

**DYNAMIC STAGE
TECHNOLOGY**

MOVE BOOK

**SAFETY FIRST
MADE IN GERMANY**

2018

BGV C1 BGV D8

IGVW SQ P2 D8 Plus

EN 61508 SIL 1 - SIL 3

MOVECAT ECOlite (DC and RC model)

chain hoists compliant with BGV D8 and igvw SQ P2



Movecat's ECOlite chain hoists were developed as economical rigging hoists for use in environments containing media equipment. They are the first choice when it comes to the safe and reliable hoisting and positioning

of trusses, stages, ground support structures and other devices used in media applications. Despite the attractive price point, even in the basic configuration great importance has been attached to professional quality and first-class safety equipment.

Five-fold safety for the chain as well as a high-quality transmission and an efficient DC brake in combination with a patented overload system, naturally, are standard features of this series. The Basicplate chain guide ensures reliable chain transmission and reduces the risk of the chain jamming. The hoists are exceptionally light as well as compact and are recommended in particular for applications where space is limited.

All hoists can be used without conversion either as

climbers or in the standard installation position, and most models can be converted to dual chainfall operation to increase their safe working loads.

ECOlite hoists are supplied as standard with 18 m or 24 m hoisting capacity, a single-hole suspension eyelet, two robust handles, a permanently installed textile chain bag, screwed cable glands with 360° anti-kink protection, DC versions with an HO7RN-F connector cable with a black CEE 4-pin plug and RC versions with a black CEE 4-pin plug for power and a yellow CEE 4-pin plug for remote control.

The hoists are available in both DC (direct control 400 V AC) and RC (remote control/low-voltage 24 V DC) versions and are CE-compliant, tested, and ready for operation at the time of delivery.

The chain hoists are designed for operation with Movecat phase-changing controllers in accordance with DIN 60204-32 and EN 13849-1 and when used accordingly are certified as CE compliant provided the instructions set out in the user manual are adhered to.

A UVV specialist factory inspection prior to first use for mobile applications as well as the VDE 0701/0702 first inspection are also included.

The PLUSlite chain hoists is recommended for day-to-day rigging use when building up and dismantling stage, concert and studio sets in the touring business as well as in the theatrical, studio, multifunction hall and trade fair sectors.

Basic configuration:

- 18/24 m hoisting height
- direct control 400 V AC or remote control 24 V DC
- DC brakes (1)
- overload protection by means of pat. friction clutch
- high-quality, specially hardened transmission
- precision-milled, specially hardened chain-bag wheel with min. 5 chain pockets
- highly robust round steel link chain acc. DIN 5684
- basicplate chain guide
- single-hole eyelet alternatively motor hook
- rotating chain hook
- permanently installed, fold-away textile chain bag
- robust, light alloy cast housing closed on all sides (ECO 250 with plastic covers) with two handles
- black, low-reflective finish RAL 9005
- compact, light construction
- smooth, quiet operation
- convertible to dual chainfall operation (except ECOlite 320)
- use in climbing or standard positions possible without conversion
- 1 m HO7RN-F connector cable with CEE 16 A 4-pin plug (black) DC model
- 1 m HO7RN-F with CEE 16 A 4-pin (black - power) and CEE 16 A 4-pin (yellow - remote control) RC model



MOVECAT ECOlite (DC and RC model)

chain hoists compliant with BGV D8 and igvw SQ P2

TECHNISCHE DATEN	ECOlite 320-4	ECOlite 1000-4	ECOlite 1000-8	ECOlite 1600-4
SWL (*1 chain-fall, upgradable to 2)	320 kg	1000 kg (*12000 kg)	1000 kg (*12000 kg)	1600 kg (*13200 kg)
Hoisting speed at 50 Hz c..	4 m/min	4 m/min (*2 m/min)	8 m/min (*4 m/min)	4 m/min (*2 m/min)
Number of chain falls	1	1 (*2)	1 (*2)	1 (*2)
Motor power	0.30 kW	0.75 kW	2.20 kW	2.20 kW
Duty cycle/Operations per h.	25% / 150	25% / 150	25% / 150	40% / 150
Load chain acc. EN 818-7 DAT	4x12 mm	7x22 mm	7x22 mm	9x27 mm
Weight with 18 m hoist	20 kg	51 kg	51 kg	113 kg
Weight with 24 m hoist	23 kg	61 kg	61 kg	132 kg
Dimensions (LxWxH) w/o chain hook (mm)	317x196x186	374x275x234	374x275x234	506x435x531

Options / Accessories

Suspension	motor hook, optional swivel adapter with ring eyelet, hook block for dual-chain fall operation
Hoisting	height up to max. 60 m (1 chainfall)
Speeds	2 (depends on model and control system)
Internal control	x ² kit for the internal evaluation of a 2-track geared limit switch in DC operation (not 320-4)
Connector cable	Multicorecable with 6-pin multipin connector – RC models
Limit switching	geared limit switch for RC and DC* ² incremental encoder* ³ absolute encoder* ³
Load-sensing	dynamic LME/LMS system * ³ (strain-gauge principle) (* ² with x ² kit or I-controller, * ³ with I-controller and additional equipment)
Running gear	hand and electric
Controllers (DC)	MPC ID8, ED8, LD8, TD8 series and MRC PD8 DC series
Controllers (RC)	MPC ID8, ED8, LD8 RC series
Miscellaneous	transport case, rain cover

MOVECAT UPstage (DC and RC version)

Chain hoist in accordance with BGV D8 / DGUV V54

The Movecat UPstage electric chain hoist is based on the tried-and-tested Compact series. The design objective was to satisfy the demanding requirements of use with events equipment and to combine safety of operation with an ultra-compact, lightweight format to guarantee simple and practice-optimized handling. The salient feature is the light metal housing, which is closed on all sides and offers two metal handles, as well as the outstanding laden/unladen weight ratio (e.g. UPstage 500-4 unladen weight only 32 kg incl. 18.4 m chain, chain bag, chain hook and single-hole eyelet). The UPstage hoist is equipped with specially developed components such as a maintenance-free brake and an overload- safety-friction-clutch that guarantee safe and reliable operation even during prolonged use. The safety friction clutch mounted in front of the brake is a force- and form-fitted implementation. The UPstage hoist complies in every respect with the BGV D8

and DGUV V54 standards. The standard equipment includes a textile chain bag (DIN 4102 B1 compliant), robust handles and the improved, chain-sparing Easyplate chain guide that offers the choice of operation in the standard installation position or as a climbing hoist without conversion. The UPstage is available in both DC (direct control 400 V AC) and RC (remote control/ low-voltage 24 V DC) versions and is supplied CE-compliant, tested, and ready for operation. The chain hoist is designed for operation with Movecat phase-changing controllers in accordance with DIN 60204-32 and EN 13849-1 and when used accordingly is certified as CE compliant provided the instructions set out in the user manual are adhered to. A UVV factory inspection by a specialist prior to first use in mobile applications and the VDE 0701/0702 first inspection are also included. The UPstage chain hoist is recommended for day-to-day rigging use when building up and dismantling



stage, concert and studio sets in the touring business as well as in the theatrical, studio, multifunction hall and trade fair sectors.

Technical data:

Model	UPstage	Load chain EN 818-7 DAT	5.2 x 15 mm
Model	500-4	DC brake	1
Safe working load (1000 kg*1)	500 (1000*1) kg	Protection rating:	IP 54
Hoisting speed	4 m/min (2 m/min*1)	Dimensions	
Hoisting height	18 / 24 m	(HE version L x W x H):	
Load strands	1 (2*1)	without chain hook and	
Power supply:	400 V / 3-phase / 50 Hz (+/- 5 %)	chain container	370 x 240 x 220 mm (DC) 453 x 240 x 220 mm (RC)
Motor power	0.37 KW	Weight (incl. 18 m chain)	31 kg (DC) 31.5 kg (RC)
Duty cycle	0.4	Weight (incl. 24 m chain)	34.5 kg (DC) 35 kg (RC)
Mechanism group (ISO/FEM)			
Hoisting gear	1Am/M4		
Load chain	2m/M5		
		incl. chain bag, chain hook and single-hole eyelet	

MOVECAT UPstage (DC and RC version)

Chain hoist in accordance with BGV D8 / DGUV V54

Technical features:

Suspension type	single-hole eyelet, optional motor hook
Hook implementation:	chain hook, rotatable
Load strands	1 (2*1 upgradable to 2 chainfalls)
Chain guide	Easyplate
Chain bag	textile (permanently installed)
Handles	2 robust aluminium handles
Motor	force-cooled
Connector cable	DC version 1 m HO7RN-F connector cable with CEE 16 A 4-pin plug (black) RC version 1 m HO7RN-F connector cable with CEE 16 A 4pin plug (black - Power) and CEE 16 A 4-pin plug (yellow - remote control), optional 6-pin Multipin plug

Options / Accessories:

Suspension	Motor hook, swivel adapter with eyelet and hook block for dual chainfall operation
Hoisting height	up to 60 m (1 chainfall)
Internal control	X ² kit for the internal evaluation of a 2-track geared limit switch in DC mode
Connector cable	Multi-core cable with 6-pin Multipin plug - RC version
Limit switching	2-track geared limit switch for RC and DC* ² Incremental encoder* ³ Absolute encoder* ³
Load-sensing	Dynamic LME/LMS system* ³ (strain gauge principle)
Running gear	Manual and electric trolleys
Controller (DC)	MPC ID8, ED8, LD8, TD8 and MRC PD8 DC series
Controller (DC)	MPC ID8, ED8, LD8 RC series
Miscellaneous	Transport case, rain cover (* ² with x ² -Kit or I-Controller and additional equipment, * ³ only I-Controller and additional equipment)
additional equipment	* ³ only I-Controller and additional equipment

PLUS-C 250-4

MOVECAT

MOVECAT PLUS-C 250-4 (DC and RC model)

Chain hoist compliant with igvw SQ P2 D8 Plus

The Movecat Plus-C 250-4 electric chain hoist is based on the tried-and-tested Compact series. It was designed to satisfy the demanding requirements of use with events equipment and to combine safety of operation with a compact, lightweight format to guarantee simple and practice-optimized handling.

Their principal characteristic is a well-balanced central transmission block to which the drive motor is flange-mounted directly at the side. This makes possible, in connection with the protected fan wheel, optimal heat dissipation and thereby an extended duty cycle. Thanks to the off-centre modular structure, it has proved possible to optimize the design of all components to achieve an outstanding laden-to-unladen weight ratio (e.g. Plus-C 250-4 unladen weight only

31 kg incl. 18 m chain).

The Plus-C hoist is equipped with specially developed components such as two independent, maintenance-free brakes and an overload-safety-friction-clutch that guarantees safe and reliable operation even in continuous use. The safety friction clutch mounted in front of the brakes is a force- and form-fitted implementation. All the bearing parts exhibit a design factor of 10:1. The Plus-C hoist corresponds in full with the provisions of the igvw SQ P2 D8 Plus standard. The Movecat Plus-C allows setting-up and dismantling as well as installation operations without any need for the otherwise requisite 'secondary' safety component or the time-consuming 'dead hang' of the system that would otherwise be required for D8 applications. The basic con-

figuration includes a textile chain bag, robust handles and the improved, chain-sparing Easy-Plate chain guide that offers the choice of operation in standard installation positions or as a climbing hoist without conversion.

The Plus-C 250-4 is available in both DC (direct control 400 V AC) and RC (remote control/low-voltage 24 V DC) versions and is CE-compliant, tested, and ready for operation at the time of delivery. The chain hoist is designed for operation with Movecat phase-changing controllers in accordance with DIN 60204-32 and EN 13849-1 and when used accordingly is certified as CE compliant provided the instructions set out in the user manual are adhered to.

A UVV specialist factory inspection prior to first use for mobile applications as well as the VDE 0701/0702 first inspection are also included.

The PLUS-C chain hoist is recommended for day-to-day



rigging use when building up and dismantling stage, concert and studio sets in the touring business as well as in the theatrical, studio, multifunction hall and trade fair sectors.

Technical data:

Model	PLUS-C
Type	250-4
Safe working load	250 kg (500 kg *)
Hoisting speed	4 m/min (2 m/min *1)
Hoisting height	18 m
Chain-falls	1 (2*1)
Power supply	400 V/3 P/50 Hz (+/- 5 %)
Motor power	0.37 kW
Duty cycle	50 %
Mechanism group	(ISO/FEM)
Hoisting gear	1Am / M4
Load chain	2m/M5
Load chain	EN 818-7 DAT 5.2 x 15 mm
Independent DC brakes	2
Protection rating	IP 54
Dimensions	
(HE version L x W x H)	455 x 250 x 170 mm (without chain hook and chain bag)
Weight (incl. 18 m chain)	31 kg
Weight (incl. 24 m chain):	33.5 kg

PLUS-C 250-4



MOVECAT PLUS-C 250-4 (DC and RC model)

Chain hoist compliant with igvw SQ P2 D8 Plusv

Technical equipment:

Suspension type	single-eyelet, optional motor hook
Hook implementation	rotating chain hook optional swivel adapter with eyelet, hook block for dual-chain-fall operation
Chain-falls	1 (*1 can be upgraded to two)
Chain guide	easy-plate
Chain bag	textile (permanently installed)
Handles	2 robust aluminium handles
Motor	forced-air-cooled
Connector cable	1 m HO7RN-F connector cable with CEE 16A 4-pin plug (black) DC model 1 m HO7RN-F with CEE 16A 4-pin (black - power) and CEE 16A 4-pin (yellow - remote control) RC model

Options / Accessories:

Suspension	motor hook, optional swivel adapter with ring eyelet, hook block for dual-chain fall operation
Hoisting	height up to max. 60 m (1 chainfall)
Internal control	x ² kit for the internal evaluation of a 2-track geared limit switch in DC operation
Connector cable	multicore cable with 6pin multipin connector – RC models
Limit switching	geared limit switch for RC and DC* ² incremental encoder* ³ absolute encoder* ³
Load-sensing (strain-gauge principle)	dynamic LME/LMS system * ³ (* ² with x ² kit or I-controller; * ³ with I-controller and additional equipment)
Running gear	hand and electric
Controllers (DC)	MPC ID8, ED8, LD8, TD8 series and MRC PD8 DC series
Controllers (RC)	MPC ID8, ED8, LD8 RC series
Miscellaneous	transport case, rain cover

MOVECAT PROstage⁺ „THE NEW 750 / 1500 KG*1 CLASS“

chain hoist compliant with IGWV SQ P2 D8 Plus

Movecat's PROstage⁺ chain hoists satisfy the exact requirements expressed by many professional users to Movecat for a D8 Plus rigging hoist with a high load-bearing capacity, compact dimensions and low unladen weight, as the new hoists are capable of carrying safe working loads of 750 kg whilst having almost identical dimensions to, and being only slightly heavier than, a 500 kg D8 Plus rigging hoist.

This has been made possible by the development of numerous new components taking advantage of the very latest technologies and materials. These include a new, high-strength, abrasion-resistant „D-Type“ chain with a black coating (optionally also galvanized silver). Thanks to its innovative geometry and materials, this has a considerably greater load-bearing capacity than a standard round-linked, steel chain. The housing is made from an unusually light, yet at the same time very strong, alloy, making possible a 50% increase in load-bearing capacity compared to a standard D8 Plus hoist of a similar size. The latest materials and production processes are reflected, too, in the gear system, where an increase in strength has been achieved despite the ultra compact format. The further developed Easyplate chain guide delivers still finer performance and reduces the risk of the chain jamming. The fully integrated electric motor has also been optimized, the rated power increased to 1.1 kW and the voltage spectrum expanded to cover a range from 380 to 415 V AC. The result is exceptionally uniform power development across the entire load range and with it a highly constant lifting speed, which particularly in the case of large load networks is responsible for an enormous

increase in functional safety. The hoists can be used according to choice either as climbers or in the standard installation position as well as converted to dual chainfall operation to double their safe working loads. The hoists are exceptionally light as well as compact and are recommended in particular for applications where space is limited.

In the area of maintenance performance, there are also numerous innovations, such as two maintenance-free DC brakes, an attitude-optimized overload device and an integrated operating hours counter to ascertain automatically the remaining useful life.

PROstage⁺ hoists are available in a DC (Direct-Control 400 V AC) version and supplied in conformity with EC norms, tested and ready-for-operation.

PROstage⁺ IGWV SQ P2 D8 Plus chain hoists are supplied as standard with either 18 or 24 metres of lift, a single-hole suspension eyelet, two robust handles, metal cable glands with bend protection, a permanently mounted textile chain bag and as a DC version with a highly flexible Titanex HO7RN-F connector cable with a black CEE 4-pin plug.

In keeping with Movecat's accustomed standards, the hoists are designed for operation with Movecat's phase-reversible control systems in accordance with DIN 60204-32 and EN 13849-1 and when used accordingly are certified as CE compliant.

A UVV factory inspection by a specialist prior to first use in mobile applications and the VDE 0701/0702 first inspection are also included.

Movecat's PROstage⁺ chain hoists inaugurate on the



world market a new, independent 750 kg D8 Plus chain-hoist class with unique load-bearing capacity to dimensions and weight ratios combined with optimal main-

tenance performance and an outstanding price to performance ratio.

They are the ideal hoists for day-to-day rigging in professional applications worldwide.

MOVECAT PROstage⁺ „THE NEW 750 / 1500 KG^{*1} CLASS“

chain hoist compliant with IGVW SQ P2 D8 Plus

Basic configuration

- 18 / 24 m hoisting height
- Direct controller 380 - 415 V AC
- Maintenance-free DC brakes (2)
- Integrated operating hours counter
- Overload protection through patented safety friction clutch
- Special high-tensile D-type chain
- Specially hardened gear system
- Precision-milled, specially hardened chain-sprocket wheel with 5 bags
- Easyplate chain guide
- Single-hole suspension eyelet
- Chain hook, rotatable
- Permanently installed, fold-away textile chain bag (flame-resistant, DIN 4102 B1)
- Robust, light-alloy housing with two handles
- Black, low-reflective finish RAL 9005
- Compact, light construction
- Very smooth and quiet running
- Convertible to dual chainfall^{*1} operation to double the SWL
- Use in climbing or standard positions possible without conversion
- 1 m highly flexible Titanex HO7RN-F connector cable with CEE 16 A 4-pin plug (black) – DC version / direct control

TECHNICAL DATA

	PROstage ⁺ 750
Safe working load (*1 convertible to 2 chainfalls)	750 kg (1500 *1kg)
Hoisting speed at 50 Hz c.	4 m/min (*2 m/min)
Number of chainfalls	1 (*2)
Motor power	1,1 kW
Noise level	< 60 dB(A / 1 m
Duty cycle / Operations per hour	40% / 240
Weight with 18 m lift	60,2 kg
Weight with 24 m lift	68,1 kg
Dimensions (LxWxH) mm	416 x 300 x 235

Options / Accessories

Operating voltage	208 V - 3 PH – 50 – 60 Hz (others upon enquiry)
Suspension	swivel adapter with eyelet and hook block for dual chainfall operation
Lifting height	up to 60 m (1 chainfall), greater distances possible with external chain container
Internal control	X ² kit for the internal evaluation of a 2-track geared limit switch in DC mode
Limit switching	2-track geared limit switch for RC ^{*2} and DC ^{*3} Incremental encoder ^{*3} Absolute encoder ^{*3}
Load-sensing	Dynamic LME/LMS system ^{*3} (strain gauge principle) (*2 with x2-Kit or I-Controller and peripheral equipment, *3 only I-Controller and additional equipment)
Running gear	Manual and electric trolleys
Controllers (DC)	MPC ID8-, ED8-, LD8-, TD8 and MRC PD8 DC series
Controllers (DC)	MPC ID8-, ED8-, LD8- RC series
Miscellaneous	Transport case, rain cover

MOVECAT PLUSlite (DC and RC model)

chain hoist compliant with igvw SQ P2 D8 Plus

Movecat's PLUSlite chain hoists were developed as economical rigging hoists for use in media equipment environments. They are the first choice when it comes to the safe and reliable hoisting and positioning of trusses, stages, ground support structures and other devices used in media applications. Despite the attractive price point, even in the basic configuration great importance has been attached to professional quality and first-class safety equipment.

It goes without saying that load-bearing parts designed for twice the nominal load and a chain with a safety factor of „10“, as well as a high-quality transmission and two efficient DC brakes in combination with a patented overload device, are standard features of this series. The Basicplate chain guide ensures reliable chain transmission and reduces the risk of the chain jamming. The hoists are exceptionally light

as well as compact and are recommended in particular for applications where space is limited.

All hoists can be used without conversion either as climbers or in the standard installation position, and most models can be converted to dual chainfall operation to increase their safe working loads. The PLUSlite chain hoists according to SQ P2 D8 Plus allow setting-up and dismantling as well as installation operations without any need for the otherwise requisite 'secondary' safety component or the time-consuming 'dead hang' of the system that would otherwise be required for D8 applications.

PLUSlite hoists are supplied as standard with hoisting capacities of 18 or 24 metres respectively, a single-hole suspension eyelet, two robust handles, a permanently installed textile chain bag, screwed cable glands with 360° anti-kink



protection, DC versions with an HO7RN-F connector cable with a black CEE 4-pin plug and RC versions with a black CEE 4-pin plug for power and

a yellow CEE 4-pin plug for remote control.

The hoists are available in both DC (direct control 400 V AC) and RC (remote control/low-voltage 24 V DC) versions and are CE-compliant, tested, and ready for operation at the time of delivery.

The chain hoists are designed for operation with Movecat phase-changing controllers in accordance with DIN 60204-32 and EN 13849-1 and when used accordingly are certified as CE compliant provided the instructions set out in the user manual are adhered to.

A UVV specialist factory inspection prior to first use for mobile applications as well as the VDE 0701/0702 first inspection are also included.

The PLUSlite chain hoists are recommended for day-to-day rigging use when building up and dismantling stage, concert and studio sets in the touring business as well as in the theatrical, studio, multifunction hall and trade fair sectors.

Basic configuration:

- 18/24 m hoisting height
- direct control 400 V AC or remote control 24 V DC
- DC brake (2)
- overload protection by means of pat. friction clutch
- high-quality, specially hardened transmission
- precision-milled, specially hardened chain-bag wheel with min. 5 bags
- highly robust round steel link chain acc. DIN 5684
- basicplate chain guide
- single eyelet alternatively motor hook
- rotating chain hook
- permanently installed, fold-away textile chain bag
- robust, light alloy cast housing closed on all sides (PLUSlite 125/160 with plastic covers) with two handles
- black, low-reflective finish RAL 9005
- compact, light construction
- smooth, quiet operation
- convertible for dual chainfall operation (except PLUSlite 160)
- use in climbing or standard positions possible without conversion
- 1 m HO7RN-F connector cable with CEE 16 A 4-pin plug (black) DC model
1 m HO7RN-F with CEE 16 A 4-pin (black - power) and CEE 16 A 4-pin (yellow - remote control) RC model

MOVECAT PLUSlite (DC and RC model)

chain hoist compliant with igvw SQ P2 D8 Plus

TECHNICAL DATA	PLUSlite 160-4	PLUSlite 500-4	PLUSlite 500-8
SWL (*1 chain-fall, upgradable to 2)	160 kg	500 kg (*1 1000 kg)	500 kg (*1 1000 kg)
Hoisting speed at 50 Hz c.	4 m/min	4 m/min (*2 m/min)	8 m/min (*4 m/min)
Number of chain falls	1	1 (*2)	1 (*2)
Motor power	0.30 kW	0.75 kW	2.20 kW
Duty cycle/Operations per h.	25% / 150	25% / 150	25% / 150
Load chain acc. EN 818-7 DAT	4x12 mm	7x22 mm	7x22 mm
Weight with 18 m hoist	20 kg	51 kg	51 kg
Weight with 24 m hoist	23 kg	61 kg	61 kg
Dimensions (LxWxH) w/o chain hook (mm)	317x196x186	374x275x234	374x275x234

TECHNICAL DATA	PLUSlite 1000-4	PLUSlite 1250-4	PLUSlite 1250-8
SWL (*1 chain-fall, upgradable to 2)	1000 kg	1250 kg (*1 2500 kg)	1250 kg (*1 2500 kg)
Hoisting speed at 50 Hz c.	4 m/min	4 m/min (*2 m/min)	8 m/min (*4 m/min)
Number of chain falls	1	1 (*2)	1 (*2)
Motor power	2.20 kW	2.20 kW	3.00 kW
Duty cycle/Operations per h.	25%	25% / 150	25% / 150
Load chain acc. EN 818-7 DAT	9x27 mm	11x31 mm	11x31 mm
Weight with 18 m hoist	115 kg	145 kg	145 kg
Weight with 24 m hoist	135 kg	168 kg	168 kg
Dimensions (LxWxH) w/o chain hook (mm)	506x435x531	643x435x490	643x435x490

Options / Accessories

Suspension	motor hook, optional swivel adapter with ring eyelet, hook block for dual-chain fall operation
Hoisting	height up to max. 60 m (1 chainfall)
Speeds	2 (depends on model and control system)
Internal control	x ² kit for the internal evaluation of a 2-track geared limit switch in DC operation (not 160-4)
Connector cable	Multicore cable with 6-pin multipin connector – RC models
Limit switching	geared limit switch for RC and DC* ² incremental encoder* ³ absolute encoder* ³
Load-sensing	dynamic LME/LMS system * ³ (strain-gauge principle) (* ² with x ² kit or I-controller, * ³ with I-controller and additional equipment)
Running gear	hand and electric
Controllers (DC)	MPC ID8, ED8, LD8, TD8 series and MRC PD8 DC series
Controllers (RC)	MPC ID8, ED8, LD8 RC series
Miscellaneous	transport case, rain cover

Subject to technical modifications and typographical errors.

MOVECAT UPplus (DC and RC version)

IGVW SQ P2 D8 Plus chain hoist



The Movecat UPplus electric chain hoist is based on the tried-and-tested Compact series. The design objective was to satisfy the demanding requirements of use with events equipment and to combine safety of operation with an ultra-compact, light-weight format to guarantee simple and practice-optimized handling.

The salient feature is the light metal housing, which is closed on all sides and offers too metal handles, as well as the outstanding laden/unladen weight ratio (e.g. unladen weight only 33.5 kg incl. 18 m chain, chain container, chain hook and eyelet).

The UPplus hoist is equipped with specially developed components such as two independent, maintenance-free brakes and an overload-safety-friction-clutch that guarantees safe and reliable

operation even in continuous use. The safety friction clutch mounted in front of the brakes is a force- and form-fitted implementation. The UPplus hoist complies in every respect with the IGVW SQ P2 D8 Plus standard based on DIN 56950-1: 2012-05. The Movecat UPplus allows setting-up and dismantling as well as installation operations without any need for the otherwise obligatory 'secondary' safety component or the time-consuming 'dead hang' of the system that would otherwise be required for D8 applications.

The basic configuration includes a textile chain bag, robust handles and the improved, chain-sparing Easy-plate chain guide that offers the choice of operation in standard installation positions or as a climbing hoist without conversion.

The UPplus is available in both DC (direct control) and RC (remote control/low-voltage 24 V DC) versions and is supplied CE-compliant, tested, and ready for operation.

The chain hoist is designed for operation with Movecat phase-changing controllers in accordance with DIN 60204-32 and EN 13849-1 and when used accordingly is certified as CE compliant, provided the instructions set out in the user manual are adhered to.

A UVV factory inspection by a specialist prior to first use in mobile applications and the VDE 0701/0702 first inspection are also included. The UPplus chain hoist is recommended for day-to-day rigging use when building up and dismantling stage, concert and studio sets in the touring business as well as in the theatrical, studio, multifunction hall and trade fair sectors.

Technical data:

	UPplus	UPplus
Model	250-4/320-4	250-8
Type	250 kg (500 kg*)/250 kg	250 kg
Safe working load	250 kg (500 kg*)/250 kg	250 kg
Hoisting speed	4 m/min (2 m/min*)/4m/min	8 m/min
Hoisting height	18 m/24 m	18 m/24 m
Chain-falls	1 250 kg (2*)/1 320 kg	1 (2*)
Power supply	380 - 415 V/3 Ph/ 50 Hz (+/-5 %)	380 - 415 V/3 Ph/ 50 Hz (+/-5 %)
Motor power	0.37 KW	0.55 KW
Duty cycle	40 %	40 %
Mechanism group	(ISO/FEM)	(ISO/FEM)
Hoisting gear	1Am/M4	1Am/M4
Load chain	2m/M5	2m/M5
Load chain EN 818-7 DAT	5.2 x 15 mm	5.2 x 15 mm
Independent DC brakes	2	2
Protection rating	IP 54	IP 54
Measurements (HE version L x W x H)	420 x 240 x 220 mm	420 x 240 x 220 mm
without chain hook and chain container		
Weight (incl. 18 m chain)	33.5 kg	33.5 kg
Weight (incl. 24 m chain)	37.0 kg	37.0 kg
incl. chain container, chain hook and eyelet		

MOVECAT UPplus (DC and RC version)

IGVW SQ P2 D8 Plus chain hoist

Technical features:

Suspension type:	Eyelet, optional motor hook
Hook implementation::	Chain hook, rotatable
Chain-falls:	1 (2* upgradable to 2 chain-falls) Typ 320-4 singel chain-falls
Chain guide:	Easyplate II
Chain container:	textile (permanently installed)
Handles:	2 robust aluminium handles
Connector cable:	DC version: 1 m HO7RN-F connector cable with CEE 16 A 4-pin plug (black) RC version: 1 m HO7RN-F connector cable with CEE 16 A 4-pin plug (black Power) and CEE 16 A 4-pin plug (yellow Remote Control)

Options / Accessories:

Suspension	Motor hook, swivel adapter with eyelet and hook block for dual-chainfall operation
Hoisting height:	up to 60 m (1 chain-fall)
Internal control:	X ² kit for the internal evaluation of a 2-track geared limit switch in DC mode
Connector cable:	Multicore cable with 6-pin Multipin plug RC version
Limit switching:	2-track geared limit switch for RC and DC* ² Incremental encoder* ³
Load-sensing:	Dynamic LME/LMS system* ³ (strain gauge principle)
Running gear:	Manual and electric trolleys
Controller (DC):	MPC ID8, ED8, LD8, TD8 and MRC PD8 - DC series
Controller (RC):	MPC ID8, ED8, LD8 - RC series
Miscellaneous:	Transport case, rain cover

*² with x² Kit or I-Controller and peripheral equipment

*³ only I-Controller and peripheral equipment

MOVECAT OMK fixed-speed chain hoists compliant with BGV C1 and DIN 56950

OMK electric chain hoists were developed in direct connection with Movecat's MPC EC1 and IC1 control systems so as to form with them a single unit offering the maximum in operational safety and functional versatility for professional BGV C1 point hoist applications. The high degree of functional safety, such as the targeted monitoring and supervision of the operational and emergency limit positions, underload and overload* (*optional), power supply and duty cycle of every individual hoist ensures reliable operation. The field of application is assistance with setting-up and dismantling operations in fixed installations and simple stage runs and scene changes, including the suspension of loads over human heads. In the basic configuration, the safety equipment com-

prises two independent DC brakes, an adjustable underload cut-out, a four-track geared limit switch, and a patented overload system for the protection of the drive and the chain. Continuous force and form closure without interruption between the brakes and the load as well as the safe suspension of the load are guaranteed under all circumstances and at all times. OMK hoists are equipped with an internal status and test board. This employs Movecat's 'traffic light' principle to indicate without ambiguity the current operating status and contains the testing equipment required by DIN 56950 for the operating and emergency limit switches, load-measuring system and brakes. The standard version of the OMK hoists is equipped with

a single eyelet suspension, with an integrated underload cut-out on the motor side, and with a hook on the chain side. The use of a special gear in connection with a chain-bag wheel plus five or more chain-link bags makes smooth and quiet operation possible. Incremental and absolute encoders, thermal overload protection, dynamic load measuring systems, additional chain storage capacity and trolleys are available as options for OMK hoists. The modular component set permits cost-efficient, project-specific adjustments even in the case of complex and highly exacting application and safety demands. The requisite control contactors and the power electronics are accommodated in the external controllers. Freely scalable, powerful integrated systems in accor-



dance with BGV C1 can be realized even in mounting locations that are hard to access. The operating statuses are indicated by the relevant MPC controller and on the remote controls.

OMK hoists are ready for use with Movecat MPC EC1 and IC1 controllers in accordance with DIN 60204-32 and EN 13849-1 and when used accordingly are certified as CE compliant, provided the instructions set out in the user manual are adhered to. A UVV specialist factory inspection and the VDE 0701/0702 first inspection are also included.

OMK hoists are the first choice for professional use in theatres and studios as well as conference, trade fair and multi-function halls, clubs, trade fair booths, shows and events.

Basic configuration:

- Hoisting height: up to 30 m
- Convertible to dual chainfall operation (twice the load-bearing capacity, half the speed)
- Standard installation position (optionally as climbing hoist)
- Compact, light construction
- Smooth, quiet operation
- Long duty cycle
- Precision-milled, specially hardened chain-bag wheel with at least 5 bags
- High-quality, specially hardened gear mechanism
- Overload protection by means of a patented friction clutch
- Braking system with two independent DC brakes, individually testable
- BG-tested geared limit switch for raising and lowering, operation and emergency limit
- Underload/slack chain shutdown
- Status board with 'traffic light' display and test board for the independent testing of brakes and limit switches
- Basicplate chain guide
- Highly robust, roundsteel link chain acc. DIN 5684
- Chain hook, rotatable
- Permanently installed, textile chain bag
- Robust, light alloy cast housing closed on all sides (LMK 125 with plastic cap)
- Black, low-reflective finish RAL 9005
- Protection rating: IP 54 / Class F
- Connection via an internal terminal strip (optional hybrid connected cable with C8/24 multi-pin plug)

MOVECAT OMK fixed-speed chain hoists compliant with BGV C1 and DIN 56950

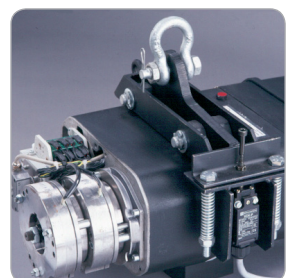
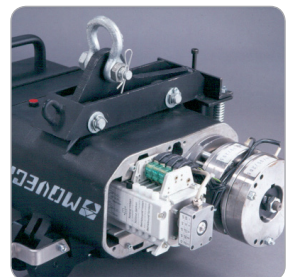
TECHNICAL DATA	OMK-C	OMK 500-4	OMK 500-8
SWL (*1 upgradable to 2 chainfalls)	250 kg (*1500 kg)	500 kg (*11000 kg)	500 kg (*11000 kg)
Hoisting speed at 50 Hz c.	4 m/min (*12 m/min)	4 m/min (*12 m/min)	8 m/min (*14 m/min)
Number of chainfalls	1 (*2)	1 (*2)	1 (*2)
Motor power	0,37 kW	0.84 kW	0.84 kW
Duty cycle/Starts per hour	50% / 240	40% / 240	40% / 240
Load chain acc. DIN 5684-8	5,2x15 mm	7x22 mm	7x22 mm
Weight without chain	24,5 kg	41 kg	41 kg
Chain weight/m	0,8 kg	1.10 kg	1.10 kg
Dimensions (LxWxH) w/o chain hook (mm)	583x238x198	512x361x311	512x361x311

TECHNICAL DATA	OMK 1250-4	OMK 1250-8	OMK 1000-4
SWL (*1 upgradable to 2 chainfalls)	1250 kg (*12500 kg)	1250 kg (*12500 kg)	1000 kg *3
Hoisting speed at 50 Hz c.	4 m/min (*12 m/min)	8 m/min (*14 m/min)	4 m/min
Number of chainfalls	1 (*2)	1 (*2)	1
Motor power	3.00 kW	3.00 kW	2.20 kW
Duty cycle/Starts per hour	40% / 240	40% / 240	40% / 240
Load chain acc. DIN 5684-8	11x31 mm	11x31 mm	9x27 mm
Weight without chain	95 kg	95 kg	80 kg
Chain weight/m	2.70 kg	2.70 kg	1.80 kg
Dimensions (LxWxH) w/o chain hook (mm)	599x486x382	599x486x382	569x480x360

*3 DIN 56950-1:2012-05, Chain safety factor dyn.8

Options / Accessories:

Suspension	motor hook, swivel adapter with eyelet and hook block for dual-chainfall operation
Hoisting height	up to 60 m (1 chainfall)
Speeds	2 (depending on model and controller)
Connector cable	hybrid multi-core cable with 8/24-pole multi-pin plug
Limit switching	2-channel incremental encoder*2 high-resolution absolute encoder*2 29-bit resolution
Load-sensing	dynamic LME/LMS real-time load measuring system*2 (strain gauge principle)
Motor protection	protections against thermal overload (self-resetting)
Running gear	manual and electric trolleys
Controllers	MPC EC1 or IC1 series
Miscellaneous	carrier handles, climbing hoist kit, transport case, rain cover (*2 I-Controller and additional equipment)



Subject to technical modifications and typographical errors.

MOVECAT VMK-L chain hoists

for variable and fixed speeds in accordance with BGV C1 and DIN 56950



The VMK-L hoists according to BGV C1 are notable for their innovative feature set and unusually flexible handling, whilst satisfying at all times the highest standards of safety. Particularly remarkable are the two indepen-

dent DC brakes, an integrated real-time load-measuring module that ascertains the real load and from it the overload and underload values, and a thermosensor that monitors permanently the operating temperature of the

motor. No less exceptional is the patented overload system that protects the drive and chain. Continuous force and form closure without interruption between brakes and load is at all times guaranteed. Furthermore, a high-resolution, dual-channel incremental encoder is used that allows exact positioning - better than +/- 1 mm (with V-Motion) - and therefore precise target runs with the highest repetition accuracy.

In conjunction with V-Motion Powerpacks, VMK-L hoists can be controlled at variable speeds for way- and time-synchronous runs or else directly (hoists up to 10 m/min) with the MPC 4IC1 controllers at a fixed speed. These high-speed hoists in combination with V-Motion Powerpacks are capable of speeds ranging

from 0 to 40 m/min whilst functioning as a closed-loop system with full torque even during runs continuing beyond the null point (floating state) and reversal of direction without incursion of the brakes.

With their remarkable features, VMK-L hoists are recommended for all high-quality applications in locations such as in TV studios, theatres and events venues demanding maximum performance and safety combined with the widest possible bandwidth of uses.

TECHNICAL DATA

	VMK-L 125- 40	VMK-L 250-33	VMK-L 500-6	VMK-L 500-15	VMK-L 500-24	VMK-L 1250-10
SWL (*1 chain-fall, upgradable to 2)	125 kg	250 kg	500 kg *1	500 kg *1	500 kg *1	1250 kg *1
Hoisting speed at 50 Hz c.	24 m/min	20 m/min	5 m/min	10 m/min	16 m/min	8 m/min
Hoisting speed with V-Motion	0 - 40 m/min	0 - 33 m/min	0 - 6 m/min	0 - 15 m/min	0 - 24 m/min	0 - 10 m/min
Motor power	1.3 kW	2.6 kW	0.9 kW	2.6 kW	3.0 kW	3.0 kW
Duty cycle	25%	25%	40%	40%	40%	40%
Load chain acc. DIN 5684-8	5x15 mm	7x22 mm	7x22 mm	7x22 mm	9x27 mm	11x31 mm
Weight with 18 m hoist	53 kg	64 kg	64 kg	64 kg	110 kg	138 kg
Weight with 24 m hoist	56 kg	64 kg	64 kg	64 kg	120 kg	166 kg
Dimensions (L x W x H) w/o chain hook (mm)	460x196x275	540 x343x372	540x343x372	540 x343x372	605x486x320	640x486x382

Technical data:

- Hoisting height: 3 - 30 m
- Number of chain falls (optional): 1 (2)
- Power supply: 400 V/3 PH/50 Hz
- Protection rating: IP 54/Class F
- 2 independent brakes
- Dynamic load-measuring system
- Geared limit switch tracks: 4
- 2-channel incremental encoder, high-resolution
- Protection against thermal overload

- Installation position: standard
- Suspension type: load-measuring eyeless/chain hook
- Chain guide: Easy Plate
- Chain container; permanently installed

Options / Accessories:

- Transport/carrying handle
- Absolute encoder SSI 29-bit incl.
- V-Motion Variable Motion Powerpack

Subject to technical modifications and typographical errors.

VMK-S II

MOVECAT

MOVECAT VMK-S II chain hoists

for variable and fixed speeds in accordance with BGV C1 and DIN 56950



The VMK-S hoists according to BGV C1, DIN 56950:2012-05 and EN 61508 SIL 3 are notable for their innovative feature set and unusually flexible handling, whilst satisfying at all times the highest standards of safety. Particularly remarkable are the two independent, low-noise and maintenance-free brakes with air gap monitoring, a real-time load-measuring

module integrated in the eyelet that ascertains the real load and from it the overload and underload values, and a thermosensor that monitors permanently the operating temperature of the motor. A friction clutch as overload protection is not required by the VMK-S hoists so that continuous force and form closure without interruption between motor and load is at all times

guaranteed.

Furthermore, a dual-channel incremental encoder on the motor axis and a high-resolution 29-bit absolute encoder on the chain output axis are used. This allows exact positioning – better than ± 1 mm – that can be replicated at all times and therefore precise target runs with the greatest repetition accuracy.

All components have been optimized for particularly quiet operation. These are, in detail, the acoustically insulated container and the narrowly calibrated parts and chains. In conjunction with V-Motion Powerpacks, VMK-S hoists can be controlled at variable speeds for way- and time-synchronous runs or else directly (hoists up to 10 m / min at 50 Hz) with the MPC 4IC1 controllers at a fixed speed. These high-speed hoists (from 10 m/min) in combination with a V-Motion Powerpack are capable of speeds ranging from 0 to 40 m / min whilst functioning as a closed-loop

system with full torque even during runs continuing beyond the null point („floating state“) and reversal of direction without incursion of the brakes. For optimal handling ease, the hoists are equipped with two robust handles. For the secure attachment of moving loads, rotatable and tiltable single-hole eyelets are used. VMK-S hoists are equipped with an internal status- and test-board. This illuminates the relevant operational states and implements the testing systems required by DIN 56950 for the operating and emergency limit switches, load-measuring system and brakes. With their remarkable features, VMK-S hoists represent the elite class on the world market and are recommended for all state-of-the-art applications in locations such as in TV studios, theatres and events venues demanding maximum performance and safety combined with the widest possible bandwidth of uses.

TECHNICAL DATA	VMK-S 125- 40	VMK-S 250-33	VMK-S 500-6	VMK-S 500-15	VMK-S 500-24	VMK-S 1250-10
SWL (*1 chain-fall, upgradable to 2)	125 kg	250 kg	500 kg *1	500 kg *1	500 kg *1	1250 kg *1
Hoisting speed at 50 Hz c.	24 m/min	20 m/min	5 m/min	10 m/min	16 m/min	8 m/min
Hoisting speed with V-Motion	0 - 40 m/min	0 - 33 m/min	0 - 6 m/min	0 - 15 m/min	0 - 24 m/min	0 - 10 m/min
Motor power	1.30 kW	2.60 kW	0.90 kW	2.60 kW	3.0 kW	3.00 kW
Duty cycle	25%	25%	40%	40%	40%	40%
Load chain acc. DIN 5684-8	5x15 mm	7x22 mm	7x22 mm	7x22 mm	9x27 mm	11x31 mm
Weight with 18 m hoist	53 kg	64 kg	64 kg	64 kg	110 kg	138 kg
Weight with 24 m hoist	56 kg	64 kg	64 kg	64 kg	120 kg	166 kg
Dimensions (L x W x H) w/o chain hook (mm)	460x196x275	540 x343x372	540x343x372	540 x343x372	605x486x320	640x486x382

Technical data:

- Hoisting height up to 30 m
- Number of chainfalls: 1 (2)*1
- Protection rating: IP 54 / Class F
- 2 noiseless brakes w. function monitoring
- Dynamic real-time load-measuring system
- Geared limit switch tracks: 4
- Absolute encoder 29-bit resolution
- 2-channel incremental encoder, high-res.
- Protection against thermal overload
- Status- and test-board
- Installation position: standard
- Suspension: LME single-hole suspension eyelet
- Load pickup: swivel adaptor with eyelet
- Chain container; permanently installed
- Transport / carrying handles

Options / Accessories

- V-Motion Variable Motion Powerpack
- PMC-HV hybrid cable
- Transport case

Subject to technical modifications and typographical errors.

VMB-S 250-0.8-24 band hoist

MOVECAT

MOVECAT VMB-S 250-0.8-24 band hoist

complying with DGU V17/18 (BGV C1), DIN 56950-1 and EN 61508 SIL 3

The Movecat VMB-S 250-0.8-24 band hoist for universal theatrical, studio, touring and event applications has been tested in accordance with DGU V17/18 (BGV C1), DIN 56950-1 and DGUV Principle 315-390, and approved for the carrying of loads over people as well as complying with EN 61508 SIL 3.

The Movecat VMB-S 250-0.8-24 band hoist weighs only 105 kilograms and is designed for working loads of up to 250 kilos, which it moves at speeds ranging from 0 („true zero speed“) to 0.8 m/sec over vertical distances of up to 24 metres using a maintenance-free precision steel band. The operating noise level is a nominal 50 dBA/1 m.

The band hoist features a bobbin implementation, whereby the lifting tackle is wound in coils onto a small drum. This makes possible an extremely compact format with small exterior dimensions and a central, perfectly balanced lifting tackle feed.

The lifting tackle itself takes the form of a high-tensile, precision stainless steel band. Steel bands in kinetic systems make exact positioning possible as well as permitting very smooth movement and extremely low operating noise – during both slow and fast runs. The 0.4-mm „wafer-thin“ steel band of the Movecat band hoist commends itself in particular for applications where the load line needs to be „invisible“. The steel band has specially rounded edges to reduce to a minimum any risk of injury. Thanks to the combination of a flexible band feed and swivel bracket, the steel band can be drawn in through angles of +/- 45° from all directions.

It offers a robust, matt black, aluminium housing, closed all round and equipped with two handles, a swivel-mounted yoke with transport arrestors and half-coupler sockets for 30- and 40-mm trusses. Maintenance-free, or else ultra-low-maintenance, mechanical and functional elements guarantee problem-free professional performance. All important parts are made from corrosion-proof materials for professional use and an extensive range of accessories is available for use on the road.

Reduced noise operation as well as features such as the efficient, highly integrated worm gear motor design with an integrated, TÜV-certified transmission failure protection, two independent maintenance-free noiseless brakes (holding brakes), with contact-free function monitoring, high-resolution independent absolute and incremental encoders, four-level gear limit switches for separate operation and emergency evaluation, dual monitoring of transmission motor temperature and a dynamic load-measuring system with function testing round off this practical package. The closed-loop mode allows hovering (true-zero-speed) and change of run direction without incursion of the brakes. To control the temperature of the transmission and motor, the band hoist is equipped with a closed active cooling system (no contamination of the interior) in a low-noise implementation with redundant supervision.

The tried-and-tested Movecat status board with indicators for the most important function parameters as well as test functions in accordance with DIN 56950-1 for the



independent testing of individual brakes and gear limit switches is also integrated.

The hoist can be integrated effortlessly into Movecat's I-Motion network via the V-Motion 40E or 55E by following C8904a user-friendly, „plug and lift“ procedure. The

band hoist is supplied ready-to-use with certificates for the first UVV test performed at the works and the BGV A3 inspection.

The VMB-S 250-0.8-24 corresponds to DGUV V17/18 (BGV C1) and is intended for SIL 3 applications.



VMB-S 250-0.8-24 band hoist



MOVECAT VMB-S 250-0.8-24 band hoist

complying with DGU V17/18 (BGV C1), DIN 56950-1 and EN 61508 SIL 3

Technical data:

- Safe working load: 250 kg
- Lifting speed: 0 to 0.8 m/sec. (true zero speed)
- Acceleration: max. 0.8 m/sec²
- Hoisting height: 24 m
- Band: 45 x 0.4 mm
- Motor output: 3.0 kW
- Duty cycle: S3-40 %
- Brakes: 2 (with contact-free monitoring)
- Absolute encoders: 1 (29-bit)
- Incremental encoders: 1
- Protections against thermal overload: 1 (self-resetting)
- Geared limit switch tracks: 4 (independent with LED visualization)
- Load-measuring system: strain gauge with test function
- Slack-band monitoring 1 (contact-free proximity sensor)
- Connector cables: 1.5 m Movecat PMC-HV with C8/24 plug and metal anti-kink protection
- Dimensions: 716 x 450 x 542 mm (Height x Width x Depth) plus 400 mm band length
- Weight: 105 kg

Options / Accessories:

- Swivel adaptor
- Truss coupler
- Transport case
- V-Motion 40E / 55E

Technical features:

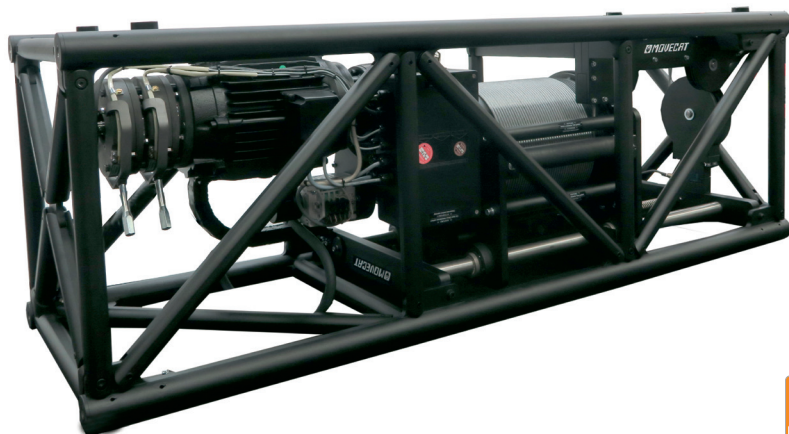
- Robust aluminium housing closed on all sides with two handles
- Matt black overall implementation with scratchproof powder coating
- Maintenance-free basic structure
- Swivel-mounted yoke with transport arrestors and half-coupler sockets for 30 and 40 mm trusses
- Bobbin drum
- Maintenance-free precision steel band with flexible band feed +/- 45° x 45°
- Balanced central band feed
- Efficient worm gear concept with integrated TUV-certified transmission failure protection
- Continuous form closure: motor, brakes, transmission, winding drum, lifting tackle
- Closed loop operation (true zero speed)
- Orientation-independent, dynamic load-measuring system with test function
- Maintenance-free silent double brake with contact-free monitoring
- Ultra low noise: nom. 50 dBA
- Integrated closed active cooling system in a low-noise implementation for the transmission and motor with redundant monitoring
- Movecat status board with TLA-LED indicator as well as integrated test functions for brakes, geared limit switches, strain-gauge load measurement
- Conforms to DGU V17/18 (BGV C1), DIN 56950-1 and EN 61508 - SIL 3
- Factory UVV and BGV A3 inspection
- Preliminary, final and handover inspection in accordance with DGUV Principle 315-390 (formerly BGG 9112) (optional)

VMW-S 125-3-30

MOVECAT

MOVECAT VMW-S 125-3-30 Entertainment Winch

in accordance with BGV C1, DGU V 17, DIN 56950-1 and EN 61508 SIL 3



Movecat VMW-S 125-3-30 high-speed winch for universal use in entertainment, tour and events applications. The VMW-S 125-3-30 is tested in accordance with BGV C1 / DGU V 17, DIN 56950-1 and DGUV Principle 315-390 and approved for use above people and in manned airframes as well as conforming to EN 61508 SIL 3. It is capable

of transporting loads of up to 125 kg at speeds continuously variable from 0 to 3 metres per second. The winch achieves acceleration values up to 3m/sec². Hoisting heights of up to 30 metres are possible. Basics

The VMW-S winch series convinces with an extremely compact format and allows operation in a wide variety of

different setting-up and mounting configurations as well as 360° x 360° use in every installation position. It has an innovative, non-welded, aluminium round-tube frame structure in the 520 mm truss format and is mount-compatible with GP and ST 52 trusses, the full load handling capacity being preserved even when the device is used as a bearing structure. Maintenance-free, or else ultra-low-maintenance, mechanical and functional elements assure problem-free use even under rigorous tour conditions. All important parts are supplied with a special protective coating to guard against corrosion or made from corrosion-free materials for touring applications, and an extensive range of accessories is available for use on the road.

Key facts

The technical refinements of the entertainment winch include a dynamic load-measurement system that is independent of the installation position and isolated from

the drive influences normally encountered. The effective load is ascertained and evaluated with precision in every installation position. An integrated cable guide with a central cable outlet located in the middle of the front side allows optimal central load application when used with trusses and optimal operation of manned airframes with two opposed winches. Only 18 centimetres separate the two opposed cables. Reduced-noise operation, as well as such features as two independent noiseless brakes with contact-free function monitoring and an emergency lowering function; high-resolution, independent, absolute and incremental encoders; a four-level geared limit switch adjustable from the exterior for separate operating- and emergency-limit evaluation; motor temperature monitoring and a dynamic load-measuring system with function testing round off this highly practical package. In closed-loop mode, hovering (true zero speed) and a change of run direction are possible without incursion of the brakes. Tried and tested in the Movecat V series, a status board displaying the most important function parameters is also integrated, along with DIN 56950-1 test functions for the separate testing of the brakes and limit switch functions. Both brakes are equipped with a manual release lever for the controlled lowering of suspended loads/persons in emergency operation.

The VMW-S 125-3-30 in conjunction with V-Motion 75 E can be integrated into the I-Motion network.

Technical data:

- Safe working load: 125 kg
- Hoisting speed: 3 m / sec
- Acceleration: max 3 m/sec²
- Hoisting height: 30 m
- Cable: 5 mm
- Motor power: 5.5 kW
- Duty cycle: 20%
- Brakes: 2 (with contact-free monitoring and emergency lowering function)
- Absolute encoders: 1 (29-bit)
- Incremental encoders: 1
- Protections against thermal overload: 1 (self-resetting)
- Geared limit switch tracks: 4
- (Independent, with visualisation)
- Load-measuring system: strain gauge with test function
- Dimensions: 1500 x 517 x 517 mm (Length x Width x Height)
- Weight: 203 kg

VMW-S 125-3-30

MOVECAT

MOVECAT VMW-S 125-3-30 Entertainment Winch

in accordance with BGV C1, DGU V 17, DIN 56950-1 and EN 61508 SIL 3

Technische Ausstattung:

- schweißfreier Alu-Frame im gängigen 52er Traversensystemmaß mit voller Traglast auch beim Einsatz als Tragwerk (optional mit diversen Traversenverbinderlösungen direkt adaptierbar)
- mattschwarze Gesamtausführung in kratzfester Pulverbeschichtungsausführung
- Zentraler Seilabgang
- wartungsfreie Grundkonstruktion
- 360x360 Grad Einsatz möglich
- Closed Loop Betrieb (true-zero-speed)
- lageunabhängiges, dynamisches Lastmesssystem mit Prüffunktion
- wartungsfreie Silence-Doppelbremse mit kontaktfreier Überwachung und Notablassfunktion/Personenflugtauglich
- von außen einfach justierbare Betriebs- und Notendschalter
- geräuscharmes Flachgetriebe
- Movecat C8/24 Steckverbinder mit 1,5m PMC HV-Anschlusskabel
- BGV C1, DGU V 17, DIN 56950-1 und EN 61508 - SIL 3 konform
- Vor-, Bau- und Abnahmeprüfung gemäß DGUV Grundsatz 315-390 (optional)



Optionen / Zubehör:

- Wirbeladapter
- Seile mit diversen Aufnahmen und Längen
- diversen Traversenverbinderlösungen als Steckadapter
- Transport-Trolley
- Transportcase
- Transporthaube
- V-Motion 75 E

MOVECAT LMS-M Mobile Load Measuring System

compliant with BGV D8 and C1, as well as igvw SQ P2 D8 Plus and EN 61508 SIL 1* to SIL 3* (*depending upon configuration)



The Movecat LMS-M load measuring system was developed to accompany the D8, D8 Plus and C1 chain hoists and pre-rigging applications. It will prove useful whenever it is necessary to measure and monitor the effective load on chain hoists and suspension points or other drives and load points. As a versatile ancillary tool, it can simply be hung at any point in the load or transmission line, where it ascertains in real time fully dynamically the effective tractive forces and transmits this information to the controller unit for evaluation and further processing.

The LMS system works on the strain-gauge principle of force measurement along the longitudinal axis. The strain gauge (DMS) is protected by an aluminium tube sealed with a highly elastic compound from mechanical and other damage. The system is designed to satisfy the most stringent safety requirements, attaining during BGV D8 applications a safety factor of 6 and during igvw SQ P2 D8 Plus as well as BGV C1 applications a safety factor of 12. In the light of these data, the need for an additional secondary safety system for D8 Plus

and C1 applications is obviated.

The area of use has been conceived in such a way that the actual rated load is available as a real suspension load and yet the system can ascertain and evaluate overload conditions up to 150%. Furthermore, a test and calibration system has been integrated. This assures and examines, in connection with a Movecat LMS or controller, the correct functioning of the unit at each start-up. In the course of the calibration process, the length of the control cable and any temperature fluctuations are taken into account and compensated for. Cable runs of up to 100 m can be realized without problems. A further important advantage of self-checking is the fact that the load does not have to be unhooked but is recognized by the system and has no effect whatsoever on the test process.

Any error in the system is detected by the controller and leads depending upon the controller and its settings to the display and closing down of the drive or the connected load group. The current version corresponds to the provisions of EN 61508 SIL 3. In connection with the Movecat I-Series and LMS LRC controllers, the load values can be ascertained in real time and shown on the display in kilograms or

percentages. In connection with the I-Series controllers, underload and overload conditions can be defined and monitored. Overloading of the connected drives, suspension points or bearing structures is therefore effectively prevented.

For pure load measuring tasks, a battery-driven 1-channel controller (LMS LRC1) is also available as a manual device as well as linkable 4- and 8-channel devices (LMS LC4/8B).

The LMS systems are equipped with rotatable, highly robust ring eyelets. The LMS-M systems are available in versions for rated loads of 250, 500 and 1,500 kg according to D8 Plus and C1 or 500, 1,000 and 3,000 kg according to D8. The LMS systems are recommended in combination with Movecat controllers for professional rigging applications in the trade fair, events, theatre, studio and touring sectors.



MOVECAT LMS-M Mobile Load Measuring System

compliant with BGV D8 and C1, as well as igvw SQ P2 D8 Plus and EN 61508 SIL 1* to SIL 3* (*depending upon configuration)

FEATURES:

- State-of-the-art strain-gauge technology: strain-gauge full bridges measure the length change and lateral extension produced by the traction forces. An integrated amplifier sends the measurement signal to the controller for analysis and further processing.
- Axial force transmission
- Integrated calibration and test system
- Self-test corresponding to EN 61508 SIL 3
- Ready for operation with Movecat LMS and MPC I-series* controllers
- **LMS-M 250/500**
250 kg rated load according to D8 Plus and C1 with safety factor 12
500 kg rated load according to D8 with safety factor 6
- **LMS-M 500/1000**
500 kg rated load according to D8 Plus and C1 with safety factor 12
1,000 kg rated load according to D8 with safety factor 6
- **LMS-M 1500/3000**
1,500 kg rated load according to D8 Plus and C1 with safety factor 12
3,000 kg rated load according to D8 with safety factor 6

*Functions depend upon the actual controller configuration

Technical data:

- Measuring range 0 to 150% of BGV D8 nominal load
- Overload: max. 150 % of the BGV D8 rated load
- Collapse load (calc.): 600% of the D8 rated load/1,200% of the C1 rated load
- Calibration tolerance: < 1.0% of FS*~
- Non-linearity: < 0.5 % of FS*~
- Hysteresis: < 0.3 % of FS*~
- Temp. error: 0.04% of FS/K 0,04% of reference value/K
- Operating conditions: - 20° to + 50° C
- 1.5 m DC4 data connection cable with C4M data cable connector
- Dimensions:

LMS-M 250/500	205 x 55 x 32 mm
LMS-M 500/1000	220 x 65 x 32 mm
LMS-M 1500/3000	280 x 90 x 45 mm

 (H x W x D, without connector cable)
- Weight:

LMS-M 250/500	0.6 kg
LMS-M 500/1000	1.0 kg
LMS-M 1500/3000	2.3 kg
- Protection rating: IP 67
- BGV D8, C1 and igvw SQ P2 D8 Plus as well as EN 61508 SIL 3 conformity

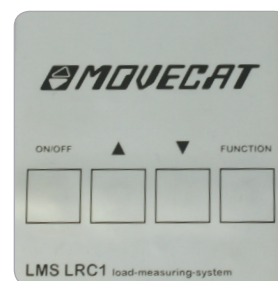
* The values depend upon the use and force transmission They were achieved under favourable conditions according to the user manual. FS = D8 rated load.

Technical equipment:

- Robust aluminium housing with two rotatable, highly-robust eyelets and two securing cotter pins
- Lateral cable outlet with metal kink protection
- Housing in anodized aluminium, ring eyelets painted silver, available optionally in all matt black

Options / Accessories:

- LMS LRC1 1-channel manual controller with computer interface
- LMS LC4/8B 4/8-channel controller, 19" with integrated Movecat D8 M-Link system and outputs for ancillary functions such as warning lights, alarms etc.
- MPC 4ID8 and 4IC1 controllers with LMS input card
- Silver finish and special colours upon enquiry
- Transport case for four or eight devices



Subject to technical modifications and typographical errors.

MOVECAT LoCo LCS Active Load-Measuring Sensors (Shackle Implementation)



The LoCo LCS Load-Measuring Sensors (Shackle Implementation) are available in three versions – each with two rated loads. These are commercially available load shackles in which the standard load pins have been replaced by a special load-measuring pin made from special high-quality steel with an active measuring system. Highly developed sensory elements are integrated into the load-measuring bolts that are capable of determining the inflowing forces of the attached loads and transmitting the data to measuring electronics that are also integrated.

The rated loads of models LCS 3.25 and LCS 4.75 are 3.25 and 4.75 metric tons respectively, the safety factor being 5:1 (shackle and load-measuring pins) throughout. The integration of the sensor elements involves no damage to the external structure of the pin or mechanical weakening of the external structure of the bearing assembly of the kind normally encountered with load-measuring or shear pins. The Movecat procedure therefore allows markedly higher safety factors (industry standard = 300% / Movecat = 500%). LCS shackle sensors can therefore, like standard shackles, be used as

load-bearing elements whilst fulfilling the additional fully dynamic function of determining, evaluating and reporting the loads applied to the hoist.

The load-measuring pins and other steel parts are made from special stainless steel of the finest quality; the black powder-coated shackles are manufactured in the EC and come with an EC factory certificate. The knurled nut is further secured in stationary use by a cotter pin and in mobile use by a spring retaining pin.

Furthermore, in all models the tried-and-tested Movecat test and calibration system has been integrated. This, in combination with a Movecat LoCo, LMS or MPC-1 controller, provides for and tests the proper functioning of the unit at each start-up.

The LCS-AX models, based on the same technology as the tried-and-tested LMS-M series, represent the simplest implementation. These are fully maintenance-free systems with industry-standard (4-20 mA) analogue signal transmission. The LCS-AX models are robust enough to stand up to rough treatment and are equipped with an integrated C4CM plug as well as offering an outstanding price/performance ratio

whilst meeting the highest safety standards.

The LCS-DX models are equipped with digital and 4-20 mA analogue outputs and in digital mode up to 24 cells can be daisy-chained.

The LCS-RF models can be operated in radio or digital cable mode according to choice. The bidirectional transceiver radio module operates in the 868 MHz ISM band with EU authorization (registration and payment free). The Wake-On-Radio functionality makes remote launching from sleep mode possible, which is a particularly attractive feature whenever sustained stand-alone operation is contemplated. In digital mode, up to 24 cells can also here be daisy-chained – even in mixed operation with DX models.

The special features of the DX and RF models are their integrated storage battery, which in combination with the Wake-On command allows up to 30 days' stand-alone operation, and their 8-character LCD with RGB backlighting (active status display). The display is clearly legible even in bright environments and is also capable, if this is desired, of indicating system statuses through background colours, employing the Movecat traffic-light principle. Beneath the display, there are four input buttons by means of which the sensors as well as their functions and IP addresses can be operated using a simple menu structure. Alternatively, in Remote Mode central control from a LoCo controller is also possible.

Thanks to the integrated storage battery and an independent micro-controller with output displays, the DX and RF models can also be operated without an external controller, as the loads and statuses are displayed directly in real time in plain language as well as being represented

visually by colours. ~

The comprehensive software functions, such as individually programmable overload and underload threshold values, tare and IP settings as well as informative parameters such as minimum and maximum values of the measuring session, operating hours, battery capacity and transmitter power are useful aids in professional applications.

All models are equipped with a test and calibration system. Every time the unit is started up, this checks to make sure that it is functioning correctly, doing so directly in the case of the DX and RF models, and in the case of the AX models, in combination with a Movecat controller.

A further important advantage of self-testing is the fact that the load does not have to be unhooked but is recognized by the system and has no effect whatsoever on the test process. Any error in the system is detected and displayed by the controller and, depending upon the controller and its settings, leads to the shutting down either of the drive or of the connected load group.

In connection with the Movecat I-Series and LMS LRC controllers, the load values can be determined in real time. In connection with the I-Series controllers, underload and overload conditions can be defined and monitored.

Any overloading of the drives, suspension points or load-bearing structures being monitored is therefore effectively avoided.

The LCS systems are recommended for professional load monitoring and rigging applications in the trade fair, events, theatre, studio and touring sectors.

MOVECAT LoCo LCS Active Load-Measuring Sensors (Shackle Implementation)

MODELS:

- **LCS 3,25-AX**
3.25 t rated load, safety factor 5:1
C4MC Out (LMS-compatible)
- **LCS 4,75-AX**
4.75 t rated load, safety factor 5:1
C4MC Out (LMS-compatible)
- **LCS 3,25-DX**
3.25 t rated load, safety factor 5:1
C4MC Out (LMS-compatible)
C5MC and C5FC, OUT/IN – DIG-Link
(daisy chain max. 24)
- **LCS 4,75-DX**
4.75 t rated load, safety factor 5:1
C4MC Out (LMS-compatible)
C5MC und C5FC, OUT/IN – DIG-Link
(daisy chain max. 24)
- **LCS 3,25-RF**
3.25 t rated load, safety factor 5:1
C5MC and C5FC, OUT/IN – DIG-Link
(daisy chain max. 24)
ISM radio module, internal antenna
- **LCS 4,75-RF**
4.75 t rated load, safety factor 5:1
C5MC und C5FC, OUT/IN – DIG-Link
(daisy chain max. 24)
ISM radio module, internal antenna

*The functions listed depend upon the actual hoist/drive configuration

Technical data:

- Measuring range: 0 to 100 % of nominal load
- Overload: max. 150 % of rated load
- Collapse load (calc.): 500 % of rated load
- Calibration tolerance: < 1.0 % of FS
- Non-linearity: < 1.0 % of FS
- Hysteresis: < 0.5 % of FS
- Temp. error: < 0.1 % of FS/K < 0.1 % of reference value/K
- Operating conditions: -10° to +50° C

The values depend upon the application and the transmission of force. They were achieved under favourable conditions in accordance with the user manual. FS = rated load

Technical features:

- Shackle EU-made with works certificate, black powder-coated load-measuring pin made from special, high-quality, stainless steel with active measuring system
- State-of-the-art strain-gauge technology: strain-gauge full bridges measure the lengthening of the shackle pins produced by tensile and shear forces. An integrated amplifier sends the measurement signal to the controller for analysis and further processing. An integrated calibration and test system provides readiness for operation with Movecat LoCo R series, LMS and MPC I series* controllers.
- AX models with integrated amplifier with test function and 4-20 mA, C4MC output (LMS-compatible)
- DX models with integrated storage battery, microcontroller, 8-character LCD with RGB backlighting (active status display) with digital and 4-20 mA analogue output, up to 24 cells linkable (Dig-Link)
- RF models with integrated storage battery, microcontroller, 8-character LCD with RGB backlighting (active status display) with digital output, up to 24 cells linkable (Dig-Link) and radio module, 2,4 GHz ISM band with registration- and payment-free EU authorization and Wake-On-Radio functionality

Options / Accessories:

- LoCo R2 and R3 – Load Controllers
- LMS LRC1 1-channel manual controller with computer interface
- LMS LC4/8B 4/8-channel controllers MPC 4ID8- and 4IC1 controllers with LMS input card transport cases

MOVECAT LoCo R3 Load Control Receiver



The R3 Load Control Receivers are state-of-the-art devices in Movecat's Load Control (LoCo) series. They unite the optimum in operating comfort and visual control – especially when it comes to the monitoring of complex load systems and combinations.

One R3DX receiver can interpret, display visually and compile the data from a total of 48 load-measuring sensors – up to 12 of them analogue, 48 digital (LCS-DX) and in the R3RF version alternatively 48 digital (LCS-DX) or wireless LCS (LCS-RF) sensors, all of them naturally in mixed operation.

Visual control and ergonomic operation are provided by a 4.3" capacitive touch screen complemented by a cursor module and rotary/push-button encoder. Optionally, an external PC-compatible keyboard, mouse or trackball can be connected. The important operating conditions and signals are also displayed by status LEDs on the front and rear.

The touch screen can display simultaneously data from up to 48 sensors and 6 load groups as well as the total load. The connected sensors can be assigned to individually defined and differing load groups. Overload and underload thresholds can be defined individually for each

sensor and each load group; furthermore, an overload threshold can be defined for the total load. By this means, supervision is assured for complex and comprehensive load systems. Operating statuses are displayed in an intuitive and unambiguous fashion using Movecat's tried-and-tested 'traffic light' (red/amber/green) principle.

Safety is implemented internally using a microcontroller-based safety unit in accordance with EN 13849-1; this provides for the evaluation of the signals and the supervised implementation of the external safety-relevant signals. This allows for direct circuit integration in hoist systems or machine controllers for which Stop Category 0 safety shutdown is required.

Thanks to its diversity of inputs and outputs, the R3 receiver can be operated in countless configurations and combinations. These include stand-alone operation for load monitoring though the integration by means of DIG-LINK of up to four R3 devices and therefore up to 192 sensors in a load measuring network is possible; operation in conjunction with Movecat MPC motion controllers integrated via the M-link system and thus as an external safety module for the overload and underload monitoring of hoists in accor-

dance with IGWW SQ P2; integration into the I-Motion network for interpretation and visualization or even central analysis via an external PC. The data obtained can also be exported simply using a USB m-stick.

R3 receivers are ready for web server operation and can transmit the data optionally also in WLAN mode to smartphones and tablets without requiring additional apps.

Also available are a variety of potential-free relay outputs for the integration of further controllers and also 24 V DC outputs for the external handling of the overload, underload and ready conditions. A traffic-light module or alarm generator for enhanced visualisation, for example, can be connected directly to the 24 V outputs.

Models:

- **R3DX**
load control receiver with 12 analogue and 48 digital inputs (max. 48 in total)
- **R3RF**
load control receiver with 12 analogue and 48 digital as well as wireless inputs (max. 48 in total)

Technical data:

- 4.3" PCT touch screen
- Cursor module
- Rotary/push-button encoder
- Status LEDs
- Radio module, EU-sanctioned ISM band and Wake-On-Radio functionality (R3RF)
- 2 Ethernet ports RJ45
- USB 2.0 input for keyboard, mouse, trackball and m-Stick
- USB 2.0 output for PC visualization
- M-Link In/Out (MPC-series-compatible)
- Dig-Link In/Out (R3 series)
- 2 C5FC digital inputs, max. 24 LCS-AX sensors each
- 12 C4FC, 4-20 mA analogue inputs LCS-AX, LMS and LME sensors
- 2 SUB D-25-F (6 x AX inputs)
- SUB D-15-F (signal relay outputs)
- NC4F (OL/ER, UL, ready signals output) 24 V DC, max 1 A
- Mains switch
- PowerCon True, 100 - 240 V / 50 - 60 Hz input
- Metal housing, 19" 2U with device handles

Technische Daten:

- 110 - 240 V / 50 - 60 Hz power supply
- Dimensions: 482 x 88 x 300 mm
(width x height x depth) without plug-in connector

Options / Accessories:

- keyboard with trackball
- warning module
- transport case

MOVECAT MRC 4/8/12RD8 Radio Motion Remote Controller

in accordance with BGV D8 and igvw SQ P2 D8 Plus



In its R-series Motion Remote Controllers, MOVECAT is offering wireless remote controls employing the 2.4 GHz band to complement the MPC series for the control of four, eight or twelve Movecat D8/ D8 Plus chain hoists. The MRC 4/8/12RD8-T transmitter modules come in a sturdy plastic housing with three-level run-direction selector switches directly accessible on the front panel, a GO button to trigger the kinetic run activities directly, an EMERGENCY STOP button and a channel selector button. The GO, EMERGENCY STOP and channel selector buttons are equipped with status LEDs. The Ready

indicator in the GO button displays the status of the radio system and determines also the bi-directional transceiver configuration of the connected MPC controllers (status of the active safety- and read-back chain of the M-Link system). The integrated LED display on the EMERGENCY STOP button conveys additional error messages and shows the battery charge level. For particularly efficient operation in the widest range of production environments and situations, attaching the transmitter module to the belly strap provided allows users extreme mobility. The Motion Remote Controller draws its

power from a 7.2 V/500 mAh exchangeable storage battery with an extended temperature range. The receiver modules draw their power from the connected MPC controllers. The radio receivers are system-compatible with the MRC E-series remote controllers already well established on the market and can therefore be combined with the popular MPC E- and I-series controllers. By this means, existing MPC controller systems can be economically converted to radio operation and the existing MRC controllers retained for backup. For maximum convenience, the R-series Motion Remote Controllers can be em- plo-

yed in all countries within the European Community as well as Switzerland without any obligation to register or pay any fees. For clarification of the situation regarding trouble-free radio operation in other non EC countries, please consult Movecat. The devices comply with current radio and safety guidelines and are suitable for use with lifting equipment.



FEATURES:

- Wireless Motion Remote Controller for Movecat D8/D8 Plus chain hoists
- Controls and supervises in connection with MPC power units up to four, eight or twelve electric chain hoists or asynchronous three-phase drives (400 V / 3 P / 50 Hz)
- Simple, intuitive operation
- 2.4 GHz ISM band – suitable for use worldwide
- Tru-Diversity transceiver system with active feedback (Ready indicator)
- 10 channels or automatic channel selection with frequency hopping for interference-free operation
- Receiver modules, functions and plugs compatible with existing MRC E series – capable therefore of combining directly with all MPC E- and I-series controllers
- Transmitter module with practical carrying strap
- Registration- and fee-free radio use possible in all EC countries and Switzerland
- R&TTE, ETSI EN 300 220 / 328 / 440, DIN EN 60204-32 and EN 13849-1 compliant

Technical features:

- Transmitter module in robust plastic housing, protected against accidental contact and mishandling
- Self-latching, function-illuminated EMERGENCY STOP button
- Three-stage run direction selector switch
- Illuminated GO button (entire system ready indicator)
- Channel selector button with LED display and acoustic indicator
- Exchangeable storage battery with extended temperature range
- Receiver module in robust metal housing, 24 V DC power supply via MPC controller
- Charging device with external charging cradle for a exchangeable storage battery integrated into the 230 V AC schuko plug

Set consisting of

- 1 x MRC 4/8/12RD8-T transmitter module
- 1 x MRC 4/8/12RD8-R receiver module
- 1 x ASA MRC 4/8/12RD8 adapter cable
- 2 x 7,2 V / 500 mAh exchangeable storage batteries
- 1 x LA99 -7,2 V battery charger
- 1 x belly strap

Subject to technical modifications and typographical errors.

MPC 2/4/6/8LD8

MOVECAT

MOVECAT MPC 2/4/6/8LD8 Motion Power Controller (DC and RC model) compliant with BGV D8 and igvw SQ P2 D8 Plus



The Motion Power Controllers of the Lite series in direct control 400 V AC or remote control 24 V DC version represent an extension to the practice-proven Movecat kinetic controller series. They were designed as simple stand-alone solutions for small rigging applications but without any compromises being made in terms of either ergonomics or safety.

They unite in a robust 3U or else 5U metal housing all the relevant components for the safe control of two to eight asynchronous, three-phase drives such as the electric chain hoists of the Movecat Eco, Plus, Compact, Ecolite, Plus-C and Pluslite series.

Per controller, two to eight hoists or drives can be operated directly without any additional controllers or ancillary devices in an operationally secure and user-

proof fashion.

Run direction, raising and lowering are selected using robust rotary controls and the run activated using a central GO button. All safety elements include a latching Emergency OFF button, phase malfunction, phase sequence and low voltage supervision, and four motor protection switches individually adjustable to each motor. All the safety elements are arranged sequentially to form a 'safety chain', so that an operating failure leads automatically to all four drives coming safely to a halt. The operating status is indicated by means of two signal elements.

A motor plug-in connector CEE 16 A 4-pin, or a multi-pin connector can be directly inserted at rear. The controllers of the Lite series are, all in all, simple and intuitive to use in accordance

with the 'plug and lift' principle. Different versions of the MPC LD8 controller in DC or RC versions are available with motors ranging from 0.25 to 3.0 kW in power.

The controllers comply with the EN 60204-32 and EN 13849-1 standards as well as VDE 0113 and are suitable for the control of lifting gear in accordance with the guidelines set out in BGV D8 and igvw SQ P2 D8 Plus.

The MPC 4LD8 controller is recommended for use with the Eco, Ecolite, Compact, Plus, Plus-C and Pluslite hoists for small professional rigging applications in the trade fair, events, studio and touring sectors.



FEATURES:

- controls and supervises two to eight hoists such as Eco, Ecolite, Compact, Plus, Plus-C and Pluslite or else asynchronous, three-phase drives (400 V / 50 Hz)
- direct control 400 V AC or remote control 24 V DC
- EN 60204-32, EN 13849-1 and VDE 0113 conformity
- implementation according to BGV D8 and igvw SQ P2 D8 Plus
- simple, intuitive operation
- self-testing of relevant functions prior to system enabling

MPC 2/4/6/8LD8

MOVECAT

MOVECAT MPC 2/4/6/8LD8 Motion Power Controller (DC and RC model) compliant with BGV D8 and igvw SQ P2 D8 Plus

DC Versions:

- **MPC 2/4/6/8LD8-LP-DC**
(adjustment range 1.6 to 2.5 A motor current consumption, 0.37 to 0.75 kW motor power)
- **MPC 2/4/6/8LD8-SP-DC**
(adjustment range 2.5 to 4.0 A motor current consumption, 0.75 to 1.5 kW motor power)
- **MPC 2/4LD8-HP-DC**
(adjustment range 4.0 to 6.3 A motor current consumption, 1.5 to 2.2 kW motor power)
- **MPC 2/4LD8-HP1-DC**
(adjustment range 6.3 to 10 A motor current consumption, 2.2 to 3.0 kW motor power)

Technical equipment:

- adjustable motor protection switch per drive
- emergency OFF button, self-latching
- GO button
- rotary control for direct selection of the run direction
- READY and ERROR status indicators
- robust metal housing
- CEE 16 A 4-pin motor connectors female (DC models rear panel)
- HAN 16-E multi-contact connector for four motors (RC models rear panel)
- CEE 16 A/32 A 5-pin phase-changing plug with 1.0 m HO7RN-F connector cable

RC Versions:

- **MPC 4/8LD8-LP-RC**
(adjustment range 1.6 to 2.5 A motor current consumption, 0.37 to 0.75 kW motor power)
- **MPC 4/8LD8-SP-RC**
(adjustment range 2.5 to 4.0 A motor current consumption, 0.75 to 1.5 kW motor power)
- **MPC 4LD8-HP-RC**
(adjustment range 4.0 to 6.3 A motor current consumption, 1.5 to 2.2 kW motor power)
- **MPC 4LD8-HP1-RC**
(adjustment range 6.3 to 10 A motor current consumption, 2.2 to 3.0 kW motor power)

Technical data:

- input 16 A/32 A* CEE with phase-changing plug (*depending upon total current consumption)
- 2/4LD8 dimensions 19", 3U, D 310 mm (without plug-in connector)
- 6/8LD8 dimensions, 19"/ 5U, D 310 mm (without plug-in connector)
- weight 9.0 kg - 9.5 kg, 3 U devices
- weight 11.5 kg - 12.5 kg, 5 U devices
- EN 60204-32, EN 13849-1 and VDE 0113 conformity
- BGV D8 und igvw SQ P2 D8 Plus conformity

Options / Accessories:

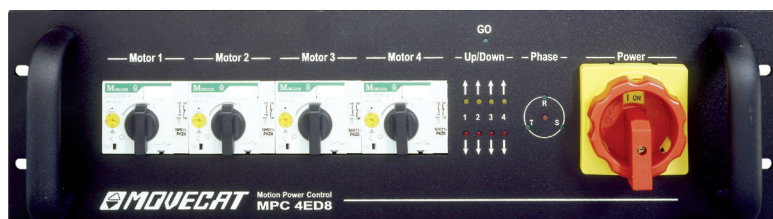
- rear panel with HAN 16-E multi-contact connector instead of four CEE 4-pin connectors (4/8LD8 DC)
- transport case



MPC 2/4/6/8LD8 - En 01.2018

Subject to technical modifications and typographical errors.

MOVECAT MPC 4/8ED8 Motion Power and MRC 4/8/12/16ED8 remote controllers (DC and RC model) Compliant with BGV D8 and igvw SQ P2 D8 Plus



The Motion Power and Motion Remote Controllers of the E-series in direct control 400 V AC or remote control 24 V DC version have for years represented the defacto industry standard in the field of asynchronous BGV D8 and igvw SQ P2 D8 Plus 400 V AC rotary current drives and in particular chain hoists such as those of Movecat's Eco, Plus, Compact, Ecolite, Pluslite and Plus-C series.

The robust, respectively 3U or 6U MPC metal housings contain all the contactor switches, safety circuits, under-voltage-, phase- and rotary-field-supervision circuitry and main control switches required for operation, as well as, for each channel,

an individually adjustable motor protection switch.

The operation is performed from a detached remote unit belonging to the MRC ED8 series for 4, 8, 12 or 16 drives.

The E-Controller system forms the foundation for Movecat's M-Link system by means of which up to eight MPC controllers forming an integrated network can be centrally controlled and supervised. The integrated safety elements are arranged sequentially to form a 'safety chain', so that any operating failure (such as the tripping of a motor protection switch) leads automatically to all the drives connected via M-Link coming to a stop. Furthermore, the runs of all

linked MPC controllers can be activated centrally even if a variety of MRC units are being used. The operating status is indicated by LED signal elements on the front panel.

The controllers comply with the EN 60204-32 and EN 13849-1 standards as well as VDE 0113 and are suitable for the control of lifting gear in accordance with the guidelines set out in BGV D8 and igvw SQ P2 D8 Plus, with which they comply in every respect.

Typical fields of application include rigging applications in the touring sector and as a setting-up aid for professional events and trade fair applications.



FEATURES:

MPC 4/8ED8

- simple, intuitive operation
- controls and supervises, in conjunction with MRC remote units, up to 4 or 8 hoists respectively, including Eco, Ecolite, Compact, Plus, Pluslite or Plus-C or else asynchronous three-phase drives (400 V / 50 Hz)
- direct control 400 V AC or remote control 24 V DC
- conforms with EN 60204-32, EN 13849-1 and VDE 0113
- implementation according to BGV D8 and igvw SQ P2 D8 Plus
- self-testing of relevant functions prior to system enabling

MOVECAT MPC 4/8ED8 Motion Power and MRC 4/8/12/16ED8 remote controllers (DC and RC model) Compliant with BGV D8 and igvw SQ P2 D8 Plus

Technical equipment:

MPC 4/8ED8

- main control switches lockable
- four or eight adjustable motor protection switches respectively
- under-voltage-, rotary-field, -symmetry- and phase-supervision module
- phase control and error display
- LED channel indicator for raising and lowering
- LED indicator for run-enabled (GO)
- M-Link function for up to eight controllers of the E, I and T series (even in mixed operation)
- robust metal housing with two handles
- CEE 5-pin phase-changing plug with 1.5 m H07RN-F connector cable 400 V/3 P/16 A or 32 A CEE with phase-changing plug. High-power devices with 400 V/3 P/63 A cable plug.
- HAN 16-E multi-contact plug-in connector, 16-pin at DC models and 24-pin at RC models (every four motor outputs), optional 19-pin EU-Socapex compatible plug-in connector (DC models)
- Multipin input connector for MRC devices; if desired, the 4/8/12/16 MRC remote controllers can be plugged directly into an MPC 4/8ED8 controller; direct operation of the number of drives of the MPC controller
- RCD 40A/30 mA circuit breaker (optional for MPC 8ED8)

Technical data:

MPC 4/8/ED8

- dimensions:
MPC 4ED8, 19", 3U, D 410 mm (without plug-in connector)
MPC 8ED8, 19", 6U, D 410 mm (without plug-in connector)
- weight:
17.6 kg, MPC 4ED8
32.7 kg, MPC 8ED8

Technical data:

MRC 4/8/12/16ED8

- dimensions:
MRC 4ED8: 135 x 292 x 115 mm (W x L x H)
MRC 8ED8: 135 x 292 x 115 mm (W x L x H)
MRC 12ED8: 135 x 370 x 115 mm (W x L x H)
MRC 16ED8: 240 x 292 x 115 mm (W x L x H)
- weight:
MRC 4ED8: 2.5 kg
MRC 8ED8: 2.8 kg
MRC 12ED8: 3.8 kg
MRC 16ED8: 4.0 kg
(without connector cable)

Versions MPC 4ED8 (DC and RC model):

- **MPC 4ED8-LP-DC/RC** (adjustable range 1.6 to 2.5 A motor current consumption, 0.37 to 0.75 kW motor capacity), CEE 16 A/5-pin phase-changing plug
- **MPC 4ED8-SP-DC/RC** (adjustable range 2.5 to 4.0 A motor current consumption, 0.75 to 1.5 kW motor capacity), CEE 16 A/5-pin phase-changing plug
- **MPC 4ED8-HP-DC/RC** (adjustable range 4.0 to 6.3 A motor current consumption, 1.5 to 2.2 kW motor capacity), CEE 32 A/5-pin phase-changing plug
- **MPC 4ED8-HP1-DC/RC** (adjustable range 6.3 to 10 A motor current consumption, 2.2 to 3.0 kW motor capacity), CEE 63 A/5-pin cable plug

Versions MPC 8ED8 (DC and RC model):

- **MPC 8ED8-LP-DC/RC** (adjustable range 1.6 to 2.5 A motor current consumption, 0.37 to 0.75 kW motor capacity), CEE 16 A/5-pin phase-changing plug
- **MPC 8ED8-SP-DC/RC** (adjustable range 2.5 to 4.0 A motor current consumption, 0.75 to 1.5 kW motor capacity), CEE 32 A/5-pin phase-changing plug
- **MPC 8ED8-HP-DC/RC** (adjustable range 4.0 to 6.3 A motor current consumption, 1.5 to 2.2 kW motor capacity), CEE 63 A/5-pin cable plug

Technical equipment:

MRC 4/8/12/16ED8

- emergency OFF button, self-latching, function-illuminated
- rotary switch (1-4, 1-8, 1-12 or 1-16) for direct selection of the run direction
- illuminated GO button (Ready indicator for the M-Link system)
- robust metal housing, side plates and two stainless steel handles/safety grips
- 10 m connector cable with multi-pin plug-in connector
- operating voltage: 24 V AC

Options / Accessories

- RCD circuit breaker 40 or 63 A/30 mA for MPC 8ED8
- 19-pin EU-Socapex compatible plug-in connector
- MRC 8/12/16 cable-spitting adapter
- transport case

MPC 16/24/32TD8 II

MOVECAT

MOVECAT MPC 16/24/32TD8 II Motion Power Controller compliant with BGV D8 and IGWV SQ P2 D8 Plus



The all-in-one touring racks of the Movecat TD8 series set new standards in terms of compact construction, operating ergonomics and safety for motor controllers in accordance with BGV D8 and IGWV SQ P2 D8 Plus. They correspond to the current EN 60204-32, EN 13849-1 and VDE 0113 guidelines. The safety systems and power-switching components are supervised in a read-back safety chain

to achieve an alltime high in operating safety. In addition, the relevant operating states are systematically illuminated. The racks unite the control components necessary for operation in a compact, shock-resistant road case. The integrated power station takes over the distribution and protection of the controller modules as well as the supervision of the power supply including any necessa-

ry correction of the rotating field.

Both Single mode (Lift/Lower single selection of the hoists) and alternatively Master mode (central Lift/Lower selection of all hoists with a single switch) are available. In addition, a DMB system (enabling/'dead-man' button) is integrated. Depending upon the rack, up to four external three-stage permission buttons can be connected. Especially with larger rig constructions, it is necessary to supervise these from different positions during the "run" to ensure that, even in the case of systems extending over large areas, runs are performed safely. Series II devices have been further enhanced by a selective bypass system, whereby in the event of a failure in a single module, in the power station or in the MRC, it remains possible to operate the modules and drives not affected.

The safety concept is complemented by the tried-and-tested Movecat M-Link system, which allows up to twelve TD8 racks (max. 384

drives) to be operated in a network.

The M-Link is system-compatible with the Movecat MPC 4ID8 and 4/8ED8 controllers. Up to eight devices can be 'linked' with a single TD8 controller. Even 'linked' mixed operation can be realized with up to eight devices.

Due to their intuitive operating philosophy and also to their handling and safety features, the racks of the TD8 series are recommended in particular for larger, interdependent rigging systems with more extensive safety requirements in professional rigging applications in accordance with BGV D8 and IGWV SQ P2 D8 Plus.

FEATURES:

- controls up to 16 (MPC 16TD8), 24 (MPC 24TD8) or 32 (MPC 32TD8) direct-control hoists such as Movecat Eco, Ecolite, Compact, Plus, Plus-C or Pluslite chain hoists or else asynchronous three-phase drives (400 V/50Hz)
- self-testing of relevant functions prior to system enabling
- supervision and display of operating states such as operating voltage and phase, motor protection switch, run direction and main contactor on „stick“, M-Link system, DMB system
- illumination of input devices and important operating states
- simple, intuitive operation, Single (single hoist selection) and Master (all hoists UP or DOWN) modes selectable via key switch
- eight-channel, 19" individual controller plug-in modules with motor protection switches, their own safety supervision and phase and status display
- power station with 30 mA ground fault circuit interrupters (RCD), automatic over- and under-voltage, phase sequence and symmetry supervision, as well as rotating field detection with automatic rotating field correction
- group-transcending error supervision in Link mode for up to 12 touring racks (max. 384 hoists in one T network)
- M-Link compatible with the MPC 4ID8 and 4ED8 controllers (max. 8 devices)
- DMB system, three-level permission buttons, up to four units with self-detection and active status display
- implementation according to BGV D8 and igwv SQ P2 D8 Plus
- selective bypass design for increased operating safety

MOVECAT MPC 16/24/32TD8 II Motion Power Controller

compliant with BGV D8 and IGVW SQ P2 D8 Plus

Technical equipment:

- professional, shockproof road case with six handles and four castors (two lockable)
- control panel with choice of function-illuminated rotary or rocker switches
- E-Stop button, function-illuminated
- separate backlit GO buttons for Single and Master modes (Enabled)
- differentiated error display (Error) for PDU, plug-in controller modules and control panel
- differentiated display of phases L1 to L3 for PSU as well as the plug-in controller modules
- display of the rotating field direction of the voltage feed, any correction that may be necessary to achieve a clockwise (right-handed) rotating field is performed automatically
- individually adjustable motor protection switch with error LED display for each motor channel
- power station (PDU) with 30 mA RCD (Personnel and device protection), triple automatic circuit breakers (type C) and separately fused grounding receptacle on the front panel
- enabled display of the active DMB permission switches
- four CEE 4-pin direct out plugs (motor 1-4)
- HAN 16-E 16-pin multicore panel connectors for four drives each (optional 19-pin EU Socapex)
- XLR MX7 and XLR FX6 M-Link system incl. dummy connector
- XLR FX6 panel connector; MPC 16TD8 two, MPC 24/32TD8 four units each, DMB input
- 19" rack drawer 3U (except MPC 32TD8)

Technical data:

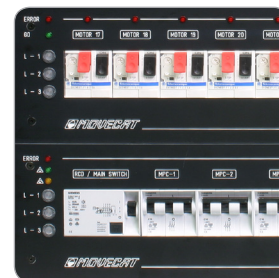
- Input: 63 A CEE with 1.5 m connector cable (MPC 16TD8)
- Input: 125 A CEE with 1.5 m connector cable (MPC 24/32TD8)
- Dimensions:
MPC 16TD8 600 x 970 x 800 mm
(Width x Height x Depth) closed incl. castors
MPC 24TD8 600 x 1,100 x 800 mm
(Width x Height x Depth) closed incl. castors
MPC 32TD8 600 x 1.250 x 800 mm
(Width x Height x Depth) closed incl. castors
- Conforms with EN 60204-32, EN 13849-1, VDE 0113, BGV D8 and igvw SQ P2 D8 Plus

Options / Accessories:

- DMB permission switch
- LP version (with 0.37 to 1.0 kW motor capacity upon request)
- HP version (with 1.5 to 3.0 kW motor capacity upon request)
- EU Socapex-compatible plug-in connector

Versions:

- **MPC 16TD8-RS-SP**, 16-channel with rocker switch (adjustable range 2.5 to 4.0 A motor current consumption, 0.75 to 1.5 kW motor capacity)
- **MPC 24TD8-RS-SP**, 24-channel with rocker switch (adjustable range 2.5 to 4.0 A motor current consumption, 0.75 to 1.5 kW motor capacity)
- **MPC 32TD8-RS-SP**, 32-channel with rocker switch (adjustable range 2.5 to 4.0 A motor current consumption, 0.75 to 1.5 kW motor capacity)
- **MPC 16TD8-RS-HP**, 16-channel with rocker switch (adjustable range 4.0 to 6.3 A motor current consumption, 1.5 to 2.2 kW motor capacity)
- **MPC 24TD8-RS-HP**, 24-channel with rocker switch (adjustable range 4.0 to 6.3 A motor current consumption, 1.5 to 2.2 kW motor capacity)
- **MPC 32TD8-RS-HP**, 32-channel with rocker switch (adjustable range 4.0 to 6.3 A motor current consumption, 1.5 to 2.2 kW motor capacity)
- **MPC 16TD8-TS-SP**, 16-channel with rotary switch (adjustable range 2.5 to 4.0 A motor current consumption, 0.75 to 1.5 kW motor capacity)
- **MPC 24TD8-TS-SP**, 24-channel with rotary switch (adjustable range 2.5 to 4.0 A motor current consumption, 0.75 to 1.5 kW motor capacity)
- **MPC 32TD8-TS-SP**, 32-channel with rotary switch (adjustable range 2.5 to 4.0 A motor current consumption, 0.75 to 1.5 kW motor capacity)
- **MPC 16TD8-TS-HP**, 16-channel with rotary switch (adjustable range 4.0 to 6.3 A motor current consumption, 1.5 to 2.2 kW motor capacity)
- **MPC 24TD8-TS-HP**, 24-channel with rotary switch (adjustable range 4.0 to 6.3 A motor current consumption, 1.5 to 2.2 kW motor capacity)
- **MPC 32TD8-TS-HP**, 32-channel with rotary switch (adjustable range 4.0 to 6.3 A motor current consumption, 1.5 to 2.2 kW motor capacity)



Subject to technical modifications and typographical errors.

MOVECAT MPC 4ID8 Motion Power Controller (DC and RC model) compliant with BGV D8 and igvw SQ P2 D8 Plus



The Motion Power Controller 4ID8 is based on the established industry standard MPC 4ED8 controllers and represents an intelligent control unit for the governance of asynchronous three-phase drives such as the Movecat ECO, PLUS, Compact and Plus-C chain hoists and their Lite counterparts compliant with D8 and D8 Plus. This is an independent control platform by means of which up to four hoists or drives series in direct control 400 V AC or remote control 24 V DC version can be directly operated in an operationally secure and user-safe fashion without any additional control devices. A large, back-lit LCD

displays the operating states and parameters. The integrated operating and safety processors monitor all functions, whereby the general evaluation of all safety-relevant parameters, including all run states, is implemented as a superordinate safety chain. Any operating error therefore leads invariably to the shutting-down of the connected drives. The relays and safety circuits required for the operation of up to four chain hoists are integrated.

The system corresponds in its basic configuration to the stipulations of BGV D8 and D8 Plus in accordance with igvw SQ P2. A modular concept

adaptable to the prevailing functional and safety requirements has been realized.

The MPC 4ID8 is system-compatible with the existing MPC 4ED8 controllers and can be operated by means of the established Movecat Link system both within a group and also with the well-known MRC controllers. Furthermore, it is ready for I-Motion network operation, and up to 8 devices can be operated in direct link mode or up to 60 devices via I-Motion network in decentralized group mode in combination with a central controller e.g. a controller from the I-Motion series.

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 logically structured and intuitive interface with display output. Even target* and group* runs (*depending upon the drive configuration) can be programmed and executed by this means.

The MPC 4ID8 solution is recommended for use with the ECO, PLUS and Compact Plus-C hoists, as well as their respective Lite counterparts series in direct control 400 V AC or remote control 24 V DC version, in particular for professional rigging applications in the trade fair, events, studio and touring sectors.

Technical data

- input: 16 A CEE 5-pin phase-changing plug with 1.5 m H07RN-F connector cable (32 A CEE 5-pin HP version)
- XLR MX7 and XLR FX6 M-Link system incl. shut-off dummy connector
- drive output connector: HAN E16 16-pin at DC models and 24-pin at RC models (every four motor outputs), optional 19-pin EU-Socapex compatible plug-in connector (DC models)
- MRC input connector HAN 36 modular
- I-Motion-Network NDC-C14FC input connector
- I/A- encoder input, SUB-D25 male
- I/O inputs and outputs, SUB-D25 female
- load measurement system input, SUB-D15 female
- Versions*: SP/HP/HP1
- dimensions: 19"/3U, D 470 mm (without plug-in connector)
- weight 16.4 kg (16.6 kg HP version)
- complies with, BGV D8 and D8 Plus (in accordance with igvw SQ P2)



- * 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

MOVECAT MPC 4ID8 Motion Power Controller (DC and RC model)

compliant with BGV D8 and igvw SQ P2 D8 Plus

FEATURES:

- implementation according to BGV D8 and D8 Plus in compliance with igvw SQ P2
- controls and supervises up to four direct-drive hoists such as ECO, PLUS, Compact, Plus-C and their Lite implementations or else asynchronous three-phase drives
- direct control 400 V AC or remote control 24 V DC
- self-testing of relevant functions prior to system enabling
- night-design, buttons and input devices as well as LCD illuminated
- simple, intuitive operation, basic functions (e.g. raising and lowering hoists) possible without time-consuming configuration
- supervision and display of operating states such as operating voltage and phase, motor protection switch, run direction and main contactor on „stick“, correct run direction, link system, position*, operating* and emergency limit*, temperature* as well as dynamic load analysis*~
- supervision of the run direction and target speed when encoder-operated*~
- selection of possible Movecat drive parameters from stored database
- management of drive groups*~
- group-transcending error supervision in M-Link mode up to 8 and in I-Motion network up to 60 MPC 4ID8 controllers
- input of software operating limit positions* for raising and lowering• simple encoder reference run* for calibration
- way-synchronous group run*, permitted tolerance of the individual hoists and groups programmable*~
- „group-synchronous“ run (central up/down movement of previously selected hoists)
- „target runs“* on position
- complementary overload ascertainment through evaluation of the nominal speed when encoder-operated*~
- simple set-up possibility for underload and overload definition*, analysis
- targeted service runs in connection with by-pass switch
- retention of all parameters even in the event of power failure
- error warning by means of the display
- integration into the I-Motion network buss system
- configured* via external PC with 100 Mbit network card

*optional, functions depend upon the controller- and drive-configuration

Technical equipment

- backlit LCD
- backlit buttons and encoders
- LED status display of the device
- four adjustable motor protection switches
- E-Stop button, function-illuminated
- GO button backlit (enabling)
- main switch for central start-up incl. by-pass function
- function keys (1-4) for simple, intuitive handling and direct selection of drives as well as their run directions
- high-resolution rotary encoder with button function for data input
- incremental encoder input*: dual-channel with run-direction detection, high-resolution*~
- load measurement cell input* (LMS + LME)
- eight digital inputs and four outputs for ancillary functions e.g. limit switch
- I-Motion network input, network address software-determinable
- robust metal housing with two handles

Versions

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

Options / Accessories

- MRC D8 series remote control
- I-Motion Controller series
- transport case

MPC 4IC1

MOVECAT

MOVECAT 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)



MOVECAT MPC 4IC1 Motion Power Controller

compliant with BGV C1 EN 61508 a SIL 1 to SIL 3 (*depending upon configuration)

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 4EC1-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 4EC1-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.

MOVECAT V-MOTION 15/30/40/55/75 Variable Motion Powerpack

compliant with BGV C1 and EN 61508 SIL 1 to SIL 3* (*depending upon configuration)

V-Motion-E Variable Motion Powerpacks with integrated special line and motor filters are designed for operation in connection with the Movecat-V series of drives. In this configuration, they allow the V-Motion unit to be removed to a distance of up to 50/70* metres (C1/ C2* EN 61800-3) from the drive, whilst complying at the same time with the EMC and VDE guidelines. The combination of integrated motor, radio and line filter reduces to a considerable degree the leakage current that for technical reasons is endemic to controlled drives, and allows reliable operation with RCD Type B 30 mA earth-leakage circuit breakers. It therefore allows the realization of centralized and decentralized, intelligent and safe, variable-speed kinetic systems at the highest technical level in accordance with BGV C1. The powerpacks can be configured for a variety of different V series drives: from V-Motion 15 (for drives up to 1.5 kW) to V-Motion 75 (for motor capacities up to 7.5 kW). A large backlit LCD shows the operating states as well as the position, load and operating parameters of the connected hoist. Main and safety processors monitor all functions. The requisite contactor switches and safety circuits for overload and underload protection as well as operating and emergency limit switches are integrated. These are complemented by run commands the execution of which and resulting internal operating states are tested and evaluated. In the I-Motion network, these are compared with parallel V-Motion Powerpacks and the correctness of the way, time and load group run tested. V-Motion Powerpacks support speeds continuously variable from zero to ma-



ximum as a closed-loop system with full torque even during runs continuing beyond the null point (true zero speed) and reversal of direction without incursion of the brakes. Way- and time-synchronous group and load runs as well as complex scenic transformation operations in contemporary studio, theatrical and event productions are therefore possible, with the highest consideration accorded at all times to the demands of safety.

The intuitive and easily mastered control elements permit the simple and intuitive configuration and handling of V-Motion Powerpacks. The user is guided by a logical operating structure with display output. Installation and service runs are therefore possible without any need for the connection of ancillary devices via Up and Down buttons as well as an analogue speed control. The Powerpacks correspond in their basic configuration to BGV C1 and EN 61508 SIL 1, but they can be equipped optionally with a second processor axis board for EN 61508 SIL 3 applications and therefore for scenic runs over people's heads. V-Motion E-series Powerpacks are ready for I-Motion network operation. Up to 120 devices can be operated through an I-Motion network by a central controller (e.g. I-Motion

MRC series). In network operation, the data is transmitted bi-directionally and the user can follow and control operating parameters centrally.

V-Motion E-series Powerpacks in connection with V-series drives are suitable

for complex, and in particular for decentralized, professional BGV C1, EN 61508 SIL 1 to SIL 3 applications imposing the most exacting kinetic and safety-technical requirements in studio, theatre, events and tour use.

Technical equipment:

- Integrated EMC filter consisting of a motor, radio and line filter
- Backlit LCD, display of operating parameters
- E-Stop button, function-illuminated
- Four function keys for menu control
- Function switch for central start-up (remote, local, bypass), optionally as key switch
- Up and Down buttons as well as a speed control for manual installation / backup operation
- Incremental encoder input: dual-channel, high-resolution
- Absolute encoder input SSI high-resolution
- I-Motion network input, network address software determinable
- Three digital inputs for ancillary functions*
- FC data input for frequency-converter parametrisation
- Force-cooled by a temperature-controlled, noiseless fan
- Robust metal housing with four handles
- Three M 12 rigging options for couplers when truss-mounted
- Mounting bracket for safety cable

(*optional or via I-Motion network + controller)

MOVECAT V-MOTION 15/30/40/55/75 Variable Motion Powerpack**compliant with BGV C1 and EN 61508 SIL 1 to SIL 3* (*depending upon configuration)****FEATURES:**

- Standard configuration according to BGV C1
- Optionally upgradable with dual CPU to EN 61508* SIL 3
- Interference Suppression Class C1/C2 EN 61800-3 up to 50/70 m PMC-HV motor cable (at 12 kHz pulse frequency)
- Reduced leakage current
- Unrestricted use in residential and mixed-use areas with separate EMC systems
- Operation of multiple devices with RCD Type B / 30 mA safety switches
- Controls a V-series drive with variable speed
- Self-testing of relevant functions prior to system enabling
- Closed-loop system allows runs continuing beyond the null point („floating state“) with full torque as well as reversal of direction without incursion of the brakes
- Monitoring and display of operating states and self-monitoring safety relay as well as dynamic load analysis
- Load- and hoist-group-transcendent error monitoring and analysis in I-Motion network operation
- Simple, intuitive operation
- Target- and time runs on position*
- Way- and time-synchronous group run, permitted tolerance of individual hoists and groups programmable*
- Group-synchronous run (central up/down movement of previously selected hoists) realisable with multiple run groups*
- Software-operation-limit positions for raising and lowering*
- Simple position reference run for calibration*
- Simple setup possibility for underload and overload definition*
- Targeted service runs beyond the null point in connection with bypass switch
- Testing equipment for all 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
- Integration into the I-Motion network system
- Choice of remote or local operation
- Configured via external PC with 100 Mbit network card (Administrator series)

(*optional or via I-Motion network + controller)

Technical data:

- Input 16 A CEE 400 V / 5-ph
- Output 16 A CEE 400 V / 5 PH for Link operation with other V-Motion devices (depending upon the rated power in the case of V-Motion 15, 30 and 40)
- Multi-pin C8/24-FC output connector (MPC 4IC1-compatible)
- NDC C14-FC input connector for I-Motion network
- XLR-4pin female input connector Digin operation
- XLR-3pin female plug-in connector FC data
- Drive power:
 - V-Motion-E 15 up to 1,5 kW
 - V-Motion-E 30 up to 3,0 kW
 - V-Motion-E 40 up to 4,0 kW
 - V-Motion-E 55 up to 5,5 kW
 - V-Motion-E 75 up to 7,5 kW
- Motor capacity / asynchronous three-phase drive with 12 kHz pulse frequency
- Dimensions (W x D x H):
 - 435 x 455 x 134 mm V-Motion-E 15/30/40
 - 435 x 455 x 222 mm V-Motion-E 55/75
- Weight:
 - V-Motion-E 15: 16.0 kg
 - V-Motion-E 30: 16.8 kg
 - V-Motion-E 40: 17.0 kg
 - V-Motion-E 55: 18.8 kg
 - V-Motion-E 75: 19.8 kg
- BGV C1 conformity (up to SIL 3 / EN 61508 optional, depending upon configuration)

Options / Accessories:

- Upgrade for operation in accordance with EN 61508 SIL 3
- 19" rack-mounting kit
- I-Motion/V-Motion MRC Remote Controller
- I-Motion NDB 6 Network Distribution Box
- I-Motion NMB-14 Network Master Box
- Truss coupler and safety rope
- Transport case

Subject to technical modifications and typographical errors.

MOVECAT I-Motion Basic-C show controller

Compliant with BGV D8 and C1, as well as igvw SQ P2 D8 Plus and EN 61508 SIL 1 to SIL 3



The I-Motion Basic-C controller, which belongs to the Basic controller family, constitutes a compact system controller for the systemic control of kinetic drives in mobile and flexible project applications.

The device, which is in desk format and furnished with a hand rest for greater comfort, is equipped with an integrated dynamic control lever with a dead-man function and speed ratio control, a high-resolution rotary encoder with button function, a

12" 4C touch screen and an input keyboard. Three USB ports for external devices such as a mouse, trackball, keyboard or memory stick are built in to the housing. A VGA output is provided for an external monitor. Two I-Net outputs allow integration via cable to the I-Motion network.

Further features include an ID chip card reader with user-level evaluation and an integrated USV module with

mains filter that provides effective protection against power outages. The controller also boasts such features as self-testing of relevant functions prior to system enabling as well as group-transcending error monitoring within a network.

The Basic-C controller is armed with a robust metal housing, whilst a complementary shockmount road case is available as an option. The Basic-C in combination with the I-Motion software disposes over an Object mode for very simple programming of scene changes involving complex groups with multiple drives. It also offers an effects engine for dynamic 3D changes and guarantees a 3D view of the drives, though a further possibility is a 2D display that can be rotated or zoomed to provide a more detailed view. The user therefore has an overview over the entire rig with direct access to parameters and details. Complex target* and group* runs even in the case of possible interactions can be programmed and recalled (*depending upon the hoist/drive configuration).

System parameters and numerous settings are sto-

red on a vibration-proof SSD. Logbook data from the internal 'black box' can be displayed and exported. Project files can be exported and imported to and from servers and exchangeable mediums (USB sticks). The I-Motion software also runs on an external PC in offline mode.

Because of its feature set, the Basic-C controller is very well suited to variable-speed drives. Naturally up to twenty-four D8, D8 Plus and C1 drives can also be controlled and supervised in mixed operation at fixed or variable speeds.

The „little“ brother of the SIL3-certified EXPERT-T II controller is designed for 24 drives. The I-Motion Basic-C show controller is especially recommended in combination with the MPC I-series and V-Motion controllers for smaller to medium-sized kinetic BGV C1 and SIL 3 production demands in which controlled vario drives in combination with a dynamic control lever for the operation of the show are desired. It is system- and software-compatible with the I-Motion Expert-T controllers and can be used as a backup system.

Technical features:

- 12" 4C-LCD touchscreen, backlit
- dynamic control lever with dead-man function
- high-resolution rotary encoder with button function
- keypad for direct input
- E-Stop button, function-illuminated
- user ID chip card reader
- key switch for central start-up with bypass function
- SSD storage medium
- Internal UPS (3 minutes)
- 2 I-Motion-Net output sockets
- 3 USB ports for add. mouse/M-stick etc.
- VGA output, SUB-D for second monitor
- IEC socket with main switch and mains filter
- robust metal housing in desk format with hand rest



MOVECAT I-Motion Basic-C show controller

Compliant with BGV D8 and C1, as well as igvw SQ P2 D8 Plus and EN 61508 SIL 1 to SIL 3

FEATURES:

- standard configuration conforms to EN 60204-1 and -32, EN 13849-1 and EN 61508 SIL 3
- safety processor with RISC architecture
- 32-bit high-performance buss system
- 2-channel safety computer according to SIL 3
- power-saving CPU technology
- operating states stored in non-volatile RAMs
- self-test of all relevant functions prior to system release
- simple, intuitive operation by means of a 12" touchscreen in combination with direct input via a function keyboard as well as a dynamic control lever with dead-man function and high-resolution rotary button encoder (speed ratio)
- 12" 4C-LCD touchscreen, backlit
- group-transcending error supervision when connected in a network
- supervision and display of the operating states* of the hoists/drives such as run direction, speed, position, operating and emergency limit, excess temperature, brake gap monitoring, dynamic load analysis as well as load and run groups.
- user ID chip card with level structure

Technical data:

- 110 - 240 V / 50 - 60 Hz power supply
- Dimensions: 480 x 400 x 190 mm (width x depth x height) without plug-in connectors
- Weight: 12,5 kg
- BGV D8, C1, igvw SQ P2 D8 Plus and EN 61508 SIL 3 conformity

Software:

- operating system: Win XP Pro
- software: Movecat I-Motion
- management of 24 drives in combination with network power controllers such as V-Motion and MPC I-series with IP address (standard configuration 24 drives, software-expandable to 60 drives)
- 2D/3D representation switchable, zoomable
- unlimited number of shows and scene changes/cues
- expanded operating/display level on a second monitor (VGA Out)
- speed way points for fixed profile
- profile and snapshot recorder
- input of software operating limit positions
- management of open and closed drive groups
- way- and time-synchronous group runs*,
- group-synchronous run (central up and down movement of preselected hoists/axes) with several run groups programmable
- object generator, simple programming of complex changes with multiple drives and connected loads
- programming and loading of complex sequences
- acceleration and braking of drives, groups and cues
- supervision of the run direction and target speeds and complementary overload ascertainment through analysis of the rated speed when encoder-operated
- set-up possibility for underload*/overload* definition
- driver's log function, allows display and export
- import/export of show files on server and USB memory stick
- offline operation

*The functions indicated depend upon the actual hoist/drive configuration

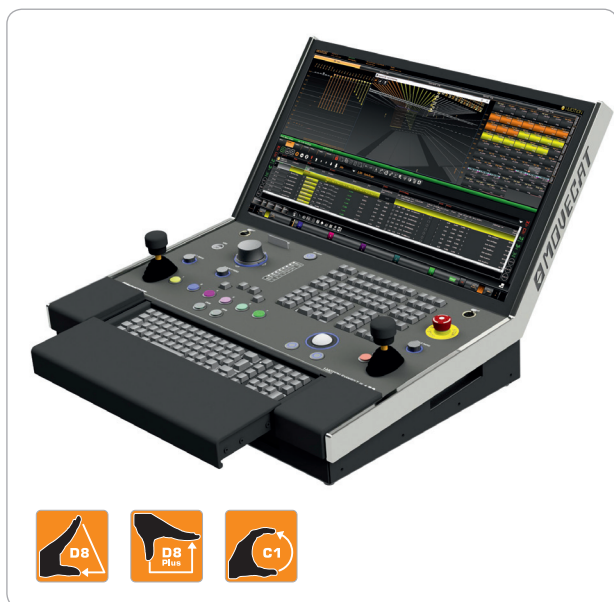
Options / Accessories:

- Basic-C FC flight case
- keyboard with trackball
- additional monitors
- MPC I-/V-Motion Power Controller
- I-Motion NMB-14, Network Master Box
- I-Motion NDB-6, Network Distribution Box
- I-Motion NBB, Network Booster Box

I-MOTION EXPERT-T III

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MOVECAT I-MOTION EXPERT-T III System Controller complying with DGUV V 54 (BGV D8) and DGUV V 17 (BGV C1), as well as IGWV SQ P2 D8 Plus and EN 61508 SIL 3



State-of-the-art kinetic show controller for the systemic control of kinetic drives for large and complex projects. Developed for applications with up to 240 drives, it allows the control and supervision of any application, with DGUV V 54 (BGV D8), D8 Plus and DGUV V 17 (BGV C1) and various other drives at fixed or variable speeds. Control in mixed operation of drives of all kinds can be realized without problems. It is even possible to integrate already existing drives and other stage machinery.

The controller complies in its basic configuration to DGUV V 17 (BGV C1) and EN 61508 SIL 3 and is therefore equipped for scenic runs over persons. The Expert-T III System Controller controls and supervises via I-Motion network the Movecat MPC-4ID8/C1 and V-Motion Power Controller and forms with them a closed safety network. An error in one unit is analysed centrally, represented visually and leads depending upon the system configuration to the immediate shutting down of a hoist/

drive, the group to which it belongs or even the entire system.

The safe, efficient and intuitive control of key operating and run parameters is facilitated by an application-optimized, backlit input keyboard with tactile feedback and a multifunctional 3D control knob. It is further enhanced by a 24" touchscreen. The touchscreen takes over the visual representation of the operating, input and system parameters, in a choice of 2D or 3D displays. The user has at all times therefore an overview of the rig and instant access to parameters and details. Complex target* and group* runs even in the case of possible interactions can be programmed and executed. (*depending upon the hoist/drive configuration)

For direct operation, two dynamic control levers are available as well as five CUE start buttons for the recall and execution of scene changes and shows. An integrated SSD disk as storage medium allows the storage of all system parameters and numerous

shows (the actual number depends upon the size of the SSD disk). The data can be exported and stored externally.

The I-Motion Expert-T III system in combination with the

I-Motion and V-Motion Power Controllers represents the state-of-the-art solution for professional, complex as well as scenic kinetic applications in the trade fair, events, studio and touring sectors.

Features

- implementation in accordance with DGUV V 17 (BGV C1) and EN 61508 SIL 3
- Stop Categories 0 and 1
- 32-bit high-performance buss system
- dual channel drive processor in accordance with SIL 3
- high-performance multi-core CPU, active cooling
- operating states stored in non-volatile storage modules
- self-test of all relevant functions prior to system release
- night design, buttons and input devices illuminated
- intuitive operation, 89 hot keys, trackball, 3D navigator, 2 joysticks, 5 CUE buttons, 24" PCAP touchscreen
- user hierarchy implemented by means of user ID chip card or password
- group-transcending error supervision when connected in a network
- supervision and display of the operating states* of the hoists/drives such as run direction, speed, position, operating and emergency limit, excess temperature, brake gap monitoring, dynamic load analysis as well as load and run groups.
- parallel operation of 2 devices
- internal UPS (10 minutes) with line filter



MOVECAT I-MOTION EXPERT-T III System Controller complying with DGUV V 54 (BGV D8) and DGUV V 17 (BGV C1), as well as IGWV SQ P2 D8 Plus and EN 61508 SIL 3

Software

- Movecat I-Motion
- up to 240 drives in network integration
- show-based programming and recall modes
- 3D object programming
- 2D and 3D WYSIWYG display switchable, zoomable
- unlimited* number of shows and scene changes/cues
*(depending upon the size of the SSD hard disk)
- expanded operating/display level on a second
- monitor HDMI Out
- optional multi-user operation with central data storage on Movecat I-Motion server
- DMX, SMPTE, Media Server ready
- chip card evaluation with user level management
- download function of the drive parameters
- speed way points for fixed profile
- profile and snapshot recorder
- input of software operating limit positions
- management of free and closed drive groups
- way and time synchronous group runs*
- group synchronous run (central up and down movement of preselected hoists/axes) with several run groups programmable
- programming and recall of complex, successive show sequences
- acceleration and braking of drives and groups
- supervision of the run direction and target speeds and complementary overload ascertainment through analysis of the rated speed when encoder-operated
- set-up possibility for underload*/overload* definition
- drive patch for the global exchange of hoists/drives in shows
- driver's log function, allows display and export
- import/export of show files on server and USB memory stick
- analysis of external setup signals*

*The functions listed depend upon the actual hoist/drive configuration

Options / Accessories

- protection cover
- two-colour (white/blue), dimmable gooseneck lamp
- standard road case
- swivel-motion road case
- I-Motion NMB-14, Network Master Box
- I-Motion NDB-6, Network Distribution Box
- V-Motion Motion Power Controller
- MPC I-Motion Power Controller series
- I-MOTION interface (DMX, SMTP, Media Server)

Equipment

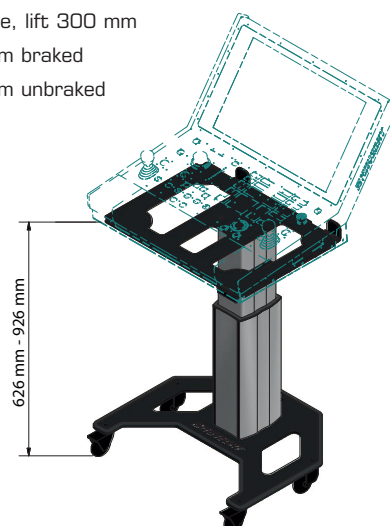
- 24" high-resolution/-brightness outdoor display (daylight capable)
- 24" PCAP outdoor multi-touch panel (scratchproof, temperature and moisture resistant)
- direct input keyboard, backlit, 89 hot keys
- pull-out, backlit, alphanumeric keyboard
- 3D-Space Navigator, multi-functional control knob
- 2 dynamic control levers with dead-man function
- E-Stop button, function-illuminated
- 2 additional dead-man buttons
- 5 cue start buttons
- 3 incremental limit controllers
- trackball with capacitive detection and illumination
- main switch for central start-up
- SSD disk
- USB port on the front panel
- 2 USB ports for mouse/M-stick etc., rear panel
- 2 x C14FC I-Motion-Net output connectors
- HDMI output for second monitor
- robust housing with handles
- two C4FC built-in connectors on the front panel for a two-colour gooseneck lamp

Technical data

- 100 to 240 V AC / 47 to 63 Hz power supply
- dimensions: 710 x 737 x 482 (Width x Depth x Height)
- weight: 39 kg
- conforms to DGUV V 17 (BGV C1), EN 61508 SIL 3, DGUV V 54 (BGV D8), IGWV SQ P2 D8 Plus

Trolley for MOVECAT I-Motion Expert-T III

- efreely adjustable, lift 300 mm
- 2 castors 80 mm braked
- 3 castors 80 mm unbraked
- Colour: black



Subject to technical modifications and typographical errors.

I-MOTION NMB-14

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MOVECAT I-Motion NMB-14, Network Master Box – Stop Category 1



The I-Motion Network Master Box satisfies the current requirements for SIL 3 applications with Stop Category 1 in conjunction with DGV V17 (BGV C1) vario drives.

According to DIN 56950-1, Stop Category 1 is required in particular for fast-running, regulated drives as well as complex load networks where controlled stopping by means of a ramp movement is also essential in the E-Stop. This contrasts with Stop Category 0, which involves the immediate removal of power, triggering the abrupt stopping of all drives (immediate incursion of the brakes). The sudden shutdown of the power characteristic of Stop Category 0 solutions generates additional hazards due to the enormous impact coefficients and the massive stresses to which connected loads, slings and supporting structures, as well as the drives themselves (gearboxes, brakes, load-bearing parts etc.), are subjected as a result.

Kinetic applications with Stop Category 1 increase both the

functional and the operational safety, as in case of a malfunction, dynamic loads and irreversible damage to all components can be considerably reduced.

The use as network master is affected after I-Motion control consoles (e.g. Expert-T or Basic). The NMB-14 I-Motion Network Master Box generates for subsequent NDB-6 Network Distributor Boxes and V-Motion Power Controllers the requisite dual-channel diverse data communication as well as the Stop Category 1/E-Stop function level and assures the real-time synchronicity of all connected system units.

The device is equipped with 14 independent, opto-isolated I-Motion network outputs for V-Motion or NDB-6 and makes possible the flexible combination of star and series topologies for complex kinetic systems meeting the highest standards in terms of failure-free, functional system security.

Furthermore, the NMB-14 manages the E-Stop function

ality in the I-Motion network in addition to an internal and also an optional externally connectable E-Stop. These are complemented by two optionally connectable external safety („dead-man“) enabler buttons for selective, decentralized enabling in case, for example, of restricted visibility or manned airframes.

With the NMB-14, existing Movecat I-Motion systems can be upgraded to Stop Category 1 and the latest safety and functional requirements of DGV V17, DIN 56950-1, EN 61508/SIL3 and BetrSichV, thereby assuring continuing guideline conformity and with it future-safe operation.

For the operation of the NMB-14 I-Motion network master box, four function keys as well as a backlit 4x20 digital display with LED status indicators are provided. The integrated UPS sets the seal on the operational safety of the network master box and with it of the I-Motion integrated system.

Technical data

- evaluation of the E-Stop button, the connected control consoles, V-Motion and external E-Stop buttons for ramps, controlled E-Stop (Stop Category 1)
- generates as master module the real-time synchronization of the subsequent NDBs and V-Motions
- backlit 4x20 LC-display with automatic backlight switch-off
- four function keys
- E-STOP button, function-illuminated
- UPS module (3 minutes)
- matt black metal housing with four handles (optional 19" rack-mount kit)
- I-Net input C14FC
- E-Stop button input C14FC with dummy plug
- 14 opto-isolated I-Net outputs C14FC with active detection and LED display
- two independent DMB inputs C7FC
- three M12 female sockets for truss couplers
- eyelet for attaching safety chain
- power supply: 100 to 230 V/AC with 1.5 m cable Neutrik powerCON True on schuko plug
- weight: 14 kg
- dimensions: 435x133x455 mm (WxHxD) (w. plug)

Subject to technical modifications and typographical errors.

MOVECAT FLT-9/12/18/24 6P2D Spring-actuated cable reels

Photo shows special equipment or special version

The Movecat FLT series meets the need of the entertainment sector for mobile, dynamic cable guides for moving elements. The series offers six load circuits with up to 10/16 A and two DMX/AES/EBU circuits. So the reels can be used for a very wide variety of purposes, such as the provision of six dimmer circuits and two DMX for lighting fixtures, 6 loudspeaker circuits and two audio frequency circuits for loudspeaker arrays, or even two 16 A CEE with two DMX/AES/EBU circuits for moving light systems or active loudspeaker arrays. Spring-actuated cable reels serve for the automatic winding up and unwinding of leads used to supply lighting trusses, loudspeaker arrays and a very wide variety of other devices. With the help of a spring motor adapted to the requirements of the application at hand, these functions are automatic, requiring no auxiliary aids or

control functions.

Winding lengths of from 9 to 24 metres are available along with a wide range of accessories, such as rigging frames to facilitate truss mounting in numerous installation positions, cable guide modules, cases etc.

Fakten:

- Hybrid lead 13x4 mm² +2x(2x1)C mm² Ø 25 mm
- 6 x power cable max. 16 A 3,5 KVA up to 10 m travel and 10 A/2,5 KVA to 24 m travel
- 2 x DMX/AES/EBU data leads
- Winding lengths (lift height): 9 m/12 m/18 m/24 m
- e from 1 m
- Cable length to ceiling outlet: from 1 m
- Additional length at reel end: from 1 m
- two cable windings for strain relief (remaining on the reel)
- Max. speed 30 m/min
- Max. acceleration/deceleration 0.3 m/sec²
- Start-up time: c. 1.7 sec.
- Protection rating: IP 65
- Temperature range: -20° to +40° C

Technical data:

- Number of cores: 1 x PE, 13 x max. 25 A / 690 V AC / V DC for power and 6 x 500 mA for data and signal transmission
- Slip ring body housing: fibreglass-reinforced plastic
- Drum: galvanized steel, optional matt black power-coating
- Unwinds vertically downward. Please note: The unwind anchor point of the lead, in relation to the reel, must be on the centre line of the winding drum.

Options/accessories:

- Additional cable connection and outflow side and intermediate level reel with ceiling outlet (please, depending upon the application, specify separately)
- Cable grip
- Roller guide for ceiling implementation
- Multi-contact plug connectors
- Wide variety of plug boxes
- Mounting stand, galvanized steel, optional matt black power coated
- Truss adapter
- Transport case



MOVECAT CUSTOMIZING SERVICE:

Are you planning or creating a new stage installation for a theatre, museum, trade fair centre, exhibition hall, events venue or special event?

Would you like to bring your old and proven equipment up to speed with the latest technological developments?

Do you want to combine or complement application-, manufacturer- or customer-specific equipment with the latest, tried and tested kinetic, drive or control technology?

The service at a glance:

- ☒ Application-specific kinetic special solutions/configurations/combinations of all kinds - chain hoists, winches, trolleys, band hoists, turntables, robotic elements, curtains, screens, podiums, load measuring systems, controllers. etc.
- ☒ Adaptation of Movecat drives, such as chain hoists, winches, band hoists, trolleys, etc. for operation with or direct integration of external controllers
- ☒ Integration of existing drives or external drives into the Movecat I-Motion control system
- ☒ Delivery of factory-tested „plug and play“ complete solutions
- ☒ Provision of standardised supplementary hardware, such as incremental and absolute value encoders, limit switches, load measuring systems, hybrid cables, interface boxes etc. to complement existing drives with a view to DGUV V17/18 (BGV C1) and SIL3 operation - available from stock
- ☒ Individual customizing and manufacture of customer-specific OEM components and products
- ☒ Free component and system analysis in the light of the current European fundamentals with respect to technology, standards and guidelines
- ☒ Support in application and hazard analysis for the creation of an up-to-date component/ system basis
- ☒ Provision of CAD data in 2D and 3D
- ☒ On-site support and assistance with commissioning and training

CUSTOMIZING

MOVECAT



Movecat – the world's leading SIL 3 kinetic system All components available!

Since 2006, more than 1,000 certified Movecat BGV C1/SIL 3 systems/components have been in use worldwide in installations or on tour.

MOVECAT COMPLETE SYSTEMS WORLDWIDE IN PERMANENT USE





MOVECAT PLANNING SERVICE

Are you planning a new stage equipment installation for a theatre, museum, exhibition hall, event hall or special event? Do you want to bring your old, tried-and-tested equipment up to speed with the latest technological developments?

Planning advantages at a glance:

- ☒ Free feasibility study for new buildings and conversions
- ☒ Support in the refurbishment, conversion and new construction of mobile and fixed installations
- ☒ The ability to bring stage technology systems/equipment into line with the latest technical standards, taking into account cost efficiency and in particular the integration of existing hardware
- ☒ Product-neutral consulting for the planning/acquisition/combination of machines of all kinds (chain hoists, winches, trolleys, ribbon hoists, turntables, load measuring systems, controllers etc.)
- ☒ Cost-efficient concepts for extending service life upon expiry of the manufacturer's service life of 10 years
- ☒ Free system analysis in the light of the technological state of the art as well as currently applicable standards and guidelines
- ☒ Support with application and hazard analysis to create an up-to-date foundation for your system
- ☒ Free concept design including feasibility analysis
- ☒ Support in the preparation of tender documents
- ☒ Support in the preparation of design and implementation plans
- ☒ Provision of CAD data in 2D and 3D
- ☒ On-site support and assistance
- ☒ Tailor-made stage-equipment solutions

UNSER SERVICE TEAM FÜR SIE:
sales@movecat.de oder 07032-9851-80

PLANER

MOVECAT



Movecat – the world's leading SIL 3 kinetic system All components available!

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MOVECAT COMPLETE SYSTEMS WORLDWIDE IN PERMANENT USE





Discover our leasing offers

Want state-of-the-art equipment to give your company a future-proof competitive advantage? Want to invest without a capital commitment?

The advantages of leasing in a nutshell:

- ✓ Clear competitive advantages that come with state-of-the-art equipment
- ✓ New entrepreneurial freedom by conserving your own capital and retaining liquidity
- ✓ Ideal planning security thanks to fixed rates and payment arrangement
- ✓ No capital accumulation for lessee
- ✓ No expensive downtime
- ✓ No risk of equipment obsolescence
- ✓ Leasing is balance neutral
- ✓ Made-to-measure contracts tailored to your needs
- ✓ Cooperation with reputable refinancing partners with market experience
- ✓ Fast and uncomplicated processing

Leasing

MOVECAT



LEASING FUNDAMENTALS*

Term of 48 months with a special payment of 10% of net purchase price.

The leasing arrangement requires a credit assessment and approval by a leasing company as well as the taking out by the lessee of all-risks insurance for the replacement value (new) of the leased articles.

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