Benefits that speak for themselves

- Functions in one device: switching, disconnecting, motor protection.
- The small dimensions of the MS 116 make it ideal for situations where only little space is available.
- An auxiliary contact for front mounting is available which does not add to the width of the manual motor starter, therefore further saving space in installation.
- Only 11 device types cover the whole current range up to 16 A, which saves inventory costs.

- The handling of the manual motor starters is reliable since the switch position is always indicated clearly and the lever operation is extremely safe.
- Easy and quick installation thanks to the small, fuseless device.
- Furthermore the ABB designers took special care to make the MS 116 as ecologically friendly as possible: After use the starter can easily be disassembled and the parts are fully recyclable.

On your side – products and services

The MS 116 is only the smallest within a large range of manual motor starters made by ABB. ABB's full motor starter line in the low voltage range can switch and protect motors up to 100 A. Also various other components for the increased performance of your drives and applications are available through ABB worldwide. E.g. various industrial relays like the thermistor machine protection device Custorapid® can usefully enhance the safety of your motor. Your local representative will be pleased to answer all your questions on how ABB's low voltage products can help you in your special case. Talk to us.

<table>
<thead>
<tr>
<th>Device type</th>
<th>Approvals</th>
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</thead>
<tbody>
<tr>
<td>Abbreviation</td>
<td>Canada</td>
<td>USA</td>
</tr>
<tr>
<td>Validity</td>
<td>CSA</td>
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</tr>
</tbody>
</table>

Low Voltage Products and Systems
Economic fuseless protection for motors up to 7.5 kW

As a manufacturer of electrical motors ABB has gathered quite some knowledge in the design of these rather valuable production assets. At ABB, however, motor know-how exceeds mere questions of design, and therefore ABB has made it its business to not only ensure that your motors work properly, but that their special protection needs are also taken care of. Depending on the application, electrical drives are exposed to strong load variations. Moreover there is always a possibility for fault drives must be protected against:

• Overload
• Short Circuit
• Overvoltage
• Faults in cable or wiring
• Phase fault
• Phase busses for cross wiring of 3, 5 devices
• Farmer motors work properly, but that their special protection needs are also taken care of.

All of the above can destroy the motor, the drives and ABB has rounded up its manual motor starter family for the protection of motors in a wattage range up to 7.5 kW (presenting the MS 116), your gateway to a more economical motor wiring is necessary since the manual motor starters and the contactors are automatically coordinated. This makes it even easier for you to plan and execute the most economic, yet still very reliable and powerful motor protection concept.

MS 116: a new asset among manual motor starters

Know-how you can trust

The small and compact MS 116 safely switches the circuit off and keeps your facilities available since a restart of a machine can be accomplished in no time at all.

Fuseless protection with MS 116:

• Provides for high safety and reliability in the planning and use of electrical installations.
• Saves space due to the small dimensions of MS 116.
• Increases availability of machines and plants.
• Saves money in maintenance.

Only 11 ranges

Rated current: 0.1 ... 16 A

General Technical Data

<table>
<thead>
<tr>
<th>Rated current (A)</th>
<th>Setting Range (A)</th>
<th>Motor Load (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated current: 0.1 ... 16 A</td>
<td>0.1 ... 16</td>
<td>0.1 ... 0.25</td>
</tr>
<tr>
<td>Rated short circuit breaking capacity: 10 kA</td>
<td>10 kA</td>
<td>10 kA</td>
</tr>
<tr>
<td>Mechanical life-time: 100,000 switches</td>
<td>100,000</td>
<td>100,000</td>
</tr>
</tbody>
</table>

Technical Data, Ordering Details

Manual Motor Starter MS 116 up to 16 A

<table>
<thead>
<tr>
<th>Type Order Code</th>
<th>Setting Range ACS</th>
<th>Motor load kW</th>
</tr>
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<tbody>
<tr>
<td>MS116-0,16</td>
<td>1SAM200 000 R 1001</td>
<td>0.1 ... 0.16</td>
</tr>
<tr>
<td>MS116-0,25</td>
<td>1SAM200 000 R 1002</td>
<td>0.16 ... 0.25</td>
</tr>
<tr>
<td>MS116-0,4</td>
<td>1SAM200 000 R 1003</td>
<td>0.25 ... 0.4</td>
</tr>
<tr>
<td>MS116-0,63</td>
<td>1SAM200 000 R 1004</td>
<td>0.4 ... 0.63</td>
</tr>
<tr>
<td>MS116-1,6</td>
<td>1SAM200 000 R 1006</td>
<td>0.63 ... 1.6</td>
</tr>
<tr>
<td>MS116-1,0</td>
<td>1SAM200 000 R 1008</td>
<td>1.0 ... 1.04</td>
</tr>
<tr>
<td>MS116-0,3</td>
<td>1SAM200 000 R 1101</td>
<td>1.04 ... 1.5</td>
</tr>
<tr>
<td>MS116-0,2</td>
<td>1SAM200 000 R 1102</td>
<td>1.5 ... 2.2</td>
</tr>
<tr>
<td>MS116-0,1</td>
<td>1SAM200 000 R 1103</td>
<td>2.2 ... 3.3</td>
</tr>
<tr>
<td>MS116-0,05</td>
<td>1SAM200 000 R 1104</td>
<td>3.3 ... 10.0</td>
</tr>
<tr>
<td>MS116-0,03</td>
<td>1SAM200 000 R 1105</td>
<td>10.0 ... 16.0</td>
</tr>
</tbody>
</table>

In order to achieve a starter combination the MS 116 can be supplied with an adapter for either ABB microcontactors series B or for the contactors of ABB’s series A, type A9, A12 and A16. By using these adapters no additional wiring is necessary since the manual motor starters and the contactors are automatically coordinated. This makes it even easier for you to plan and execute the most economic, yet still very reliable and powerful motor protection concept.

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Tripping Curve MS 116

<table>
<thead>
<tr>
<th>Tripping time</th>
<th>Tripping Class</th>
</tr>
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<tbody>
<tr>
<td>Tripping Curve MS 116</td>
<td></td>
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</tbody>
</table>

Other accessories see MS 116 catalogue:

• Phase busbar for cross wiring of 4, 5 devices
• Direct adapter for wiring to A and A6/B7 contactors
• Switch outing mounting kit
Economic fuseless protection for motors up to 7.5 kW

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• Overload
• Short Circuit
• Faults in cable or wiring
• Overload

All of the above can destroy the motor, the drives must be protected against:

• Phase fault
• Faults in cable or wiring
• Overload

Depending on the application, electrical drives need to be protected against:

• Saves money in maintenance
• Increases availability of machines and plants
• Saves space due to the small dimensions

ABB is experienced in the production of circuit breakers and electrical protection devices. Now ABB has rounded up its manual motor starter family for the protection of motors in a wattage range up to 7.5 kW (presenting the MS 116), your gateway to a more economical motor range up to 7.5 kW: presenting the MS 116, a new asset among manual motor starters.

The MS 116 is ideal for the protection of smaller motors up to 7.5 kW, for example in general applications like:

- air-conditionings.
- conveyor-systems
- for pumps
- agricultural machines
- saws and chopping machines
- wood-industry
- packing machines

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- packing machines

The small and compact MS 116 safely switches the circuit off and keeps your facilities available since a restart of a machine can be accomplished in no time at all.

Fuseless protection with MS 116:

- Provides for high safety and reliability in the planning and use of electrical installations
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- conveyor-systems
- for pumps
- agricultural machines
- saws and chopping machines
- wood-industry
- packing machines

In order to form a motor starter combination the MS 116 can be equipped with an adapter for any ABB minicontactor series B or for the contactors of ABB’s series A, types A9, A12 and A16. By using these adapters no additional contactors are necessary and the manual motor starters and the contactors are automatically coordinated. This makes it even easier for you to plan and execute the most economic, yet still very reliable and powerful motor protection concept.

General Technical Data

- Rated current: 0.1 ... 16 A
- Only 11 ranges
- Width: 45 mm
- Rated operating voltage: 500 V AC / 440 V DC
- Mechanical life-time: 100.000 switches
- Thermal tripping: 10 ... 110 A
- Short circuit protection up to 10 kA with thermal and electromagnetic trips

Technical Data, Ordering Details

- Type Order Code Setting Range Motorload
- MS116 - 0,63 1SAM250 000 R 1004 0.4 ... 0.63 0.18
- MS116 - 1,0 1SAM250 000 R 1005 0.63 ... 1.0 0.25
- MS116 - 0,4 1SAM250 000 R 1003 0.25 ... 0.4 0.1
- MS116 - 0,25 1SAM250 000 R 1002 0.16 ... 0.25 0.06
- MS116 - 1,6 1SAM250 000 R 1006 1.6 ... 1.6 0.05
- MS116 - 2 1SAM250 000 R 1007 1.6 ... 2.0 1
- MS116 - 2,5 1SAM250 000 R 1008 2.0 ... 2.5 1.5
- MS116 - 3 1SAM250 000 R 1009 2.5 ... 3.0 2.2
- MS116 - 4 1SAM250 000 R 1010 3.0 ... 4.0 4
- MS116 - 6 1SAM250 000 R 1011 4.0 ... 6.0 7.5
- MS116 - 10,0 1SAM250 000 R 1012 6.0 ... 10.0 14
- MS116 - 16,0 1SAM250 000 R 1013 10.0 ... 16.0 41

Other accessories see MS 116 catalogue.
- Phase busbars for cross wiring, for 2 devices
- PS1-2-0 1SAM201 906 R 1004 without auxiliary contact
- PS1-2-1 1SAM201 906 R 1012 with 1 auxiliary contact
- PS1-2-2 1SAM201 906 R 1022 with 2 auxiliary contacts
- PS1-4-0 1SAM201 906 R 1002 without auxiliary contact
- PS1-4-1 1SAM201 906 R 1012 with 1 auxiliary contact
- PS1-4-2 1SAM201 906 R 1022 with 2 auxiliary contacts
- PS1-4-3 1SAM201 906 R 1032 with 3 auxiliary contacts
- PS1-4-4 1SAM201 906 R 1042 with 4 auxiliary contacts

• Switch cubicle mounting kits
• Direct adapter for wiring to A- and B6/7- contactors
• Phase busses for cross wiring of 3, 5 devices

In order to form a motor starter combination the MS 116 can be equipped with an adapter for either ABB minicontactors series B or for the contactors of ABB’s series A, types A9, A12 and A16. By using these adapters no additional contactors are necessary and the manual motor starters and the contactors are automatically coordinated. This makes it even easier for you to plan and execute the most economic, yet still very reliable and powerful motor protection concept.
Benefits that speak for themselves

- Functions in one device:
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- Only 11 device types cover the whole current range up to 16 A, which saves inventory costs.

- The handling of the manual motor starters is reliable since the switch position is always indicated clearly and the turnlever operation is extremely safe.

Furthermore the ABB designers took special care to make the MS 116 as ecologically friendly as possible: After use the starter can easily be disassembled and the parts are fully recyclable.

On your side – products and services

The MS 116 is only the smallest within a large range of manual motor starters made by ABB. ABB’s full motor starter line in the low voltage range can switch and protect motors up to 100 A. Also various other components for the increased performance of your drives and applications are available through ABB worldwide. E. g. various industrial relays like the thermistor machine protection device Custorapid® can usefully enhance the safety of your motor.

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New Dimension in Motor Protection
Compact Manual Motor Starter MS 116

Low Voltage Products and Systems

ABB Schalt- und Steuerungstechnik GmbH
P.O. Box 10 50 09
D-69040 Heidelberg
Telephone ++49 62 21 / 7 77-0
Telefax ++49 62 21 / 7 77-115
Internet http://www.abb.de
As a manufacturer of electrical motors ABB has gathered quite some knowledge in the design of these rather valuable production assets. At ABB, however, motor know-how exceeds mere questions of design, and therefore ABB has made it its business to not only ensure that your motors work properly, but that their special protection needs are also taken care of. Depending on the application, electrical drives are exposed to strong load variations. Moreover there is always a possibility for faults within the motor or the installation, so your drives must be protected against:

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ABB is experienced in the production of circuit breakers and electrical protection devices. Now ABB has rounded up its manual motor starter family for the protection of motors in a width range up to 7.5 kW (presenting the MS 116), your gateway to a more economical motor protection.

The MS 116 is ideal for the protection of smaller motors up to 7.5 kW, for example in general drives or in applications like:

- Air-conditionings
- Conveyor-systems
- for pumps
- Agricultural machines
- Saws and chopping machines
- Wood-industry
- Packing machines

MS 116: a new asset among manual motor starters

The small and compact MS 116 safely switches the circuit off and keeps your facilities available since a restart of a machine can be accomplished in no time at all.

Fuseless protection with MS 116:

- Provides for high safety and reliability in the planning and use of electrical installations
- Saves space due to the small dimensions of MS 116
- Increases availability of machines and plants
- Saves money in maintenance

In order to form a motor starter combination the MS 116 can be equipped with an adapter for either ABB minicontactors series B or for the contactors A16. By using these adapters no additional wiring is necessary since the manual motor starters and the contactors are automatically coordinated. This makes it even easier for you to plan and execute the most economic, yet still coordinated. This makes it even easier for you to plan and execute the most economic, yet still coordinated.

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Easy and quick installation thanks to the compact, fuseless device

Furthermore the ABB designers took special care to make the MS 116 as ecologically friendly as possible: After use the starter can easily be disassembled and the parts are fully recyclable.

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