MPC 4IC1-I

MPC 4IC1-I Motion Power Controller

Compliant with BGV C1 and SIL 1 to SIL 3 / EN 61508 (depending upon configuration)

The Motion Power Controller MPC 4IC1-I is an intelligent controller unit in a 19" metal housing for the OMK and VMK hoists* from Movecat in compliance with BGV C1. Thanks to its integrated main processor, it functions as an independent control platform by means of which four hoists or drives can be controlled directly, safely and reliably, no additional control devices nor external safety computer being required. A large, backlit LCD is used to display the operating states of all the connected hoists including their position* and control parameters. The main and safety processors of the MPC 4IC1-I supervise all the functions, whereby the general evaluation of all parameters with implications for safety, including all run conditions, is implemented by one independent safety read-back chain per hoist. An operating fault invariably leads to the affected hoist being shut down. All the requisite relays and safety circuits for excess or insufficient loads as well as the work limit and emergency stop functions for the use of four OMK or VMK hoists are integrated.

A modular concept has been realized here that can be tailored to match the needs of the user. In its basic configuration, the system is equivalent to BGV C1; but it can be upgraded optionally for applications up to SIL 3 / EN 61508 and therefore for the overhead movement of scenery. MPC 4IC1-I is ready for I-Motion network operation, and up to 60 devices can be operated in direct link decentralized group mode via the I-Motion network with NDB-modules in combination with a central controller such as one from the I-Motion series.
The easily differentiated input keys combine with rotary encoders to make the configuration and use of the controller intuitive and simple. The user is guided by a clearly and logically arranged operating structure with output displays. Even complex target* and group* runs are easy to program and execute (*provided the hoist is suitably equipped).

The MPC 4IC1-I is recommended for use with the OMK and VMK hoists and is especially suitable for professional BGV C1 applications in the trade fair, events and entertainment, studio and touring sectors.

FEATURES:

- standard configuration BGV C1 compliant
- three several CPU´s for input/output, program and network with watchdog and interacted control
- optionally upgradable with second CPU to SIL 3 / EN 61508*
- controls and supervises up to four OMK or VMK hoists or adapted three-phase drives
- suitable for night use: all keys and input devices illuminated
- self-testing of all relevant functions prior to system launch
- simple, intuitive operation selection
- selection between possible Movecat hoists with data stored in database
- monitoring and display of all operating conditions such as operating voltage and phase; work* and emergency limit*; temperature* as well as automatic load error, run direction and standby switches; safety relay; position* and insufficient load or dynamic load evaluation*
- run direction and nominal speed tested during encoder operation; fault evaluation of individual hoists and connected group
- load-group-transcending error monitoring even in group mode with up to 60 additional MPC 4IC1 controllers
- management of open and fixed drive groups
- selectable user hierarchy with password protection
- way and time synchronous group runs; permissible tolerance of individual hoists and groups programmable
- 'group synchronous' runs (central up/down movement of previously selected hoists) with several run groups programmable
- 'target runs' on position
- input of software operation limit positions* for raising and lowering
- simple encoder reference run for calibration*
- simple setup option for under- and overload definition*
- auxiliary overload determination through evaluation of nominal speed during encoder operation*
- optional load input and evaluation as summed total load for a load group
- targeted emergency runs over work limit and emergency stop points in conjunction with bypass switch
- memory function for the entire set-up as well as all operating parameters even in case of power failure
- log file display and evaluation via display
- integration in I-Motion-Network-Bus-System, choice of remote or local operation*

*the availability of optional functions depends upon how the controller and drives are equipped

Technical features

- backlit liquid crystal display; display of all operating parameters and states per hoist and group
- backlit keys and encoders
- device status display by means of LEDs
- configuration with four programmable motor protection switches
- emergency stop button, illuminates when activated
- backlit GO button
- key switch for central start-up
- run direction and full run display
- dual channel incremental encoder input with run direction recognition; high-resolution*
- absolute value encoder input SSI high-resolution*
- additional digital inputs and outputs for remote functions*
- I-Motion network input; network addresses programmable
- robust metal housing with two handles

(*optional)

Technical specifications

- Input 16 A CEE with phase-convertible plug (32A CEE HP Version)
- Multipin PMC C8/24M output multi-pin connector (V-Motion compatible)
- NDC C-14F input connector for the I-MOTION network
- I-Motion network 42p input connector
- I/O SUB-D25 male input connector
- max. 2 kW per drive, (HP versions available: 4 kW per drive)
- dimensions: 19", 3 U, T 470 mm (without header strip)
- weight: 17,5 kg
- CE BGV C1 compliant (up to SIL 3 / EN 61508 optional depending upon configuration)

Options / accessories

- plug-in card for incremental encoder
- plug-in card for absolute value encoder
- plug-in card for dynamic load measurement system
- upgrade for SIL 3 / EN 61508 operation
- MRC 4EC1 remote control analog
- I-MOTION remote controller digital
- I-Motion Expert-T system controller
- I-MOTION NDB-6/12, network distribution box
- transportcase

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