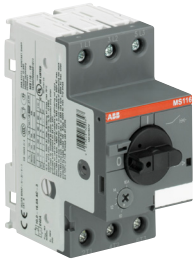


MS116 manual motor starters

0.10 to 32 A – with thermal and electromagnetic protection

2



2CDC241010F0011

MS116-16



2CDC241001F0011

MS116-25



2CDC241019F0011

MS116-0.16-HKF1-11



2CDC241012F0011

MS116-32-HKF1-11

Description

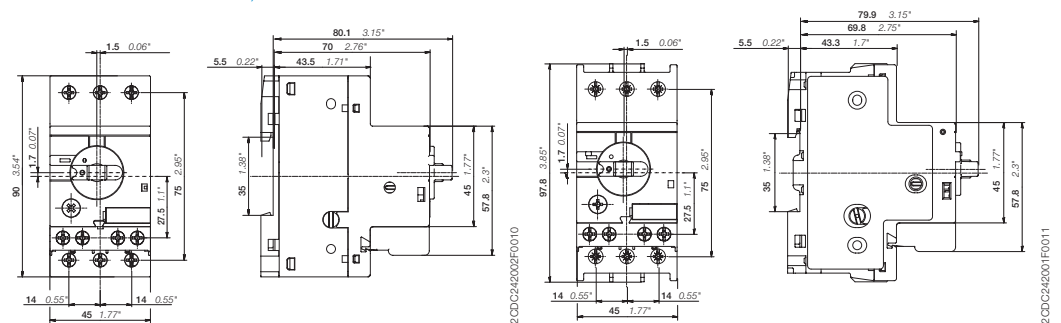
Manual motor starters (MMS) are protection devices for the main circuit. They combine motor control and protection in a single device. MMS are used mainly to switch motors manually ON/OFF and protect them and the installation fuse less against short-circuit, overload and phase failures. Fuse less protection with a manual motor starter saves costs, space and ensures a quick reaction under short-circuit condition, by switching off the motor within milliseconds.

MS116 is a compact and economic range for motor protection up to 15.5 kW (400 V) / 32 A in width of 45 mm. 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. Auxiliary contacts, signaling contacts, undervoltage releases, shunt trips, three-phase bus bars, power in-feed blocks and locking devices for protection against unauthorized changes are available as accessory.

Ordering details

Rated operational power 400 V AC-3	Setting range	Short-circuit breaking capacity I_{cs} 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	0.10 ... 0.16	50	1.56	MS116-0.16	1SAM250000R1001	0.225
0.06	0.16 ... 0.25	50	2.44	MS116-0.25	1SAM250000R1002	0.225
0.09	0.25 ... 0.40	50	3.90	MS116-0.4	1SAM250000R1003	0.225
0.12	0.40 ... 0.63	50	6.14	MS116-0.63	1SAM250000R1004	0.225
0.25	0.63 ... 1.00	50	11.50	MS116-1.0	1SAM250000R1005	0.225
0.55	1.00 ... 1.60	50	18.40	MS116-1.6	1SAM250000R1006	0.265
0.75	1.60 ... 2.50	50	28.75	MS116-2.5	1SAM250000R1007	0.265
1.5	2.50 ... 4.00	50	50.00	MS116-4.0	1SAM250000R1008	0.265
2.2	4.00 ... 6.30	50	78.75	MS116-6.3	1SAM250000R1009	0.265
4.0	6.30 ... 10.0	50	150	MS116-10	1SAM250000R1010	0.265
5.5	8.00 ... 12.0	25	180	MS116-12	1SAM250000R1012	0.265
7.5	10.0 ... 16.0	16	240	MS116-16	1SAM250000R1011	0.265
9.0	16.0 ... 20.0	10	300	MS116-20	1SAM250000R1013	0.310
12.5	20.0 ... 25.0	10	375	MS116-25	1SAM250000R1014	0.310
15.5	25.0 ... 32.0	10	480	MS116-32	1SAM250000R1015	0.310
0.03	0.10 ... 0.16	50	1.56	MS116-0.16-HKF1-11	1SAM250005R1001	0.240
0.06	0.16 ... 0.25	50	2.44	MS116-0.25-HKF1-11	1SAM250005R1002	0.240
0.09	0.25 ... 0.40	50	3.90	MS116-0.4-HKF1-11	1SAM250005R1003	0.240
0.12	0.40 ... 0.63	50	6.14	MS116-0.63-HKF1-11	1SAM250005R1004	0.240
0.25	0.63 ... 1.00	50	11.50	MS116-1.0-HKF1-11	1SAM250005R1005	0.240
0.55	1.00 ... 1.60	50	18.40	MS116-1.6-HKF1-11	1SAM250005R1006	0.280
0.75	1.60 ... 2.50	50	28.75	MS116-2.5-HKF1-11	1SAM250005R1007	0.280
1.5	2.50 ... 4.00	50	50.00	MS116-4.0-HKF1-11	1SAM250005R1008	0.280
2.2	4.00 ... 6.30	50	78.75	MS116-6.3-HKF1-11	1SAM250005R1009	0.280
4.0	6.30 ... 10.0	50	150	MS116-10.0-HKF1-11	1SAM250005R1010	0.280
5.5	8.00 ... 12.0	25	180	MS116-12.0-HKF1-11	1SAM250005R1012	0.280
7.5	10.0 ... 16.0	16	240	MS116-16.0-HKF1-11	1SAM250005R1011	0.280
9.0	16.0 ... 20.0	10	300	MS116-20-HKF1-11	1SAM250005R1013	0.326
12.5	20.0 ... 25.0	10	375	MS116-25-HKF1-11	1SAM250005R1014	0.326
15.5	25.0 ... 32.0	10	480	MS116-32-HKF1-11	1SAM250005R1015	0.326

Main dimensions mm, inches



MS116 ≤ 16 A & MS116-HKF1-11 ≤ 16 A

MS116 ≥ 20 A & MS116-HKF1-11 ≥ 20 A

MS132 manual motor starters

0.10 to 32 A – with thermal and electromagnetic protection



1SBC101232F0010

MS132-10



2DCD241001F0011

MS132-32



2DCD241014F0011

MS132-0.16-HKF1-11



2DCD241015F0011

MS132-32-HKF1-11

Description

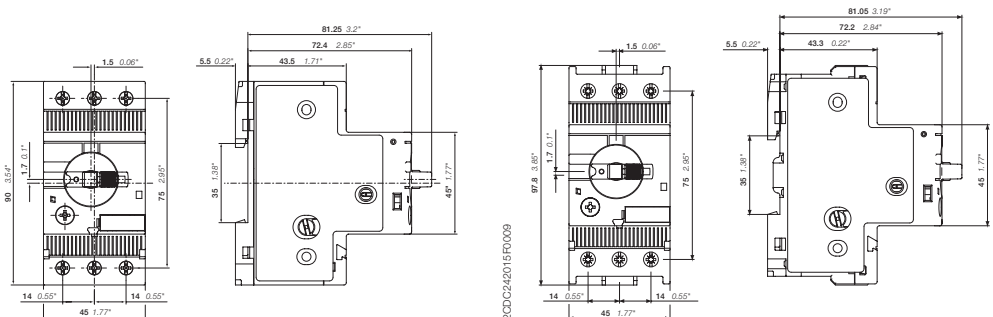
Manual motor starters (MMS) are protection devices for the main circuit. They combine motor control and protection in a single device. MMS are used mainly to switch motors manually ON/OFF and protect them and the installation fuse less against short-circuit, overload and phase failures. Fuse less protection with a manual motor starter saves costs, space and ensures a quick reaction under short-circuit condition, by switching off the motor within milliseconds.

MS132 is a compact and powerful range for motor protection up to 15.5 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. The handle is lockable to protect against unauthorized changes. Auxiliary contacts, signaling contacts, undervoltage releases, shunt trips, three-phase bus bars, power in-feed blocks.

Ordering details

Rated operational power 400 V AC-3	Setting range	Short-circuit breaking capacity I_{cs} 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	0.10 ... 0.16	100	1.56	MS132-0.16	1SAM350000R1001	0.215
0.06	0.16 ... 0.25	100	2.44	MS132-0.25	1SAM350000R1002	0.215
0.09	0.25 ... 0.40	100	3.90	MS132-0.4	1SAM350000R1003	0.215
0.12	0.40 ... 0.63	100	6.14	MS132-0.63	1SAM350000R1004	0.215
0.25	0.63 ... 1.00	100	11.50	MS132-1.0	1SAM350000R1005	0.215
0.55	1.00 ... 1.60	100	18.40	MS132-1.6	1SAM350000R1006	0.265
0.75	1.60 ... 2.50	100	28.75	MS132-2.5	1SAM350000R1007	0.265
1.5	2.50 ... 4.00	100	50.00	MS132-4.0	1SAM350000R1008	0.265
2.2	4.00 ... 6.30	100	78.75	MS132-6.3	1SAM350000R1009	0.265
4.0	6.30 ... 10.0	100	150	MS132-10	1SAM350000R1010	0.265
5.5	8.00 ... 12.0	100	180	MS132-12	1SAM350000R1012	0.310
7.5	10.0 ... 16.0	100	240	MS132-16	1SAM350000R1011	0.310
9.0	16.0 ... 20.0	100	300	MS132-20	1SAM350000R1013	0.310
12.5	20.0 ... 25.0	50	375	MS132-25	1SAM350000R1014	0.310
15.5	25.0 ... 32.0	25	480	MS132-32	1SAM350000R1015	0.310
0.03	0.10 ... 0.16	100	1.56	MS132-0.16-HKF1-11	1SAM350005R1001	0.231
0.06	0.16 ... 0.25	100	2.44	MS132-0.25-HKF1-11	1SAM350005R1002	0.231
0.09	0.25 ... 0.40	100	3.90	MS132-0.4-HKF1-11	1SAM350005R1003	0.231
0.12	0.40 ... 0.63	100	6.14	MS132-0.63-HKF1-11	1SAM350005R1004	0.231
0.25	0.63 ... 1.00	100	11.50	MS132-1.0-HKF1-11	1SAM350005R1005	0.231
0.55	1.00 ... 1.60	100	18.40	MS132-1.6-HKF1-11	1SAM350005R1006	0.281
0.75	1.60 ... 2.50	100	28.75	MS132-2.5-HKF1-11	1SAM350005R1007	0.281
1.5	2.50 ... 4.00	100	50.00	MS132-4.0-HKF1-11	1SAM350005R1008	0.281
2.2	4.00 ... 6.30	100	78.75	MS132-6.3-HKF1-11	1SAM350005R1009	0.281
4.0	6.30 ... 10.0	100	150	MS132-10.0-HKF1-11	1SAM350005R1010	0.281
5.5	8.00 ... 12.0	100	180	MS132-12.0-HKF1-11	1SAM350005R1012	0.326
7.5	10.0 ... 16.0	100	240	MS132-16.0-HKF1-11	1SAM350005R1011	0.326
9.0	16.0 ... 20.0	100	300	MS132-20-HKF1-11	1SAM350005R1013	0.326
12.5	20.0 ... 25.0	50	375	MS132-25-HKF1-11	1SAM350005R1014	0.326
15.5	25.0 ... 32.0	25	480	MS132-32-HKF1-11	1SAM350005R1015	0.326

Main dimensions mm, inches



MS132 ≤ 10 A

MS132 ≥ 12 A

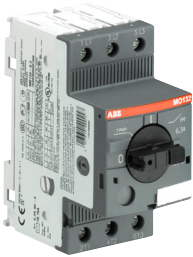
2DCD242016F0009

2DCD131062C0201

MO132 manual motor starters magnetic only

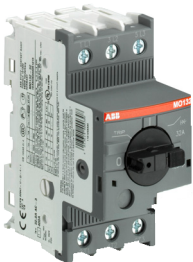
0.16 to 32 A – with electromagnetic protection

2



MO132-6.3

2CDC241008F0011



MO132-32

2CDC241008F0011

Description

Manual motor starters magnetic only are electromechanical protection devices for the main circuit. They are used mainly to switch motors manually ON/OFF and protect them fuse less against short-circuit.

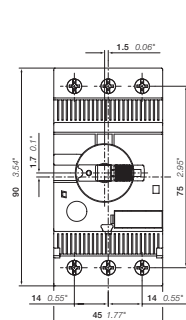
Fuse less protection with a manual motor starter saves costs, space and ensures a quick reaction under short-circuit condition, by switching off the motor within milliseconds. Fuse less starter combinations are setup together with contactors and overload relays.

Ordering details

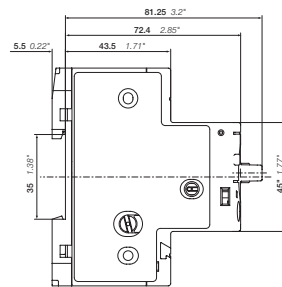
Rated operational power 400 V AC-3 ¹⁾	Rated operational current	Short-circuit breaking capacity I_{cs} at 400 V AC	Rated instantaneous short-circuit current setting I_i	Type	Order code	Weight (1 pce)
kW	A	kA	A			kg
0.03	0.16	100	1.56	MO132-0.16	1SAM360000R1001	0.215
0.06	0.25	100	2.44	MO132-0.25	1SAM360000R1002	0.215
0.09	0.40	100	3.90	MO132-0.4	1SAM360000R1003	0.215
0.12	0.63	100	6.14	MO132-0.63	1SAM360000R1004	0.215
0.25	1.0	100	11.50	MO132-1.0	1SAM360000R1005	0.215
0.55	1.6	100	18.40	MO132-1.6	1SAM360000R1006	0.265
0.75	2.5	100	28.75	MO132-2.5	1SAM360000R1007	0.265
1.5	4.0	50	50.00	MO132-4.0	1SAM360000R1008	0.265
2.2	6.3	50	78.75	MO132-6.3	1SAM360000R1009	0.265
4.0	10	50	125.00	MO132-10	1SAM360000R1010	0.265
5.5	12	50	150.00	MO132-12	1SAM360000R1012	0.310
7.5	16	50	200.00	MO132-16	1SAM360000R1011	0.310
9.0	20	50	250.00	MO132-20	1SAM360000R1013	0.310
12.5	25	50	312.50	MO132-25	1SAM360000R1014	0.310
15.5	32	25	400.00	MO132-32	1SAM360000R1015	0.310

¹⁾ For overload protection of motors, an appropriate thermal or electronic overload relay must be used

Main dimensions mm, inches



MO132 ≤ 10 A



MO132 ≥ 12 A

2CDC242005F0011

2CDC242005F0011

2CDC131062C0201

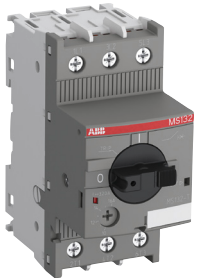
MS132-T circuit breakers for transformer protection

0.10 to 25 A – with thermal and electromagnetic protection



2CDC241038F0013

MS132-1.6T



2CDC241038F0013

MS132-16T

Description

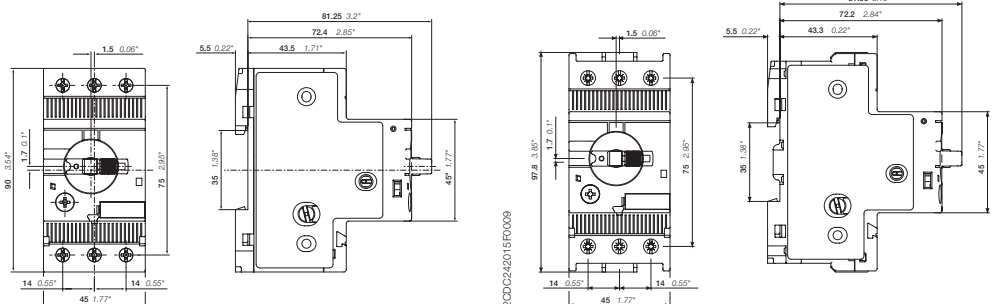
Circuit breakers for transformer protection are electro mechanical protection devices specially designed to protect control transformers on the primary side. They allow fuse-less protection against overload and short-circuit, saving space and cost and ensuring a quick reaction under short-circuit condition by switching off the transformer within milliseconds. The short-circuit current setting is fixed to 20 times the operating current to handle the high inrush current generated by transformers. The device allows manual connection and disconnection of the transformer from the mains.

MS132-T is a 45 mm (width) compact and powerful range for transformer protection up to 12.5 kW (400 V) / 25 A. Further features are the build-in disconnect function, temperature compensation, trip-free mechanism and a rotary handle with a clear switch position indication. The handle is lockable to protect against unauthorized changes. Furthermore it is possible to use the existing MS116/MS132 manual motor starter accessories like auxiliary contacts, signaling contacts, undervoltage releases, shunt trips and power in-feed blocks. Moreover ABB offers special accessories for fast single phase setup.

Ordering details

Setting range	Short-circuit breaking capacity I_{CS} at 400 V AC	Rated instantaneous short-circuit current setting I_l	Type	Order code	Weight (1 pce)
A	kA	A			kg
0.10 ... 0.16	100	3.2	MS132-0.16T	1SAM340000R1001	0.215
0.16 ... 0.25	100	5	MS132-0.25T	1SAM340000R1002	0.215
0.25 ... 0.40	100	8	MS132-0.4T	1SAM340000R1003	0.215
0.40 ... 0.63	100	12.6	MS132-0.63T	1SAM340000R1004	0.215
0.63 ... 1.00	100	20	MS132-1.0T	1SAM340000R1005	0.215
1.00 ... 1.60	100	32	MS132-1.6T	1SAM340000R1006	0.265
1.60 ... 2.50	100	50	MS132-2.5T	1SAM340000R1007	0.265
2.50 ... 4.00	100	80	MS132-4.0T	1SAM340000R1008	0.265
4.00 ... 6.30	100	126	MS132-6.3T	1SAM340000R1009	0.265
6.30 ... 10.0	100	200	MS132-10T	1SAM340000R1010	0.265
8.00 ... 12.0	100	240	MS132-12T	1SAM340000R1012	0.310
10.0 ... 16.0	100	320	MS132-16T	1SAM340000R1011	0.310
16.0 ... 20.0	100	400	MS132-20T	1SAM340000R1013	0.310
20.0 ... 25.0	50	500	MS132-25T	1SAM340000R1014	0.310

Main dimensions mm, inches



MS132T ≤ 10 A

MS132T ≥ 12 A

2CDC242016F0009

2CDC131062C0201

MS116, MS132, MO132, MS132-T

Technical data

2

Main circuit – Utilization characteristics according to IEC/EN

Type	MS116	MS132	MO132	MS132-T
Standards	IEC/EN 60947-2, IEC/EN 60947-4-1, IEC/EN 60947-1			
Rated operational voltage U_n	690 V AC	690 V AC / 250 V DC	690 V AC	690 V AC
Rated frequency	50/60 Hz	DC, 50/60 Hz	50/60 Hz	50/60 Hz
Trip class	10A	10 (10A for 1SAM35000R1001)	-	10
Number of poles	3			
Duty time	100 %			
Mechanical durability	100000 cycles			
Electrical durability	up to 16 A	100000 cycles		
	20 ... 32 A	50000 cycles		
Rated impulse withstand voltage U_{imp}	6 kV			
Rated insulation voltage U_i	690 V			
Rated operational current I_n	See ordering details			
Rated instantaneous short-circuit current setting I_{sc}	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"			

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_{cc} 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		
	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A
MS116-0.16	No back-up fuse required up to $I_{cc} = 50$ kA														
MS116-0.25															
MS116-0.4															
MS116-0.63															
MS116-1.0															
MS116-1.6	No back-up fuse required up to $I_{cc} = 50$ kA														
MS116-2.5							10	10	25	10	10	25	5	5	25
MS116-4.0							6	6	25	6	6	25	2	2	25
MS116-6.3							6	6	63	6	6	63	2	2	40
MS116-10							6	6	63	6	6	63	2	2	50
MS116-12	25	25	80	25	25	80	6	6	63	6	6	63	2	2	50
MS116-16	16	16	80	16	16	80	6	6	63	4	4	63	2	2	63
MS116-20	10	15	-	10	15	-	3	6	-	3	4	-	2	2	-
MS116-25	10	15	-	10	15	-	3	6	-	3	4	-	2	2	-
MS116-32	10	10	-	10	10	-	3	6	-	3	4	-	2	2	-

MS116-10: No need for back-up fuse in networks with a prospective current of up to 50 kA at 400 V.

MS116-16: No need for back-up fuse in networks with a prospective current of up to 16 kA at 400 V.

With an appropriate 80 A type gG fuse the device can be used in a network with a prospective current of up to 100 kA.

MS116-32: No need for back-up fuse in networks with a prospective current of up to 10 kA at 400 V.

MS116, MS132, MO132, MS132-T

Technical data

Type	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A
MS132-0.16															
MS132-0.25															
MS132-0.4															
MS132-0.63	No back-up fuse required up to $I_{cc} = 100$ kA														
MS132-1.0															
MS132-1.6															
MS132-2.5															
MS132-4.0							20	20	35	20	20	35	3	3	32
MS132-6.3							20	20	63	20	20	63	3	3	50
MS132-10							20	20	100	20	20	100	3	3	50
MS132-12							20	20	100	20	20	100	3	3	63
MS132-16							20	20	125	20	20	125	3	3	63
MS132-20							20	20	125	20	20	125	3	3	80
MS132-25	50	50	125	50	50	125	20	20	125	10	10	125	3	3	100
MS132-32	25	50	125	25	50	125	20	20	125	10	10	125	3	3	100

MS132-16: No need for back-up fuse in networks with a prospective current of up to 100 kA at 400 V.

MS132-32: No need for back-up fuse in networks with a prospective current of up to 50 kA at 400 V.

With an appropriate 125 A type gG fuse the device can be used in a network with a prospective current of up to 100 kA.

Type	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A
MO132-0.16															
MO132-0.25															
MO132-0.4															
MO132-0.63	No back-up fuse required up to $I_{cc} = 100$ kA														
MO132-1.0															
MO132-1.6															
MO132-2.5															
MO132-4.0							20	20	35	20	20	35	3	3	32
MO132-6.3							20	20	63	20	20	63	3	3	50
MO132-10							20	20	100	20	20	100	3	3	50
MO132-12							20	20	100	20	20	100	3	3	63
MO132-16							20	20	125	20	20	125	3	3	63
MO132-20							20	20	125	20	20	125	3	3	80
MO132-25	50	50	125	50	50	125	10	10	125	10	10	125	3	3	100
MO132-32	25	50	125	25	50	125	10	10	125	10	10	125	3	3	100

MO132-20: No need for back-up fuse in networks with a prospective current of up to 100 kA at 400 V.

MO132-32: No need for back-up fuse in networks with a prospective current of up to 50 kA at 400 V.

With an appropriate 125 A type gG fuse the device can be used in a network with a prospective current of up to 100 kA.

Type	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A	I_{CS} kA	I_{CU} kA	gG, aM A
MS132-0.16T															
MS132-0.25T															
MS132-0.4T															
MS132-0.63T	No back-up fuse required up to $I_{cc} = 100$ kA														
MS132-1.0T															
MS132-1.6T															
MS132-2.5T															
MS132-4.0T							30	30	35	20	20	35	3	3	32
MS132-6.3T							30	30	63	20	20	63	3	3	50
MS132-10T							30	30	100	20	20	100	3	3	50
MS132-12T							30	30	100	20	20	100	3	3	63
MS132-16T							30	30	125	20	20	125	3	3	63
MS132-20T							30	30	125	20	20	125	3	3	80
MS132-25T	50	50	125	50	50	125	30	30	125	10	10	125	3	3	100

MS116, MS132, MO132, MS132-T

Technical data

2

Main circuit – Utilization characteristics according to UL/CSA

Type	MS116, MS132, MO132	
Standards	UL 508, CSA 22.2 No. 14	
Maximum operational voltage	600 V AC	
Manual motor controller ratings	See table "UL 508 – Manual motor controller"	
Trip rating	125 % FLA	
Motor ratings	Horse power	See table "Motor rating, three phase"
	Full load amps (FLA)	See table "Motor rating, three phase"
	Locked rotor amps (LRA)	See table "Motor rating, three phase"

Motor rating, single phase

hp Horse power

FLA Full load amps

LRA Locked rotor amps

Type	120 V AC			220-240 V AC		
	hp	FLA	LRA	hp	FLA	LRA
MS132-0.16	-	0.16	0.96	-	0.16	0.96
MS132-0.25	-	0.25	1.5	-	0.25	1.5
MS132-0.4	-	0.4	2.4	-	0.4	2.4
MS132-0.63	-	0.63	3.78	-	0.63	3.78
MS132-1.0	-	1	6	-	1	6
MS132-1.6	-	1.6	9.6	1/10	1.6	9.6
MS132-2.5	-	2.5	15	1/6	2.5	15
MS132-4.0	1/8	4	24	1/3	4	24
MS132-6.3	1/4	6.3	37.8	1/2	6.3	37.8
MS132-10	1/2	9.8	58.8	1-1/2	10	60
MS132-12	1/2	9.8	58.8	2	12	72
MS132-16	1	16	96	2	12	72
MS132-20	1-1/2	20	120	3	17	92
MS132-25	2	24	144	3	17	127
MS132-32	2	24	144	5	28	162

Type	120 V AC			220 ... 240 V AC		
	hp	FLA	LRA	hp	FLA	LRA
MO132-0.16	-	0.16	0.96	-	0.16	0.96
MO132-0.25	-	0.25	1.5	-	0.25	1.5
MO132-0.4	-	0.4	2.4	-	0.4	2.4
MO132-0.63	-	0.63	3.78	-	0.63	3.78
MO132-1.0	-	1	6	-	1	6
MO132-1.6	-	1.6	9.6	1/10	1.6	9.6
MO132-2.5	-	2.5	15	1/6	2.5	15
MO132-4.0	1/8	4	24	1/3	4	24
MO132-6.3	1/4	6.3	37.8	1/2	6.3	37.8
MO132-10	1/2	9.8	58.8	1-1/2	10	60
MO132-12	1/2	9.8	58.8	2	12	72
MO132-16	1	16	96	2	12	72
MO132-20	1-1/2	20	120	3	17	92
MO132-25	2	24	144	3	17	127
MO132-32	2	24	144	5	28	162

MS116, MS132, MO132, MS132-T

Technical data

Motor rating, three phase

hp Horse power

FLA Full load amps

LRA Locked rotor amps

Type	220-240 V AC			440-480 V AC			500-600 V AC		
	hp	FLA	LRA	hp	FLA	LRA	hp	FLA	LRA
MS116-0.16	-	0.16	0.96	-	0.16	0.96	-	0.16	0.96
MS116-0.25	-	0.25	1.5	-	0.25	1.5	-	0.25	1.5
MS116-0.4	-	0.4	2.4	-	0.4	2.4	-	0.4	2.4
MS116-0.63	-	0.63	3.78	-	0.63	3.78	-	0.63	3.78
MS116-1.0	-	1.0	6.0	-	1.0	6.0	1/2	0.9	8
MS116-1.6	-	1.6	9.6	3/4	1.6	12.5	3/4	1.3	10
MS116-2.5	1/2	2.2	20	1	2.1	15	1-1/2	2.4	16
MS116-4.0	1	4.2	30	2	3.4	25	3	3.9	25.6
MS116-6.3	1-1/2	6.4	40	3	4.8	32	5	6.1	36.8
MS116-10	3	9.6	64	5	7.6	46	7-1/2	9	50.8
MS116-12	3	9.6	64	7-1/2	11	63.5	10	11	64.8
MS116-16	5	15.2	92	10	14	81	10	11	64.8
MS116-20	5	15.2	92	10	14	81	15	17	93
MS116-25	7-1/2	22	127	15	21	116	20	22	116
MS116-32	10	28	162	20	27	145	25	27	146

Type	220-240 V AC			440-480 V AC			500-600 V AC		
	hp	FLA	LRA	hp	FLA	LRA	hp	FLA	LRA
MS132-0.16	-	0.16	0.96	-	0.16	0.96	-	0.16	0.96
MS132-0.25	-	0.25	1.5	-	0.25	1.5	-	0.25	1.5
MS132-0.4	-	0.4	2.4	-	0.4	2.4	-	0.4	2.4
MS132-0.63	-	0.63	3.78	-	0.63	3.78	-	0.63	3.78
MS132-1.0	-	1.0	6.0	-	1.0	6.0	1/2	1.0	6.0
MS132-1.6	-	1.6	9.6	3/4	1.6	9.6	3/4	1.6	9.6
MS132-2.5	1/2	2.5	15.0	1	2.5	15.0	1-1/2	2.5	15.0
MS132-4.0	1	4.0	24.0	2	4.0	24.0	3	3.9	26.0
MS132-6.3	1-1/2	6.3	37.8	3	4.8	32.0	5	6.1	37.0
MS132-10	3	9.6	64.0	5	7.6	46.0	7-1/2	9.0	51.0
MS132-12	3	9.6	64.0	7-1/2	11.0	64.0	10	11.0	65.0
MS132-16	5	15.2	92.0	10	14.0	81.0	10	11.0	65.0
MS132-20	5	15.2	92.0	10	14.0	81.0	15	17.0	93.0
MS132-25	7-1/2	22.0	127.0	15	21.0	116.0	20	22.0	116.0
MS132-32	10	28.0	162.0	20	27.0	145.0	25	27.0	146.0

Type	220 ... 240 V AC			440 ... 480 V AC			500 ... 600 V AC		
	hp	FLA	LRA	hp	FLA	LRA	hp	FLA	LRA
MO132-0.16	-	0.16	0.96	-	0.16	0.96	-	0.16	0.96
MO132-0.25	-	0.25	1.5	-	0.25	1.5	-	0.25	1.5
MO132-0.4	-	0.4	2.4	-	0.4	2.4	-	0.4	2.4
MO132-0.63	-	0.63	3.78	-	0.63	3.78	-	0.63	3.78
MO132-1.0	-	1	6	-	1	6	1/2	1	6
MO132-1.6	-	1.6	9.6	3/4	1.6	9.6	3/4	1.6	9.6
MO132-2.5	1/2	2.5	15	1	2.5	15	1-1/2	2.5	15
MO132-4.0	1	4	24	2	4	24	3	3.9	26
MO132-6.3	1-1/2	6.3	37.8	3	4.8	32	5	6.1	37
MO132-10	3	9.6	64	5	7.6	46	7-1/2	9	51
MO132-12	3	9.6	64	7-1/2	11	64	10	11	65
MO132-16	5	15.2	92	10	14	81	10	11	65
MO132-20	5	15.2	92	10	14	81	15	17	93
MO132-25	7-1/2	22	127	15	21	116	20	22	116
MO132-32	10	28	162	20	27	145	25	27	146

MS116, MS132, MO132, MS132-T

Technical data

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UL 508 – Manual motor controller

Type	Maximum fuse type K5 o. RK5 per UL/NEC		Maximum short-circuit current for motor disconnect ¹⁾		for group installation	
	480 V / 600 V		480 V	600 V	480 V	600 V
	A	kA	kA	kA	kA	kA
MS116-0.16	100	30	5	5	30	5
MS116-0.25	100	30	5	5	30	5
MS116-0.4	100	30	5	5	30	5
MS116-0.63	100	30	5	5	30	5
MS116-1.0	100	30	5	5	30	5
MS116-1.6	100	30	5	5	30	5
MS116-2.5	100	30	5	5	30	5
MS116-4.0	100	18	5	5	18	5
MS116-6.3	100	18	5	5	18	5
MS116-10	100	18	5	5	18	5
MS116-12	100	18	5	5	18	5
MS116-16	100	18	5	5	18	5
MS116-20	100	18	5	5	18	5
MS116-25	100	18	5	5	18	5
MS116-32	100	18	5	5	18	5

¹⁾ Suitable as motor disconnect only when provided with padlock SA1 or SA3...

Type	Maximum short-circuit current for motor disconnect		for group installation		for self-protected combination motor controller (type E) in combination with feeder block S1-M3-xx		for tap conductor protection	
	480 V	600 V	480 V	600 V	480Y / 277 V	600Y / 347 V	480 V	600 V
	kA	kA	kA	kA	kA	kA	kA	kA
MS132-0.16	65	47	65	47	65	47	65	47
MS132-0.25	65	47	65	47	65	47	65	47
MS132-0.4	65	47	65	47	65	47	65	47
MS132-0.63	65	47	65	47	65	47	65	47
MS132-1.0	65	47	65	47	65	47	65	47
MS132-1.6	65	47	65	47	65	47	65	47
MS132-2.5	65	47	65	47	65	47	65	47
MS132-4.0	65	18	65	30	65	18	65	18
MS132-6.3	65	18	65	30	65	18	65	18
MS132-10	65	18	65	30	65	18	65	18
MS132-12	30	18	30	30	30	-	30	18
MS132-16	30	18	30	30	30	-	30	18
MS132-20	30	18	30	30	30	-	30	18
MS132-25	30	18	30	30	30	-	30	18
MS132-32	30	18	30	30	30	-	30	18

MS116, MS132, MO132, MS132-T

Technical data

Type	Circuit breaker or class R fuse per UL/NEC 480 V / 600 V	Maximum short-circuit current rating	
		480 V kA	600 V kA
MO132-0.16	with minimum interrupting rating of 35,000 rms symmetrical amperes	30	18
MO132-0.25		30	18
MO132-0.4		30	18
MO132-0.63		30	18
MO132-1.0		30	18
MO132-1.6		30	18
MO132-2.5		30	18
MO132-4.0		30	18
MO132-6.3		30	18
MO132-10		30	18
MO132-12		30	18
MO132-16		30	18
MO132-20		30	18
MO132-25		30	18
MO132-32		30	18

General technical data





Type		MS116	MS132	MO132	MS132-T
Pollution degree		3	3	3	3
Phase loss sensitivity		Yes	Yes	No	-
Disconnect function acc. to IEC/EN 60947-2		Yes	Yes	Yes	-
Ambient air temperature					
Operation	Open - compensated	-25 ... +55 °C	-25 ... +60 °C	-	-25 ... +60 °C
	Open	-25 ... +70 °C	-25 ... +70 °C	-25 ... +60 °C	-25 ... +70 °C
	Enclosed (IB132)	0 ... +40 °C	0 ... +40 °C	-	0 ... +40 °C
Storage		-50 ... +80 °C	-50 ... +70 °C	-50 ... +80 °C	-50 ... +80 °C
Ambient air temperature compensation		Acc. to IEC/EN60947-4-1	Acc. to IEC/EN60947-4-1	-	Acc. to IEC/EN60947-4-1
Maximum operating altitude permissible		2000 m	2000 m	2000 m	2000 m
Resistance to shock acc. to IEC 60068-2-27		25g / 11 ms	25g / 11 ms	25g / 11 ms	25g / 11 ms
Resistance to vibrations acc. to IEC 60068-2-6		5g / 3 ... 150 Hz	5g / 3 ... 150 Hz	5g / 3 ... 150 Hz	5g / 3 ... 150 Hz
Mounting position		Position 1-6 (optional for single mounting)	Position 1-6 (optional for single mounting)	Position 1-6 (optional for single mounting)	Position 1-6 (optional for single mounting)
Mounting		DIN-rail (EN 60715)	DIN-rail (EN 60715)	DIN-rail (EN 60715)	DIN-rail (EN 60715)
Group mounting		On request	On request	On request	-
Minimum distance to other units same type	Horizontal	0 mm	0 mm	0 mm	0 mm
	Vertical	150 mm	150 mm	150 mm	150 mm
Minimum distance to electrical conductive board	Horizontal, up to 400 V	0 mm	0 mm	0 mm	0 mm
	Horizontal, up to 690 V	> 1.5 mm	> 1.5 mm	> 1.5 mm	> 1.5 mm
	Vertical	75 mm	75 mm	75 mm	75 mm
Degree of protection	Housing	IP20	IP20	IP20	IP20
	Main circuit terminals	IP20	IP20	IP20	IP20





MS116, MS132, MO132, MS132-T





Technical data





2

Connecting characteristics

Main circuit			
Type		MS116 ≤ 16 A	MS116 ≥ 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	AWG 12-8
		Flexible acc. to UL/CSA	AWG 12-8
Stripping length			
		9 mm	10 mm
Tightening torques			
		0.8 ... 1.2 Nm / 10 ... 12 lb.in	2.0 Nm / 18 lb.in
Connection screw			
		M3.5 (Pozi driv 2 / 5.5 mm)	M4 (Pozi driv 2 / 6.5 mm)

Main circuit				
Type		MS132-0.16 ... MS132-10	MS132-12 ... MS132-16	MS132-20 ... MS132-32
Connecting capacity				
 Rigid	1 or 2 x	1 ... 4 mm ²	1 ... 4 mm ²	2.5 ... 6 mm ²
 Flexible with ferrule	1 or 2 x	1 ... 4 mm ²	1 ... 4 mm ²	2.5 ... 6 mm ²
 Flexible with insulated ferrule	1 or 2 x	1 ... 4 mm ²	1 ... 4 mm ²	2.5 ... 6 mm ²
 Flexible	1 or 2 x	1 ... 4 mm ²	1 ... 4 mm ²	2.5 ... 6 mm ²
		Stranded acc. to UL/CSA	AWG 16-12	AWG 12-8
		Flexible acc. to UL/CSA	AWG 16-12	AWG 12-8
Stripping length				
		9 mm	10 mm	10 mm
Tightening torques				
		0.8 ... 1.2 Nm / 10 ... 12 lb.in	1.5 Nm / 14 lb.in	2.0 Nm / 18 lb.in
Connection screw				
		M3.5 (Pozi driv 2)	M4 (Pozi driv 2)	M4 (Pozi driv 2)

Main circuit				
Type		MO132-0.16 ... MO132-10	MO132-12 ... MO132-16	MO132-20 ... MO132-32
Connecting capacity				
 Rigid	1 or 2 x	1 ... 4 mm ²	1 ... 4 mm ²	2.5 ... 6 mm ²
 Flexible with ferrule	1 or 2 x	0.75 ... 2.5 mm ²	0.75 ... 2.5 mm ²	1 ... 6 mm ²
 Flexible with insulated ferrule	1 or 2 x	0.75 ... 2.5 mm ²	0.75 ... 2.5 mm ²	1 ... 6 mm ²
 Flexible	1 or 2 x	0.75 ... 2.5 mm ²	0.75 ... 2.5 mm ²	1 ... 6 mm ²
		Stranded acc. to UL/CSA	AWG 16-12	AWG 12-8
		Flexible acc. to UL/CSA	AWG 16-12	AWG 12-8
Stripping length				
		9 mm	10 mm	10 mm
Tightening torques				
		0.8 ... 1.2 Nm / 10 ... 12 lb.in	1.5 Nm / 14 lb.in	2.0 Nm / 18 lb.in
Connection screw				
		M3.5 (Pozi driv 2)	M4 (Pozi driv 2)	M4 (Pozi driv 2)

Main circuit			
Type		MS132-T ≤ 10 A	MS132-T ≥ 12 A
Connecting capacity			
 Rigid	1 or 2 x	1 ... 4 mm ²	1/2 x 1 ... 2.5 mm ² 1/2 x 2.5 ... 6 mm ²
 Flexible with ferrule	1 or 2 x	0.75 ... 2.5 mm ²	1/2 x 0.75 ... 6 mm ²
 Flexible with insulated ferrule	1 or 2 x	0.75 ... 2.5 mm ²	1/2 x 0.75 ... 6 mm ²
 Flexible	1 or 2 x	0.75 ... 2.5 mm ²	1/2 x 1 ... 2.5 mm ² 1/2 x 2.5 ... 6 mm ²
Stripping length			
		9 mm	10 mm
Tightening torques			
		0.8 ... 1.2 Nm / 10 ... 12 lb.in	2.0 Nm / 18 lb.in
Connection screw			
		M3.5 (Pozi driv 2 / 5.5 mm)	M4 (Pozi driv 2 / 6.5 mm)