



 PRODUCT-DETAILS

MS165-65

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



General Information

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| Extended Product Type | MS165-65 |
| Product ID | 1SAM451000R1017 |
| EAN | 4013614486111 |
| Catalog Description | MS165-65 Manual Motor Starter 52 ... 65 A |

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| 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> |
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Ordering

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|------------------------|---------|
| Minimum Order Quantity | 1 piece |
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Customs Tariff Number

85362090

Popular Downloads

| | |
|-----------------------------------|-----------------|
| Data Sheet, Technical Information | 2CDC131083D0201 |
| Instructions and Manuals | 2CDC131081M6801 |
| Instructions and Manuals (Part 2) | 2CDC131060M0202 |
| Ex Operating Instructions | 2CDC131087M6801 |
| Time-Current Characteristic Curve | 1SAM400505F0007 |
| I ² t Characteristic | 1SAM400506F0001 |
| Cut-off Current Characteristic | 1SAM400507F0001 |
| CAD Dimensional Drawing | 2CDC001079B0201 |
| Dimension Diagram | 1SAM400401F0001 |

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 |

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 _i) | 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 |
| Rated Operational Current AC-3e (I _e) | 65 A |

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| Rated Operational Current DC-5 (I_e) | 65 A |
| Rated Frequency (f) | Main Circuit 50 Hz Main Circuit 60 Hz |
| Operating Frequency (f _{sw}) | 0 ... 415 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 | 3P |
| 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 ² Flexible with Insulated Ferrule 1/2x 1 ... 35 mm ² Flexible 1/2x 1 ... 35 mm ² Rigid 1/2x 1 ... 4 mm ² Solid 1/2x 1 ... 4 mm ² Stranded 1/2x 1 ... 50 mm ² |
| 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 | CSA 22.2 No. 14 IEC/EN 60947-1 IEC/EN 60947-2 IEC/EN 60947-4-1 UL 60947-4-1 |

Technical UL/CSA

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| 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 |

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| | 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

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| 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 | Mounted on Mounting Plate: 5g 3 ... 150 Hz Mounted on DIN-Rail: 4g 3 ... 150 Hz |

Material Compliance

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| Conflict Minerals Reporting Template (CMRT) | 9AKK108467A5658 |
| REACH Declaration | 1SAA963005-4502 |
| RoHS Information | 1SAA963006-4502 |
| RoHS Status | Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019 |
| Toxic Substances Control Act - TSCA | 2CMT2023-006539 |
| WEEE B2C / B2B | Business To Business |
| WEEE Category | 5. Small Equipment (No External Dimension More Than 50 cm) |

ABB EcoSolutions

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|-------------|-----------------|
| End Of Life | 1SAC200284H0001 |
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Disassembling
Instructions

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| Environmental Product Declaration - EPD | 1SAC200253H0001 |
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Certificates and Declarations

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|----------------------------------|--------------------------------------|
| ABS Certificate | 1SAA963002-0101 |
| ATEX Certificate | 1SAA918001-3901 |
| BV Certificate | 1SAA963002-0201 |
| CB Certificate | 1SAA918002-2002 |
| CCC Certificate | 2024010307654703 |
| CQC Certificate | CQC2015010307760141 |
| Cut-off Current Characteristic | 1SAM400507F0001 |
| Declaration of Conformity - CCC | 2020980307003042 |
| Declaration of Conformity - CE | 1SAD101100-3408 |
| Declaration of Conformity - UKCA | 1SAD201100-3408 |
| DNV GL Certificate | 1SAA963002-0301 |
| EAC Certificate | 1SAA963000-2701 |
| I ² t Characteristic | 1SAM400506F0001 |
| IECEX Certificate | 1SAA918000-4001 |
| KC Certificate | 1SAA963001-1501 |
| LR Certificate | 1SAA918001-0501 |
| RMRS Certificate | 1SAA918000-0704 |
| UL Certificate | E137861-20150206 E345003-20150206 |

Container Information

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|--------------------------------|-----------------|
| 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 | 4013614486111 |
| 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 | 4013614503979 |

External Classifications and Standards

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|----------------------------|---|
| Object Classification Code | F |
| ETIM 5 | EC000074 - Motor protective circuit-breaker |

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| 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 |
| E-Number (Finland) | 3707290 |
| E-Number (Norway) | 4364126 |
| E-Number (Sweden) | 3110057 |

Accessories

| Identifier | Description | Type | Quantity | Unit Of Measure |
|-----------------|--|-----------|----------|-----------------|
| 1SAM201901R1001 | HKF1-11 Aux.-contact for front mounting | HKF1-11 | 1 | piece |
| 1SAM201901R1201 | HKF1-11K Aux.-contact for frontmounting with Push-In terminals | HKF1-11K | 1 | piece |
| 1SAM201901R1002 | HKF1-20 Aux.-contact 2NO, front mounting | HKF1-20 | 1 | piece |
| 1SAM201901R1202 | HKF1-20K Aux.-contact for frontmounting with Push-In terminals | HKF1-20K | 1 | piece |
| 1SAM201901R1004 | HKF1-01 Aux.-contact for front mounting | HKF1-01 | 1 | piece |
| 1SAM201901R1003 | HKF1-10 Aux.-contact for front mounting | HKF1-10 | 1 | piece |
| 1SAM201902R1002 | HK1-20 Aux.-contact 2 NO | HK1-20 | 1 | piece |
| 1SAM201902R1202 | HK1-20K Aux.-contact 2 NO with Push-In terminals | HK1-20K | 1 | piece |
| 1SAM201902R1001 | HK1-11 Aux.-contact 1 NO + 1 NC | HK1-11 | 1 | piece |
| 1SAM201902R1201 | HK1-11K Aux.-contact 1 NO + 1 NC with Push-In terminals | HK1-11K | 1 | piece |
| 1SAM201902R1003 | HK1-02 Aux.-contact 2 NC | HK1-02 | 1 | piece |
| 1SAM201902R1203 | HK1-02K Aux.-contact 2 NC with Push-In terminals | HK1-02K | 1 | piece |
| 1SAM201902R1004 | HK1-20L Aux.-cont. w. 2 lead contacts 2 NO | HK1-20L | 1 | piece |
| 1SAM201902R1204 | HK1-20LK Aux.-cont. w. 2 leading contacts 2 NO, with Push-In terminals | HK1-20LK | 1 | piece |
| 1SAM201903R1002 | SK1-20 Signaling Contact 2 NO | SK1-20 | 1 | piece |
| 1SAM201903R1202 | SK1-20K Signaling Contact 2 NO with Push-In terminals | SK1-20K | 1 | piece |
| 1SAM201903R1005 | SK1-20AR Signaling Contact, 2NO with screw terminals | SK1-20AR | 1 | piece |
| 1SAM201903R1205 | SK1-20ARK Signaling Contact, 2NO with Push-in Spring terminals | SK1-20ARK | 1 | piece |
| 1SAM201903R1001 | SK1-11 Signaling Contact 1 NO + 1 NC | SK1-11 | 1 | piece |
| 1SAM201903R1201 | SK1-11K Signaling Contact 1 NO + 1 NC with Push-In terminals | SK1-11K | 1 | piece |
| 1SAM201903R1004 | SK1-11AR Signaling Contact, 1NO+1NC with screw terminals | SK1-11AR | 1 | piece |
| 1SAM201903R1204 | SK1-11ARK Signaling Contact, 1NO+1NC with Push-in Spring terminals | SK1-11ARK | 1 | piece |
| 1SAM201903R1003 | SK1-02 Signaling Contact 2 NC | SK1-02 | 1 | piece |
| 1SAM201903R1203 | SK1-02K Signaling Contact 2 NC with Push-In terminals | SK1-02K | 1 | piece |
| 1SAM201903R1006 | SK1-02AR Signaling Contact, 2NC with screw terminals | SK1-02AR | 1 | piece |
| 1SAM201903R1206 | SK1-02ARK Signaling Contact, 2NC with Push-in Spring terminals | SK1-02ARK | 1 | piece |
| 1SAM301901R1002 | CK1-20 Short-Circuit Signaling Contact 2 NO | CK1-20 | 1 | piece |

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|-----------------|---|-------------|---|-------|
| 1SAM301901R1001 | CK1-11 Short-Circuit Signaling Contact 1 NO + 1 NC | CK1-11 | 1 | piece |
| 1SAM301901R1003 | CK1-02 Short-Circuit Signaling Contact 2 NC | CK1-02 | 1 | piece |
| 1SAM201910R1001 | AA1-24 Shunt Trip 20-24V | AA1-24 | 1 | piece |
| 1SAM201910R1002 | AA1-110 Shunt Trip 110V | AA1-110 | 1 | piece |
| 1SAM201910R1003 | AA1-230 Shunt Trip 200-240V | AA1-230 | 1 | piece |
| 1SAM201910R1004 | AA1-400 Shunt Trip 350-415V | AA1-400 | 1 | piece |
| 1SAM201904R1010 | UA1-20 Undervoltage release 20V 50Hz / 24V 60 Hz | UA1-20 | 1 | piece |
| 1SAM201904R1001 | UA1-24 Undervoltage release 24 V | UA1-24 | 1 | piece |
| 1SAM201904R1002 | UA1-48 Undervoltage release 48V | UA1-48 | 1 | piece |
| 1SAM201904R1003 | UA1-60 Undervoltage release 60V | UA1-60 | 1 | piece |
| 1SAM201904R1004 | UA1-110 Undervoltage release 110V 110V 50Hz/120V 60Hz | UA1-110 | 1 | piece |
| 1SAM201904R1008 | UA1-208 Undervoltage release 208V 60Hz | UA1-208 | 1 | piece |
| 1SAM201904R1005 | UA1-230 Undervoltage release 230 V 50 Hz / 240 V 60 Hz | UA1-230 | 1 | piece |
| 1SAM201904R1006 | UA1-400 Undervoltage release 400V | UA1-400 | 1 | piece |
| 1SAM201904R1007 | UA1-415 Undervoltage release 415V 415V 50Hz/480V 60Hz | UA1-415 | 1 | piece |
| 1SAM201904R1009 | UA1-575 Undervoltage release 575V 60Hz | UA1-575 | 1 | piece |
| 1SAM401923R1003 | S2-M3-50 3-phase Power infeed Block for MS165, 50 mm ² | S2-M3-50 | 1 | piece |
| 1SAM401920R1002 | PS2-2-0-125 3-phase busbar for 2 MS165, Ie=125A | PS2-2-0-125 | 1 | piece |
| 1SAM401920R1003 | PS2-3-0-125 3-phase busbar for 3 MS165, Ie=125A | PS2-3-0-125 | 1 | piece |
| 1SAM401920R1004 | PS2-4-0-125 3-phase busbar for 4 MS165, Ie=125A | PS2-4-0-125 | 1 | piece |
| 1SAM401920R1022 | PS2-2-2-125 3-phase busbar for 2 MS165 with 2 HK/SK, Ie=125A | PS2-2-2-125 | 1 | piece |
| 1SAM401920R1023 | PS2-3-2-125 3-phase busbar for 3 MS165 with 2 HK/SK, Ie=125A | PS2-3-2-125 | 1 | piece |
| 1SAM401920R1024 | PS2-4-2-125 3-phase busbar for 4 MS165 with 2 HK/SK, Ie=125A | PS2-4-2-125 | 1 | piece |
| 1SAM401921R1001 | BS2-3 Protection Cover for busbars | BS2-3 | 1 | piece |
| 1SAM401922R1001 | KA165 Terminal Shroud for MS165/MO165 | KA165 | 1 | piece |
| GJF1101903R0002 | Terminals and Installation Material | SA2 | 1 | piece |
| 1SAM201920R1011 | MSHD-LTB Handle, IP64, black, 3 times lockable, defeatable, 0-TRIP-I | MSHD-LTB | 1 | piece |
| 1SAM201920R1012 | MSHD-LTY Handle, IP64, red/yellow, 3 times lockable, defeatable, 0-TRIP-I | MSHD-LTY | 1 | piece |
| 1SAM201920R1000 | MSH-AR Shaft alignment ring suitable for MSHD and MSH handles | MSH-AR | 1 | piece |
| 1SAM101923R0002 | MSMN Driver w. screw for manual motor staters, 6x6 | MSMN | 1 | piece |
| 1SAM101923R0012 | MSMNO Driver w/o coding w. screw for manual motor staters, 6x6 | 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 |

Categories

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

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

