

# MS116-20



Products Low Voltage Products and Systems Circuit Breakers Manual Motor Starters

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## General Information

<b>Extended Product Type:</b>	MS116-20
<b>Product ID:</b>	1SAM250000R1013
<b>EAN:</b>	4013614405655
<b>Catalog Description:</b>	MS116-20 Manual Motor Starter
<b>Long Description:</b>	<p>The MS116-20 manual motor starter is a compact 45 mm width devices with a rated operational current of <math>I_e = 20.0</math> 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 <math>I_{cs} = 10</math> kA at 400 VAC and the 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, signalling 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.</p>

## Additional Information

<b>ABS Certificate:</b>	1SAA963000-0104
<b>Actuator Type:</b>	Rotary Handle
<b>Ambient Air Temperature:</b>	Around the Enclosure 0 ... +40 °C Operation -25 ... +75 °C Operation Compensated -25 ... +55 °C Storage -50 ... +85 °C
<b>Ambient Air Temperature Compensation:</b>	Yes
<b>Ampere Rating UL/CSA:</b>	20 A
<b>BV Certificate:</b>	1SAA963000-0204
<b>CB Certificate:</b>	1SAA963000-2003
<b>CCC Certificate:</b>	1SAA963000-3804
<b>Connecting Capacity Auxiliary Circuit UL/CSA:</b>	Flexible 1/2x 16-14 AWG Stranded 1/2x 16-14 AWG
<b>Connecting Capacity Main Circuit UL/CSA:</b>	Flexible 1/2x 16-8 AWG Stranded 1/2x 16-8 AWG
<b>Connecting Capacity Auxiliary Circuit:</b>	Flexible with Ferrule 1/2x 0.75 ... 1.5 mm <sup>2</sup> Flexible with Insulated Ferrule 1/2x 0.75 ... 1.5 mm <sup>2</sup> Flexible 1/2x 0.75 ... 1.5 mm <sup>2</sup> Rigid 1/2x 1 ... 1.5 mm <sup>2</sup>
<b>Connecting Capacity Main Circuit:</b>	Flexible with Ferrule 1/2x 0.75 ... 6 mm <sup>2</sup> Flexible with Insulated Ferrule 1/2x 0.75 ... 6 mm <sup>2</sup> Flexible 1/2x 1 ... 2.5 mm <sup>2</sup> Flexible 1/2x 2.5 ... 6 mm <sup>2</sup> Rigid 1/2x 1 ... 2.5 mm <sup>2</sup> Rigid 1/2x 2.5 ... 6 mm <sup>2</sup>
<b>Contact Position Indication:</b>	ON / OFF / TRIP
<b>Contact Rating UL/CSA:</b>	B300 R300
<b>Conventional Free-air Thermal Current (I<sub>th</sub>):</b>	Main Circuit 20 A
<b>Country of Origin:</b>	Germany (DE)
<b>Customs Tariff Number:</b>	85362010
<b>DNV Certificate:</b>	1SAA963000-0303
<b>Data Sheet, Technical Information:</b>	2CDC131025D0201

<b>Data Sheet, Technical Information (Part 2):</b>	1SAM200505F0013
<b>Data Sheet, Technical Information (Part 3):</b>	1SAM200507F0001 1SAM200507F0002 1SAM200507F0003 1SAM200508F0001 1SAM200508F0002 1SAM200508F0003
<b>Declaration of Conformity - CE:</b>	1SAD938516-0060
<b>Degree of Protection:</b>	Housing IP20 Main Circuit Terminals IP10
<b>Dimension Diagram:</b>	1SAM200420F0001
<b>E-nummer:</b>	3111951
<b>EAC Certificate:</b>	1SAA963000-2701
<b>EAN:</b>	4013614405655
<b>EPLAN Catalog Tree:</b>	Electrical engineering / Protection devices / Motor overload switch
<b>EPLAN Function Definition:</b>	Motor overload switch / Motor overload switch, 6 connection points / Motor overload switch three-pole 1_2_3_4_5_6
<b>ETIM 4:</b>	EC000074 - Motor protective circuit-breaker
<b>ETIM 5:</b>	EC000074 - Motor protective circuit-breaker
<b>ETIM 6:</b>	EC000074 - Motor protection circuit-breaker
<b>Electrical Durability:</b>	50000 cycle
<b>Environmental Conditions:</b>	Damp Heat Cyclic acc. to IEC 60068-2-30 28 cycle Damp Heat Cyclic acc. to IEC 60068-2-30 with 55 °C Damp Heat Cyclic acc. to IEC 60068-2-30 /90 ... 96 %
<b>Environmental Information:</b>	1SAA963001-2401
<b>GL Certificate:</b>	1SAA963000-0402
<b>GOST Certificate:</b>	1SAA963001-2702
<b>General Use Rating UL/CSA:</b>	(600 V AC) 20 A
<b>Horsepower Rating UL/CSA:</b>	(220 ... 240 V AC) Three Phase 5 Hp (440 ... 480 V AC) Three Phase 10 Hp (550 ... 600 V AC) Three Phase 15 Hp
<b>IIT Publishing Status:</b>	Level 0 - Information enabled
<b>Industrial IT Certification Level:</b>	0
<b>Instructions and Manuals:</b>	2CDC131011M6802
<b>Invoice Description:</b>	MS116-20 Manual Motor Starter Trip class 10A, 16 ... 20 A
<b>LR Certificate:</b>	1SAA963000-0505
<b>Maximum Operating Altitude Permissible:</b>	2000 m
<b>Maximum Operating Voltage UL/CSA:</b>	Main Circuit 600 V AC Auxiliary Circuit 250 V AC/DC
<b>Mechanical Durability:</b>	100000 cycle
<b>Minimum Order Quantity:</b>	1 piece
<b>Mounted Auxiliary Contacts:</b>	1 NO, 1 NC
<b>Mounting Position:</b>	Position 1 to 6
<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>Number of Poles:</b>	3
<b>Number of Protected Poles:</b>	3
<b>Object Classification Code:</b>	F
<b>Package Level 1 EAN:</b>	4013614405655
<b>Package Level 1 Gross Weight:</b>	0.325 kg
<b>Package Level 1 Height:</b>	50 mm
<b>Package Level 1 Length:</b>	102 mm

Package Level 1 Length:	102 mm
Package Level 1 Units:	1 piece
Package Level 1 Width:	92 mm
Package Level 2 EAN:	4013614408731
Package Level 2 Gross Weight:	13.386 kg
Package Level 2 Height:	210 mm
Package Level 2 Length:	395 mm
Package Level 2 Units:	40 piece
Package Level 2 Width:	280 mm
Phase Loss Sensitive:	Yes
Pollution Degree:	3
Power Loss:	at Rated Operating Conditions per Pole 1.5 ... 2.3 W
Product Main Type:	MS116
Product Name:	Manual Motor Starter
Product Net Depth:	86.55 mm
Product Net Height:	97.8 mm
Product Net Weight:	0.31 kg
Product Net Width:	45 mm
RMRS Certificate:	1SAA918000-0703
Rated Current ( $I_n$ ):	20 A
Rated Frequency (f):	Main Circuit 50 Hz Main Circuit 60 Hz
Rated Impulse Withstand Voltage ( $U_{imp}$ ):	Main Circuit 6 kV
Rated Instantaneous Short-Circuit Current Setting ( $I_i$ ):	300 A
Rated Insulation Voltage ( $U_i$ ):	690 V
Rated Operational Current ( $I_e$ ):	20 A
Rated Operational Current AC-3 ( $I_e$ ):	20 A
Rated Operational Power AC-3 ( $P_e$ ):	(400 V) Three Phase 7.5 kW
Rated Operational Voltage:	Main Circuit 690 V AC
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) 15 kA (400 V AC) 15 kA (440 V AC) 6 kA (500 V AC) 4 kA (690 V AC) 2 kA
Rated Uninterrupted Current ( $I_u$ ):	20 A
Recommended Screw Driver:	Pozidriv 2
Resistance to Shock acc. to IEC 60068-2-27:	11 ms Pulse 25g
Resistance to Vibrations acc. to IEC 60068-2-6:	2g / 5 ... 150 Hz
RoHS Date:	1105
RoHS Information:	1SAA963001-4409
Selectivity Category:	A
Selling Unit of Measure:	piece
Setting Range:	18 ... 25 A
Short Description:	MS116-20 Manual Motor Starter

<b>Short-Circuit Protective Devices:</b>	gG Type Fuses 125 A, 230 V AC gG Type Fuses 125 A, 400 V AC gG Type Fuses 125 A, 440 V AC gG Type Fuses 125 A, 500 V AC gG Type Fuses 80 A, 690 V AC
<b>Standards:</b>	IEC/EN 60947-1 IEC/EN 60947-2 IEC/EN 60947-4-1 UL 60947-1 UL 60947-4-1
<b>Suitable for Isolation:</b>	No
<b>Terminal Type:</b>	Screw Terminals
<b>Tightening Torque:</b>	Auxiliary Circuit 0.9 N·m Control Circuit 0.9 N·m Main Circuit 28 N·m
<b>Tightening Torque UL/CSA:</b>	Auxiliary Circuit 7 ... 1 in·lb Main Circuit 40 in·lb
<b>Trip Class:</b>	10A
<b>UL Certificate:</b>	UL_E137861
<b>UNSPSC:</b>	39121521
<b>Utilization:</b>	Motor Protection
<b>Wire Stripping Length:</b>	Auxiliary Circuit 8 mm Main Circuit 10 mm
<b>cUL Certificate:</b>	cUL_E137861
<b>eClass:</b>	7.0 27370401
<b>DNV GL Certificate:</b>	1SAA963000-0303