PRODUCT-DETAILS

MS116-20

MS116-20 Manual Motor Starter 16 ... 20 A



Submitted by TECO Group

General Information

Extended Product Type	MS116-20
Product ID	1SAM250000R1013
EAN	4013614405655
Catalog Description	MS116-20 Manual Motor Starter 16 ... 20 A
Long Description	The MS116-20 manual motor starter (also known as motor protection circuit breaker or manual motor protector) is a compact 45 mm width device with a rated operational current of Ie = 20.0 A. This device is used to manually switch on and off motors and to protect them reliably and without the need for a fuse from short-circuits, overload and phase failures. The manual motor starter offers a rated service short-circuit breaking capacity Ics = 10 kA at 400 VAC and trip class 10A. 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. Auxiliary contacts, signaling contacts, undervoltage releases, shunt trips, 3-phase bus bars, power in-feed blocks and locking devices for protection against unauthorized changes are available as accessory.

Ordering

Minimum Order Quantity	1 piece
Customs Tariff Number	85362010

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Popular Downloads

Data Sheet, Technical Information	2CDC131025D0201
Instructions and Manuals	2CDC131011M6802
Instructions and Manuals (Part 2)	2CDC131060M0202
Time-Current Characteristic Curve	1SAM200505F0013
I^2t Characteristic	1SAM200507F0001 1SAM200507F0002 1SAM200507F0003
Cut-off Current Characteristic	1SAM200508F0001 1SAM200508F0002 1SAM200508F0003
CAD Dimensional Drawing	2CDC001079B0201
Dimension Diagram	1SAM200420F0001

Dimensions

Product Net Width	45 mm
Product Net Height	97.8 mm
Product Net Depth / Length	85.4 mm
Product Net Weight	0.31 kg

Technical

Rated Service Short-Circuit Breaking Capacity (I_{cs})	(230 V AC) 10 kA (400 V AC) 10 kA (440 V AC) 3 kA (500 V AC) 3 kA (690 V AC) 2 kA
Rated Ultimate Short-Circuit Breaking Capacity (I_{cu})	(230 V AC) 16 kA (400 V AC) 16 kA (440 V AC) 15 kA (500 V AC) 10 kA (690 V AC) 3 kA
Rated Instantaneous Short-Circuit Current Setting (I_i)	300 A
Setting Range	16 ... 20 A
Rated Operational Power AC-3 (P_e)	(400 V) Three Phase 7.5 kW
Rated Operational Power AC-3e (P_e)	(400 V) Three Phase 7.5 kW
Rated Operational Voltage	Main Circuit 690 V AC
Rated Operational Current (I_e)	20 A
Rated Operational Current AC-3 (I_e)	20 A
Rated Operational Current AC-3e (I_e)	20 A
Rated Frequency (f)	Main Circuit 50 Hz Main Circuit 60 Hz
Rated Impulse	Main Circuit 6 kV

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Withstand Voltage (U_{imp})	
Rated Insulation Voltage (U_i)	690 V
Power Loss	at Rated Operating Conditions per Pole 1.5 ... 2.3 W
Number of Poles	3P
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	50000 cycle
Mechanical Durability	Nr. Operations 100000 cycle
Terminal Type	Screw Terminals
Connecting Capacity Main Circuit	Flexible with Ferrule 1/2x 0.75 ... 6 mm² Flexible with Insulated Ferrule 1/2x 0.75 ... 6 mm² Flexible 1/2x 1 ... 2.5 mm² Flexible 1/2x 2.5 ... 6 mm² Rigid 1/2x 1 ... 2.5 mm² Rigid 1/2x 2.5 ... 6 mm²
Tightening Torque	Main Circuit 2 N·m
Wire Stripping Length	Main Circuit 10 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 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
Standards	IEC/EN 60947-1 IEC/EN 60947-2 IEC/EN 60947-4-1 UL 60947-1 UL 60947-4-1 IEC 60335-2-40 A2L

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Technical UL/CSA

Short-Circuit Current Rating (SCCR)	Any UL Listed Fuses or Circuit-Breakers, Group Installations (480 V AC) 18 kA Any UL Listed Fuses or Circuit-Breakers, Group Installations (600 V AC) 5 kA Any UL Listed Fuses or Circuit-Breakers, Motor Disconnect (480 V AC) 18 kA Any UL Listed Fuses or Circuit-Breakers, Motor Disconnect (600 V AC) 5 kA
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
Full Load Amps Motor Use	(200 V AC) Three Phase 17.5 A (208 V AC) Three Phase 16.7 A (220 ... 240 V AC) Three Phase 15.2 A (440 ... 480 V AC) Three Phase 10 A

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	(550 ... 600 V AC) Three Phase 15 A
Locked Rotor Amps	(200 V AC) Three Phase 105.8 A (208 V AC) Three Phase 102 A (220 ... 240 V AC) Three Phase 92 A (440 ... 480 V AC) Three Phase 81 A (550 ... 600 V AC) Three Phase 93 A
General Use Rating UL/CSA	(600 V AC) 20 A
Connecting Capacity Main Circuit UL/CSA	Flexible 1/2x 16-8 AWG Stranded 1/2x 16-8 AWG
Tightening Torque UL/CSA	Main Circuit 18 in·lb

Environmental

Ambient Air Temperature	Around the Enclosure 0 ... +40 °C Operation -25 ... +70 °C Operation Compensated -25 ... +55 °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	2g 5 ... 150 Hz 5g 3 ... 150 Hz

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Material Compliance

Conflict Minerals Reporting Template (CMRT)	9AKK108467A5658
REACH Declaration	1SAA963005-4502
RoHS Declaration	No declaration needed
RoHS Information	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

End Of Life Disassembling Instructions	1SAC200331H0001
Environmental Product Declaration - EPD	1SAC200359H0001 1SAC200384H0001

Certificates and Declarations

A2L Certificate – IEC	1SAA963000-4601
ABS Certificate	1SAA963000-0104
BV Certificate	1SAA963000-0204
CB Certificate	1SAA963005-2003 1SAA963006-2001

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CCC Certificate	2024010307654705 2024010307656673
CQC Certificate	CQC2011010307506570 CQC2014010307744794
Cut-off Current Characteristic	1SAM200508F0001 1SAM200508F0002 1SAM200508F0003
Declaration of Conformity - CCC	2020980307003705 2020980307003043
Declaration of Conformity - CE	1SAD101100-3401
Declaration of Conformity - UKCA	1SAD201100-3401
DNV Certificate	1SAA963000-0304
DNV GL Certificate	1SAA963000-0304
EAC Certificate	1SAA963000-2701
GL Certificate	1SAA963000-0402
KC Certificate	1SAA963000-1501
LR Certificate	1SAA963000-0505
RMRS Certificate	1SAA918000-0704
UL Certificate	E137861-20001218

Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	92 mm
Package Level 1 Depth / Length	102 mm
Package Level 1 Height	50 mm
Package Level 1 Gross Weight	0.325 kg
Package Level 1 EAN	4013614405655
Package Level 2 Units	carton 40 piece
Package Level 2 Width	280 mm
Package Level 2 Depth / Length	395 mm
Package Level 2 Height	210 mm
Package Level 2 Gross Weight	13.386 kg
Package Level 2 EAN	4013614408731

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External Classifications and Standards

Object Classification Code	F
ETIM 9	EC000074 - Motor protection circuit-breaker
ETIM 10	EC000074 - Motor protection circuit-breaker
eClass	V11.0 : 27370401
UNSPSC	39121521
IDEA Granular Category Code (IGCC)	4731 >> Manual Starters
E-Number (Finland)	3705873
E-Number (Norway)	4364486
E-Number (Sweden)	3111951

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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
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

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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
1SAM201906R1102	PS1-2-0-65 3-phase busbar for 2 MS116 / MS132, Ie=65A	PS1-2-0-65	1	piece
1SAM201906R1112	PS1-2-1-65 3-phase busbar for 2 MS116 / MS132 with 1 HK/SK, Ie=65A	PS1-2-1-65	1	piece
1SAM201906R1122	PS1-2-2-65 3-phase busbar for 2 MS116 / MS132 with 2 HK/SK, Ie=65A	PS1-2-2-65	1	piece
1SAM201916R1103	PS1-3-0-100 3-phase busbar for 3 MS116 / MS132, Ie=100A	PS1-3-0-100	1	piece
1SAM201906R1103	PS1-3-0-65 3-phase busbar for 3 MS116 / MS132, Ie=65A	PS1-3-0-65	1	piece
1SAM201916R1113	PS1-3-1-100 3-phase busbar for 3 MS116 /MS132 with 1 HK/SK, Ie=100A	PS1-3-1-100	1	piece
1SAM201906R1113	PS1-3-1-65 3-phase busbar for 3 MS116 / MS132 with 1 HK/SK, Ie=65A	PS1-3-1-65	1	piece
1SAM201916R1123	PS1-3-2-100 3-phase busbar for 3 MS116 /MS132 with 2 HK/SK, Ie=100A	PS1-3-2-100	1	piece
1SAM201906R1123	PS1-3-2-65 3-phase busbar for 3 MS116 / MS132 with 2 HK/SK, Ie=65A	PS1-3-2-65	1	piece
1SAM201916R1104	PS1-4-0-100 3-phase busbar for 4 MS116 / MS132, Ie=100A	PS1-4-0-100	1	piece
1SAM201906R1104	PS1-4-0-65 3-phase busbar for 4 MS116 / MS132, Ie=65A	PS1-4-0-65	1	piece
1SAM201916R1114	PS1-4-1-100 3-phase busbar for 4 MS116 /MS132 with 1 HK/SK, Ie=100A	PS1-4-1-100	1	piece
1SAM201906R1114	PS1-4-1-65 3-phase busbar for 4 MS116 / MS132 with 1 HK/SK, Ie=65A	PS1-4-1-65	1	piece
1SAM201906R1124	PS1-4-2-65 3-phase busbar for 4 MS116 / MS132 with 2 HK/SK, Ie=65A	PS1-4-2-65	1	piece
1SAM201916R1105	PS1-5-0-100 3-phase busbar for 5 MS116 / MS132, Ie=100A	PS1-5-0-100	1	piece
1SAM201906R1105	PS1-5-0-65 3-phase busbar for 5 MS116 / MS132, Ie=65A	PS1-5-0-65	1	piece
1SAM201916R1115	PS1-5-1-100 3-phase busbar for 5 MS116 /MS132 with 1 HK/SK, Ie=100A	PS1-5-1-100	1	piece
1SAM201906R1115	PS1-5-1-65 3-phase busbar for 5 MS116 / MS132 with 1 HK/SK, Ie=65A	PS1-5-1-65	1	piece
1SAM201906R1125	PS1-5-2-65 3-phase busbar for 5 MS116 / MS132 with 2 HK/SK, Ie=65A	PS1-5-2-65	1	piece
1SAM201907R1101	S1-M1-25 3-phase power infeed block Flat, for MS116 / MS132, 25mm2	S1-M1-25	1	piece
1SAM201907R1102	S1-M2-25 3-phase power infeed block High, for MS116 / MS132, 25mm2	S1-M2-25	1	piece
1SAM201907R1103	S1-M3-25 3-phase power infeed block Flat, for MS116 / MS132, 25mm2, Type E	S1-M3-25	1	piece
1SAM201913R1103	S1-M3-35 3-phase power infeed block Flat, for MS116 / MS132, 35mm2, Type E	S1-M3-35	1	piece
1SAM201914R1002	S1-PB1-25 1-phase power infeed block for MS116 / MS132 / MS132-T, 25mm2, IEC	S1-PB1-25	1	piece
1SAM201914R1001	PB1-1-32 phase connecting link for MS116 / MS132 / MS132-T, Ie=32A	PB1-1-32	1	piece
1SAM201908R1001	BS1-3 Protection Cover for busbars empty places	BS1-3	1	piece
1SAM201909R1001	FS116 Screw fixing kit for MS116, MS/MO132 10 pieces packed	FS116	1	piece
GJF1101903R0001	SA 1 Locking Device	SA1	1	piece
GJF1101903R0002	SA 2 Padlock with 2 keys	SA2	1	piece
GJF1101903R0003	SA3 Locking Device, Set incl. padlock	SA3	1	piece

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1SAM201911R1012	IB132-F Enclosure, GY/RD, IP65 3 times lockable	IB132-F	1	piece
1SAM201911R1010	IB132-G Enclosure, GY/BK, IP65 Standard version, 3 times lockable	IB132-G	1	piece
1SAM201911R1011	IB132-Y Enclosure, RD/YE, IP65 Emergency-STOP, 3 times lockable	IB132-Y	1	piece
1SAM201912R1010	DMS132-G Door Mounting Kit, GY/BK, IP65 Standard version, 3 times lockable	DMS132-G	1	piece
1SAM201912R1011	DMS132-Y Door Mounting Kit, RD/YE, IP65 Emergency-STOP, 3 times lockable	DMS132-Y	1	piece
1SAM201909R1021	MSAH1 Shaft Supporter suitable for MS116, MS132/MO132	MSAH1	1	piece
1SAM201920R1001	MSHD-LB Handle, IP64, black, 3 times lockable, defeatable, 0-I	MSHD-LB	1	piece
1SAM201920R1002	MSHD-LY Handle, IP64, red/yellow, 3 times lockable, defeatable, 0-I	MSHD-LY	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
1SCA101655R1001	OXS6X130 SHAFT	OXS6X130	1	piece
1SAM101923R0012	MSMNO Driver w/o coding w. screw for manual motor staters, 6x6	MSMNO	1	piece
1SCA101659R1001	OXS6X180 SHAFT	OXS6X180	1	piece
1SCA101647R1001	OXS6X85 SHAFT	OXS6X85	1	piece
1SCA108043R1001	OXS6X105 SHAFT	OXS6X105	1	piece

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Categories

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