

MS165-20



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

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General Information

Extended Product Type:	MS165-20
Product ID:	1SAM451000R1012
EAN:	4013614486067
Catalog Description:	MS165-20 Manual Motor Starter
Long Description:	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

Minimum Order Quantity:	1 piece
Customs Tariff Number:	85362010

Popular Downloads

Data Sheet, Technical Information:	2CDC131083D0201
Data Sheet, Technical Information (Part 2):	1SAM400506F0001 1SAM400507F0001
Data Sheet, Technical Information (Part 3):	1SAM400505F0002
Instructions and Manuals:	2CDC131081M6801
Instructions and Manuals (Part 2):	2CDC131087M6801
Dimension Diagram:	1SAM400401F0001

Dimensions

Product Net Width:	55 mm
Product Net Height:	142.65 mm
Product Net Depth:	122.1 mm
Product Net Weight:	0.95 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) 75 kA (500 V AC) 40 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) 75 kA (500 V AC) 40 kA (690 V AC) 10 kA
Rated Instantaneous Short-Circuit Current Setting (I_i):	300 A
Setting Range:	14 ... 20 A
Rated Operational Power AC-3 (P_e):	(400 V) Three Phase 7.5 kW
Rated Operational Voltage:	Main Circuit 690 V AC Main Circuit 250 V DC
Rated Operational Current (I_e):	20 A
Rated Operational Current AC-3 (I_e):	20 A
Rated Operational Current DC-5 (I_e):	20 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 1.82 ... 3.72 W
Number of Poles:	3
Conventional Free-air Thermal Current (I_{th}):	Main Circuit 20 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:	Position 1 to 6
Actuator Type:	Rotary Handle
Contact Position Indication:	ON / OFF / TRIP
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
Standards:	IEC/EN 60947-1 IEC/EN 60947-2 IEC/EN 60947-4-1 UL 60947-4-1 CSA 22.2 No. 14

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

Technical UL/CSA

Maximum Operating Voltage UL/CSA:	Main Circuit 600 V AC
Horsepower Rating UL/CSA:	(200 V AC) Three Phase 5 Hp (208 V AC) Three Phase 5 Hp (220 ... 240 V AC) Three Phase 5 Hp (440 ... 480 V AC) Three Phase 10 Hp (550 ... 600 V AC) Three Phase 15 Hp
Ampere Rating UL/CSA:	20 A
General Use Rating UL/CSA:	(600 V AC) 20 A

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

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

Package Level 1 Units:	1 piece
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Package Level 1 Width:	78 mm
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Package Level 1 Length:	155 mm
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Package Level 1 Height:	155 mm
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Package Level 1 Gross Weight:	1.1 kg
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Package Level 1 EAN:	4013614486067
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Package Level 2 Units:	12 piece
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Package Level 2 Width:	330 mm
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Package Level 2 Length:	400 mm
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Package Level 2 Height:	320 mm
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Package Level 2 Gross Weight:	13 kg
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Package Level 2 EAN:	4013614503924
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Classifications

Object Classification Code:	F
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E-number:	3110052
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

Accessories

Identifier	Description	Type	Qty	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

Identifier	Description	Type	Qty	Unit Of Measure
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

