MS132-K manual motor starters with Push-in Spring terminals

0.10 to 32 A – with thermal and electromagnetic protection

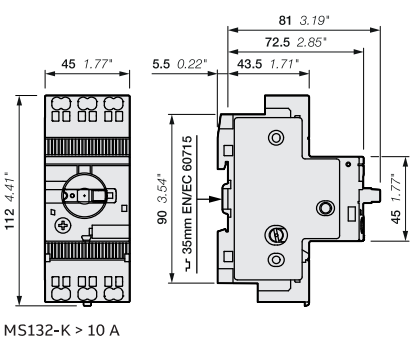
The MS132-K series is a compact and powerful range for motor protection up to 15 kW (400 V) / 32 A with a width of only 45 mm. The innovative Push-in Spring terminals enable tool-free wiring and eliminate the need for routine re-tightening.

The MS132-K also has a clear and reliable indication of fault in a separate window in the event of short-circuit tripping. Further features are the build-in disconnect function, temperature compensation, trip-free mechanism and a rotary handle with a clear switch position indication.

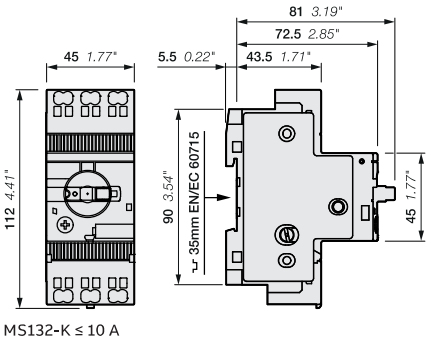
The manual motor starter is suitable for three- and single phase applications. The handle is lockable to protect against unauthorized changes. Auxiliary contacts, signaling contacts, undervoltage releases, shunt trips, terminal spacers and busbars are available as accessory. These are suitable throughout the MS116/MS132/MS165-range.

Rated operational power 400 V AC-3	Setting range	Short-circuit breaking capacity ICS at 400 V AC	Rated instantaneous short-circuit current setting I_i	Type	Order code	Weight (1 pce)
kW	A	kA	A			kg
0.03(1)	0.10 ... 0.16	100	2.00	MS132-0.16K	1SAM350010R1001	0.256
0.06	0.16 ... 0.25	100	3.10	MS132-0.25K	1SAM350010R1002	0.256
0.09	0.25 ... 0.40	100	5.00	MS132-0.4K	1SAM350010R1003	0.256
0.18	0.40 ... 0.63	100	7.90	MS132-0.63K	1SAM350010R1004	0.256
0.25	0.63 ... 1.00	100	12.5	MS132-1.0K	1SAM350010R1005	0.256
0.55	1.00 ... 1.60	100	20.0	MS132-1.6K	1SAM350010R1006	0.298
0.75	1.60 ... 2.50	100	31.3	MS132-2.5K	1SAM350010R1007	0.280
1.50	2.50 ... 4.00	100	50.0	MS132-4.0K	1SAM350010R1008	0.286
2.20	4.00 ... 6.30	100	78.8	MS132-6.3K	1SAM350010R1009	0.289
4.00	6.30 ... 10.0	100	150	MS132-10K	1SAM350010R1010	0.296
5.50	10.0 ... 16.0	100	240	MS132-16K	1SAM350010R1011	0.316
7.50	16.0 ... 20.0	100	300	MS132-20K	1SAM350010R1013	0.317
11.0	20.0 ... 25.0	50	375	MS132-25K	1SAM350010R1014	0.316
15.0	25.0 ... 32.0	25	480	MS132-32K	1SAM350010R1015	0.316

Note: Manual motor starters should always be selected so that the actual motor current is within the setting range.
(1) 690 V



MS132-K > 10 A



MS132-K ≤ 10 A

Main dimensions mm, inches

2CDC131135C0201

MS132-K manual motor starters with Push-in Spring terminals

Technical data

Main circuit – Utilization characteristics according to IEC/EN

Type	MS132-K
Standards	IEC/EN 60947-1; IEC/EN 60947-2; IEC/EN 60947-4-1
Rated operational voltage U_e	690 V AC; 250 V DC
Rated frequency	DC, 50/60 Hz
Operating frequency	0 ... 400 Hz
Trip class	10
Number of poles	3
Duty time	100 %
Mechanical durability	100000 cycles
Electrical durability	50000 cycles
Rated impulse withstand voltage U_{imp}	6 kV
Rated insulation voltage U_i	690 V
Rated operational current I_e	See ordering details
Rated operational current DC-5 I_e 3 conducting paths in series up to 250 V	See ordering details
Rated instantaneous short-circuit current setting I_i	See ordering details
Rated service short-circuit breaking capacity I_{cs}	See table "Short-circuit breaking capacity and back-up fuses"
Rated ultimate short-circuit breaking capacity I_{cu}	See table "Short-circuit breaking capacity and back-up fuses"
Rated service short-circuit breaking capacity DC I_{cs} 3 conducting paths in series up to 250 V	10 kA

Short-circuit breaking capacity and back-up fuses

I_{cs} Rated service short-circuit breaking capacity
I_{cu} Rated ultimate short-circuit breaking capacity
$I_q (I_{cc})$ Rated conditional short-circuit current

Type	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cs}	I_{cu}	gG, aM	I_{cs}	I_{cu}	gG, aM	I_{cs}	I_{cu}	gG, aM	I_{cs}	I_{cu}	gG, aM	I_{cs}	I_{cu}	gG, aM
	kA	kA	A	kA	kA	A	kA	kA	A	kA	kA	A	kA	kA	A
MS132-0.16K	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)
MS132-0.25K	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)
MS132-0.4K	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)
MS132-0.63K	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)
MS132-1.0K	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)
MS132-1.6K	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)
MS132-2.5K	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)	100	100	- (1)
MS132-4.0K	100	100	- (1)	100	100	- (1)	30	30	35 (2)	20	20	35 (2)	3	3	32 (2)
MS132-6.3K	100	100	- (1)	100	100	- (1)	30	30	63 (2)	20	20	63 (2)	3	3	50 (2)
MS132-10K	100	100	- (1)	100	100	- (1)	30	30	100 (2)	20	20	100 (2)	3	3	50 (2)
MS132-16K	100	100	- (1)	100	100	- (1)	30	30	125 (2)	20	20	125 (2)	3	3	63 (2)
MS132-20K	100	100	- (1)	100	100	- (1)	30	30	125 (2)	20	20	125 (2)	3	3	80 (2)
MS132-25K	50	50	125 (2)	50	50	125 (2)	30	30	125 (2)	10	10	125 (2)	3	3	100 (2)
MS132-32K	30	50	125 (2)	30	50	125 (2)	30	30	125 (2)	10	10	125 (2)	3	3	100 (2)

(1) No back-up fuse required, because short-circuit proof up to I_{cu}
(2) Maximum rated current of the back-up fuse for short circuit up to 100 kA if $I_{cc} > I_{cs}$

MS132-K manual motor starters with Push-in Spring terminals

Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type		MS132-K
Standards		UL 60947-1, UL 60947-4-1 (UL 508), CSA C22.2 No.60947-4-1 (CSA C22.2 No.14)
Rated operational voltage Ue acc. to UL/CSA		600 V AC
Trip class		10
Motor ratings (1)	Horsepower	See table "Motor ratings, three phase"
	Full Load Amps (FLA)	See table "Motor ratings, three phase"
	Locked Rotor Amps (LRA)	See table "Motor ratings, three phase"

(1) See product data sheets for UL/CSA single phase motor and general use (AC-1) ratings.

UL/CSA ratings overview

Type	MS132-K
Manual Motor Controller	x
Manual Motor Controller, Suitable as Motor Disconnect	x
Manual Motor Controller, Suitable for use in Group Installations	x
Manual Motor Controller, Suitable for Tap Conductor Protection in Group Installations	x
Manual self-protected Combination Motor Controller (Type E)	x
Combination Motor Controller (Type F)	x

UL/CSA Motor ratings, three phase – MS132-K

Type	200 V AC			208 V AC			220 ... 240 V AC			440 ... 480 V AC			550 ... 600 V AC		
	hp	FLA	LRA	hp	FLA	LRA	hp	FLA	LRA	hp	FLA	LRA	hp	FLA	LRA
MS132-0.16K	-	0.16	0.96	-	0.16	0.96	-	0.16	0.96	-	0.16	0.96	-	0.16	0.96
MS132-0.25K	-	0.25	1.5	-	0.25	1.5	-	0.25	1.5	-	0.25	1.5	-	0.25	1.5
MS132-0.40K	-	0.4	2.4	-	0.4	2.4	-	0.4	2.4	-	0.4	2.4	-	0.4	2.4
MS132-0.63K	-	0.63	3.78	-	0.63	3.78	-	0.63	3.78	-	0.63	3.78	-	0.63	3.78
MS132-1.0K	-	1	6	-	1	6	-	1	6	-	1	6	1/2	1	6
MS132-1.6K	-	1.6	9.6	-	1.6	9.6	-	1.6	9.6	3/4	1.6	9.6	3/4	1.6	9.6
MS132-2.5K	1/2	2.5	15	1/2	2.5	15	1/2	2.5	15	1	2.5	15	1-1/2	2.5	15
MS132-4.0K	3/4	4	24	3/4	4	24	1	4	24	2	4	24	3	3.9	25.6
MS132-6.3K	1	6.3	37.8	1	6.3	37.8	1 1/2	6.3	37.8	3	4.8	32	5	6.1	36.8
MS132-10K	2	7.8	57.5	2	7.5	55	3	9.6	64	5	7.6	46	7 1/2	9	50.8
MS132-16K	3	11	73.6	3	10.6	71	5	15.2	92	10	14	81	10	11	64.8
MS132-20K	5	17.5	105.8	5	16.7	102	5	15.2	92	10	14	81	15	17	93
MS132-25K	5	17.5	105.8	7 1/2	24.2	140	7 1/2	22	127	15	21	116	20	22	116
MS132-32K	7 1/2	25.3	146	10	30.8	179	10	28	162	20	27	145	25	27	146

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UL/CSA Maximum short-circuit current ratings – MS132-K

Type	Manual Motor Controllers Branch circuit protection, max. size per NEC/CEC (1)		for motor disconnect		for group installations		for tap conductor protection in group installations		Manual self-protected Combination Motor Controller (Type E) [1]	
	Fuses	Circuit breaker	480 V	600 V	480 V	600 V	480Y / 277 V	600Y / 347 V	480Y / 277 V	600Y / 347 V
	A	A	kA	kA	kA	kA	kA	kA	kA	kA
MS132-0.16K	Any Listed fuses. Size per NEC/CEC	Any Listed UL489 / CSA C22.2 No.5 circuit breaker. Size per NEC/CEC	65	47	65	47	65	47	65	47
MS132-0.25K			65	47	65	47	65	47	65	47
MS132-0.40K			65	47	65	47	65	47	65	47
MS132-0.63K			65	47	65	47	65	47	65	47
MS132-1.0K			65	47	65	47	65	47	65	47
MS132-1.6K			65	47	65	47	65	47	65	47
MS132-2.5K			65	47	65	47	65	47	65	47
MS132-4.0K			65	47	65	47	65	47	65	47
MS132-6.3K			65	18	65	35	65	18	65	18
MS132-10K			65	18	65	35	65	18	65	18
MS132-16K			30	18	35	35	30	18	30	-
MS132-20K			30	18	35	35	30	18	30	-
MS132-25K			30	18	35	35	30	18	30	-
MS132-32K			30	18	35	35	30	18	30	-

Combination Motor Controller Type F[1)]

Type 2 Coordination

Type	480Y / 277 V kA	Contactor	600Y / 347 V kA	Contactor
MS132-0.16K	65	AF26 ... AF38	47	AF26 ... AF38
MS132-0.25K	65	AF26 ... AF38	47	AF26 ... AF38
MS132-0.40K	65	AF26 ... AF38	47	AF26 ... AF38
MS132-0.63K	65	AF26 ... AF38	47	AF26 ... AF38
MS132-1.0K	65	AF26 ... AF38	47	AF26 ... AF38
MS132-1.6K	65	AF26 ... AF38	47	AF26 ... AF38
MS132-2.5K	65	AF26 ... AF38	47	AF26 ... AF38
MS132-4.0K	65	AF26 ... AF38	47	AF26 ... AF38
MS132-6.3K	65	AF26 ... AF38	47	AF26 ... AF38
MS132-10K	65	AF26 ... AF38	47	AF26 ... AF38
MS132-16K	30	AF26 ... AF38	–	–
MS132-20K	30	AF26 ... AF38	–	–
MS132-25K	30	AF26 ... AF38	–	–
MS132-32K	30	AF26 ... AF38	–	–

Combination Motor Controller Type F[1)]

Type 1 Coordination

Type	480Y / 277 V kA	Contactor	600Y / 347 V kA	Contactor
MS132-0.16K	100	AF09 ... AF38	50	AF09 ... AF38
MS132-0.25K	100	AF09 ... AF38	50	AF09 ... AF38
MS132-0.40K	100	AF09 ... AF38	50	AF09 ... AF38
MS132-0.63K	100	AF09 ... AF38	50	AF09 ... AF38
MS132-1.0K	100	AF09 ... AF38	50	AF09 ... AF38
MS132-1.6K	100	AF09 ... AF38	50	AF09 ... AF38
MS132-2.5K	100	AF09 ... AF38	50	AF09 ... AF38
MS132-4.0K	100	AF09 ... AF38	50	AF09 ... AF38
MS132-6.3K	100	AF09 ... AF38	47	AF09 ... AF38
MS132-10K	100	AF09 ... AF38	30	AF09 ... AF38
MS132-16K	65	AF26 ... AF38	30	AF26 ... AF38
MS132-20K	65	AF26 ... AF38	–	–
MS132-25K	50	AF26 ... AF38	–	–
MS132-32K	50	AF38	–	–

[1)] MS132-K in combination with terminal spacer TS1-M3-K or PS1-xx-65K busbars

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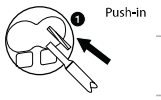
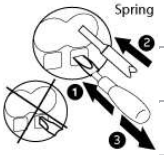
MS132-K manual motor starters with Push-in Spring terminals

Technical data

General technical data

Type		MS132-K
Pollution degree		3
Phase loss sensitive		Yes
Disconnect function acc. to IEC/EN 60947-2		Yes
Ambient air temperature		
Operation	Open - compensated	-25 ... +60 °C
	Open	-25 ... +70 °C
	Enclosed (IB132)	0 ... +40 °C
Storage		-50 ... +80 °C
Ambient air temperature compensation		Acc. to IEC/EN60947-4-1
Maximum operating altitude permissible		2000 m
Resistance to shock acc. to IEC 60068-2-27		25g / 11 ms
Resistance to vibrations acc. to IEC 60068-2-6		5g / 3 ... 150 Hz
Mounting position		Position 1-6
Mounting on DIN rail		acc. to IEC 60715
Group mounting		On request
Minimum distance to other units same type	Horizontal	0 mm
	Vertical	150 mm
Minimum distance to electrical conductive board	Horizontal, up to 400 V	0 mm
	Horizontal, up to 690 V	> 1.5 mm
	Vertical	75 mm
Degree of protection	Housing	IP20
	Main circuit terminals	IP20

Connecting characteristics - Main circuit

Manual motor starter type			MS132-K/MS132-KT
		1 x 2 x	1 ... 6 mm ²/AWG 10 ... 8
		1 x 2 x	1 ... 2.5 mm ²
		1 x 2 x	1 ... 4 mm ²
		1 x 2 x	1 ... 4 mm ² 1 ... 25 mm ²
		1 x 2 x	-
		1 x 2 x	1 ... 6 mm ²/AWG 18... 8 1 ... 6 mm ²/AWG 18...10
		1 x 2 x	1 ... 2.5 mm ²
		1 x 2 x	0.5 ... 4 mm ²
		1 x 2 x	0.5 ... 4mm ² 0.5 ... 2.5 mm ²
		1 x 2 x	-
		1 x 2 x	Ø 3 mm x 0.5
		1 x 2 x	12 mm

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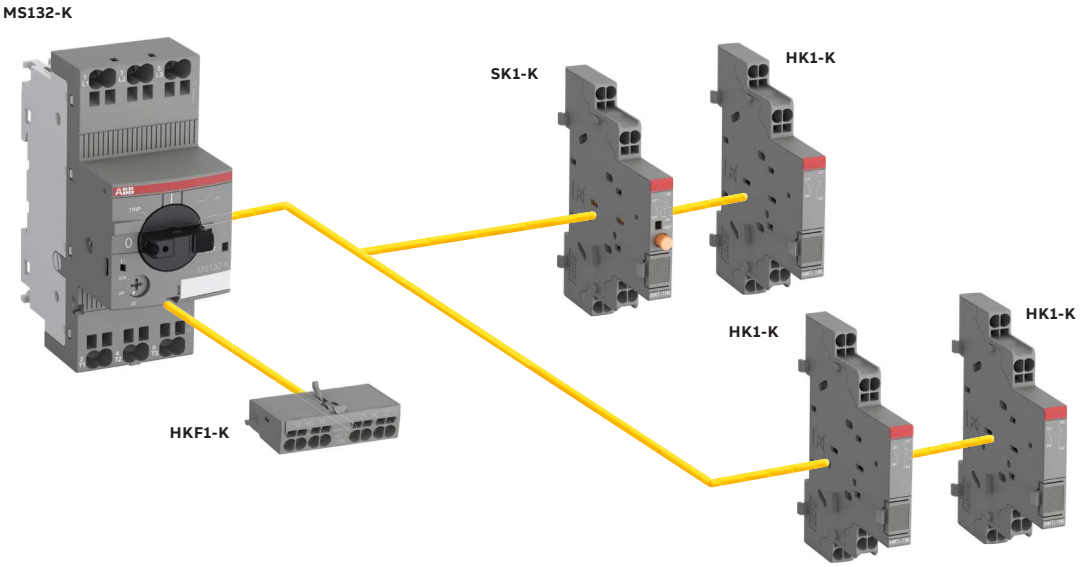
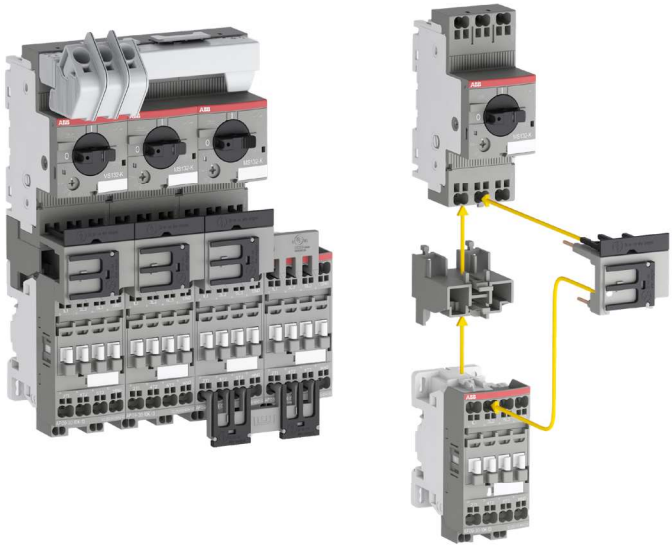
MS132-K
Main accessories



Note: SK1-K, HK1-K and HKF1-K are also suitable for manual motor startes with screw terminals.



MS132-K

Main accessories with Push-in Spring terminals

MS132-K can be equipped with auxiliary contacts for lateral and front mounting as well as signaling contacts for lateral mounting. The accessories are equipped with Push-in Spring terminals that enable tool-free wiring. A variety of combinations is possible as required for the application. The auxiliary contacts change position with the main contacts. The signaling contact SK1 signals tripping regardless if it was caused by short-circuit or overload. These main accessories are suitable throughout the MS116/MS132/MS165-range.

HKF1-11K

HK1-11K

SK1-11K

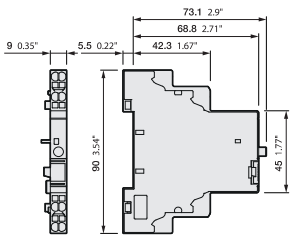
SK1-ARK

Auxiliary contacts

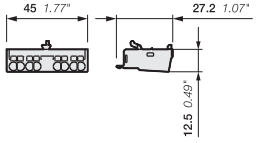
Suitable for	Auxiliary contacts NO	Auxiliary contacts NC	Description	Type	Order code	Pkg qty	Weight (1 pce) kg
Mountable on the front							
MS116, MS132, MS165 MO132, MO165, MS132-T, MS132-K	1	1		HKF1-11K	1SAM201901R1201	10	0.016
	2	0		HKF1-20K	1SAM201901R1202	10	0.016
Mountable on the right							
MS116, MS132, MS165 MO132, MO165, MS132-T, MS132-K	1	1		HK1-11K	1SAM201902R1201	2	0.035
	2	0		HK1-20K	1SAM201902R1202	2	0.035
	0	2		HK1-02K	1SAM201902R1203	2	0.035
	2	0	with 2 leading contacts	HK1-20LK	1SAM201902R1204	2	0.035

Signaling contacts - mountable on the right

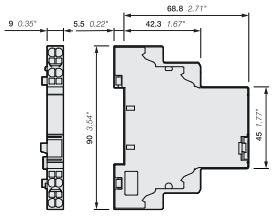
Suitable for	Auxiliary contacts NO	Auxiliary contacts NC	Type	Order code	Pkg qty	Weight (1 pce) kg
MS116, MS132, MS165 MO132, MO165, MS132-T, MS132-K	1	1	SK1-11K	1SAM201903R1201	2	0.035
	2	0	SK1-20K	1SAM201903R1202	2	0.035
	0	2	SK1- 02K	1SAM201903R1203	2	0.035
	1	1	SK1-11ARK	1SAM201903R1204	2	0.035
	2	0	SK1-20ARK	1SAM201903R1205	2	0.035
	0	2	SK1-02ARK	1SAM201903R1206	2	0.035



SK1-K



HKF1-K



HK1-K, SK1-ARK

Main dimensions mm, inches

MS132-K
Technical data

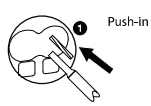
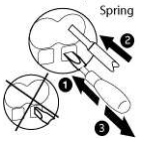
General technical data

Type		HK1-K, SK1-K	HKF1-K
Standards		IEC/EN 60947-1, IEC/EN 60947-5-1	
Rated operational voltage U_e		690 V AC, 600 V DC	250 V AC / 250 V DC
Conventional free-air thermal current I_{th}		6 A	5 A
Rated frequency		DC, 50/60 Hz	
Rated impulse withstand voltage U_{imp}		6 kV	
Rated insulation voltage U_i		690 V AC	250 V AC
Pollution degree		3	
Ambient air temperature	Operation	-25 ... +60 °C	
	Storage	-50 ... +80 °C	
Resistance to shock acc. to IEC 60068-2-27		25 g / 11 ms	
Resistance to vibrations acc. to IEC 60068-2-6		5 g / 3... 150 Hz	
Ie / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category	24 V, 120 V	6 A	3 A
	240 V	4 A	1.5 A
	400 V	3 A	-
	690 V	1 A	-
Ie / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category	24 V	2 A	1 A
	125 V	0.55 A	0.27 A
	250 V	0.27 A	0.11 A
	440 V, 600 V	0.15 A	-
Minimum switching capacity		17 V / 5 mA	
Short-circuit protective device	N.C., 95-96	10 A Type gG	
	N.O., 97-98	10 A Type gG	
Duty time		100 %	
Mounting		Right side of Manual Motor Starter/ MS132-K	Front of Manual Motor Starter / MS132-K
Mounting position		1 to 6	
Mechanical durability		100 000 cycles	-
Electrical durability		100 000 cycles	-

Contact utilization characteristics according to UL/CSA

Type	HK1-K, SK1-K	HKF1-K
Standards	UL /CSA 60947-1, UL/CSA 60947-4-1 (UL 508), (CSA C22.2 No. 14)	
Rated operational voltage Ue acc. to UL/CSA	600 V AC / 600 V DC	250 V AC / 250 V DC
Pilot duty	B600, Q600	B300, R300
AC thermal rated current	5 A	5 A
AC maximum volt-ampere making	7200 VA	3600 VA
AC maximum volt-ampere breaking	720 VA	360 VA
DC thermal rated current	2.5 A	2.5 A
DC maximum volt-ampere making-breaking	69 VA	69 VA

Connecting characteristics - Auxiliary circuit

Type		HK1-K, SK1-K, HKF1-K
	1 or 2 x	1 ... 2.5 mm²/AWG 14
	1 or 2 x	1 ... 2.5 mm²
	1 or 2 x	1 ... 2.5 mm²
	1 or 2 x	1 ... 1.5 mm²
	1 or 2 x	-
	1 or 2 x	1 ... 2.5 mm²/AWG 20...14
	1 or 2 x	1 ... 2.5 mm²
	1 or 2 x	0.5 ... 2.5 mm²
	1 or 2 x	0.5 ... 2.5 mm²
	1 or 2 x	0.5 ... 1.5 mm²
	1 or 2 x	Ø 3 mm / x 0.5
	1 or 2 x	12 mm

2CDC131141C0201

Accessories with Push-in Spring terminals
MS132-K, MS132-KT

PS1-2-0-65K

PS1-5-0-65K

TS1-M3-K

BS1-K

SA2

Three-phase busbars with Push-in Spring terminals

Three-phase busbars ensure a quick and safe connection and are therefore a cost effective solution. Busbars with Push-in Spring terminals enable tool-free wiring and eliminate the need for routine re-tightening. Between 2 and 5 manual motor starters with none or one lateral auxiliary contact can be connected.

Suitable for	Rated operational current A	No. of manual motor starters	No. of lateral auxiliary contacts	Type	Order code	Pkg qty	Weight (1 pce) kg
MS132-K, MS132-KT	65	2	0	PS1-2-0-65K	1SAM301903R1002	1	0.089 kg
	65	3	0	PS1-3-0-65K	1SAM301903R1003	1	0.093 kg
	65	4	0	PS1-4-0-65K	1SAM301903R1004	1	0.114 kg
	65	5	0	PS1-5-0-65K	1SAM301903R1005	1	0.122 kg
	65	2	1	PS1-2-1-65K	1SAM301903R1012	1	0.139 kg
	65	3	1	PS1-3-1-65K	1SAM301903R1013	1	0.150 kg
	65	4	1	PS1-4-1-65K	1SAM301903R1014	1	0.163 kg
	65	5	1	PS1-5-1-65K	1SAM301903R1015	1	0.177 kg

Terminal spacers, Type E/F

Suitable for	Description	Type	Order Code	Pkg qty	Weight (1 pce)
MS132-K, MS132-KT	UL/CSA Type E/F and IEC	TS1-M3-K	1SAM301913R1001	1	0.012 kg

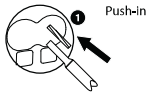
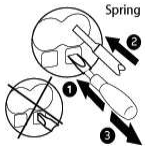
Additional accesories

Suitable for	Description	Type	Order Code	Pkg qty	Weight (1 pce) kg
MS132-K, MS132-KT	Protection cover for PS1-K busbar	BS1-K	1SAM301904R1D01	1	0.002 kg
	Padlock + two keys	SA2	GJF1101903R0002	1	0.020 kg

General technical data

Type		**PS1-xxx-65K**
Standards		IEC/EN 60947-4-1, IEC/EN 60947-1, UL 60947-1, UL 60947-4-1 (UL 508), CSA C22.2 No.60947-4-1 (CSA C22.2 No.14)
Rated operational voltage Ue		690 V
Rated operational voltage Ue acc. to UL/CSA		600 V AC
Rated operational current Ie		65 A
Rated operational current Ie acc. to UL/CSA		65 A
Rated frequency		50/60 Hz
Rated impulse withstand voltage Uimp		6 kV
Rated insulation voltage Ui		690 V AC
Pollution degree		3
Ambient air temperature	Operation	-25 ... +70 °C
	Storage	-50 ... +80 °C
Resistance to shock acc. to IEC 60068-2-27		25g / 11 ms
Resistance to vibrations acc. to IEC 60068-2-6		5g / 3 ... 150 Hz

Connecting characteristics- busbars

Type			**PS1-xx-65K**
		1 x 2 x	6 ... 25 mm²/AWG 8 ... 4 -
		1 x 2 x	4 ... 16 mm² -
		1 x 2 x	4 ... 16 mm² -
		1 x 2 x	4 ... 16 mm² -
		1 x 2 x	4 ... 6 mm² -
		1 x 2 x	1.5 ... 2.5 mm²/AWG 18...4 -
		1 x 2 x	0.5 ... 16 mm² -
		1 x 2 x	0.5 ... 16 mm² -
		1 x 2 x	0.5 ... 16 mm² -
		1 x 2 x	0.5 ... 6 mm² -
		1 x 2 x	Ø 4 mm x 0.5
		1 x 2 x	16 mm