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PRODUCT-DETAILS

## MS495-90

### MS495-90 Manual Motor Starter




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#### General Information

|                       |  |
|-----------------------|--|
| Extended Product Type | MS495-90   |
| Product ID            | 1SAM550000R1009  |
| EAN                   | 4013614265471  |
| Catalog Description   | MS495-90 Manual Motor Starter  |
| Long Description      | <p>The MS495-90 manual motor starter is a 70 mm width devices with a rated operational current of <math>I_e = 90.0</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} = 25</math> kA at 400 VAC and the trip class 10. 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. The handle is lockable to protect against unauthorized changes. Auxiliary contacts, signalling contacts, undervoltage releases and shunt trips are available as accessory.</p> |

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#### Ordering

|                        |          |
|------------------------|----------|
| Minimum Order Quantity | 1 piece  |
| Customs Tariff Number  | 85362090 |

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#### Popular Downloads

|  |                 |
|--|-----------------|
| Data Sheet, Technical Information          | 1SBC100173C0201 |
| Data Sheet, Technical Information (Part 3) | 9AKK105713A1102 |

|                                      |                 |
|--------------------------------------|-----------------|
| Instructions and<br>Manuals          | 1SAM507001R1001 |
| Instructions and<br>Manuals (Part 2) | 2CDC131017M5701 |
| Time-Current<br>Characteristic Curve | 1SAM500501F0009 |

## Dimensions

|                               |         |
|-------------------------------|---------|
| Product Net Width             | 70 mm   |
| Product Net Height            | 165 mm  |
| Product Net Depth /<br>Length | 174 mm  |
| Product Net Weight            | 2.28 kg |

## Technical

|   |   |
|---|---|
| Rated Service Short-<br>Circuit Breaking<br>Capacity (I <sub>cs</sub> )   | (230 V AC) 100 kA<br>(400 V AC) 25 kA<br>(440 V AC) 20 kA<br>(500 V AC) 4 kA<br>(690 V AC) 3 kA   |
| Rated Ultimate Short-<br>Circuit Breaking<br>Capacity (I <sub>cu</sub> )  | (230 V AC) 100 kA<br>(400 V AC) 50 kA<br>(440 V AC) 50 kA<br>(500 V AC) 8 kA<br>(690 V AC) 5 kA   |
| Rated Instantaneous<br>Short-Circuit Current<br>Setting (I <sub>i</sub> ) | 1170 A  |
| Setting Range   | 70 ... 90 A   |
| Rated Operational Power<br>AC-3 (P <sub>e</sub> )                         | (400 V) Three Phase 45 kW   |
| Rated Operational<br>Voltage  | Main Circuit 690 V AC<br>Main Circuit 450 V DC  |
| Rated Operational<br>Current (I <sub>e</sub> )                            | 90 A  |
| Rated Operational<br>Current AC-3 (I <sub>e</sub> )                       | 90 A  |
| Rated Frequency (f)   | Main Circuit 50 Hz<br>Main Circuit 60 Hz  |
| Rated Impulse<br>Withstand Voltage (U <sub>imp</sub><br>)                 | Main Circuit 6 kV   |
| Rated Insulation Voltage<br>(U <sub>i</sub> )                             | 690 V   |
| Power Loss  | at Rated Operating Conditions per Pole 2.9 W  |
| Number of Poles   | 3   |
| Conventional Free-air<br>Thermal Current (I <sub>th</sub> )               | Main Circuit 90 A   |
| Degree of Protection  | Housing IP20<br>Main Circuit Terminals IP00   |
| Pollution Degree  | 3   |
| Electrical Durability   | 25000 cycle   |
| Mechanical Durability   | 50000 cycle   |
| Terminal Type   | Screw Terminals   |
| Connecting Capacity<br>Main Circuit                                       | Flexible with Ferrule 1x 2.5 ... 50 mm <sup>2</sup><br>Flexible with Ferrule 2x 2.5 ... 35 mm <sup>2</sup><br>Solid 1/2x 2.5 ... 16 mm <sup>2</sup><br>Stranded 1x 10 ... 70 mm <sup>2</sup><br>Stranded 2x 10 ... 50 mm <sup>2</sup> |
| Tightening Torque   | Main Circuit 4 ... 6 N·m  |
| Wire Stripping Length   | Main Circuit 17 mm  |

|                                |  |
|--------------------------------|--|
| Recommended Screw<br>Driver    | Hexagon 4  |
| Mounting Position              | Position 1 to 6  |
| 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 |
| Actuator Type                  | Rotary Handle  |
| Contact Position<br>Indication | ON / OFF / TRIP  |
| Standards                      | CSA 22.2 No. 14<br>IEC/EN 60947-1<br>IEC/EN 60947-2<br>IEC/EN 60947-4-1<br>UL 508                              |

## Technical UL/CSA

|  |   |
|--|---|
| Maximum Operating<br>Voltage UL/CSA        | Main Circuit 600 V AC   |
| Ampere Rating UL/CSA                       | 90 A  |
| Horsepower Rating<br>UL/CSA                | (200 V AC) Three Phase 30 Hp<br>(208 V AC) Three Phase 30 Hp<br>(220 ... 240 V AC) Three Phase 30 Hp<br>(440 ... 480 V AC) Three Phase 75 Hp<br>(550 ... 600 V AC) Three Phase 100 Hp |
| General Use Rating<br>UL/CSA               | (600 V AC) 90 A   |
| Connecting Capacity<br>Main Circuit UL/CSA | Flexible 1x 10-2/0 AWG<br>Flexible 1/2x 10-1/0 AWG<br>Stranded 1x 10-2/0 AWG<br>Stranded 1/2x 10-1/0 AWG  |
| Tightening Torque<br>UL/CSA                | Main Circuit 35 ... 53 in-lb  |

## Environmental

|   |  |
|---|--|
| Ambient Air<br>Temperature                    | Operation -20 ... +70 °C<br>Operation Compensated -20 ... +60 °C<br>Storage -50 ... +80 °C |
| Ambient Air<br>Temperature<br>Compensation    | Yes  |
| Maximum Operating<br>Altitude Permissible     | 2000 m   |
| Resistance to Shock acc.<br>to IEC 60068-2-27 | 11 ms Pulse 25g  |
| RoHS Status                                   | Following EU Directive 2011/65/EU  |

## Certificates and Declarations (Document Number)

|                                     |                     |
|-------------------------------------|---------------------|
| ATEX Certificate                    | 1SAA937000-3901     |
| BV Certificate                      | 1SAA937000-0202     |
| CQC Certificate                     | CQC2013010307604042 |
| cUL Certificate                     | cUL_E195536         |
| Declaration of<br>Conformity - CCC  | 2020980307003525    |
| Declaration of<br>Conformity - CE   | 1SAD938506-0050     |
| Declaration of<br>Conformity - UKCA | 1SAD938500-1050     |
| DNV Certificate                     | 1SAA937000-0301     |
| EAC Certificate                     | 1SAA937001-2703     |
| GL Certificate                      | 1SAA937000-0404     |

|                                   |                          |
|-----------------------------------|--------------------------|
| Instructions and Manuals          | 1SAM507001R1001          |
| Instructions and Manuals (Part 2) | 2CDC131017M5701          |
| LR Certificate                    | 1SAA937000-0504          |
| RMRS Certificate                  | 1SAA918000-0704          |
| RoHS Information                  | 1SAD938506-0050          |
| Time-Current Characteristic Curve | 1SAM500501F0009          |
| UL Certificate                    | UL_E167205<br>UL_E195536 |

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## Container Information

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|                                |               |
|--------------------------------|---------------|
| Package Level 1 Units          | 1 piece       |
| Package Level 1 Width          | 76.5 mm       |
| Package Level 1 Depth / Length | 190 mm        |
| Package Level 1 Height         | 171 mm        |
| Package Level 1 Gross Weight   | 2.3 kg        |
| Package Level 1 EAN            | 4013614265471 |

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## Classifications

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|                                    |   |
|------------------------------------|---|
| Object Classification Code         | 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             |
| eClass                             | V11.0 : 27370401  |
| UNSPSC                             | 39121521  |
| IDEA Granular Category Code (IGCC) | 4845 >> 3 Pole Motor Circuit Protector Circuit Breakers |
| E-Number (Finland)                 | 3707077   |
| E-Number (Sweden)                  | 3112268   |

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## Categories

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Low Voltage Products and Systems → Circuit Breakers → Manual Motor Starters  
 Low Voltage Products and Systems → Control Products → Manual Motor Starters → Manual Motor Starters

