

PRODUCT-DETAILS

# MS165-65B

## MS165-65B Manual Motor Starter 52 ... 65 A



### General Information

Extended Product Type	MS165-65B
Product ID	1SAM451200R1017
EAN	4013614521775
Catalog Description	MS165-65B Manual Motor Starter 52 ... 65 A

### Long Description

MS165-B is a compact and powerful range for motor protection up to 45 kW (400 V AC) / 80 A in width of 55 mm, complying with the latest railway rolling stock standards and allowing installation in passengers or driver cabins for trains frequently operating tunnels or undergrounds.

They offer a reliable protection for motors in the event of overload or phase failure. The devices have trip class 10. 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 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, power in-feed blocks are available as accessory. These are suitable throughout the MS132-B / MS165-B range.

- designed in accordance to the applicable parts of IEC 60077 standard
- shocks and vibration withstand conforming to IEC 61373 (category 1, class B)
- usable according to European fire and smoke safety standard EN 45545-2

### Ordering

Minimum Order Quantity	1 piece
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Customs Tariff Number

85362090

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## Popular Downloads

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Data Sheet, Technical Information	1SBC100200C02_
Data Sheet, Technical Information (Part 2)	1SAM400506F0001 1SAM400507F0001
Instructions and Manuals	2CDC131081M6801
Instructions and Manuals (Part 2)	2CDC131060M0202
Time-Current Characteristic Curve	1SAM400505F0007
CAD Dimensional Drawing	2CDC001079B0201
Dimension Diagram	1SAM400401F0001

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## Dimensions

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Product Net Width	55 mm
Product Net Height	142.65 mm
Product Net Depth / Length	122.1 mm
Product Net Weight	0.98 kg

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## Technical

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Rated Service Short-Circuit Breaking Capacity ( $I_{cs}$ )	(230 V AC) 30 kA (250 V DC) 3 Poles in Series 100 kA (400 V AC) 30 kA (440 V AC) 30 kA (500 V AC) 20 kA (690 V AC) 6 kA
Rated Ultimate Short-Circuit Breaking Capacity ( $I_{cu}$ )	(230 V AC) 50 kA (250 V DC) 100 kA (400 V AC) 50 kA (440 V AC) 45 kA (500 V AC) 20 kA (690 V AC) 8 kA
Rated Instantaneous Short-Circuit Current Setting ( $I_s$ )	975 A
Setting Range	52 ... 65 A
Rated Operational Power AC-3 ( $P_e$ )	(400 V) Three Phase 30 kW
Rated Operational Power AC-3e ( $P_e$ )	(400 V) Three Phase 30 kW
Rated Operational Voltage	Main Circuit 690 V AC Main Circuit 250 V DC
Rated Operational Current ( $I_e$ )	65 A
Rated Operational Current AC-3 ( $I_e$ )	65 A

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Rated Operational Current AC-3e ( $I_e$ )	65 A
Rated Operational Current DC-5 ( $I_e$ )	65 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 5.14 ... 8.02 W
Number of Poles	3
Conventional Free-air Thermal Current ( $I_{th}$ )	Main Circuit 65 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	1 ... 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	IEC 60077-1 (applicable parts) IEC 60077-2 (applicable parts) IEC/EN 60947-1 IEC/EN 60947-2 IEC/EN 60947-4-1

## 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 (480Y / 277 V AC) 65 kA  
 Any UL Listed Fuses or Circuit-Breakers, Tap Conductor Protection in Group  
 Installations (600Y / 347 V AC) 30 kA

Maximum Operating Voltage UL/CSA	Main Circuit 600 V AC
Horsepower Rating UL/CSA	(200 V AC) Three Phase 20 Hp (208 V AC) Three Phase 20 Hp (220 ... 240 V AC) Three Phase 20 Hp (440 ... 480 V AC) Three Phase 50 Hp (550 ... 600 V AC) Three Phase 60 Hp
Full Load Amps Motor Use	(200 V AC) Three Phase 62.1 A (208 V AC) Three Phase 59.4 A (220 ... 240 V AC) Three Phase 54 A (440 ... 480 V AC) Three Phase 65 A (550 ... 600 V AC) Three Phase 62 A
Locked Rotor Amps	(200 V AC) Three Phase 334 A (208 V AC) Three Phase 321 A (220 ... 240 V AC) Three Phase 290 A (440 ... 480 V AC) Three Phase 363 A (550 ... 600 V AC) Three Phase 348 A
General Use Rating UL/CSA	(600 V AC) 65 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

## 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
Shock and Vibration Withstand acc. to IEC 61373	Category 1, Class B
Resistance to Shock acc. to IEC 60068-2-27	11 ms Pulse 25g
Resistance to Vibrations acc. to IEC 60068-2-6	mounted on DIN-rail: 4g / 3 ... 150 Hz; mounted on mounting plate: 5g / 3 ... 150 Hz; 5g / 3 ... 150 Hz
RoHS Status	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019

## Certificates and Declarations

CB Certificate	1SAA918002-2002
Declaration of Conformity - CE	1SAD101100-3407
Declaration of Conformity - UKCA	1SAD201100-3407
UL Certificate	E137861-20150206

E345003-20150206

## Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	64 mm
Package Level 1 Depth / Length	177 mm
Package Level 1 Height	140 mm
Package Level 1 Gross Weight	1.1 kg
Package Level 1 EAN	4013614521775
Package Level 2 Units	carton 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	4013614521973

## 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
ETIM 8	EC000074 - Motor protection circuit-breaker
eClass	V11.0 : 27370401
UNSPSC	39121521
IDEA Granular Category Code (IGCC)	4731 >> Manual Starters

## Accessories

Identifier	Description	Type	Quantity	Unit Of Measure
1SAM201901R1001	HKF1-11 Auxiliary Contact	HKF1-11	1	piece
1SAM201901R1201	HKF1-11K Auxiliary Contact	HKF1-11K	1	piece
1SAM201901R1002	HKF1-20 Auxiliary Contact	HKF1-20	1	piece
1SAM201901R1202	HKF1-20K Auxiliary Contact	HKF1-20K	1	piece
1SAM201901R1004	HKF1-01 Auxiliary Contact	HKF1-01	1	piece
1SAM201901R1003	HKF1-10 Auxiliary Contact	HKF1-10	1	piece
1SAM201902R1002	HK1-20 Auxiliary Contact	HK1-20	1	piece
1SAM201902R1202	HK1-20K Auxiliary Contact	HK1-20K	1	piece
1SAM201902R1001	HK1-11 Auxiliary Contact	HK1-11	1	piece
1SAM201902R1201	HK1-11K Auxiliary Contact	HK1-11K	1	piece
1SAM201902R1003	HK1-02 Auxiliary Contact	HK1-02	1	piece

1SAM201902R1203	HK1-02K Auxiliary Contact	HK1-02K	1	piece
1SAM201902R1004	HK1-20L Auxiliary Contact	HK1-20L	1	piece
1SAM201902R1204	HK1-20LK Auxiliary Contact	HK1-20LK	1	piece
1SAM201903R1002	SK1-20 Signaling Contact	SK1-20	1	piece
1SAM201903R1202	SK1-20K Signaling Contact	SK1-20K	1	piece
1SAM201903R1005	SK1-20AR Signaling Contact	SK1-20AR	1	piece
1SAM201903R1205	SK1-20ARK Signaling Contact	SK1-20ARK	1	piece
1SAM201903R1001	SK1-11 Signaling Contact	SK1-11	1	piece
1SAM201903R1201	SK1-11K Signaling Contact	SK1-11K	1	piece
1SAM201903R1004	SK1-11AR Signaling Contact	SK1-11AR	1	piece
1SAM201903R1204	SK1-11ARK Signaling Contact	SK1-11ARK	1	piece
1SAM201903R1003	SK1-02 Signaling Contact	SK1-02	1	piece
1SAM201903R1203	SK1-02K Signaling Contact	SK1-02K	1	piece
1SAM201903R1006	SK1-02AR Signaling Contact	SK1-02AR	1	piece
1SAM201903R1206	SK1-02ARK Signaling Contact	SK1-02ARK	1	piece
1SAM301901R1002	CK1-20 Short Circuit Signaling Contact	CK1-20	1	piece
1SAM301901R1001	CK1-11 Short Circuit Signaling Contact	CK1-11	1	piece
1SAM301901R1003	CK1-02 Short Circuit Signaling Contact	CK1-02	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
1SAM201904R1010	UA1-20 Undervoltage Release	UA1-20	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
1SAM201904R1008	UA1-208 Undervoltage Release	UA1-208	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
1SAM201904R1009	UA1-575 Undervoltage Release	UA1-575	1	piece
1SAM401923R1003	S2-M3-50 Power Infeed Block	S2-M3-50	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
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
1SAM401921R1001	BS2-3 Protection Cover	BS2-3	1	piece
1SAM401922R1001	KA165 Terminal Shroud	KA165	1	piece
GJF1101903R0002	SA2 Terminals and Installation Material	SA2	1	piece
1SAM201920R1011	MSHD-LTB Handles	MSHD-LTB	1	piece
1SAM201920R1012	MSHD-LTY Handles	MSHD-LTY	1	piece
1SAM201920R1000	MSH-AR Shaft Alignment Ring	MSH-AR	1	piece
1SAM101923R0002	MSMN Driver	MSMN	1	piece

1SAM101923R0012	MSMNO Driver	MSMNO	1	piece
1SCA101647R1001	OXS6X85 SHAFT	OXS6X85	1	piece
1SCA108043R1001	OXS6X105 SHAFT	OXS6X105	1	piece
1SCA101655R1001	OXS6X130 SHAFT	OXS6X130	1	piece
1SCA101659R1001	OXS6X180 SHAFT	OXS6X180	1	piece

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## Categories

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

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

