# MS116-12

## General Information

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|---|---|
| **Extended Product Type:** | MS116-12 |
| **Product ID:** | 1SAM250000R1012 |
| **EAN:** | 4013614348211 |
| **Catalog Description:** | MS116-12 Manual Motor Starter |
| **Long Description:** | The MS116-12 manual motor starter is a compact 45 mm width devices with a rated operational current of Ie = 12.0 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 = 25 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. |

## 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

## Accessories Show accessory images

| Identifier | Type | Description | Qty |
|---|---|---|---|
| 1SAM201901R1002 | HKF1-20 | HKF1-20 Auxiliary Contact | 1 |
| 1SAM201901R1001 | HKF1-11 | HKF1-11 Auxiliary Contact | 1 |
| 1SAM201902R1001 | HK1-11 | HK1-11 Auxiliary Contact | 1 |
| 1SAM201902R1002 | HK1-20 | HK1-20 Auxiliary Contact | 1 |
| 1SAM201902R1003 | HK1-02 | HK1-02 Auxiliary Contact | 1 |
| 1SAM201902R1004 | HK1-20L | HK1-20L Auxiliary Contact | 1 |
| 1SAM201903R1001 | SK1-11 | SK1-11 Signal Contact | 1 |
| 1SAM201903R1002 | SK1-20 | SK1-20 Signal Contact | 1 |
| 1SAM201903R1003 | SK1-02 | SK1-02 Signal Contact | 1 |
| 1SAM201904R1001 | UA1-24 | UA1-24 Undervoltage Release | 1 |
| 1SAM201904R1004 | UA1-110 | UA1-110 Undervoltage Release | 1 |
| 1SAM201904R1005 | UA1-230 | UA1-230 Undervoltage Release | 1 |
| 1SAM201904R1006 | UA1-400 | UA1-400 Undervoltage Release | 1 |
| 1SAM201904R1007 | UA1-415 | UA1-415 Undervoltage Release | 1 |
| 1SAM201906R1102 | PS1-2-0-65 | PS1-2-0-65 3-Phase Busbar | 1 |
| 1SAM201906R1103 | PS1-3-0-65 | PS1-3-0-65 3-Phase Busbar | 1 |
| 1SAM201906R1104 | PS1-4-0-65 | PS1-4-0-65 3-Phase Busbar | 1 |
| 1SAM201906R1105 | PS1-5-0-65 | PS1-5-0-65 3-Phase Busbar | 1 |
| 1SAM201906R1112 | PS1-2-1-65 | PS1-2-1-65 3-Phase Busbar | 1 |
| 1SAM201906R1113 | PS1-3-1-65 | PS1-3-1-65 3-Phase Busbar | 1 |
| 1SAM201906R1114 | PS1-4-1-65 | PS1-4-1-65 3-Phase Busbar | 1 |
| 1SAM201906R1115 | PS1-5-1-65 | PS1-5-1-65 3-Phase Busbar | 1 |
| 1SAM201906R1122 | PS1-2-2-65 | PS1-2-2-65 3-Phase Busbar | 1 |
| 1SAM201906R1123 | PS1-3-2-65 | PS1-3-2-65 3-Phase Busbar | 1 |
| 1SAM201906R1124 | PS1-4-2-65 | PS1-4-2-65 3-Phase Busbar | 1 |
| 1SAM201906R1125 | PS1-5-2-65 | PS1-5-2-65 3-Phase Busbar | 1 |
| 1SAM201907R1101 | S1-M1-25 | S1-M1-25 3-Phase Power Infeed Block | 1 |

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|---|---|---|---|
| 1SAM201907R1102 | S1-M2-25 | S1-M2-25 3-Phase Power Infeed Block | 1 |
| 1SAM201907R1103 | S1-M3-25 | S1-M3-25 3-Phase Power Infeed Block | 1 |
| 1SAM201908R1001 | BS1-3 | BS1-3 Protection Cover | 1 |
| 1SAM201910R1001 | AA1-24 | AA1-24 Shunt Trip | 1 |
| 1SAM201910R1002 | AA1-110 | AA1-110 Shunt Trip | 1 |
| 1SAM201910R1003 | AA1-230 | AA1-230 Shunt Trip | 1 |
| 1SAM201910R1004 | AA1-400 | AA1-400 Shunt Trip | 1 |
| 1SAM201911R1010 | IB132-G | IB132-G Enclosure | 1 |
| 1SAM201911R1012 | IB132-F | IB132-F Enclosure | 1 |
| 1SAM201912R1010 | DMS132-G | DMS132-G Door Mounting Kit | 1 |
| 1SAM201912R1011 | DMS132-Y | DMS132-Y Door Mounting Kit | 1 |
| 1SAM201913R1103 | S1-M3-35 | S1-M3-35 3-Phase Power Infeed Block | 1 |
| 1SAM201916R1103 | PS1-3-0-100 | PS1-3-0-100 3-Phase Busbar | 1 |
| 1SAM201916R1104 | PS1-4-0-100 | PS1-4-0-100 3-Phase Busbar | 1 |
| 1SAM201916R1105 | PS1-5-0-100 | PS1-5-0-100 3-Phase Busbar | 1 |
| 1SAM201916R1113 | PS1-3-1-100 | PS1-3-1-100 3-Phase Busbar | 1 |
| 1SAM201916R1115 | PS1-5-1-100 | PS1-5-1-100 3-Phase Busbar | 1 |
| 1SAM201916R1123 | PS1-3-2-100 | PS1-3-2-100 3-Phase Busbar | 1 |
| 1SAM201920R1001 | MSHD-LB | MSHD-LB Handles | 1 |
| 1SAM201920R1002 | MSHD-LY | MSHD-LY Handles | 1 |
| 1SAM201920R1011 | MSHD-LTB | MSHD-LTB Handles | 1 |
| 1SAM201920R1012 | MSHD-LTY | MSHD-LTY Handles | 1 |
| 1SAM201909R1021 | MSAH1 | MSAH1 Shaft Supporter | 1 |

## Ordering

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|---|---|
| **EAN:** | 4013614348211 |
| **Minimum Order Quantity:** | 1 piece |
| **Customs Tariff Number:** | 85362010 |

## Container Information

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| **Package Level 1 Units:** | 1 piece |
| **Package Level 1 Width:** | 92.0 mm |
| **Package Level 1 Length:** | 95.0 mm |
| **Package Level 1 Height:** | 50.0 mm |
| **Package Level 1 Gross Weight:** | 0.280 kg |
| **Package Level 2 Units:** | 40 piece |
| **Package Level 2 Width:** | 280.0 mm |
| **Package Level 2 Length:** | 395.0 mm |
| **Package Level 2 Height:** | 210.0 mm |
| **Package Level 2 Gross Weight:** | 11.586 kg |
| **Package Level 2 EAN:** | 4013614408724 |

## Dimensions

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|---|---|
| **Product Net Width:** | 45.0 mm |
| **Product Net Height:** | 90.0 mm |
| **Product Net Depth:** | 85.6 mm |
| **Product Net Weight:** | 0.265 kg |

## Technical

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|---|---|
| **Rated Service Short-Circuit Breaking Capacity ($I_{cs}$):** | (230V AC) 25.0 kA<br>(400V AC) 25.0 kA<br>(440V AC) 6.0 kA<br>(500V AC) 6.0 kA<br>(690V AC) 2.0 kA |

| | |
|---|---|
| **Rated Ultimate Short-Circuit Breaking Capacity ($I_{cu}$):** | (230V AC) 25.0 kA<br>(400V AC) 25.0 kA<br>(440V AC) 6.0 kA<br>(500V AC) 6.0 kA<br>(690V AC) 2.0 kA |
| **Rated Instantaneous Short-Circuit Current Setting ($I_i$):** | 180.0 A |
| **Setting Range:** | 8.00 ... 12.0 A |
| **Rated Operational Power AC-3 ($P_e$):** | (400V) Three Phase 5.50 kW |
| **Rated Operational Voltage:** | Main Circuit 690 V AC |
| **Rated Operational Current ($I_e$):** | 12 A |
| **Rated Operational Current AC-3 ($I_e$):** | 12.00 A |
| **Rated Frequency (f):** | Main Circuit 50 Hz<br>Main Circuit 60 Hz |
| **Rated Impulse Withstand Voltage ($U_{imp}$):** | Main Circuit 6 kV |
| **Rated Insulation Voltage ($U_i$):** | 690 V |
| **Power Loss:** | Per Pole 1.0 ... 2.3 W |
| **Number of Poles:** | 3 |
| **Conventional Free-air Thermal Current ($I_{th}$):** | Main Circuit 12.00 A |
| **Degree of Protection:** | IP20 |
| **Pollution Degree:** | 3 |
| **Electrical Durability:** | 100000 cycle |
| **Mechanical Durability:** | 100000 cycle |
| **Connecting Capacity-Main Circuit:** | Flexible with Ferrule 1/2x 0.75 ... 2.5 mm²<br>Flexible with Insulated Ferrule 1/2x 0.75 ... 2.5 mm²<br>Flexible 1/2x 0.75 ... 2.5 mm²<br>Rigid 1/2x 1 ... 4 mm² |
| **Tightening Torque:** | Main Circuit 0.8 ... 1.2 N·m |
| **Wire Stripping Length:** | Main Circuit 9 mm |
| **Recommended Screw Driver:** | M3.5 |
| **Mounting Position:** | Position 1 to 6 |
| **Actuator Type:** | Rotary Handle |
| **Contact Position Indication:** | ON / OFF |
| **Mounting on DIN Rail:** | TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715<br>TH35-7.5 (35 x 7.5 mm Mounting Rail) acc. to IEC 60715 |
| **Standards:** | IEC/EN 60947-1<br>IEC/EN 60947-2<br>IEC/EN 60947-4-1<br>UL 60947-1<br>UL 60947-4-1 |

## Environmental

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|---|---|
| **Ambient Air Temperature:** | Around the Enclosure 0 ... +40 °C<br>Operation -25 ... +70 °C<br>Operation Compensated -25 ... +55 °C<br>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 250 m/s² |
| **Resistance to Vibrations acc. to IEC 60068-2-6:** | 5g / 3 ... 150 Hz |
| **RoHS Status:** | Following EU Directive 2002/95/EC August 18, 2005 and amendment |

## Technical UL/CSA

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|---|---|
| **Maximum Operating Voltage UL/CSA:** | Main Circuit 600 V AC |
| **Horse Power Rating UL/CSA:** | 220 ... 240V AC Three Phase 3.00 Hp<br>440 ... 480V AC Three Phase 7.50 Hp<br>550 ... 600V AC Three Phase 10.00 Hp |
| **Ampere Rating UL/CSA:** | 12.00 A |
| **General Use Rating UL/CSA:** | 600V AC 12.00 A |
| **Connecting Capacity-Main Circuit UL/CSA:** | Flexible 1/2x 16 ... 8 AWG<br>Stranded 1/2x 16 ... 8 AWG |
| **Tightening Torque UL/CSA:** | Main Circuit 10 in·lb |

## Certificates and Declarations (Document Number)

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|---|---|
| **ABS Certificate:** | 1SAA963000-0102 |
| **BV Certificate:** | 1SAA963000-0202 |
| **CB Certificate:** | 1SAA963000-2002 |
| **CCC Certificate:** | 1SAA963000-3803 |
| **cUL Certificate:** | cUL_E137861 |
| **Declaration of Conformity - CE:** | 1SAD938515-0060 |
| **DNV Certificate:** | 1SAA963000-0302 |
| **EAC Certificate:** | 1SAA963000-2701 |
| **GL Certificate:** | 1SAA963000-0402 |
| **GOST Certificate:** | 1SAA937000-2703 |
| **LR Certificate:** | 1SAA963000-0504 |
| **RMRS Certificate:** | 1SAA918000-0703 |
| **RoHS Information:** | 1SAA963001-4407 |
| **UL Certificate:** | UL_E137861 |

## Classifications

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|---|---|
| **Object Classification Code:** | F |
| **E-nummer:** | 3111949 |
| **UNSPSC:** | 39121521 |