

MPC 4IC1

MOVEKET MPC 4IC1 Motion Power Controller
compliant with BGV C1 EN 61508 a SIL 1 to SIL 3

(*depending upon configuration)



The Motion Power Controller 4IC1 represents an intelligent control unit in a 19" metal housing for the OMK and VMK* hoists from Movecat according to BGV C1. Thanks to the integrated main processor, this is an independent control platform with which four hoists or drives can be operated directly at a fixed speed without additional control devices or external safety computers in an operationally secure and user-safe manner. A large backlit LCD shows the operating states of the connected hoists

including their operating parameters. The MPC 4IC1 main and safety processors supervise all functions, whereby the general analysis of all safety-relevant parameters including all run states is implemented in an independent safety chain per hoist. Any operating error therefore leads invariably to the shutting-down of the affected hoist and hoist group. All the contactor switches and safety circuits for operating and emergency limit, as well as over- and underload, functions required for the

operation of four OMK* or VMK* hoists are integrated. A modular concept has been realized that can be adapted precisely to the demands of the user. The system corresponds in its basic configuration to BGV C1, but can be optionally upgraded for applications up to EN 61508 SIL 3 and therefore for scenic runs over human beings. The MPC 4IC1 is prepared for I-Motion network operation, and up to 60 devices can be operated in linked, decentralized group mode with the NDB modules via I-Motion network by means

of a central controller (e.g. I-Motion Expert-T II or Basic). The clearly identifiable input buttons in combination with a rotary/push-button encoder permit the simple and intuitive configuration and handling of the controller. The user is guided by a logical operating structure with display output. Even target* and group* runs can be programmed and executed by this means. (*depending upon the drive configuration)
The MPC 4IC1 solution is recommended for use with the OMK* or VMK* hoists for professional BGV C1 applications in the trade fair, events, studio and touring sectors.

Technical equipment:

- Backlit LCD, display of operating parameters and states per hoist
- Eight function keys and encoders with rotary/press function, backlit
- LED device status display
- Equipped with four adjustable motor protection switches
- E-Stop button, function-illuminated
- GO button, function-illuminated
- Key switch for central start-up with bypass function
- Run direction and overall run display
- Incremental encoder input dual-channel with run direction recognition, high-resolution*~
- Absolute encoder input SSI high-resolution*~
- Additional digital inputs and outputs for remote functions*~
- I-Motion network input, network address determinable
- Robust metal housing with two handles
- Analogue input for MRC

(*optional)



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FEATURES:

- Standard configuration according to BGV C1
- Three separate CPUs for input/output, program and network with watchdog for mutual supervision
- Optionally upgradable with dual CPU to EN 61508* SIL 3
- Controls and supervises up to four OMK or VMK* chain hoists or adapted asynchronous three-phase drives (fixed speed)
- Night-design, buttons and input devices illuminated
- Self-testing of relevant functions prior to system enabling
- Simple, intuitive operation
- Selection of possible drive parameters from stored database
- Supervision and display of operating states such as operating voltage and phase, operation and emergency stop, temperature* as well as load* errors, run direction and readiness protection, safety relay, position* and underload or else dynamic load analysis*~
- Supervision of the run direction and target speeds when encoder-operated, error analysis of individual hoist and connected group*~
- Load-group transcending error supervision, even in groups of up to 60 other MPC 4IC1 controllers
- Management of free and closed* drive groups
- Target runs on position*~
- Target synchronous group run*~
- Group-synchronous run (central up/down movement of previously selected hoists*)
- Input of software operating limit positions* for raising and lowering
- Simple encoder reference run* for calibration
- Simple setup possibility for underload and overload definition*~
- Complementary overload ascertainment through evaluation of the nominal speed when encoder-operated*~
- Bypass function for underload and overload conditions*~
- Bypass function for auxiliary run from emergency stop point
- Testing equipment for limit switch positions in accordance with DIN 56950
- Memory function for the entire setup including all operating parameters even in the event of power failure
- Error warning by means of the display
- Integration into I-Motion network buss system, remote or local operation selection*~

*Some functions depend upon the actual controller/drive configuration

Technical data

- Input: 16 A CEE with phase-changing plug (HP Version 32 A)
- Four drive outputs PMC C8/24FC plug system
- MRC 4EC-I input plug-in connector C40FC
- I-Motion-Network NDC-C14FC input socket
- I/O inputs and outputs, SUB-D25 female
- Max. 2 kW per drive (HP version available with 4 kW each)
- Dimensions: 19"/3U, D 470 mm (without plug-in connector)
- Weight 17.5 kg
- BGV C1 conformity (up to EN 61508 SIL 3 optional, depending upon configuration)

Options / Accessories

- Plug-in card for incremental encoder
- Plug-in card for SSI absolute encoder
- Plug-in card for LMS dynamic load measuring system
- Upgrade for operation in accordance with EN 61508 SIL 3
- MRC 4EC-I analogue remote control
- I-Motion digital remote control
- I-Motion Expert-T, I-Motion Basic Show Controller/-S
- I-Motion NDB-6/12, Network Distribution Box
- Transport case DD 3U

Versions

- variants: SP/HP/HP1
- load measurement
- position detection

* SP = 2,5 - 4,0 A/0,75 - 1,5 kW
 HP = 4,0 - 6,3 A/1,5 - 2,2 kW
 HP1 = 6,3 - 10 A/2,2 - 3,0 kW

Subject to technical modifications and typographical errors.