INDILoad

MULTIFUNCTIONAL LIMITER

The main specifications of the system are :

- inputs :
  - 1 load cell mV input
  - 2 analogue inputs (4…20 mA or 0-10 V)
  - 4 digital inputs (contact inputs)

- outputs :
  - 6 safety relays (output controlled by microprocessor)
  - 8 standard relays with 1 common
  - 1 analogue output (4…20 mA or 0-10 V)

- communication :
  - RS485
  - RS232
  - infrared

- human interface :
  - display with 3 LEDs
  - 3 push buttons

This multifunctional system is an electronic device that, having standard software-modules, can be used for different OEM-applications where the control of analogue inputs from load cells and other sensors, digital and serial inputs is required.

The system is developed to comply with all standards of load limiting devices on hoisting equipment and the following main functions could be integrated :
- overload protection
- slack rope protection
- load indication
- communication with other devices (frequency drives, PLC, INDILOAD black box system, PC , …)
- summation of load cell signals
- 8 standard setpoints
- alarm functions
- ……..

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APPLICATION EXAMPLE

Control system for a tower crane

Every tower crane needs a load limiting system. A crane manufacturer uses this multi-functional system with custom made software to protect the crane against overload and slack rope and to control the the speed of the lifting motor related to the load.

A load pin is used as force transducer, giving a mV input to the electronic device.
The functions of the system are :
• load limiting (2 output relays)
• slack rope detection (1 output relay)
• control frequency drive of the lifting motor : 8 relays are switched related to the load (every 12,5 % of the load one relay will be switched ON). These relays control the maximum speed of the frequency drive that commands the lifting motor. More load means lower speed !
• anti-oscillation input (one digital input) : to avoid oscillation by restarting hoisting after an overload, this input must be ON to start lifting again ; the input will be ON when the load is below a programmed level and when all joy-sticks are in zero-position.
• the analogue output 0-10 V is connected to a small display, used as weight indication system