## **REZONANS**



## Description

The system is designed to protect the crane from overloading and to register the data of the crane work.

There is appropriate modification of rated capacity limiter system for various types of cranes, which are different by completeness and software.

There is a free link and completion of the sys-

tem for lifting crane makers.

The systems complies with Rostekhnadzor's (Federal Service for Supervision of Environment, Technology, and Nuclear Management) demands.

The system is certified at Russian GOST systems (all-Union State Standard System) and Ukraine UkrSepro.

## **Advantages**

- convenient graphical liquid crystal display console (extension – 202x32);
- operator console with foot mounting and sun visor;
- convenient system setting and parameter setting of the crane;
- displays loading degree by light-emitting diode scale;
- recorder information read-out and rapid parameter loading of the crane into the operator console through SD-card without

- operator console opening;
- parameter register with real time clock;
- connection of operator consoles with digital output signal or standard current output 4-20 milliampere to raise noise immunity of the system;
- crane is equipped with hook, grab, cross bar, electromagnet and spreader;
- usage of electronic components of leading manufacturers.

## System components

### BIO4 series display console

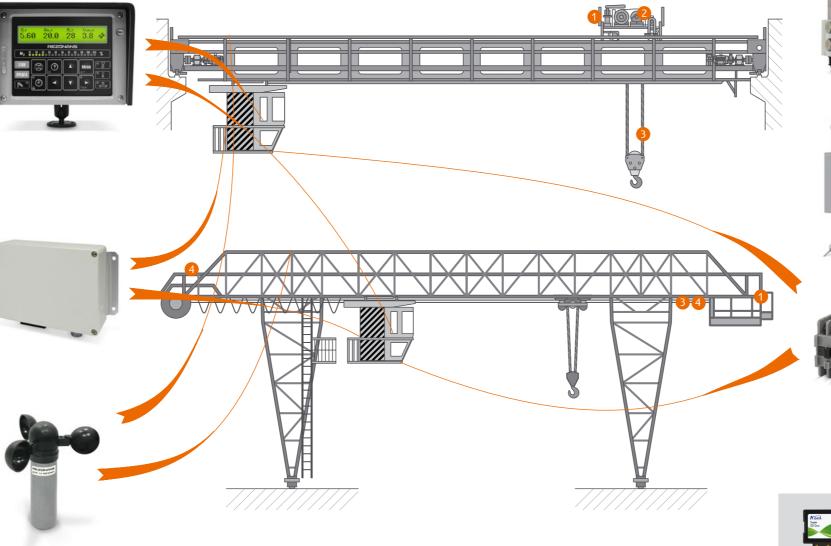
BIO4 was designed as the base control and computing unit. It is used for system work mode and screening the information of the crane work and to form load lifting blocking signal.

# Control module of BVN2 series (It is supplied by additional order)

Input and load unit is designed for processing and transmission of signals from crane's electric circuit to display console. It provides commutation of operation signals of loading winch drive, of crane movements, of boom outreach and rotation.

### Wind Speed Sensors (anemometers) DSW1 series (It is supplied by additional order)

Wind speed sensor is designed to measure wind flow speed and detect dangerous gusts of wind.



## Force sensor of TKS, TSS and TRS series

Subject to the way of the force measurement, sensors can be set up:





on the cargo crane 3,

in load rope stretch mechanism 4.



# Magnetic starter of PM12-010 series

It was designed for expansion (multiplexing) and increment of the loadcarrying capacity of work crane plugs to form control signal of crane mechanism.



By additional order SD-card is supplied for parameter recorder data reading and data loading through the display console. Software for register data analysis and forming crane work statement is recorded to the card.

### **Functionality**

#### Rated capacity limiter

The system automatically forms crane mechanism off signal at load lifting, weight of which is not exceeded maximum load capacity more than 25%. Subject to the crane work regime, lading capacity limitation is carried out at:

- work with the main winch:
- work with the main winch;
- work with two winches and the whole lading capacity of two winches (main and accessory);
- work of winches with defect protection for container lift.

# Caution at acceptable wind speed exceeding

Preliminary alarm switches on at more than 80% of allowable wind speed.

#### Crane parameter measurement

The system defines and screens on the display console:

- load parameters: lading weight on load-handling device, nominal capacity, crane loading efficiency of each winch; wind speech (in the presence of display console of DSV1 series);
- wind speed (at the presence of operator console of DSV1 series);
- setup: selection of crane work mode, selection of operator console number for each winch,

winch load capacity (for the total sum of winches and for each taken separately), console load capacity, weight of hauling device, maximum allowable wind speed, meaning of warp between group of operator console to control a container warp, addition of entry console and loading for system functional expansion and other parameters;

current time and date.

### Datalogger

Built-in records in real-time values of linear and load parameters, as well as state of the input and output of the crane electric circuit, to the volatile memory of OGM240.

During the lifetime of the system keeps additionally the following information:

- the whole crane and mechanism of each two winches running machine hours;
- crane travel mechanism and load trolley running machine hours;
- a number of engaging mechanisms of each two winches;
- a number of operating cycle of each two winches;
- date, time and main parameters of crane work;
- operating parameters of the crane work: loadshearing ratio, loading mode, usage class, group of work mode and characteristic number of each winch.

## REZONANS

Phone/Fax +7 351 731-30-00 10-b, Mashinostroiteley Street, Chelyabinsk, 454119, Russia www.rezonans-tech.com, rez@rez.ru

DS-45361800450110119-EN

| Regional service center: |  |  |  |  |  |
|--------------------------|--|--|--|--|--|
|                          |  |  |  |  |  |
|                          |  |  |  |  |  |
|                          |  |  |  |  |  |