

## PRODUCT-DETAILS

# MS116-1.0

## MS116-1.0 Manual Motor Starter



### Общая информация

|                                 |                                |
|---------------------------------|--------------------------------|
| Тип расширенного изделия        | MS116-1.0                      |
| Идентификационный номер изделия | 1SAM250000R1005                |
| Европейский товарный код (EAN)  | 4013614320286                  |
| Описание в каталоге             | MS116-1.0 Manual Motor Starter |

### Длинное описание

The MS116-1.0 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  $I_e = 1.0$  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  $I_{cs} = 50$  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

|                          |          |
|--------------------------|----------|
| Минимальный объем заказа | 1 штука  |
| Номер таможенного тарифа | 85362010 |

### Popular Downloads

|                    |                 |
|--------------------|-----------------|
| Технические данные | 2CDC131025D0201 |
|--------------------|-----------------|

|                                    |                                                       |
|------------------------------------|-------------------------------------------------------|
| Инструкции и руководства           | 2CDC131011M6802                                       |
| Инструкции и руководства (часть 2) | 2CDC131060M0202                                       |
| Time-Current Characteristic Curve  | 1SAM200505F0105                                       |
| I <sup>2</sup> t Characteristic    | 1SAM200507F0001<br>1SAM200507F0002<br>1SAM200507F0003 |
| Cut-off Current Characteristic     | 1SAM200508F0001<br>1SAM200508F0002<br>1SAM200508F0003 |
| Схема размеров                     | 1SAM200422F0001                                       |

Dimensions

|                        |          |
|------------------------|----------|
| Чистая ширина изделия  | 45 mm    |
| Чистая высота изделия  | 90 mm    |
| Чистая толщина изделия | 85.6 mm  |
| Чистый вес изделия     | 0.225 kg |

Technical

|                                                                                          |                                                                                                       |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Номинальная рабочая отключающая способность при коротком замыкании (I <sub>CS</sub> )    | (230 В AC) 50 kA<br>(400 В AC) 50 kA<br>(440 В AC) 50 kA<br>(500 В AC) 30 kA<br>(690 В AC) 30 kA      |
| Номинальная предельная отключающая способность при коротком замыкании (I <sub>CU</sub> ) | (230 В AC) 100 kA<br>(400 В AC) 100 kA<br>(440 В AC) 100 kA<br>(500 В AC) 100 kA<br>(690 В AC) 100 kA |
| Уставка номинального мгновенного тока короткого замыкания (I <sub>i</sub> )              | 12.5 A                                                                                                |
| Диапазон настройки                                                                       | 0.63 ... 1.0 A                                                                                        |
| Номинальная рабочая мощность, АС-3 (P <sub>e</sub> )                                     | (400 V) Three Phase 0.25 kW                                                                           |
| Номинальная рабочая мощность, АС-3е (P <sub>e</sub> )                                    | (400 V) Three Phase 0.25 kW                                                                           |
| Номинальное рабочее напряжение                                                           | Главная цепь 690 V AC                                                                                 |
| Номинальный рабочий ток (I <sub>e</sub> )                                                | 1 A                                                                                                   |
| Номинальный рабочий ток, АС-3 (I <sub>e</sub> )                                          | 1 A                                                                                                   |
| Номинальный рабочий ток, АС-3е (I <sub>e</sub> )                                         | 1 A                                                                                                   |
| Номинальная частота (f)                                                                  | Главная цепь 50 Hz<br>Главная цепь 60 Hz                                                              |
| Номинальное выдерживаемое импульсное напряжение (U <sub>imp</sub> )                      | Главная цепь 6 kV                                                                                     |
| Номинальное напряжение изоляции (U <sub>i</sub> )                                        | 690 V                                                                                                 |
| Потери мощности                                                                          | at Rated Operating Conditions per Pole 0.6 W                                                          |
| Количество полюсов                                                                       | 3                                                                                                     |
| Условный тепловой ток                                                                    | Main Circuit 1 A                                                                                      |

на открытом воздухе ( $I_{th}$ )

|                                                |                                                                                                                                                                                                                                                                 |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Степень защиты                                 | Housing IP20<br>Main Circuit Terminals IP10                                                                                                                                                                                                                     |
| Степень загрязнения                            | степень загрязнения 3                                                                                                                                                                                                                                           |
| Коммутационная износостойкость                 | 100000 цикл                                                                                                                                                                                                                                                     |
| Механическая износостойкость                   | 100000 цикл                                                                                                                                                                                                                                                     |
| Тип клемм                                      | Клеммы с винтовым зажимом                                                                                                                                                                                                                                       |
| Сечение подключаемого кабеля-главная цепь      | Гибкий с зажимом 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Гибкий с изолированным зажимом 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Гибкий 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Жесткий 1/2x 1 ... 4 mm <sup>2</sup>                                                      |
| Крутящие моменты затяжки                       | Главная цепь 0.8 ... 1.2 N·m                                                                                                                                                                                                                                    |
| Длина зачистки провода                         | Главная цепь 9 mm                                                                                                                                                                                                                                               |
| Рекомендуемый инструмент (отвертка)            | Pozidriv 2                                                                                                                                                                                                                                                      |
| Монтажное положение                            | Position 1 to 6                                                                                                                                                                                                                                                 |
| Монтаж на DIN-рейке                            | Монтажная рейка 35 x 15 mm<br>Монтажная рейка 35 x 7,5 mm                                                                                                                                                                                                       |
| Minimum Mounting Distance                      | Electrical Conductive Board, Horizontal - Up to 400 V 0 mm<br>Electrical Conductive Board, Horizontal - Up to 690 V 1.5 mm<br>Electrical Conductive Board, Vertical 75 mm<br>Other Device Same Type, Horizontal 0 mm<br>Other Device Same Type, Vertical 150 mm |
| Тип исполнительного элемента (рабочая головка) | Rotary Handle                                                                                                                                                                                                                                                   |
| Contact Position Indication                    | ON / OFF                                                                                                                                                                                                                                                        |
| Стандарты                                      | IEC/EN 60947-1<br>IEC/EN 60947-2<br>IEC/EN 60947-4-1<br>UL 60947-1<br>UL 60947-4-1                                                                                                                                                                              |

## Technical UL/CSA

|                                         |                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Short-Circuit Current Rating (SCCR)     | Any UL Listed Fuses or Circuit-Breakers, Group Installations (480 V AC) 30 kA<br>Any UL Listed Fuses or Circuit-Breakers, Group Installations (600 V AC) 5 kA<br>Any UL Listed Fuses or Circuit-Breakers, Motor Disconnect (480 V AC) 30 kA<br>Any UL Listed Fuses or Circuit-Breakers, Motor Disconnect (600 V AC) 5 kA |
| Maximum Operating Voltage UL/CSA        | Главная цепь 600 V AC                                                                                                                                                                                                                                                                                                    |
| Номинальный ток UL                      | 1 A                                                                                                                                                                                                                                                                                                                      |
| Номинальная мощность в л.с.             | (550 ... 600 V AC) Three Phase 0.5 Hp                                                                                                                                                                                                                                                                                    |
| Full Load Amps Motor Use                | (110 ... 120 V AC) Three Phase 1 A<br>(200 V AC) Three Phase 1 A<br>(208 V AC) Three Phase 1 A<br>(220 ... 240 V AC) Three Phase 1 A<br>(440 ... 480 V AC) Three Phase 1 A<br>(550 ... 600 V AC) Three Phase 0.9 A                                                                                                       |
| Locked Rotor Amps                       | (110 ... 120 V AC) Three Phase 6 A<br>(200 V AC) Three Phase 6 A<br>(208 V AC) Three Phase 6 A<br>(220 ... 240 V AC) Three Phase 6 A<br>(440 ... 480 V AC) Three Phase 6 A<br>(550 ... 600 V AC) Three Phase 8 A                                                                                                         |
| General Use Rating UL/CSA               | (600 V AC) 1 A                                                                                                                                                                                                                                                                                                           |
| Connecting Capacity Main Circuit UL/CSA | Гибкий 1/2x 16-12 AWG<br>Многожильный 1/2x 16-12 AWG                                                                                                                                                                                                                                                                     |
| Tightening Torque UL/CSA                | Главная цепь 10 in·lb                                                                                                                                                                                                                                                                                                    |

## Environmental

|                                                             |                                                                                                                          |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Температура окружающей среды                                | Снаружи корпуса 0 ... +40 °C<br>Работа с компенсацией -25 ... +70 °C<br>Работа -25 ... +55 °C<br>Хранение -50 ... +80 °C |
| Компенсация температуры окружающей среды                    | Да                                                                                                                       |
| Максимально допустимая рабочая высота                       | 2000 m                                                                                                                   |
| Ударопрочность согласно МЭК 60068-2-27                      | Импульс 11 мс 25g                                                                                                        |
| Вибропрочность согласно МЭК 60068-2-6                       | 5g / 3 ... 150 Hz                                                                                                        |
| Правила ограничения содержания вредных веществ. RoHS статус | Following EU Directive 2011/65/EU                                                                                        |

## Certificates and Declarations (Document Number)

|                                                                 |                                                       |
|-----------------------------------------------------------------|-------------------------------------------------------|
| Сертификат ABS                                                  | 1SAA963000-0104                                       |
| Сертификат BV                                                   | 1SAA963000-0204                                       |
| Сертификат CB                                                   | 1SAA963000-2003                                       |
| CQC Certificate                                                 | CQC2011010307506570<br>CQC2014010307744794            |
| Сертификат cUL                                                  | cUL_E137861                                           |
| Cut-off Current Characteristic                                  | 1SAM200508F0001<br>1SAM200508F0002<br>1SAM200508F0003 |
| Declaration of Conformity - CCC                                 | 2020980307003705<br>2020980307003043                  |
| Декларация о соответствии - CE                                  | 1SAD938522-0060                                       |
| Declaration of Conformity - UKCA                                | 1SAD938500-1060                                       |
| Сертификат DNV                                                  | 1SAA963000-0304                                       |
| DNV GL Certificate                                              | 1SAA963000-0304                                       |
| EAC Certificate                                                 | 1SAA963000-2701                                       |
| Экологическая информация                                        | 1SAC200050H0009                                       |
| Сертификат GL                                                   | 1SAA963000-0402                                       |
| Сертификат ГОСТ                                                 | 1SAA963001-2702                                       |
| I <sup>2</sup> t Characteristic                                 | 1SAM200507F0001<br>1SAM200507F0002<br>1SAM200507F0003 |
| Инструкции и руководства                                        | 2CDC131011M6802                                       |
| Инструкции и руководства (часть 2)                              | 2CDC131060M0202                                       |
| KC Certificate                                                  | 1SAA963000-1501                                       |
| Сертификат LR                                                   | 1SAA963000-0505                                       |
| Сертификат RMRS                                                 | 1SAA918000-0704                                       |
| Правила ограничения содержания вредных веществ. RoHS информация | 1SAD938517-0060                                       |
| Time-Current Characteristic Curve                               | 1SAM200505F0105                                       |
| Сертификат UL                                                   | UL_E137861                                            |

## Container Information

|                                |                 |
|--------------------------------|-----------------|
| Package Level 1 Units          | box 1 штука     |
| Package Level 1 Width          | 92 mm           |
| Package Level 1 Depth / Length | 95 mm           |
| Package Level 1 Height         | 50 mm           |
| Package Level 1 Gross Weight   | 0.24 kg         |
| Package Level 1 EAN            | 4013614320286   |
| Package Level 2 Units          | carton 40 штука |
| Package Level 2 Width          | 280 mm          |
| Package Level 2 Depth / Length | 395 mm          |
| Package Level 2 Height         | 210 mm          |
| Package Level 2 Gross Weight   | 9.986 kg        |
| Package Level 2 EAN            | 4013614408656   |

## Classifications

|                                                                  |                                                         |
|------------------------------------------------------------------|---------------------------------------------------------|
| Код классификации объекта                                        | F                                                       |
| 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             |
| е-класс                                                          | V11.0 : 27370401                                        |
| Универсальная стандартная классификация товаров и услуг (UNSPSC) | 39121521                                                |
| IDEA Granular Category Code (IGCC)                               | 4845 >> 3 Pole Motor Circuit Protector Circuit Breakers |
| E-Number (Finland)                                               | 3706005                                                 |
| E-Number (Sweden)                                                | 3111938                                                 |

## Accessories

| Identifier      | Description                | Type     | Quantity | Unit Of Measure |
|-----------------|----------------------------|----------|----------|-----------------|
| 1SAM201901R1001 | HKF1-11 Auxiliary Contact  | HKF1-11  | 1        | piece           |
| 1SAM201901R1201 | HKF1-11K Auxiliary Contact | HKF1-11K | 1        | piece           |
| 1SAM201901R1002 | HKF1-20 Auxiliary Contact  | HKF1-20  | 1        | piece           |
| 1SAM201901R1202 | HKF1-20K Auxiliary Contact | HKF1-20K | 1        | piece           |
| 1SAM201901R1004 | HKF1-01 Auxiliary Contact  | HKF1-01  | 1        | piece           |
| 1SAM201901R1003 | HKF1-10 Auxiliary Contact  | HKF1-10  | 1        | piece           |
| 1SAM201902R1002 | HK1-20 Auxiliary Contact   | HK1-20   | 1        | piece           |
| 1SAM201902R1202 | HK1-20K Auxiliary Contact  | HK1-20K  | 1        | piece           |
| 1SAM201902R1001 | HK1-11 Auxiliary Contact   | HK1-11   | 1        | piece           |
| 1SAM201902R1201 | HK1-11K Auxiliary Contact  | HK1-11K  | 1        | piece           |
| 1SAM201902R1003 | HK1-02 Auxiliary Contact   | HK1-02   | 1        | piece           |
| 1SAM201902R1203 | HK1-02K Auxiliary Contact  | HK1-02K  | 1        | piece           |
| 1SAM201902R1004 | HK1-20L Auxiliary Contact  | HK1-20L  | 1        | piece           |

|                 |                                           |             |   |       |
|-----------------|-------------------------------------------|-------------|---|-------|
| 1SAM201902R1204 | HK1-20LK Auxiliary Contact                | HK1-20LK    | 1 | piece |
| 1SAM201903R1002 | SK1-20 Signal Contact                     | SK1-20      | 1 | piece |
| 1SAM201903R1202 | SK1-20K Signal Contact                    | SK1-20K     | 1 | piece |
| 1SAM201903R1001 | SK1-11 Signal Contact                     | SK1-11      | 1 | piece |
| 1SAM201903R1201 | SK1-11K Signal Contact                    | SK1-11K     | 1 | piece |
| 1SAM201903R1003 | SK1-02 Signal Contact                     | SK1-02      | 1 | piece |
| 1SAM201903R1203 | SK1-02K Signal Contact                    | SK1-02K     | 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 |
| 1SAM201904R1010 | UA1-20 Undervoltage Release               | UA1-20      | 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 |
| 1SAM201904R1008 | UA1-208 Undervoltage Release              | UA1-208     | 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 |
| 1SAM201904R1009 | UA1-575 Undervoltage Release              | UA1-575     | 1 | piece |
| 1SAM201906R1102 | PS1-2-0-65 Busbar                         | PS1-2-0-65  | 1 | piece |
| 1SAM201906R1112 | PS1-2-1-65 Busbar                         | PS1-2-1-65  | 1 | piece |
| 1SAM201906R1122 | PS1-2-2-65 Busbar                         | PS1-2-2-65  | 1 | piece |
| 1SAM201916R1103 | PS1-3-0-100 Busbar                        | PS1-3-0-100 | 1 | piece |
| 1SAM201906R1103 | PS1-3-0-65 Busbar                         | PS1-3-0-65  | 1 | piece |
| 1SAM201916R1113 | PS1-3-1-100 Busbar                        | PS1-3-1-100 | 1 | piece |
| 1SAM201906R1113 | PS1-3-1-65 Busbar                         | PS1-3-1-65  | 1 | piece |
| 1SAM201916R1123 | PS1-3-2-100 Busbar                        | PS1-3-2-100 | 1 | piece |
| 1SAM201906R1123 | PS1-3-2-65 Busbar                         | PS1-3-2-65  | 1 | piece |
| 1SAM201916R1104 | PS1-4-0-100 Busbar                        | PS1-4-0-100 | 1 | piece |
| 1SAM201906R1104 | PS1-4-0-65 Busbar                         | PS1-4-0-65  | 1 | piece |
| 1SAM201916R1114 | PS1-4-1-100 Busbar                        | PS1-4-1-100 | 1 | piece |
| 1SAM201906R1114 | PS1-4-1-65 Busbar                         | PS1-4-1-65  | 1 | piece |
| 1SAM201906R1124 | PS1-4-2-65 Busbar                         | PS1-4-2-65  | 1 | piece |
| 1SAM201916R1105 | PS1-5-0-100 Busbar                        | PS1-5-0-100 | 1 | piece |
| 1SAM201906R1105 | PS1-5-0-65 Busbar                         | PS1-5-0-65  | 1 | piece |
| 1SAM201916R1115 | PS1-5-1-100 Busbar                        | PS1-5-1-100 | 1 | piece |
| 1SAM201906R1115 | PS1-5-1-65 Busbar                         | PS1-5-1-65  | 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 |
| 1SAM201913R1103 | S1-M3-35 Power Infeed Block               | S1-M3-35    | 1 | piece |
| 1SAM201914R1002 | S1-PB1-25 Power Infeed Block              | S1-PB1-25   | 1 | piece |
| 1SAM201914R1001 | PB1-1-32 Connecting Link                  | PB1-1-32    | 1 | piece |
| 1SAM201908R1001 | BS1-3 Protection Cover                    | BS1-3       | 1 | piece |
| 1SAM201909R1001 | FS116 Screw Fixing Kit                    | FS116       | 1 | piece |
| GJF1101903R0001 | SA1 - Terminals and Installation Material | SA1         | 1 | piece |
| GJF1101903R0002 | SA2 - Terminals and Installation Material | SA2         | 1 | piece |
| GJF1101903R0003 | SA3 - Terminals and Installation Material | SA3         | 1 | piece |
| 1SAM201911R1012 | IB132-F Enclosure                         | IB132-F     | 1 | piece |

|                 |                             |          |   |       |
|-----------------|-----------------------------|----------|---|-------|
| 1SAM201911R1010 | IB132-G Enclosure           | IB132-G  | 1 | piece |
| 1SAM201911R1011 | IB132-Y Enclosure           | IB132-Y  | 1 | piece |
| 1SAM201912R1010 | DMS132-G Door Mounting Kit  | DMS132-G | 1 | piece |
| 1SAM201912R1011 | DMS132-Y Door Mounting Kit  | DMS132-Y | 1 | piece |
| 1SAM201909R1021 | MSAH1 Shaft Supporter       | MSAH1    | 1 | piece |
| 1SAM201920R1001 | MSHD-LB Handles             | MSHD-LB  | 1 | piece |
| 1SAM201920R1002 | MSHD-LY Handles             | MSHD-LY  | 1 | piece |
| 1SAM201920R1000 | MSH-AR Shaft Alignment Ring | MSH-AR   | 1 | piece |
| 1SAM101923R0002 | MSMN Driver                 | MSMN     | 1 | piece |
| 1SAM101923R0012 | MSMNO Driver                | MSMNO    | 1 | piece |
| 1SCA101647R1001 | OXS6X85 SHAFT               | OXS6X85  | 1 | piece |
| 1SCA108043R1001 | OXS6X105 SHAFT              | OXS6X105 | 1 | piece |
| 1SCA101655R1001 | OXS6X130 SHAFT              | OXS6X130 | 1 | piece |
| 1SCA101659R1001 | OXS6X180 SHAFT              | OXS6X180 | 1 | piece |

Категории

Низковольтное оборудование → Пускорегулирующая аппаратура → Мотор-автоматы → Мотор-автоматы  
Низковольтное оборудование → Силовые автоматические выключатели → Мотор-автоматы

