

# MS165-32



## MS165-32 Manual Motor Starter

### General Information

Extended Product Type	MS165-32
Product ID	1SAM451000R1014
EAN	4013614486081
Catalog Description	MS165-32 Manual Motor Starter
Long Description	<p>MS165 is a compact and powerful range for motor protection up to 45 kW (400 V) / 80 A in width of 55 mm. They offer a reliable protection for motors in the event of overload or phase failure. The devices have trip class 10.</p> <p>This type has also 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 (also known as motor protection circuit breaker or manual motor protector) 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, power in-feed blocks are available as accessory. These are suitable throughout the MS116/MS132/MS165 range.</p>

### Ordering

Minimum Order Quantity	1 piece
Customs Tariff Number	85362010

### Popular Downloads

Data Sheet, Technical Information	2CDC131083D0201
Data Sheet, Technical Information (Part 2)	1SAM400506F0001 1SAM400507F0001
Instructions and Manuals	2CDC131081M6801
Instructions and Manuals (Part 2)	2CDC131060M0202
Time-Current Characteristic Curve	1SAM400505F0004
Dimension Diagram	1SAM400401F0001

### Dimensions

Product Net Width	55 mm
Product Net Height	142.65 mm
Product Net Depth / Length	122.1 mm
Product Net Weight	0.97 kg

### Technical

Rated Service Short-Circuit Breaking Capacity ( $I_{cs}$ )	(230 V AC) 100 kA (250 V DC) 3 Poles in Series 100 kA (400 V AC) 100 kA (440 V AC) 50 kA (500 V AC) 30 kA (690 V AC) 10 kA
Rated Ultimate Short-Circuit Breaking Capacity ( $I_{cu}$ )	(230 V AC) 100 kA (250 V DC) 100 kA (400 V AC) 100 kA (440 V AC) 50 kA (500 V AC) 30 kA (690 V AC) 10 kA
Rated Instantaneous Short-Circuit Current Setting ( $I_i$ )	480 A
Setting Range	23 ... 32 A
Rated Operational Power AC-3 ( $P_e$ )	(400 V) Three Phase 15 kW
Rated Operational Voltage	Main Circuit 690 V AC Main Circuit 250 V DC
Rated Operational Current ( $I_e$ )	32 A
Rated Operational Current AC-3 ( $I_e$ )	32 A
Rated Operational Current DC-5 ( $I_e$ )	32 A
Rated Frequency (f)	Main Circuit 50 Hz Main Circuit 60 Hz
Rated Impulse Withstand Voltage ( $U_{imp}$ )	Main Circuit 8 kV
Rated Insulation Voltage ( $U_i$ )	1000 V
Power Loss	at Rated Operating Conditions per Pole 2.27 ... 4.40 W
Number of Poles	3
Conventional Free-air Thermal Current ( $I_{th}$ )	Main Circuit 32 A
Degree of Protection	Housing IP20 Main Circuit Terminals IP10
Pollution Degree	3
Electrical Durability	25000 cycle
Mechanical Durability	50000 cycle
Terminal Type	Screw Terminals
Connecting Capacity Main Circuit	Flexible with Ferrule 1/2x 1 ... 35 mm <sup>2</sup> Flexible with Insulated Ferrule 1/2x 1 ... 35 mm <sup>2</sup> Flexible 1/2x 1 ... 35 mm <sup>2</sup> Rigid 1/2x 1 ... 4 mm <sup>2</sup> Solid 1/2x 1 ... 4 mm <sup>2</sup> Stranded 1/2x 1 ... 50 mm <sup>2</sup>
Tightening Torque	Main Circuit 4 N·m
Wire Stripping Length	Main Circuit 16 mm
Recommended Screw Driver	Pozidriv 2
Mounting Position	Position 1 to 6
Mounting on DIN Rail	TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715 TH35-7.5 (35 x 7.5 mm Mounting Rail) acc. to IEC 60715
Minimum Mounting Distance	Electrical Conductive Board, Horizontal - Up to 1000 V 1.5 mm Electrical Conductive Board, Horizontal - Up to 400 V 0 mm Electrical Conductive Board, Horizontal - Up to 690 V 1.5 mm Electrical Conductive Board, Vertical 75 mm Other Device Same Type, Horizontal 0 mm Other Device Same Type, Vertical 150 mm
Actuator Type	Rotary Handle
Contact Position Indication	ON / OFF / TRIP
Standards	CSA 22.2 No. 14 IEC/EN 60947-1 IEC/EN 60947-2 IEC/EN 60947-4-1 UL 60947-4-1

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## Technical UL/CSA

Short-Circuit Current Rating (SCCR)	Manual Self-Protected Combination Controllers (Type E), (480Y / 277 V AC) 65 kA Manual Self-Protected Combination Controllers (Type E), (600Y / 347 V AC) 30 kA Any UL Listed Fuses or Circuit-Breakers, Group Installations (480 V AC) 65 kA Any UL Listed Fuses or Circuit-Breakers, Group Installations (600 V AC) 30 kA Any UL Listed Fuses or Circuit-Breakers, Motor Disconnect (480 V AC) 65 kA Any UL Listed Fuses or Circuit-Breakers, Motor Disconnect (600 V AC) 30 kA Any UL Listed Fuses or Circuit-Breakers, Tap Conductor Protection in Group Installations (480 V AC) 65 kA Any UL Listed Fuses or Circuit-Breakers, Tap Conductor Protection in Group Installations (600 V AC) 30 kA
Maximum Operating Voltage UL/CSA	Main Circuit 600 V AC
Ampere Rating UL/CSA	32 A
Horsepower Rating UL/CSA	(200 V AC) Three Phase 7.5 Hp (208 V AC) Three Phase 10 Hp (220 ... 240 V AC) Three Phase 10 Hp (440 ... 480 V AC) Three Phase 20 Hp (550 ... 600 V AC) Three Phase 30 Hp
Full Load Amps Motor Use	(200 V AC) Three Phase 25.3 A (208 V AC) Three Phase 30.8 A (220 ... 240 V AC) Three Phase 28 A (440 ... 480 V AC) Three Phase 27 A (550 ... 600 V AC) Three Phase 32 A
Locked Rotor Amps	(200 V AC) Three Phase 146 A (208 V AC) Three Phase 179 A (220 ... 240 V AC) Three Phase 162 A (440 ... 480 V AC) Three Phase 145 A (550 ... 600 V AC) Three Phase 174 A
General Use Rating UL/CSA	(600 V AC) 32 A
Connecting Capacity Main Circuit UL/CSA	Flexible 1/2x 16-0 AWG Stranded 1/2x 16-0 AWG
Tightening Torque UL/CSA	Main Circuit 35 in·lb

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## Environmental

Ambient Air Temperature	Operation -25 ... +60 °C Operation Compensated -25 ... +60 °C Storage -50 ... +80 °C
Ambient Air Temperature Compensation	Yes
Maximum Operating Altitude Permissible	2000 m
Resistance to Shock acc. to IEC 60068-2-27	11 ms Pulse 25g
Resistance to Vibrations acc. to IEC 60068-2-6	5g / 3 ... 150 Hz
RoHS Status	Following EU Directive 2011/65/EU

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## Certificates and Declarations (Document Number)

ABS Certificate	1SAA963002-0101
ATEX Certificate	1SAA918001-3901
BV Certificate	1SAA963002-0201
CB Certificate	1SAA918002-2002
CCC Certificate	1SAA918004-3801
cUL Certificate	cUL_E345003
Declaration of Conformity - CE	1SAD938505-0190
DNV GL Certificate	1SAA963002-0301
EAC Certificate	1SAA963002-2701
Instructions and Manuals	2CDC131081M6801

Instructions and Manuals (Part 2)	2CDC131060M0202
KC Certificate	1SAA963001-1501
LR Certificate	1SAA918001-0501
RMRS Certificate	1SAA918000-0704
RoHS Information	1SAD938505-0190
Time-Current Characteristic Curve	1SAM400505F0004
UL Certificate	cUL_E137861 UL_E137861 cUL_E345003 UL_345003

## Container Information

Package Level 1 Units	1 piece
Package Level 1 Width	78 mm
Package Level 1 Depth / Length	155 mm
Package Level 1 Height	155 mm
Package Level 1 Gross Weight	1.1 kg
Package Level 1 EAN	4013614486081
Package Level 2 Units	12 piece
Package Level 2 Width	330 mm
Package Level 2 Depth / Length	400 mm
Package Level 2 Height	320 mm
Package Level 2 Gross Weight	13 kg
Package Level 2 EAN	4013614503948

## Classifications

Object Classification Code	F
ETIM 5	EC000074 - Motor protective circuit-breaker
ETIM 6	EC000074 - Motor protection circuit-breaker
ETIM 7	EC000074 - Motor protection circuit-breaker
eClass	7.0 27370401
UNSPSC	39121521
E-Number (Sweden)	3110054

## Accessories

Identifier	Description	Type	Quantity	Unit Of Measure
1SAM201901R1001	HKF1-11 Auxiliary Contact	HKF1-11	1	piece
1SAM201901R1002	HKF1-20 Auxiliary Contact	HKF1-20	1	piece
1SAM201901R1003	HKF1-10 Auxiliary Contact	HKF1-10	1	piece
1SAM201901R1004	HKF1-01 Auxiliary Contact	HKF1-01	1	piece
1SAM201902R1001	HK1-11 Auxiliary Contact	HK1-11	1	piece
1SAM201902R1002	HK1-20 Auxiliary Contact	HK1-20	1	piece
1SAM201902R1003	HK1-02 Auxiliary Contact	HK1-02	1	piece
1SAM201903R1001	SK1-11 Signal Contact	SK1-11	1	piece
1SAM201903R1002	SK1-20 Signal Contact	SK1-20	1	piece

1SAM201903R1003	SK1-02 Signal Contact	SK1-02	1	piece
1SAM201904R1001	UA1-24 Undervoltage Release	UA1-24	1	piece
1SAM201904R1002	UA1-48 Undervoltage Release	UA1-48	1	piece
1SAM201904R1003	UA1-60 Undervoltage Release	UA1-60	1	piece
1SAM201904R1004	UA1-110 Undervoltage Release	UA1-110	1	piece
1SAM201904R1005	UA1-230 Undervoltage Release	UA1-230	1	piece
1SAM201904R1006	UA1-400 Undervoltage Release	UA1-400	1	piece
1SAM201904R1007	UA1-415 Undervoltage Release	UA1-415	1	piece
1SAM201904R1008	UA1-208 Undervoltage Release	UA1-208	1	piece
1SAM201904R1009	UA1-575 Undervoltage Release	UA1-575	1	piece
1SAM201904R1010	UA1-20 Undervoltage Release	UA1-20	1	piece
1SAM201910R1001	AA1-24 Shunt Trip	AA1-24	1	piece
1SAM201910R1002	AA1-110 Shunt Trip	AA1-110	1	piece
1SAM201910R1003	AA1-230 Shunt Trip	AA1-230	1	piece
1SAM201910R1004	AA1-400 Shunt Trip	AA1-400	1	piece
1SAM301901R1001	CK1-11 Short Circuit Signaling Contact	CK1-11	1	piece
1SAM301901R1002	CK1-20 Short Circuit Signaling Contact	CK1-20	1	piece
1SAM301901R1003	CK1-02 Short Circuit Signaling Contact	CK1-02	1	piece
1SAM401920R1002	PS2-2-0-125 Busbar	PS2-2-0-125	1	piece
1SAM401920R1003	PS2-3-0-125 Busbar	PS2-3-0-125	1	piece
1SAM401920R1004	PS2-4-0-125 Busbar	PS2-4-0-125	1	piece
1SAM401920R1005	PS2-5-0-125 Busbar	PS2-5-0-125	1	piece
1SAM401920R1012	PS2-2-1-125 Busbar	PS2-2-1-125	1	piece
1SAM401920R1013	PS2-3-1-125 Busbar	PS2-3-1-125	1	piece
1SAM401920R1014	PS2-4-1-125 Busbar	PS2-4-1-125	1	piece
1SAM401920R1015	PS2-5-1-125 Busbar	PS2-5-1-125	1	piece
1SAM401920R1022	PS2-2-2-125 Busbar	PS2-2-2-125	1	piece
1SAM401920R1023	PS2-3-2-125 Busbar	PS2-3-2-125	1	piece
1SAM401920R1024	PS2-4-2-125 Busbar	PS2-4-2-125	1	piece
1SAM401920R1025	PS2-5-2-125 Busbar	PS2-5-2-125	1	piece
1SAM401921R1001	BS2-3 Protection Cover	BS2-3	1	piece
1SAM401922R1001	KA165 Terminal Shroud	KA165	1	piece

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## Categories

Low Voltage Products and Systems → Circuit Breakers → Manual Motor Starters

Low Voltage Products and Systems → Control Products → Manual Motor Starters → Manual Motor Starters

