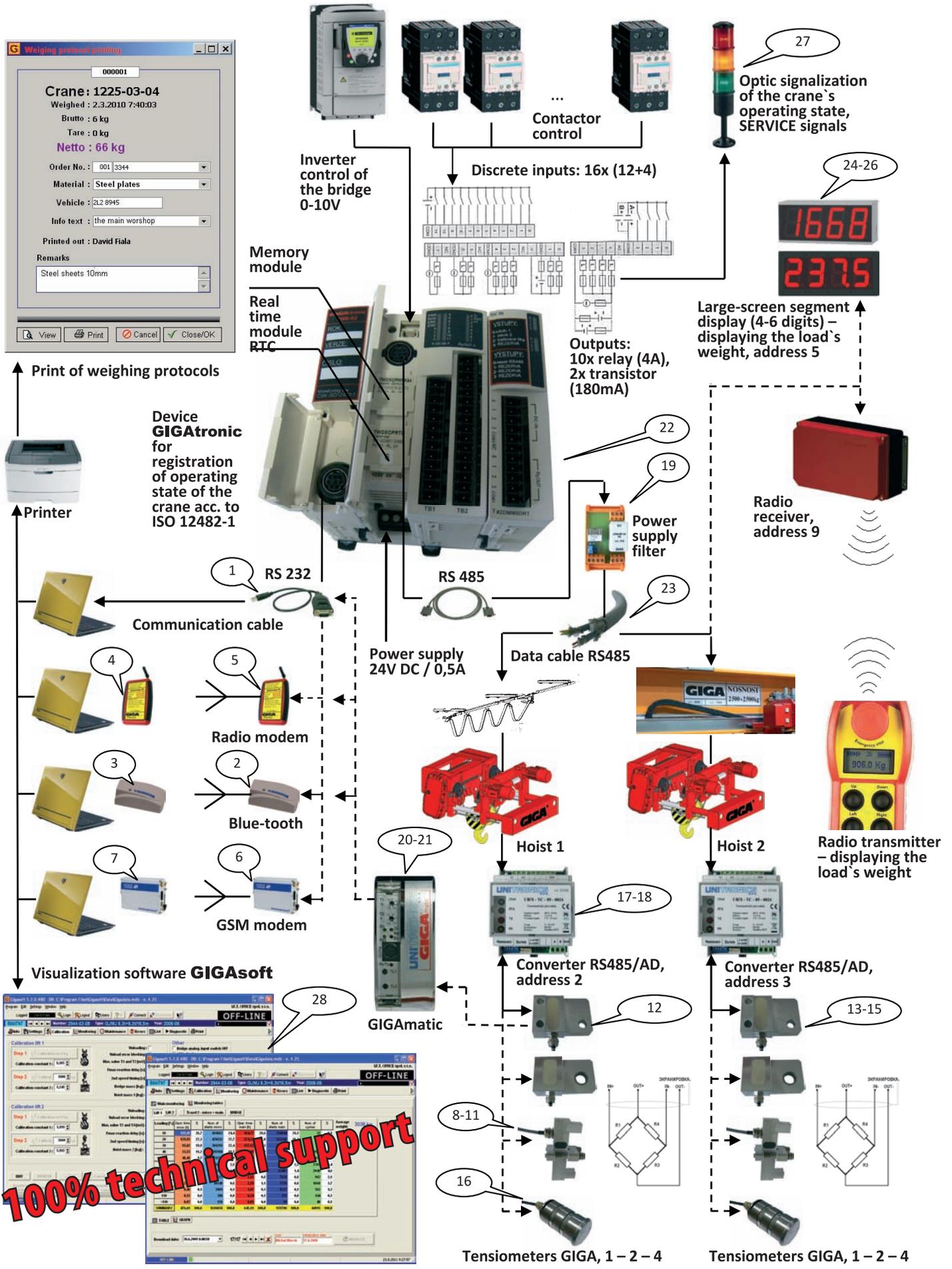


Monitored parameters. Two hoists on the same crane? GIGAtronic will monitor the both! Among other parameters GIGAtronic calculates reduced working hours.

GIGAtronic signals remained time to the next maintenance. You don't need any more to fill a operational protocol of the crane. GIGAtronic will perform it instead of you by itself in real time.

Alarm list for the monitored crane

BLOCK SCHEME of GIGAtronic



100% technical support

Modular system **GIGAtronic** can consist of the next components:

Communication:

1. Comm. cable PC-**GIGAtronic** - 10m (Minidin8 / COM9)
2. Bluetooth for **GIGAtronic**, outreach 10m
3. Bluetooth for PC, in USB port, outreach 10m
4. GIGA-DECT-PC - radio modem (868MHz) for PC, in USB port, outreach 1,0km
5. GIGA-DECT-PLC - radio modem (868MHz) for **GIGAtronic**, outreach 1,0km
6. GSM modem for connection to **GIGAtronic** (SIM card GO)
7. GSM modem for connection to PC (SIM card GO)

The Rope Tensiometers with cover IP65 for the hoists GSM:

8. Rope tensiometer 1L001/5 - for the rope Ø5mm, power 4kN
9. Rope tensiometer 2L001/9 - for the rope Ø9mm, power 12,5kN
10. Rope tensiometer 3L001/11- for the rope Ø11mm, power 32,5kN
11. Rope tensiometer 4L001/14- for the rope Ø14mm, power 32,5kN

Tensiometers installed in the rope holder, IP65, for the hoists GHM:

12. GN-0700-061-S for hoists GHM 800-3200, power 8kN
13. GN-0700-061-S for hoists GHM 3200-5000, power 12,5kN
14. GN-0800-061-S for hoists GHM 6300-12500, power 31,25kN
15. GN-0900-070S for hoists GHM 16000-25000, power 62,5kN
16. D95F375P-001 - pin for hoists GHM 32000-50000, power 375kN

Features of **GIGAtronic**

- Complete monitoring for two hoists installed on the same bridge crane
- Signals from tensiometer sensors are transferred through serial communication RS 485, thanks to which electromagnetic disturbance are significantly eliminated
- Basic model has 16 discrete inputs, 10 discrete and 2 transistor outputs, and can be enlarged by further I-O modules (up to 7pcs) with optional number of inputs and outputs 8-16-32.
- Indication of status by means of LED diodes
- Control of frequency inverters by means of RS 485 Modbus
- Automatic restart in case of communication outage
- Communication RS 232 by means of connection cable or wireless communication through GSM modem, Bluetooth, WiFi, Radiomodem
- Wires are connected by means of the connector terminal
- Real Time Module RTC
- It is possible to connect the large-screen segment display for displaying the load weight through RS 485
- Analogue control (4-20mA / 0-10V) of lifting speed according to actual workload
- Memory for 300 alarm messages with real time and date
- Automatic logging in a firm memory EEPROM
- Precise evaluation of operating cycles according to FEM 9.682
- Minimal sizes 70x90x95mm
- Communication with a PC by way of visualization software GIGAsoft
- All cranes which are already operated and which are equipped with **GIGAtronic** can be additionally equipped with radio remote control with weight displaying

Converter Tensiometers (mV) / RS485 (Modbus)):

17. MPST-3V01M/230V converter for voltage 230V AC
18. MPST-3V01M converter for voltage 24V AC
19. MSF2 power supply filter for **GIGAtronic** with RJ45

GIGAmatic for the hoists:

20. URM-TP-85-0024 **GIGAmatic** for voltage 24V AC
21. URM-TP-85-0230 **GIGAmatic** for voltage 230V AC

GIGAtronic for the bridge cranes:

22. **GIGAtronic TWD02** - 24V DC (16xLI INPUT / 12xLO OUTPUT / RS232 / RS485)
23. Li12YC11Y(2x(2x0,25C12Y))mm² - communication cable for RS485 flexible -35° to +70°C

Segment large-screen display and extern signalization:

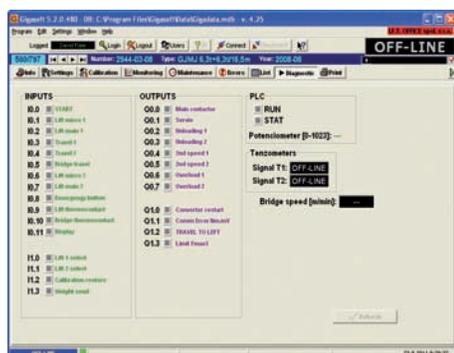
- 24V DC - RS485 Modbus
24. XDM15/4 display 4-digit, high 56mm - IP23
 25. XDM15/5 display 5- digit, high 56mm - IP23
 26. XDM17/6 display 6- digit, high 101mm - IP55 24V / 230V AC
 27. Light column for **GIGAtronic** IP 43 with LED

Visualiziation software for Windows XP-VISTA-W7:

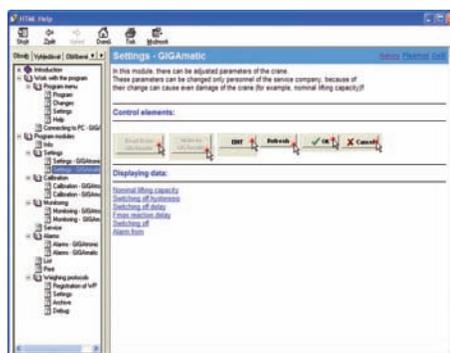
28. **GIGAsoft** - software for downloading and storing data from **GIGAtronic** and **GIGAmatic**



Technological weighing and displaying the actual load weight on the large-screen 4-5-6 digit display. Accuracy of weighing in dependence on an used tensiometer 1-2% from nominal capacity (or less).



Displaying of Inputs/Outputs and remote access state



Interactive help for separate modules of the program GIGAsoft.



Radio modem GIGAmodem PC. One Master modem connected to PC can communicate with up to 10 SLAVE modems installed on cranes which can be remote up to 1,0 km.

Tensiometric overload cut-out GIGAmatic

For less demanding applications, you can use the device GIGAmatic

Tensiometric overload cut-out **GIGAmatic** serves for:

- protection of the lifting mechanism against overloading
- weighing the load and visualization of it in PC.
- monitoring of operational and reduced working time of the lifting mechanism
- adjusting the time delay after switching on to the high lifting speed
- switching over to the Static Test mode

GIGAmatic with software **GIGAsoft** standardly offers the following functions:

- Stores history of events in the memory EEPROM which enables to store data even without extern power supply for the period of min. 10 years
- Further, enables to:
 - overrun of the adjustable load limit
 - control connection of a tensiometric sensor
 - switching over to the mode „static test“ through logical input (key, button,...)
 - calibrate the tensiometric sensor by means of hardware buttons TL1 and TL2
 - switching off the safety relay at overloading
- Besides of that, registers:
 - working time of the hoist
 - working time of the lifting mechanism
 - reduced working time of the lifting mechanism
 - number of switching-on of the lifting brake



GIGAmatic

Types of tensiometers used with GIGAtronic and GIGAmatic:



Tensiometer most frequently used for cranes GIGA. This tensiometer has to be installed into a firm rope holder. It is usually used for the hoists types GHM, GHF



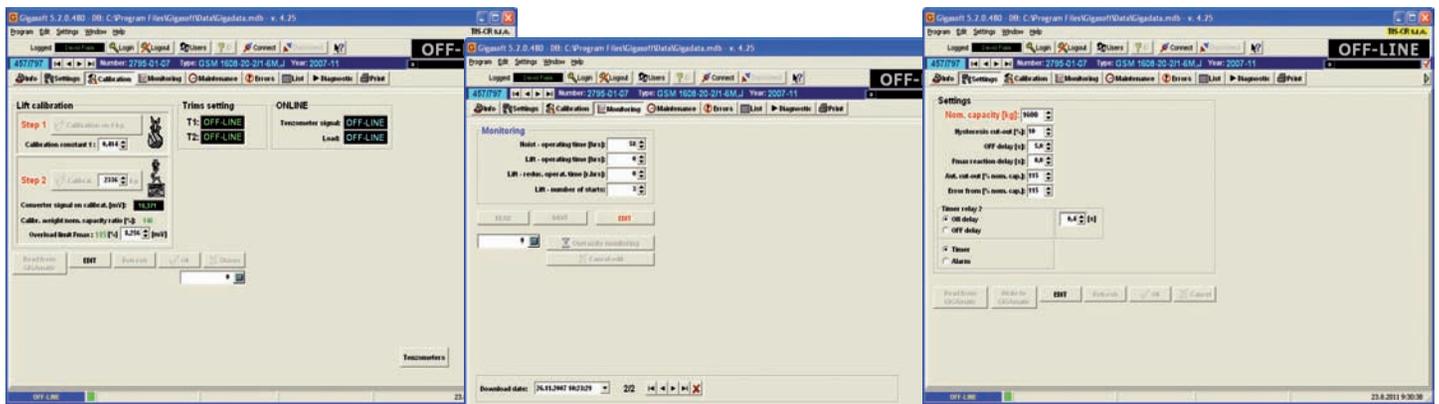
This tensiometer is designed for installation on the rope. It is usually used for the hoists type GSM



Tensiometer pins are usually used for winches.

On your request we can develop even other types of tensiometers.

Samples of screens of GIGAsoft for GIGAmatic:



This display serves for calibration of GIGAmatic device.

Input parameters in GIGAmatic are to be set in the same way as in GIGAtronic – by means of visualization.

Parameters are to be monitored: lifting and travel time, working hours converted into reduced working hours according to real workload of the lifting mechanism, number of switching-on for a lifting mechanism or a brake.

Demanded customers for whom not only reliability and safety of operation but complete set of functions and services are important, will choose the device

GIGAtronic!

GIGA®

Top manufacturer of lifting equipment
of world wide quality
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