

MS116-1.6



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

Parts & Services → Drives → Medium voltage AC drives → Industrial drives → ACS2000

Parts & Services → Drives → Medium voltage AC drives → Special purpose drives → ACS1000

General Information

Extended Product Type:	MS116-1.6
Product ID:	1SAM250000R1006
EAN:	4013614320293
Catalog Description:	MS116-1.6 Manual Motor Starter
Long Description:	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.

Ordering

Minimum Order Quantity:	1 piece
Customs Tariff Number:	85362010

Popular Downloads

Data Sheet, Technical Information:	2CDC131025D0201
Data Sheet, Technical Information (Part 2):	1SAM200505F0006
Data Sheet, Technical Information (Part 3):	1SAM200507F0001 1SAM200507F0002 1SAM200507F0003 1SAM200508F0001 1SAM200508F0002 1SAM200508F0003
Instructions and Manuals:	2CDC131011M6802
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) 30 kA (500 V AC) 30 kA (690 V AC) 30 kA
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Rated Ultimate Short-Circuit Breaking Capacity (I_{cu}):	(230 V AC) 50 kA (400 V AC) 50 kA (440 V AC) 30 kA (500 V AC) 30 kA (690 V AC) 30 kA
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Rated Instantaneous Short-Circuit Current Setting (I_i):	20 A
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Setting Range:	1 ... 1.6 A
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Rated Operational Power AC-3 (P_e):	(400 V) Three Phase 0.55 kW
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Rated Operational Voltage:	Main Circuit 690 V AC
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Rated Operational Current (I_e):	1.6 A
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Rated Operational Current AC-3 (I_e):	1.6 A
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Rated Frequency (f):	Main Circuit 50 Hz Main Circuit 60 Hz
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Rated Impulse Withstand Voltage (U_{imp}):	Main Circuit 6 kV
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Rated Insulation Voltage (U_i):	690 V
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Power Loss:	at Rated Operating Conditions per Pole 0.7 ... 1.7 W
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Number of Poles:	3
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Conventional Free-air Thermal Current (I_{th}):	Main Circuit 1.6 A
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Degree of Protection:	Housing IP20 Main Circuit Terminals IP10
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Pollution Degree:	3
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Electrical Durability:	100000 cycle
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Mechanical Durability:	100000 cycle
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Terminal Type:	Screw Terminals
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Connecting Capacity Main Circuit:	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm ² Flexible with Insulated Ferrule 1/2x 0.75 ... 2.5 mm ² Flexible 1/2x 0.75 ... 2.5 mm ² Rigid 1/2x 1 ... 4 mm ²
Tightening Torque:	Main Circuit 0.8 ... 1.2 N·m
Wire Stripping Length:	Main Circuit 9 mm
Recommended Screw Driver:	Pozidriv 2
Mounting Position:	Position 1 to 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

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 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
Ampere Rating UL/CSA:	1.6 A
Horsepower Rating UL/CSA:	(440 ... 480 V AC) Three Phase 0.75 Hp (550 ... 600 V AC) Three Phase 0.75 Hp

Full Load Amps Motor Use:	(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
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Locked Rotor Amps:	(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
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General Use Rating UL/CSA:	(600 V AC) 1.6 A
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Connecting Capacity Main Circuit UL/CSA:	Flexible 1/2x 16-12 AWG Stranded 1/2x 16-12 AWG
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Tightening Torque UL/CSA:	Main Circuit 10 in·lb
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Certificates and Declarations (Document Number)

ABS Certificate:	1SAA963000-0104
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BV Certificate:	1SAA963000-0204
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CB Certificate:	1SAA963000-2003
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CCC Certificate:	1SAA963000-3804
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cUL Certificate:	cUL_E137861
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Declaration of Conformity - CE:	1SAD938517-0060
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DNV Certificate:	1SAA963000-0303
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DNV GL Certificate:	1SAA963000-0303
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EAC Certificate:	1SAA963000-2701
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Environmental Information:	1SAA963001-2401
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GL Certificate:	1SAA963000-0402
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GOST Certificate:	1SAA963001-2702
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Instructions and Manuals:	2CDC131011M6802
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KC Certificate:	1SAA963000-1501
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LR Certificate:	1SAA963000-0505
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RMRS Certificate:	1SAA918000-0704
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RoHS Information:	1SAD938517-0060
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UL Certificate:	UL_E137861
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Container Information

Package Level 1 Units:	1 piece
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Package Level 1 Width:	92 mm
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Package Level 1 Depth / Length:	95 mm
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Package Level 1 Height:	50 mm
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Package Level 1 Gross Weight:	0.28 kg
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Package Level 1 EAN:	4013614320293
Package Level 2 Units:	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:	11.586 kg
Package Level 2 EAN:	4013614408663

Classifications

Object Classification Code:	F
E-nummer:	3111940
ETIM 4:	EC000074 - Motor protective circuit-breaker
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
1SAM101923R0002	MSMN Driver	MSMN	1	piece
1SAM101923R0012	MSMNO Driver	MSMNO	1	piece
1SAM101924R0003	MSOX-32 Driver Shaft	MSOX-32	1	piece
1SAM101924R0013	MSOX-30 Driver Shaft	MSOX-30	1	piece
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
1SAM201902R1004	HK1-20L Auxiliary Contact	HK1-20L	1	piece
1SAM201903R1001	SK1-11 Signal Contact	SK1-11	1	piece

Identifier	Description	Type	Qty	Unit Of Measure
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
1SAM201904R1010	UA1-20 Undervoltage Release	UA1-20	1	piece
1SAM201906R1102	PS1-2-0-65 Busbar	PS1-2-0-65	1	piece
1SAM201906R1103	PS1-3-0-65 Busbar	PS1-3-0-65	1	piece
1SAM201906R1104	PS1-4-0-65 Busbar	PS1-4-0-65	1	piece
1SAM201906R1105	PS1-5-0-65 Busbar	PS1-5-0-65	1	piece
1SAM201906R1112	PS1-2-1-65 Busbar	PS1-2-1-65	1	piece
1SAM201906R1113	PS1-3-1-65 Busbar	PS1-3-1-65	1	piece
1SAM201906R1114	PS1-4-1-65 Busbar	PS1-4-1-65	1	piece
1SAM201906R1115	PS1-5-1-65 Busbar	PS1-5-1-65	1	piece
1SAM201906R1122	PS1-2-2-65 Busbar	PS1-2-2-65	1	piece
1SAM201906R1123	PS1-3-2-65 Busbar	PS1-3-2-65	1	piece
1SAM201906R1124	PS1-4-2-65 Busbar	PS1-4-2-65	1	piece
1SAM201906R1125	PS1-5-2-65 Busbar	PS1-5-2-65	1	piece
1SAM201907R1101	S1-M1-25 Power Infeed Block	S1-M1-25	1	piece
1SAM201907R1102	S1-M2-25 Power Infeed Block	S1-M2-25	1	piece
1SAM201907R1103	S1-M3-25 Power Infeed Block	S1-M3-25	1	piece

Identifier	Description	Type	Qty	Unit Of Measure
1SAM201908R1001	BS1-3 Protection Cover	BS1-3	1	piece
1SAM201909R1001	FS116 Screw Fixing Kit	FS116	1	piece
1SAM201909R1021	MSAH1 Shaft Supporter	MSAH1	1	piece
1SAM201910R1001	AA1-24 Shunt Trip	AA1-24	1	piece
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
1SAM201911R1010	IB132-G Enclosure	IB132-G	1	piece
1SAM201911R1011	IB132-Y Enclosure	IB132-Y	1	piece
1SAM201911R1012	IB132-F Enclosure	IB132-F	1	piece
1SAM201912R1010	DMS132-G Door Mounting Kit	DMS132-G	1	piece
1SAM201912R1011	DMS132-Y Door Mounting Kit	DMS132-Y	1	piece
1SAM201914R1001	PB1-1-32 Connecting Link	PB1-1-32	1	piece
1SAM201914R1002	S1-PB1-25 Power Infeed Block	S1-PB1-25	1	piece
1SAM201916R1103	PS1-3-0-100 Busbar	PS1-3-0-100	1	piece
1SAM201916R1104	PS1-4-0-100 Busbar	PS1-4-0-100	1	piece
1SAM201916R1105	PS1-5-0-100 Busbar	PS1-5-0-100	1	piece
1SAM201916R1113	PS1-3-1-100 Busbar	PS1-3-1-100	1	piece
1SAM201916R1114	PS1-4-1-100 Busbar	PS1-4-1-100	1	piece
1SAM201916R1115	PS1-5-1-100 Busbar	PS1-5-1-100	1	piece
1SAM201916R1123	PS1-3-2-100 Busbar	PS1-3-2-100	1	piece
1SAM201920R1000	MSH-AR Shaft Alignment Ring	MSH-AR	1	piece
1SAM201920R1001	MSHD-LB Handles	MSHD-LB	1	piece
1SAM201920R1002	MSHD-LY Handles	MSHD-LY	1	piece

Where Used (as a spare part for "Products")

Identifier	Description	Qty	Unit Of Measure
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Identifier	Description	Qty	Unit Of Measure
ACS 1000	No Description Available	1	piece
ACS 2000	No Description Available	1	piece

Product specific part data

Product	Category	Drive Part Category
ACS 2000	ACS2000	Switches, Relays, Contactors
ACS 1000	ACS1000	Switches, Relays, Contactors

