

# MS165-42



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

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→ Manual Motor Starters

## General Information

<b>Extended Product Type:</b>	MS165-42
<b>Product ID:</b>	1SAM451000R1015
<b>EAN:</b>	4013614486098
<b>Catalog Description:</b>	MS165-42 Manual Motor Starter
<b>Long Description:</b>	MS165 is a compact and powerful range for motor protection up to 30 kW (400 V) / 60 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. 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 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.

## Ordering

<b>Minimum Order Quantity:</b>	1 piece
<b>Customs Tariff Number:</b>	85362010

## Popular Downloads

<b>Data Sheet, Technical Information:</b>	2CDC131083D0201
<b>Data Sheet, Technical Information (Part 2):</b>	1SAM400506F0001 1SAM400507F0001
<b>Data Sheet, Technical Information (Part 3):</b>	1SAM400505F0005
<b>Instructions and Manuals:</b>	2CDC131081M6801
<b>Instructions and Manuals (Part 2):</b>	2CDC131087M6801
<b>Dimension Diagram:</b>	1SAM400401F0001

## Dimensions

<b>Product Net Width:</b>	55 mm
<b>Product Net Height:</b>	142.65 mm
<b>Product Net Depth:</b>	122.1 mm
<b>Product Net Weight:</b>	0.97 kg

## Technical

<b>Rated Service Short-Circuit Breaking Capacity (<math>I_{cs}</math>):</b>	(230 V AC) 50 kA (250 V DC) 3 Poles in Series 100 kA (400 V AC) 50 kA (440 V AC) 50 kA (500 V AC) 30 kA (690 V AC) 10 kA
<b>Rated Ultimate Short-Circuit Breaking Capacity (<math>I_{cu}</math>):</b>	(230 V AC) 50 kA (250 V DC) 100 kA (400 V AC) 50 kA (440 V AC) 50 kA (500 V AC) 30 kA (690 V AC) 10 kA
<b>Rated Instantaneous Short-Circuit Current Setting (<math>I_i</math>):</b>	630 A
<b>Setting Range:</b>	30 ... 42 A
<b>Rated Operational Power AC-3 (<math>P_e</math>):</b>	(400 V) Three Phase 22 kW
<b>Rated Operational Voltage:</b>	Main Circuit 690 V AC Main Circuit 250 V DC
<b>Rated Operational Current (<math>I_e</math>):</b>	42 A
<b>Rated Operational Current AC-3 (<math>I_e</math>):</b>	42 A
<b>Rated Operational Current DC-5 (<math>I_e</math>):</b>	42 A
<b>Rated Frequency (f):</b>	Main Circuit 50 Hz Main Circuit 60 Hz
<b>Rated Impulse Withstand Voltage (<math>U_{imp}</math>):</b>	Main Circuit 8 kV
<b>Rated Insulation Voltage (<math>U_i</math>):</b>	1000 V
<b>Power Loss:</b>	at Rated Operating Conditions per Pole 2.79 ... 5.47 W
<b>Number of Poles:</b>	3
<b>Conventional Free-air Thermal Current (<math>I_{th}</math>):</b>	Main Circuit 42 A
<b>Degree of Protection:</b>	Housing IP20 Main Circuit Terminals IP10
<b>Pollution Degree:</b>	3
<b>Electrical Durability:</b>	25000 cycle
<b>Mechanical Durability:</b>	50000 cycle
<b>Terminal Type:</b>	Screw Terminals

<b>Connecting Capacity Main Circuit:</b>	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>
<b>Tightening Torque:</b>	Main Circuit 4 N·m
<b>Wire Stripping Length:</b>	Main Circuit 16 mm
<b>Recommended Screw Driver:</b>	Pozidriv 2
<b>Mounting Position:</b>	Position 1 to 6
<b>Actuator Type:</b>	Rotary Handle
<b>Contact Position Indication:</b>	ON / OFF / TRIP
<b>Mounting on DIN Rail:</b>	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
<b>Standards:</b>	IEC/EN 60947-1 IEC/EN 60947-2 IEC/EN 60947-4-1 UL 60947-4-1 CSA 22.2 No. 14

## Environmental

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

## Technical UL/CSA

<b>Maximum Operating Voltage UL/CSA:</b>	Main Circuit 600 V AC
<b>Horsepower Rating UL/CSA:</b>	(200 V AC) Three Phase 10 Hp (208 V AC) Three Phase 10 Hp (220 ... 240 V AC) Three Phase 15 Hp (440 ... 480 V AC) Three Phase 30 Hp (550 ... 600 V AC) Three Phase 40 Hp
<b>Ampere Rating UL/CSA:</b>	42 A
<b>General Use Rating UL/CSA:</b>	(600 V AC) 42 A

<b>Connecting Capacity Main Circuit UL/CSA:</b>	Flexible 1/2x 16-0 AWG Stranded 1/2x 16-0 AWG
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<b>Tightening Torque UL/CSA:</b>	Main Circuit 35 in·lb
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## Certificates and Declarations (Document Number)

<b>ABS Certificate:</b>	1SAA963002-0101
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<b>ATEX Certificate:</b>	1SAA918001-3901
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<b>BV Certificate:</b>	1SAA963002-0201
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<b>CB Certificate:</b>	1SAA918002-2002
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<b>CCC Certificate:</b>	1SAA918004-3801
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<b>cUL Certificate:</b>	cUL_E345003
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<b>Declaration of Conformity - CE:</b>	1SAD938501-0198
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<b>DNV GL Certificate:</b>	1SAA963002-0301
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<b>EAC Certificate:</b>	1SAA963002-2701
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<b>Instructions and Manuals:</b>	2CDC131081M6801
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<b>KC Certificate:</b>	1SAA963001-1501
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<b>LR Certificate:</b>	1SAA918001-0501
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<b>RMRS Certificate:</b>	1SAA918000-0704
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<b>RoHS Information:</b>	1SAD938501-0198
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<b>UL Certificate:</b>	cUL_E137861 UL_E137861 cUL_E345003 UL_345003
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## Container Information

<b>Package Level 1 Units:</b>	1 piece
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<b>Package Level 1 Width:</b>	78 mm
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<b>Package Level 1 Length:</b>	155 mm
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<b>Package Level 1 Height:</b>	155 mm
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<b>Package Level 1 Gross Weight:</b>	1.1 kg
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<b>Package Level 1 EAN:</b>	4013614486098
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<b>Package Level 2 Units:</b>	12 piece
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<b>Package Level 2 Width:</b>	330 mm
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<b>Package Level 2 Length:</b>	400 mm
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<b>Package Level 2 Height:</b>	320 mm
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<b>Package Level 2 Gross Weight:</b>	13 kg
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<b>Package Level 2 EAN:</b>	4013614503955
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## Classifications

<b>Object Classification Code:</b>	F
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<b>E-number:</b>	3110055
<b>ETIM 5:</b>	EC000074 - Motor protective circuit-breaker
<b>ETIM 6:</b>	EC000074 - Motor protection circuit-breaker
<b>ETIM 7:</b>	EC000074 - Motor protection circuit-breaker
<b>eClass:</b>	7.0 27370401
<b>UNSPSC:</b>	39121521

## Accessories

<b>Identifier</b>	<b>Description</b>	<b>Type</b>	<b>Qty</b>	<b>Unit Of Measure</b>
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

<b>Identifier</b>	<b>Description</b>	<b>Type</b>	<b>Qty</b>	<b>Unit Of Measure</b>
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

