

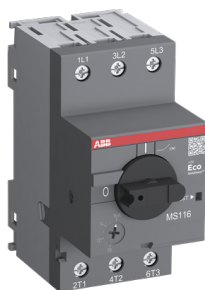



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 PRODUCT-DETAILS

## MS116-1.6

### MS116-1.6 Manual Motor Starter 1.0 ... 1.6 A




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**General Information**

<b>Extended Product Type:</b>	MS116-1.6
<b>Product ID:</b>	1SAM250000R1006
<b>EAN:</b>	4013614320293
<b>Catalog Description:</b>	MS116-1.6 Manual Motor Starter 1.0 ... 1.6 A
<b>Long Description:</b>	The MS116-1.6 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 $I_e = 1.6$ 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 $I_{cs} = 50$ 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.
<b>Display Name:</b>	MS116-1.6

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**Ordering**

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

## Popular Downloads

Data Sheet, Technical Information:	2CDC131025D0201
Instructions and Manuals:	2CDC131011M6802
Instructions and Manuals (Part 2):	2CDC131060M0202
Time-Current Characteristic Curve:	1SAM200505F0106
I <sup>2</sup> t Characteristic:	1SAM200507F0001 1SAM200507F0002 1SAM200507F0003
Cut-off Current Characteristic:	1SAM200508F0001 1SAM200508F0002 1SAM200508F0003
CAD Dimensional Drawing:	2CDC001079B0201
Dimension Diagram:	1SAM200422F0001

## Dimensions

Product Net Width:	45 mm
Product Net Height:	90 mm
Product Net Depth / Length:	85.6 mm
Product Net Weight:	0.265 kg

## Technical

Rated Service Short-Circuit Breaking Capacity ( $I_{cs}$ ):	(230 V AC) 50 kA (400 V AC) 50 kA (440 V AC) 50 kA (500 V AC) 30 kA (690 V AC) 30 kA
Rated Ultimate Short-Circuit Breaking Capacity ( $I_{cu}$ ):	(230 V AC) 100 kA (400 V AC) 100 kA (440 V AC) 100 kA (500 V AC) 100 kA (690 V AC) 100 kA
Rated Instantaneous Short-Circuit Current <sup>20</sup> A Setting ( $I_i$ ):	
Setting Range:	1.0 ... 1.6 A
Rated Operational Power AC-3 ( $P_e$ ):	(400 V) Three Phase 0.55 kW
Rated Operational Power AC-3e ( $P_e$ ):	(400 V) Three Phase 0.55 kW
Rated Operational Voltage:	Main Circuit 690 V AC
Rated Operational Current ( $I_e$ ):	1.6 A
Rated Operational Current AC-3 ( $I_e$ ):	1.6 A
Rated Operational Current AC-3e ( $I_e$ ):	1.6 A
Rated Frequency (f):	Main Circuit 50 Hz Main Circuit 60 Hz

<b>Rated Impulse Withstand Voltage (U<sub>imp</sub>):</b>	Main Circuit 6 kV
<b>Rated Insulation Voltage (U<sub>i</sub>):</b>	690 V
<b>Power Loss:</b>	at Rated Operating Conditions per Pole 0.6 ... 1.7 W
<b>Number of Poles:</b>	3P
<b>Conventional Free-air Thermal Current (I<sub>th</sub>):</b>	Main Circuit 1.6 A
<b>Degree of Protection:</b>	Housing IP20 Main Circuit Terminals IP10
<b>Pollution Degree:</b>	3
<b>Electrical Durability:</b>	100000 cycle
<b>Mechanical Durability:</b>	Nr. Operations 100000 cycle
<b>Terminal Type:</b>	Screw Terminals
<b>Connecting Capacity Main Circuit:</b>	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup> Flexible with Insulated Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup> Flexible 1/2x 0.75 ... 2.5 mm <sup>2</sup> Rigid 1/2x 1 ... 4 mm <sup>2</sup>
<b>Tightening Torque:</b>	Main Circuit 0.8 ... 1.2 N-m
<b>Wire Stripping Length:</b>	Main Circuit 9 mm
<b>Recommended Screw Driver:</b>	Pozidriv 2
<b>Mounting Position:</b>	1 ... 6 any
<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>Minimum Mounting Distance:</b>	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
<b>Actuator Type:</b>	Rotary Handle
<b>Contact Position Indication:</b>	ON / OFF
<b>Standards:</b>	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

## Technical UL/CSA

<b>Short-Circuit Current Rating (SCCR):</b>	Any UL Listed Fuses or Circuit-Breakers, Group Installations (480 V AC) 30 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) 30 kA Any UL Listed Fuses or Circuit-Breakers, Motor Disconnect (600 V AC) 5 kA
<b>Maximum Operating Voltage UL/CSA:</b>	Main Circuit 600 V AC
<b>Horsepower Rating UL/CSA:</b>	(440 ... 480 V AC) Three Phase 0.75 Hp (550 ... 600 V AC) Three Phase 0.75 Hp
<b>Full Load Amps Motor Use:</b>	(200 V AC) Three Phase 1.6 A (208 V AC) Three Phase 1.6 A (220 ... 240 V AC) Three Phase 1.6 A (440 ... 480 V AC) Three Phase 1.6 A (550 ... 600 V AC) Three Phase 1.6 A

<b>Locked Rotor Amps:</b>	(200 V AC) Three Phase 9.6 A (208 V AC) Three Phase 9.6 A (220 ... 240 V AC) Three Phase 9.6 A (440 ... 480 V AC) Three Phase 9.6 A (550 ... 600 V AC) Three Phase 9.6 A
<b>General Use Rating UL/CSA:</b>	(600 V AC) 1.6 A
<b>Connecting Capacity Main Circuit UL/CSA:</b>	Flexible 1/2x 16-12 AWG Stranded 1/2x 16-12 AWG
<b>Tightening Torque UL/CSA:</b>	Main Circuit 10 in-lb

## Environmental

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

## Material Compliance

<b>Conflict Minerals Reporting Template (CMRT):</b>	9AKK108467A5658
<b>REACH Declaration:</b>	1SAA963005-4502
<b>RoHS Declaration:</b>	1SAA963006-4501
<b>RoHS Information:</b>	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019
<b>Toxic Substances Control Act - TSCA:</b>	2CMT2023-006539
<b>WEEE B2C / B2B:</b>	Business To Business
<b>WEEE Category:</b>	5. Small Equipment (No External Dimension More Than 50 cm)

## ABB EcoSolutions

<b>ABB EcoSolutions:</b>	Yes
<b>ABB Site Meeting Group Waste To Landfill Target:</b>	No non-hazardous waste is sent to a landfill
<b>EcoSolutions Profile:</b>	1SFC100125C0353
<b>End Of Life Disassembling Instructions:</b>	1SAC200331H0001
<b>Environmental Product Declaration - EPD:</b>	1SAC200359H0001 1SAC200384H0001
<b>Improved Energy Efficiency for Customers:</b>	Product Efficiency - Product considered more energy-efficient compared to similar product on market or older products from the same line
<b>Recyclability Rate of the Product acc. to EN45555:</b>	Design for Closing Resource Loops - Standard EN45555 - 88 %

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## Certificates and Declarations

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<b>A2L Certificate – IEC:</b>	1SAA963000-4601
<b>ABS Certificate:</b>	1SAA963000-0104
<b>BV Certificate:</b>	1SAA963000-0204
<b>CB Certificate:</b>	1SAA963005-2003 1SAA963006-2001
<b>CCC Certificate:</b>	2024010307654705 2024010307656673
<b>CQC Certificate:</b>	CQC2011010307506570 CQC2014010307744794
<b>Declaration of Conformity - CCC:</b>	2020980307003705 2020980307003043
<b>Declaration of Conformity - CE:</b>	1SAD101100-3401
<b>Declaration of Conformity - UKCA:</b>	1SAD201100-3401
<b>DNV Certificate:</b>	1SAA963000-0304
<b>DNV GL Certificate:</b>	1SAA963000-0304
<b>EAC Certificate:</b>	1SAA963000-2701
<b>GL Certificate:</b>	1SAA963000-0402
<b>KC Certificate:</b>	1SAA963000-1501
<b>LR Certificate:</b>	1SAA963000-0505
<b>RMRS Certificate:</b>	1SAA918000-0704
<b>UL Certificate:</b>	E137861-20001218

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## Container Information

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<b>Package Level 1 Units:</b>	box 1 piece
<b>Package Level 1 Width:</b>	92 mm
<b>Package Level 1 Depth / Length:</b>	95 mm
<b>Package Level 1 Height:</b>	50 mm
<b>Package Level 1 Gross Weight:</b>	0.28 kg
<b>Package Level 1 EAN:</b>	4013614320293
<b>Package Level 2 Units:</b>	carton 40 piece
<b>Package Level 2 Width:</b>	280 mm
<b>Package Level 2 Depth / Length:</b>	395 mm
<b>Package Level 2 Height:</b>	210 mm
<b>Package Level 2 Gross Weight:</b>	11.586 kg
<b>Package Level 2 EAN:</b>	4013614408663

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## External Classifications and Standards

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<b>Object Classification Code:</b>	F
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<b>ETIM 9:</b>	EC000074 - Motor protection circuit-breaker
<b>ETIM 10:</b>	EC000074 - Motor protection circuit-breaker
<b>eClass:</b>	V11.0 : 27370401
<b>UNSPSC:</b>	39121521
<b>IDEA Granular Category Code (IGCC):</b>	4731 >> Manual Starters
<b>E-Number (Finland):</b>	3706006
<b>E-Number (Norway):</b>	4364272
<b>E-Number (Sweden):</b>	3111940

## Accessories

Identifier	Description	Type	Qty	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 1SK1-11 NO + 1 NC		1	piece
1SAM201903R1201	SK1-11K Signaling Contact SK1-11K 1 NO + 1 NC with Push-In terminals		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
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, le=65A	PS1-2-0-65	1	piece
1SAM201906R1112	PS1-2-1-65 3-phase busbar for 2 MS116 / MS132 with 1 HK/SK, le=65A	PS1-2-1-65	1	piece
1SAM201906R1122	PS1-2-2-65 3-phase busbar for 2 MS116 / MS132 with 2 HK/SK, le=65A	PS1-2-2-65	1	piece
1SAM201916R1103	PS1-3-0-100 3-phase busbar for 3 MS116 / MS132, le=100A	PS1-3-0-100	1	piece
1SAM201906R1103	PS1-3-0-65 3-phase busbar for 3 MS116 / MS132, le=65A	PS1-3-0-65	1	piece
1SAM201916R1113	PS1-3-1-100 3-phase busbar for 3 MS116 / MS132 with 1 HK/SK, le=100A	PS1-3-1-100	1	piece
1SAM201906R1113	PS1-3-1-65 3-phase busbar for 3 MS116 / MS132 with 1 HK/SK, le=65A	PS1-3-1-65	1	piece
1SAM201916R1123	PS1-3-2-100 3-phase busbar for 3 MS116 / MS132 with 2 HK/SK, le=100A	PS1-3-2-100	1	piece
1SAM201906R1123	PS1-3-2-65 3-phase busbar for 3 MS116 / MS132 with 2 HK/SK, le=65A	PS1-3-2-65	1	piece
1SAM201916R1104	PS1-4-0-100 3-phase busbar for 4 MS116 / MS132, le=100A	PS1-4-0-100	1	piece
1SAM201906R1104	PS1-4-0-65 3-phase busbar for 4 MS116 / MS132, le=65A	PS1-4-0-65	1	piece
1SAM201916R1114	PS1-4-1-100 3-phase busbar for 4 MS116 / MS132 with 1 HK/SK, le=100A	PS1-4-1-100	1	piece
1SAM201906R1114	PS1-4-1-65 3-phase busbar for 4 MS116 / MS132 with 1 HK/SK, le=65A	PS1-4-1-65	1	piece
1SAM201906R1124	PS1-4-2-65 3-phase busbar for 4 MS116 / MS132 with 2 HK/SK, le=65A	PS1-4-2-65	1	piece
1SAM201916R1105	PS1-5-0-100 3-phase busbar for 5 MS116 / MS132, le=100A	PS1-5-0-100	1	piece
1SAM201906R1105	PS1-5-0-65 3-phase busbar for 5 MS116 / MS132, le=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, 25mm <sup>2</sup>	S1-M1-25	1	piece
1SAM201907R1102	S1-M2-25 3-phase power infeed block High, for MS116 / MS132, 25mm <sup>2</sup>	S1-M2-25	1	piece
1SAM201907R1103	S1-M3-25 3-phase power infeed block Flat, for MS116 / MS132, 25mm <sup>2</sup> , Type E	S1-M3-25	1	piece
1SAM201913R1103	S1-M3-35 3-phase power infeed block Flat, for MS116 / MS132, 35mm <sup>2</sup> , Type E	S1-M3-35	1	piece
1SAM201914R1002	S1-PB1-25 1-phase power infeed block for MS116 / MS132 / MS132-T, 25mm <sup>2</sup> , 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 BS1-3 busbars empty places		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
1SAM201911R1012	IB132-F Enclosure, GY/RD, IB132-F IP65 3 times lockable		1	piece
1SAM201911R1010	IB132-G Enclosure, GY/BK, IB132-G IP65 Standard version, 3 times lockable		1	piece
1SAM201911R1011	IB132-Y Enclosure, RD/YE, IB132-Y IP65 Emergency-STOP, 3 times lockable		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 MSMN manual motor starters, 6x6	MSMN	1	piece
1SCA101655R1001	OXS6X130 SHAFT	OXS6X130	1	piece
1SAM101923R0012	MSMNO Driver w/o coding w. screw for manual motor starters, 6x6	MSMNO	1	piece
1SCA101659R1001	OXS6X180 SHAFT	OXS6X180	1	piece
1SCA101647R1001	OXS6X85 SHAFT	OXS6X85	1	piece
1SCA108043R1001	OXS6X105 SHAFT	OXS6X105	1	piece

## Categories

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

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

