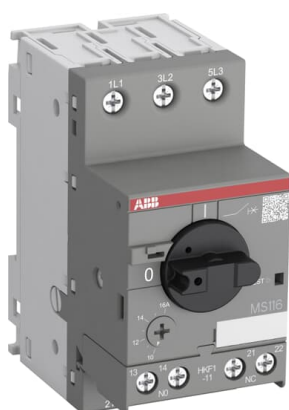


PRODUCT-DETAILS

# MS116-1.6-HKF1-11

## MS116-1.6-HKF1-11 Manual Motor Starter 1.0 ... 1.6 A



### Informations générales

|                              |  |
|------------------------------|--|
| Extension du type de produit | MS116-1.6-HKF1-11                                    |
| Code de produit              | 1SAM250005R1006                                      |
| EAN                          | 4013614394768  |
| Description courte           | MS116-1.6-HKF1-11 Manual Motor Starter 1.0 ... 1.6 A |

#### Description longue

The MS116-1.6-HKF1-11 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 and a pre-assembled front mounted auxiliary contact HKF1-11. 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.

### Commande

|                  |          |
|------------------|----------|
| Quantité minimum | 1 pièce  |
| Code douanier    | 85362010 |

### Downloads Préférés

|                             |                 |
|-----------------------------|-----------------|
| Fiche produit, informations | 2CDC131025D0201 |
|-----------------------------|-----------------|

## techniques

|  |  |
|--|--|
| Data Sheet, Technical Information (Part 3) | 1SAM200507F0001<br>1SAM200507F0002<br>1SAM200507F0003<br>1SAM200508F0001<br>1SAM200508F0002<br>1SAM200508F0003 |
| Instructions et manuels                    | 2CDC131011M6802  |
| Instructions et manuels (Partie 2)         | 2CDC131060M0202  |
| Time-Current Characteristic Curve          | 1SAM200505F0106  |
| CAD Dimensional Drawing                    | 2CDC001079B0201  |
| Schéma dimensionnel                        | 1SAM200422F0001  |

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**Dimensions**


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|                      |         |
|----------------------|---------|
| Produit Largeur Net  | 45 mm   |
| Produit Hauteur Net  | 90 mm   |
| Produit Longueur Net | 85.6 mm |
| Poids net            | 0.28 kg |

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**Technique**


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|   |   |
|---|---|
| Pouvoir assigné de coupure de service en court-circuit ( $I_{cs}$ ) | (230 V AC) 50 kA<br>(400 V AC) 50 kA<br>(440 V AC) 50 kA<br>(500 V AC) 30 kA<br>(690 V AC) 30 kA      |
| Pouvoir assigné de coupure ultime en court-circuit ( $I_{cu}$ )     | (230 V AC) 100 kA<br>(400 V AC) 100 kA<br>(440 V AC) 100 kA<br>(500 V AC) 100 kA<br>(690 V AC) 100 kA |
| Courant assigné instantané de réglage de court-circuit ( $I_i$ )    | 20 A  |
| Setting Range   | 1.0 ... 1.6 A   |
| Puissance assignée d'emploi AC-3 ( $P_e$ )                          | (400 V) Three Phase 0.55 kW   |
| Puissance assignée d'emploi AC-3e ( $P_e$ )                         | (400 V) Three Phase 0.55 kW   |
| Tension   | Circuit principal 690 V AC  |
| Courant nominal de fonctionnement ( $I_e$ )                         | 1.6 A   |
| Courant assignée d'emploi AC-3 ( $I_e$ )                            | 1.6 A   |
| Courant assignée d'emploi AC-3e ( $I_e$ )                           | 1.6 A   |
| Fréquence assignée (f)  | Circuit principal 50 Hz<br>Circuit principal 60 Hz  |
| Tension assignée de tenue aux chocs ( $U_{imp}$ )                   | Circuit principal 6 kV  |
| Tension assignée d'isolement ( $U_i$ )                              | 690 V   |
| Power Loss  | at Rated Operating Conditions per Pole 0.6 ... 1.7 W  |
| Nombre de pôles   | 3   |
| Mounted Auxiliary Contacts  | 1 NO, 1 NC  |

|  |   |
|--|---|
| Courant thermique conventionnel à l'air libre ( $I_{th}$ ) | Main Circuit 1.6 A  |
| Indice de protection                                       | Housing IP20<br>Main Circuit Terminals IP10   |
| Degré de pollution   | 3   |
| Electrical Durability                                      | 100000 cycle  |
| Durabilité mécanique                                       | 100000 cycle  |
| Type de borne  | Screw Terminals   |
| Connecting Capacity Main Circuit                           | Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Rigid 1/2x 1 ... 4 mm <sup>2</sup>  |
| Connecting Capacity Auxiliary Circuit                      | Flexible with Ferrule 1/2x 0.75 ... 1.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1/2x 0.75 ... 1.5 mm <sup>2</sup><br>Flexible 1/2x 0.75 ... 1.5 mm <sup>2</sup><br>Rigid 1/2x 1 ... 1.5 mm <sup>2</sup>  |
| Couple de serrage  | Auxiliary Circuit 0.8 ... 1.2 N·m<br>Main Circuit 0.8 ... 1.2 N·m   |
| Wire Stripping Length                                      | Auxiliary Circuit 8 mm<br>Main Circuit 9 mm   |
| Recommended Screw Driver                                   | Pozidriv 2  |
| Type d'encastrement  | 1 ... 6   |
| Montage sur rail DIN                                       | 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  |
| 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 |
| Actuator Type  | Rotary Handle   |
| Contact Position Indication                                | ON / OFF  |
| Normes et standards  | IEC/EN 60947-1<br>IEC/EN 60947-2<br>IEC/EN 60947-4-1<br>IEC/EN 60947-5-1<br>UL 60947-1<br>UL 60947-4-1  |

## Technique 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        | Circuit auxiliaire 250 V AC/DC<br>Circuit principal 600 V AC   |
| Puissance nominale UL/CSA               | (440 ... 480 V AC) Three Phase 0.75 Hp<br>(550 ... 600 V AC) Three Phase 0.75 Hp   |
| Full Load Amps Motor Use                | (200 V AC) Three Phase 1.6 A<br>(208 V AC) Three Phase 1.6 A<br>(220 ... 240 V AC) Three Phase 1.6 A<br>(440 ... 480 V AC) Three Phase 1.6 A<br>(550 ... 600 V AC) Three Phase 1.6 A   |
| Locked Rotor Amps                       | (200 V AC) Three Phase 9.6 A<br>(208 V AC) Three Phase 9.6 A<br>(220 ... 240 V AC) Three Phase 9.6 A<br>(440 ... 480 V AC) Three Phase 9.6 A<br>(550 ... 600 V AC) Three Phase 9.6 A   |
| General Use Rating UL/CSA               | (600 V AC) 1.6 A   |
| Connecting Capacity Main Circuit UL/CSA | Flexible 1/2x 16-12 AWG<br>Stranded 1/2x 16-12 AWG   |

|   |  |
|---|--|
| Connecting Capacity<br>Auxiliary Circuit UL/CSA | Flexible 1/2x 16-14 AWG<br>Stranded 1/2x 16-14 AWG |
| Tightening Torque<br>UL/CSA                     | Auxiliary Circuit 7 in-lb<br>Main Circuit 10 in-lb |
| Contact Rating UL/CSA                           | B300<br>R300                                       |

## Environnement

|   |   |
|---|---|
| Température de l'air<br>ambiant                     | 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<br>Compensation             | Oui   |
| Altitude de<br>fonctionnement maximale<br>autorisée | 2000 m  |
| REACH Declaration                                   | 1SAA963005-4502   |
| Résistance aux chocs<br>selon CEI 60068-2-27        | 11 ms Pulse 25g   |
| Resistance to Vibrations<br>acc. to IEC 60068-2-6   | 5g / 3 ... 150 Hz   |
| Informations RoHS                                   | 1SAA963006-4502   |
| Statut RoHS   | Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019  |

## Certificats et Déclarations (Numéro de document)

|                                     |                     |
|-------------------------------------|---------------------|
| Certificat ABS                      | 1SAA963000-0104     |
| Certificat BV                       | 1SAA963000-0204     |
| CB Certificate                      | 1SAA963005-2003     |
| CQC Certificate                     | CQC2019010307170287 |
| Declaration of Conformity<br>- CCC  | 2020980307003381    |
| Déclaration de Conformité<br>- CE   | 1SAD101100-3401     |
| Declaration of Conformity<br>- UKCA | 1SAD201100-3401     |
| Certificat DNV                      | 1SAA963000-0304     |
| DNV GL Certificate                  | 1SAA963000-0304     |
| EAC Certificate                     | 1SAA963000-2701     |
| Certificat GL                       | 1SAA963000-0402     |
| KC Certificate                      | 1SAA963000-1501     |
| Certificat LR                       | 1SAA963000-0505     |
| Certificat RMRS                     | 1SAA918000-0704     |
| Certificat UL                       | E137861-20001218    |

## Emballage

|                                |             |
|--------------------------------|-------------|
| Emballage Niveau 1<br>Unités   | box 1 pièce |
| Emballage Niveau 1<br>Largeur  | 92 mm       |
| Emballage Niveau 1<br>Longueur | 95 mm       |
| Emballage Niveau 1<br>Hauteur  | 50 mm       |

|                             |                 |
|-----------------------------|-----------------|
| Emballage Niveau 1 Poids    | 0.295 kg        |
| Emballage Niveau 1 EAN      | 4013614394768   |
| Emballage Niveau 2 Unités   | carton 40 pièce |
| Emballage Niveau 2 Largeur  | 280 mm          |
| Emballage Niveau 2 Longueur | 395 mm          |
| Emballage Niveau 2 Hauteur  | 210 mm          |
| Emballage Niveau 2 Poids    | 12.186 kg       |
| Emballage Niveau 2 EAN      | 4013614408816   |

## Classifications

|  |   |
|--|---|
| Code de classification d'objet           | F   |
| ETIM 4                                   | EC000074 - Motor protective circuit-breaker             |
| ETIM 5                                   | EC000074 - Motor protective circuit-breaker             |
| ETIM 6                                   | EC000074 - disjoncteur/démarrreur de moteur             |
| ETIM 7                                   | EC000074 - Motor protection circuit-breaker             |
| ETIM 8                                   | EC000074 - Motor protection circuit-breaker             |
| eClass                                   | V11.0 : 27370401  |
| UNSPSC                                   | 39121521  |
| Code de catégorie granulaire IDEA (IGCC) | 4845 >> 3 Pole Motor Circuit Protector Circuit Breakers |
| E-Number (Finland)                       | 3707205   |

## Accessories

| Identifiant     | 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 Signaling Contact    | SK1-20    | 1        | piece           |
| 1SAM201903R1202 | SK1-20K Signaling Contact   | SK1-20K   | 1        | piece           |
| 1SAM201903R1005 | SK1-20AR Signaling Contact  | SK1-20AR  | 1        | piece           |
| 1SAM201903R1205 | SK1-20ARK Signaling Contact | SK1-20ARK | 1        | piece           |
| 1SAM201903R1001 | SK1-11 Signaling Contact    | SK1-11    | 1        | piece           |
| 1SAM201903R1201 | SK1-11K Signaling Contact   | SK1-11K   | 1        | piece           |
| 1SAM201903R1004 | SK1-11AR Signaling Contact  | SK1-11AR  | 1        | piece           |

|                 |   |             |   |       |
|-----------------|---|-------------|---|-------|
| 1SAM201903R1204 | SK1-11ARK Signaling Contact             | SK1-11ARK   | 1 | piece |
| 1SAM201903R1003 | SK1-02 Signaling Contact                | SK1-02      | 1 | piece |
| 1SAM201903R1203 | SK1-02K Signaling Contact               | SK1-02K     | 1 | piece |
| 1SAM201903R1006 | SK1-02AR Signaling Contact              | SK1-02AR    | 1 | piece |
| 1SAM201903R1206 | SK1-02ARK Signaling Contact             | SK1-02ARK   | 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 |
| 1SCA101655R1001 | OXS6X130 SHAFT              | OXS6X130 | 1 | piece |
| 1SAM101923R0012 | MSMNO Driver                | MSMNO    | 1 | piece |
| 1SCA101659R1001 | OXS6X180 SHAFT              | OXS6X180 | 1 | piece |
| 1SCA101647R1001 | OXS6X85 SHAFT               | OXS6X85  | 1 | piece |
| 1SCA108043R1001 | OXS6X105 SHAFT              | OXS6X105 | 1 | piece |

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## Catégories

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Produits basse tension → Disjoncteurs de puissance → Disjoncteurs-moteurs

Produits basse tension → Produits de Contrôle, Protection et sécurité machines → Disjoncteurs-moteurs → Disjoncteurs-moteurs

