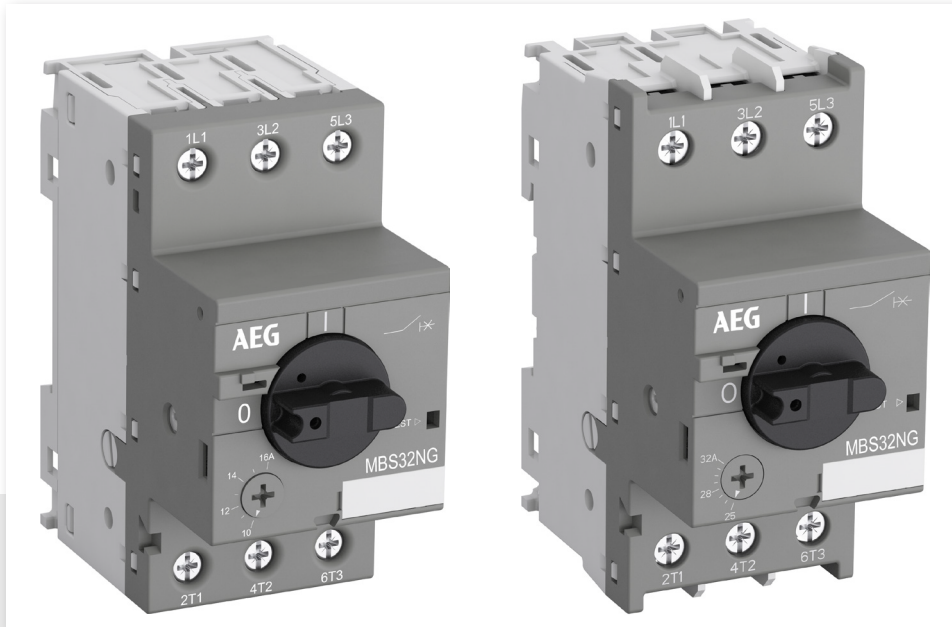


AEG

MBS32NG manual motor starters

MBS32NG manual motor starters



Fuseless protection saves costs, space and ensures a quick reaction under overload and short-circuit condition by switching off the motor within milliseconds.

The full range of MBS32NG manual motor starters offers protection from 0.25 A to up to 32 A.

Protection and control

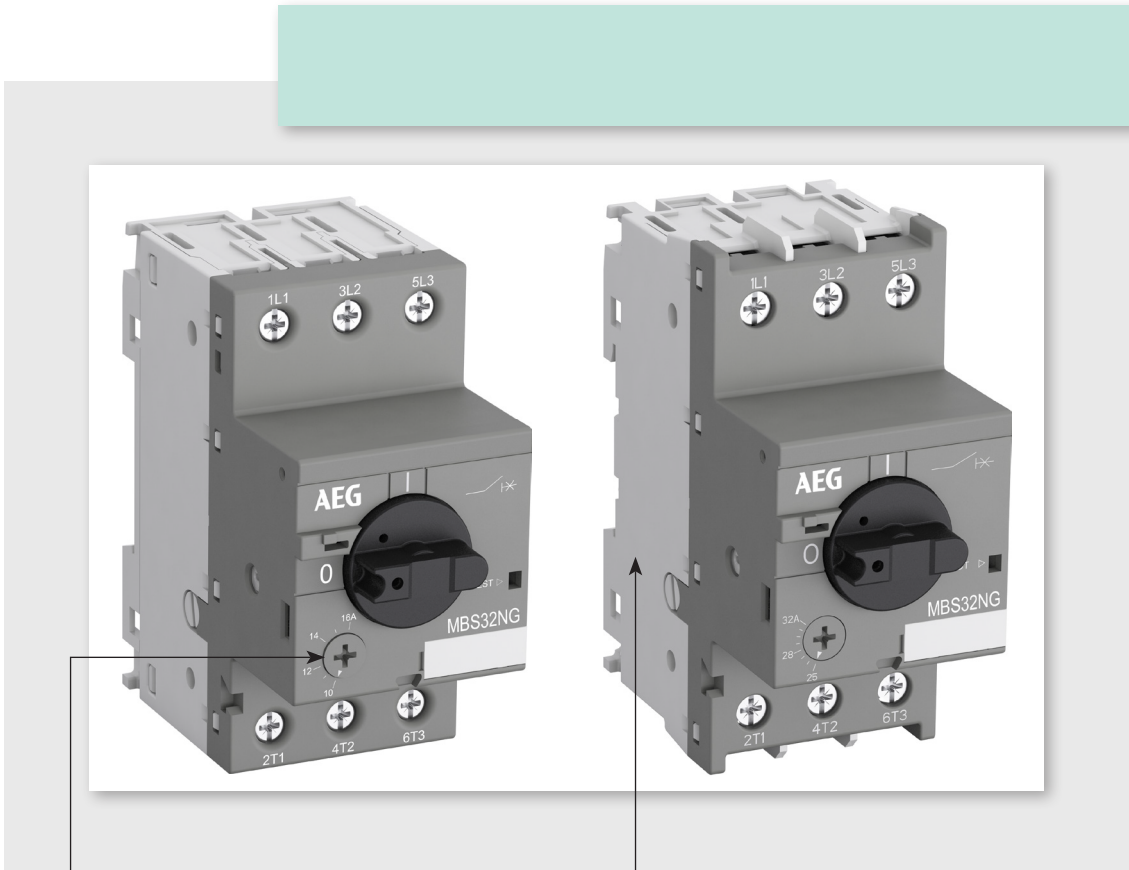
Protect equipment and installations
AEG MBS32NG manual motor starters provide protection and control in almost every situation by protecting motor loads from short-circuits, overloads and phase failures while also controlling the current flow through a simple ON/OFF switch.

Continuous operation

Secure uptime Fuseless motor protection reduces maintenance costs and downtimes by avoiding fuse replacement after faults.

Speed up your projects

Simplified design MBS32NG manual motor starters can be connected easily with AEG contactors using the respective accessory.



**Right solution
for your application**

MBS32NG offers protection up to 32 A and a breaking capacity up to 50 kA – all in a 45 mm wide housing. They are designed to meet requirements of most standard applications.

All-in-one

MBS32NG offers fuseless protection against short-circuits, phase failures and overloads including disconnect function - all in one single compact product.

Protection wherever you are

MBS32NG manual motor starters are suitable for worldwide use. The wide range of certifications covers standards like IEC (CB) and cULus.

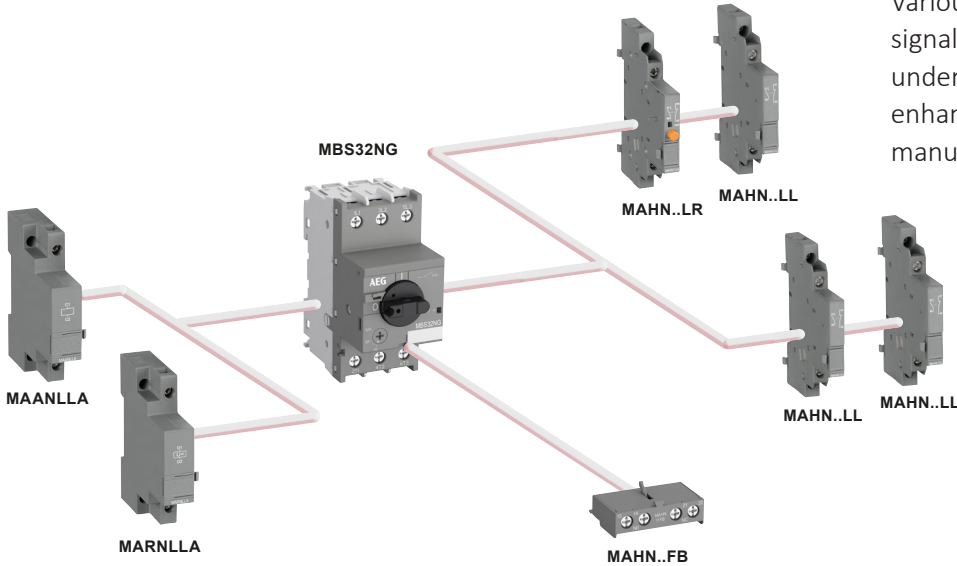
Ready for IE3 motors

MBS32NG complies with the latest IE3 N/H and NE/HE motors. NE/HE requires utilization category AC-3e.

The right accessories for your applications

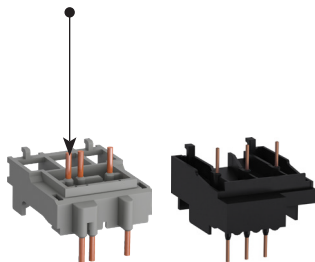
Wide range of accessories

Various accessories like auxiliary contacts, signaling contacts, shunt trips and undervoltage releases are available to enhance the functionality of MBS32NG manual motor starters.



Save wiring time

and avoid mistakes by using a connecting link



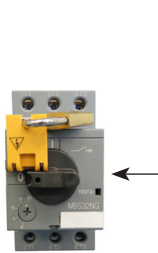
Easy to connect

Save wiring time and avoid mistakes by using a connecting link between MBS32NG manual motor starters and AEG contactors.

This creates harmonious and compact starter combinations that are easy to mount.

With a lockable handle

maintenance will be safe for every technician



Safety at work

With a lockable handle maintenance will be safe for every technician. Use MAS1 padlock adapter to make MBS32NG lockable.

0.25 to 32 A - with thermal and electromagnetic protection



MBS32NG - 160

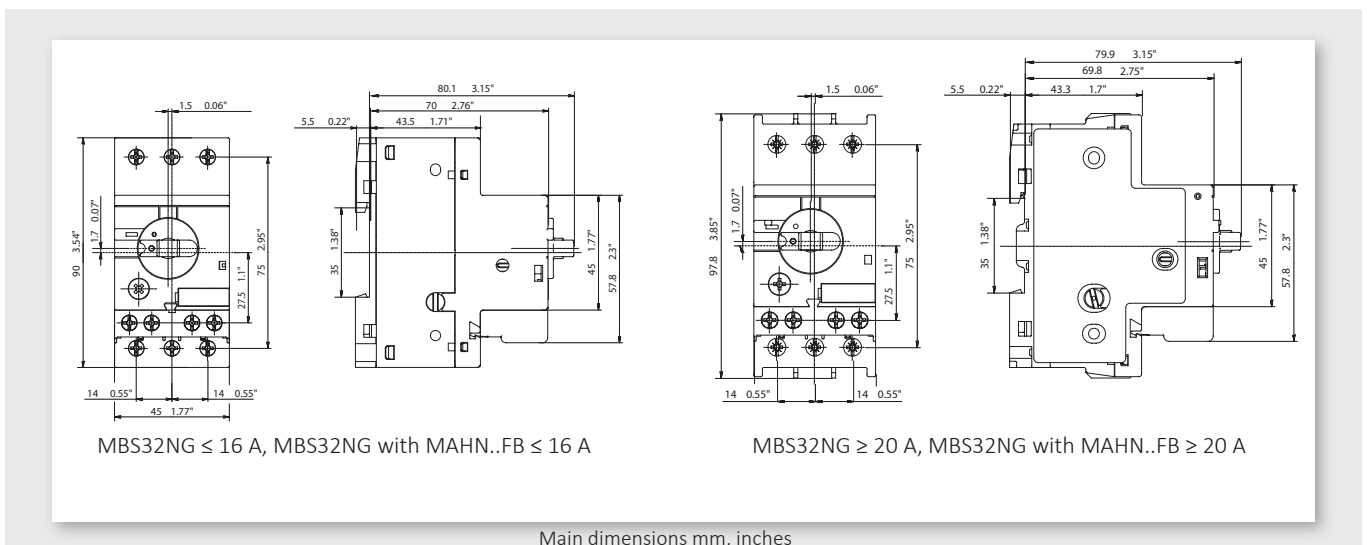
MBS32NG - 320

MBS32NG is a compact and economic range for motor protection up to 15 kW (400 V) / 32 A in width of 45 mm. Further features are the built-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. Auxiliary contacts, signaling contacts, undervoltage releases, shunt trips and locking devices for protection against unauthorized changes are available as accessory.

Rated operational power 400 V AC-3, AC-3e	Setting range	Short-circuit breaking capacity Ics at 400 V AC	Rated instantaneous short-circuit current setting Ii	Type	Order code	Weight (1 pce)
kW	A	kA	A			kg
0.09	0.25 ... 0.40	50	5.00	MBS32NG-004	4TQE561503R0000	0.225
0.18	0.40 ... 0.63	50	7.90	MBS32NG-006	4TQE561504R0000	0.225
0.25	0.63 ... 1.00	50	12.5	MBS32NG-010	4TQE561505R0000	0.225
0.55	1.00 ... 1.60	50	20.0	MBS32NG-016	4TQE561506R0000	0.265
0.75	1.60 ... 2.50	50	31.3	MBS32NG-025	4TQE561507R0000	0.265
1.50	2.50 ... 4.00	50	50.0	MBS32NG-040	4TQE561508R0000	0.265
2.20	4.00 ... 6.30	50	78.8	MBS32NG-063	4TQE561509R0000	0.265
4.00	6.30 ... 10.0	50	150	MBS32NG-100	4TQE561510R0000	0.265
5.50	8.00 ... 12.0	25	180	MBS32NG-120	4TQE561512R0000	0.265
7.50	10.0 ... 16.0	16	240	MBS32NG-160	4TQE561511R0000	0.265
7.50	16.0 ... 20.0	10	300	MBS32NG-200	4TQE561513R0000	0.310
11.0	20.0 ... 25.0	10	375	MBS32NG-250	4TQE561514R0000	0.310
15.0	25.0 ... 32.0	10	480	MBS32NG-320	4TQE561515R0000	0.310

Note: Manual motor starters should always be selected so that the actual motor current is within the setting range.



MBS32NG

Technical data

Main circuit – Utilization characteristics according to IEC/EN

Type	MBS32NG	
Standards	IEC/EN 60947-2, IEC/EN 60947-4-1, IEC/EN 60947-1	
Rated operational voltage Ue	690 V AC	
Rated frequency	50/60 Hz	
Operational frequency	50/60 Hz	
Trip class	10A	
Number of poles	3	
Duty time	100%	
Mechanical durability	100000 cycles	
Electrical durability	≤ 16 A	100000 cycles
	≥ 20 A	50000 cycles
Rated impulse withstand voltage Uimp	6 kV	
Rated insulation voltage Ui	690 V	
Rated operational current Ie	See ordering details	
Rated instantaneous short-circuit current setting Ii	See ordering details	
Rated service short-circuit breaking capacity Ics	See table "Short-circuit breaking capacity and back-up fuses"	
Rated ultimate short-circuit breaking capacity Icu	See table "Short-circuit breaking capacity and back-up fuses"	
Suitable for use in IT networks	Yes	

Short-circuit breaking capacity and back-up fuses

Ics Rated service short-circuit breaking capacity

Icu Rated ultimate short-circuit breaking capacity

Icc Prospective short-circuit current at installation location

Note: Maximum rated current of the back-up fuses if $I_{cc} > I_{cs}$

Type	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	Ics	Icu	gG, aM	Ics	Icu	gG, aM	Ics	Icu	gG, aM	Ics	Icu	gG, aM	Ics	Icu	gG, aM
	kA	kA	A	kA	kA	A	kA	kA	A	kA	kA	A	kA	kA	A
MBS32NG-004	50	50	-	50	50	-	50	50	-	30	30	-	30	30	-
MBS32NG-006	50	50	-	50	50	-	50	50	-	30	30	-	30	30	-
MBS32NG-010	50	50	-	50	50	-	50	50	-	30	30	-	30	30	-
MBS32NG-016	50	50	-	50	50	-	50	50	-	30	30	-	30	30	-
MBS32NG-025	50	50	-	50	50	-	10	10	25 (1)	10	10	25 (1)	5	5	25 (1)
MBS32NG-040	50	50	-	50	50	-	6	6	25 (1)	6	6	25 (1)	2	2	25 (1)
MBS32NG-063	50	50	-	50	50	-	6	6	63 (1)	6	6	63 (1)	2	2	40 (1)
MBS32NG-100	50	50	-	50	50	-	6	6	63 (1)	6	6	63 (1)	2	2	50 (1)
MBS32NG-120	25	25	80 (1)	25	25	80 (1)	6	6	63 (1)	6	6	63 (1)	2	2	50 (1)
MBS32NG-160	16	16	80 (1)	16	16	80 (1)	6	6	63 (1)	4	4	63 (1)	2	2	63 (1)
MBS32NG-200	10	15	125 (1)	10	15	125 (1)	3	6	125 (1)	3	4	125 (1)	2	2	80 (1)
MBS32NG-250	10	15	125 (1)	10	15	125 (1)	3	6	125 (1)	3	4	125 (1)	2	2	100 (1)
MBS32NG-320	10	10	125 (1)	10	10	125 (1)	3	6	125 (1)	3	4	125 (1)	2	2	100 (1)

(1) Rated back-up fuse for short-circuit up to 50 kA

Main circuit – Utilization characteristics according to UL/CSA

Type	MBS32NG	
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	10A	
Motor ratings	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"

MBS32NG

Technical data

UL/CSA ratings overview

Type	MBS32NG
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	-
Manual self-protected Combination Motor Controller (Type E)	-
Combination Motor Controller (Type F)	-

UL/CSA Motor ratings, three phase – MBS32NG

hp Horsepower
FLA Full Load Amps
LRA Locked Rotor Amps

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
MBS32NG-004	-	0.4	2.4	-	0.4	2.4	-	0.4	2.4	-	0.4	2.4	-	0.4	2.4
MBS32NG-006	-	0.63	3.78	-	0.63	3.78	-	0.63	3.78	-	0.63	3.78	-	0.63	3.78
MBS32NG-010	-	1	6	-	1	6	-	1	6	-	1	6	1/2	0.9	8
MBS32NG-016	-	1.6	9.6	-	1.6	9.6	-	1.6	9.6	3/4	1.6	9.6	3/4	1.6	9.6
MBS32NG-025	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
MBS32NG-040	3/4	4	24	3/4	4	24	1	4	24	2	4	24	3	3.9	25.6
MBS32NG-063	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
MBS32NG-100	2	7.8	57.5	2	7.5	55	3	9.6	64	5	7.6	46	7 1/2	9	50.8
MBS32NG-120	3	11	73.6	3	10.6	71	3	9.6	64	7 1/2	11	63.5	10	11	64.8
MBS32NG-160	3	11	73.6	3	10.6	71	5	15.2	92	10	14	81	10	11	64.8
MBS32NG-200	5	17.5	105.8	5	16.7	102	5	15.2	92	10	14	81	15	17	93
MBS32NG-250	5	17.5	105.8	7 1/2	24.2	140	7 1/2	22	127	15	21	116	20	22	116
MBS32NG-320	7 1/2	25.3	146	10	30.8	179	10	28	162	20	27	145	25	27	146

Note: Manual motor starters should always be selected so that the actual motor current is within the setting range; see ordering detail pages. Horsepower (hp) ratings are for reference

UL/CSA Maximum short-circuit current ratings – MBS32NG

Type	Manual Motor Controllers						
	Branch circuit protection, max. size per NEC/CEC (1)			for motor disconnect (2)		for group installations	
	Fuses	Circuit breaker		480 V	600 V	480 V	600 V
	A	A		kA	kA	kA	kA
MBS32NG-004	Any listed fuses. Size per NEC/CEC	Any listed UL489 / CSA C22.2 N° 5 circuit breaker. Size per NEC/CEC		30	5	30	5
MBS32NG-006				30	5	30	5
MBS32NG-010				30	5	30	5
MBS32NG-016				30	5	30	5
MBS32NG-025				30	5	30	5
MBS32NG-040				18	5	18	5
MBS32NG-063				18	5	18	5
MBS32NG-100				18	5	18	5
MBS32NG-120				18	5	18	5
MBS32NG-160				18	5	18	5
MBS32NG-200				18	5	18	5
MBS32NG-250	18	5	18	5			
MBS32NG-320	18	5	18	5			

(1) NEC: NFPA®70 National Electrical Code®; CEC: CSA C22.1 Canadian Electrical Code.

(2) Suitable as motor disconnect with padlock adapter MA

MBS32NG

Technical data





Main circuit – Utilization characteristics according to IEC/EN

Type	Motor Disconnect, Group Installations in Group Installations Coordination Type 2		
	Minimum contactor size	480 V kA	600 V kA
MBS32NG-004	LS04N ... LS07N	30	5
MBS32NG-006	LS04N ... LS07N	30	5
MBS32NG-010	LS04N ... LS07N	30	5
MBS32NG-016	LS04N ... LS07N	30	5
MBS32NG-025	LS07N	30	5
MBS32NG-040	LS11N - LS18N	18	5
MBS32NG-063	LS11N - LS18N	18	5
MBS32NG-100	LS11N - LS18N	18	5
MBS32NG-120	LS11N - LS18N	18	5
MBS32NG-160	LS11N - LS18N	18	5
MBS32NG-200	LS11N - LS18N	18	5
MBS32NG-250	LS15N - LS18N	18	5
MBS32NG-320	LS18N	18	5

General technical data

Type	MBS32NG	
Pollution degree	3	
Phase loss sensitivity	Yes	
Disconnect function acc. to IEC/EN 60947-2	Yes	
Ambient air temperature		
Operation	Open - compensated	-25 ... +55 °C
	Open	-25 ... +70 °C
	Enclosed (MI65)	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 (optional for single mounting)	
Mounting	DIN-rail (EN 60715)	
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	IP10

General technical data

Type	MBS32NG ≤ 16 A	MBS32NG ≥ 20 A
Connecting capacity		
 Rigid	1 or 2 x 1 ... 4 mm ²	2.5 ... 6 mm ²
 Flexible with ferrule	1 or 2 x 0.75 2.5 mm ²	1 ... 6 mm ²
 Flexible with insulated ferrule	1 or 2 x 0.75 2.5 mm ²	1 ... 6 mm ²
 Flexible	1 or 2 x 0.75 2.5 mm ²	1 ... 6 mm ²
Stranded acc. to UL/CSA	1 or 2 x AWG 16-12	AWG 16-8
Stripping length	9 mm	
Tightening torque	0.8 1.2 Nm / 10 ... 12 lb.in	
Recommended screwdriver	Pozidriv 2	

MBS32NG

Accessories



MAHN..LL



MAHN..LR



MAHN..FB

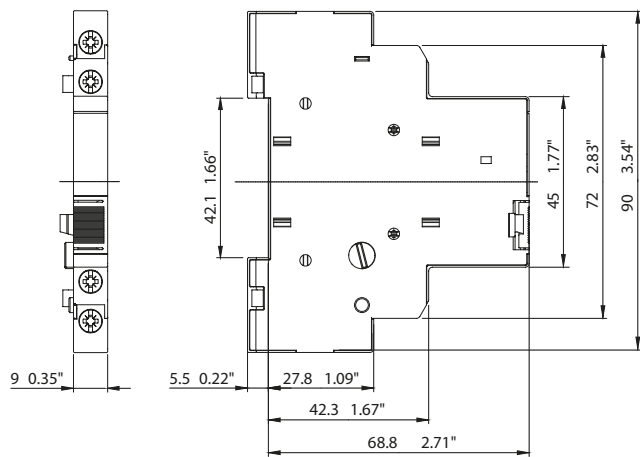
MBS32NG manual motor starters can be equipped with auxiliary contacts for lateral/front mounting, signaling contacts for lateral mounting, undervoltage releases and shunt trips. The accessories can be fitted wiring free and without tools.

A variety of combinations is possible as required for the application. The auxiliary contacts change position with the main contacts.

The signaling contact MAHN..LR signals tripping regardless if it was caused by short-circuit or overload. Undervoltage releases are used for remote tripping of the manual motor starters, specially for emergency stop circuits. Shunt trips release the manual motor starters used for remote tripping.

Suitable for	Auxiliary contacts N.O.	Auxiliary contacts N.C.	Description	Type	Order code	Pkg qty	Weight (1 pce) kg
Auxiliary contacts – mountable on the front							
MBS32NG	1	1		MAHN11FB	4TQE569001R0000	10	0.015
	1	0		MAHN10FB	4TQE569003R0000	10	0.013
	0	1		MAHN01FB	4TQE569004R0000	10	0.013
Auxiliary contacts – mountable on the right							
MBS32NG	1	1	max. 2 pieces	MAHN11LL	4TQE569005R0000	2	0.035
	2	0	max. 2 pieces	MAHN20LL	4TQE569006R0000	2	0.035
Signaling contacts – mountable on the right							
MBS32NG	1	1	for tripped alarm	MAHN11LR	4TQE569008R0000	2	0.035
	2	0	for tripped alarm	MAHN20LR	4TQE569009R0000	2	0.035

MAHN..LL



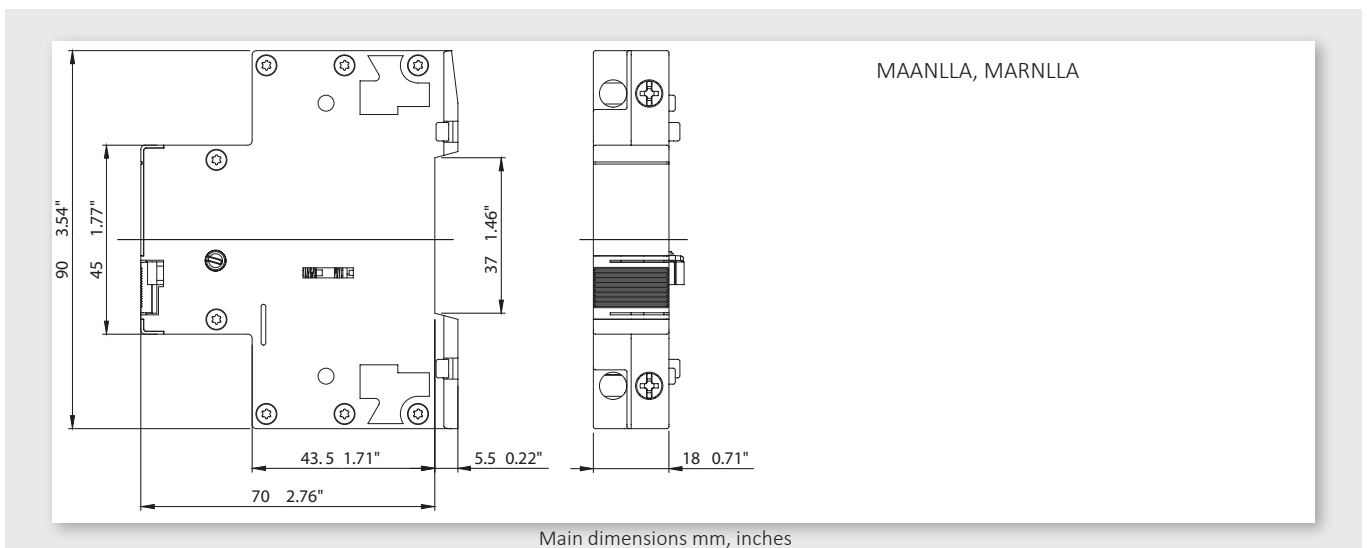
Main dimensions mm, inches

MBS32NG

Accessories



Suitable for	Rated control supply voltage		Type	Order code	Pkg qty	Weight (1 pce) kg
Shunt trips – mountable on the left						
MBS32NG	110	110	MAANLLA-110	4TQE569032R0000	1	0.100
	200 ... 240	200 ... 240	MAANLLA-230	4TQE569033R0000	1	0.100
	350 ... 415	350 ... 415	MAANLLA-400	4TQE569034R0000	1	0.100
Undervoltage releases – mountable on the left						
MBS32NG	110	120	MARNLLA-110	4TQE569024R0000	1	0.100
	230	240	MARNLLA-230	4TQE569025R0000	1	0.100
	400	-	MARNLLA-400	4TQE569026R0000	1	0.100



MBS32NG





Accessories

Type	MAHN..LL, MAHN..LR	MAHN..FB	
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	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	25g / 11 ms		
Resistance to vibrations acc. to IEC 60068-2-6	5g / 3 ... 150 Hz		
I _e / 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	-
	440 V, 690 V	1 A	-
I _e / 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 starters	Front of manual motor starters	
Mounting positions	1-6		
Mechanical durability	100000 cycles		
Electrical durability	100000 cycles		

Contact utilization characteristics according to UL/CSA

Type	MAHN..LL, MAHN..LR	MAHN..FB
Standards	UL 60947-1, UL 60947-5-1 (UL 508), CSA C22.2 No.60947-5-1 (CSA C22.2 No.14)	
Rated operational voltage U _e 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	3600 VA	3600 VA
AC maximum volt-ampere breaking	360 VA	360 VA
DC thermal rated current	2.5 A	1 A
DC maximum volt-ampere making-breaking	69 VA	28 VA

Connecting characteristics - Auxiliary circuit

Type	MAHN..LL, MAHN..LR	MAHN..FB
Connecting capacity		
 Rigid	1 or 2 x 1 1.5 mm ²	1 2.5 mm ²
 Flexible with ferrule	1 or 2 x 0.75 1.5 mm ²	
 Flexible with insulated ferrule	1 or 2 x 0.75 1.5 mm ²	
 Flexible	1 or 2 x 0.75 1.5 mm ²	
Stranded acc. to UL/CSA	1 or 2 x AWG 16-14	
Stripping length	8 mm	
Tightening torque	0.8 1.2 Nm / 7 lb.in	
Recommended screwdriver	Pozidriv 2	

MBS32NG

Accessories





General technical data

Type	MARNLLA	MAANLLA
Standards	IEC/EN 60947-1, IEC/EN 60947-5-1, UL 60947-1, UL 60947-5-1 (UL 508), CSA C22.2 No.60947-4-1 (CSA C22.2 No.14)	
Rated control supply voltage	see ordering details	MAANLLA-100: 110 V 50/60 Hz; 110-200 V 50/60 Hz ON-Period = 5 s (1), 110-200 V DC ON-Period = 5 s (1) MAANLLA-230: 200-240 V 50/60 Hz; 200-350 V 50/60 Hz ON-Period = 5 s (1), 200-350 V DC ON-Period = 5 s (1) MAANLLA-400: 350-415 V 50/60 Hz; 350-500 V 50/60 Hz ON-Period = 5 s (1), 350-500 V DC ON-Period = 5 s (1)
Rated frequency	see ordering details	50/60 Hz, DC
Operating voltage	Tripping	0.35 ... 0.7 x Us
	Coil operating voltage	0.85 ... 1.1 x Us
Power consumption	Holding	AC on request
		DC on request
Rated impulse withstand voltage Uimp	6 kV	6 kV
Rated insulation voltage Ui	690 V	690 V
Pollution degree	3	3
Ambient air temperature	Operation	-25 ... +60 °C
	Storage	-50 ...+80 °C
Resistance to shock acc. to IEC 60068-2-27	15g / 11 ms	15g / 11 ms
Resistance to vibrations acc. to IEC 60068-2-6	5g / 3 ... 150 Hz	5g / 3 ... 150 Hz
Mounting	left side of manual motor starters	left side of manual motor starters

(1) ON-Period: max. 5 s actuation time. Please consider 15 min OFF-period after max. 5 s ON-period, for voltages above the rated values.

The mechanical and electrical durability of manual motor starters in combination with MARNLLA/MAANLLA is reduced. Values are provided on request.

Connecting characteristics - Auxiliary circuit

Type	MARNLLA	MAANLLA
Connecting capacity		
 Rigid	1 or 2 x 1 1.4 mm ²	
 Flexible with ferrule	1 or 2 x 0.75 2.5 mm ²	
 Flexible with insulated ferrule	1 x / 2 x 0.75 1.5 mm ² / 2.5 mm ²	
 Flexible	1 or 2 x 0.75 2.5 mm ²	
Stranded acc. to UL/CSA	1 or 2 x AWG 16-12	
Stripping length	10 mm	
Tightening torque	0.8 1.2 Nm / 7 lb.in	
Recommended screwdriver	Pozidriv 2	

MBS32NG

Accessories

MAS1



Suitable for	Description	Type	Order code	Pkg qty	Weight (1 pce) kg
MBS32NG	Padlock adapter	MAS1	4TQE569018R0000	10	0.003

MI65 are IP65 (NEMA Type 12) enclosures for single manual motor starter installation. Additional mounting of auxiliary and signaling contacts, shunt trips and undervoltage release is possible.

The handle is lockable in OFF position. For detailed specification see installation instruction.

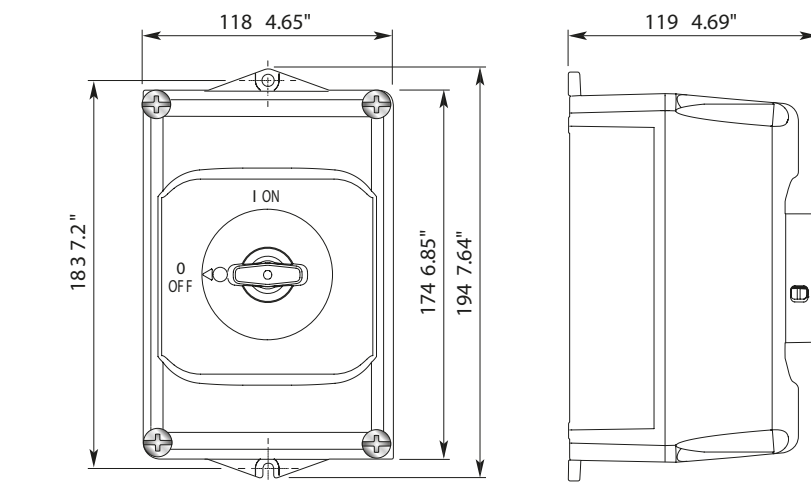
MI65-Y



IP65 enclosures (NEMA Type 12)

Suitable for	Description	Color	Type	Order code	Pkg qty	Weight (1 pce) kg
MBS32NG	Padlockable max. 3 padlocks with bail diameter 4 ... 6.5 mm	Yellow/red	MI65-Y	4TQE569015R0000	1	0.370
		Grey/black	MI65-G	4TQE569014R0000	1	0.370

MI65-G



MI65-

Main dimensions mm, inches

AEG

**APPARECCHIATURE
ELETTRICHE
INDUSTRIALI**

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