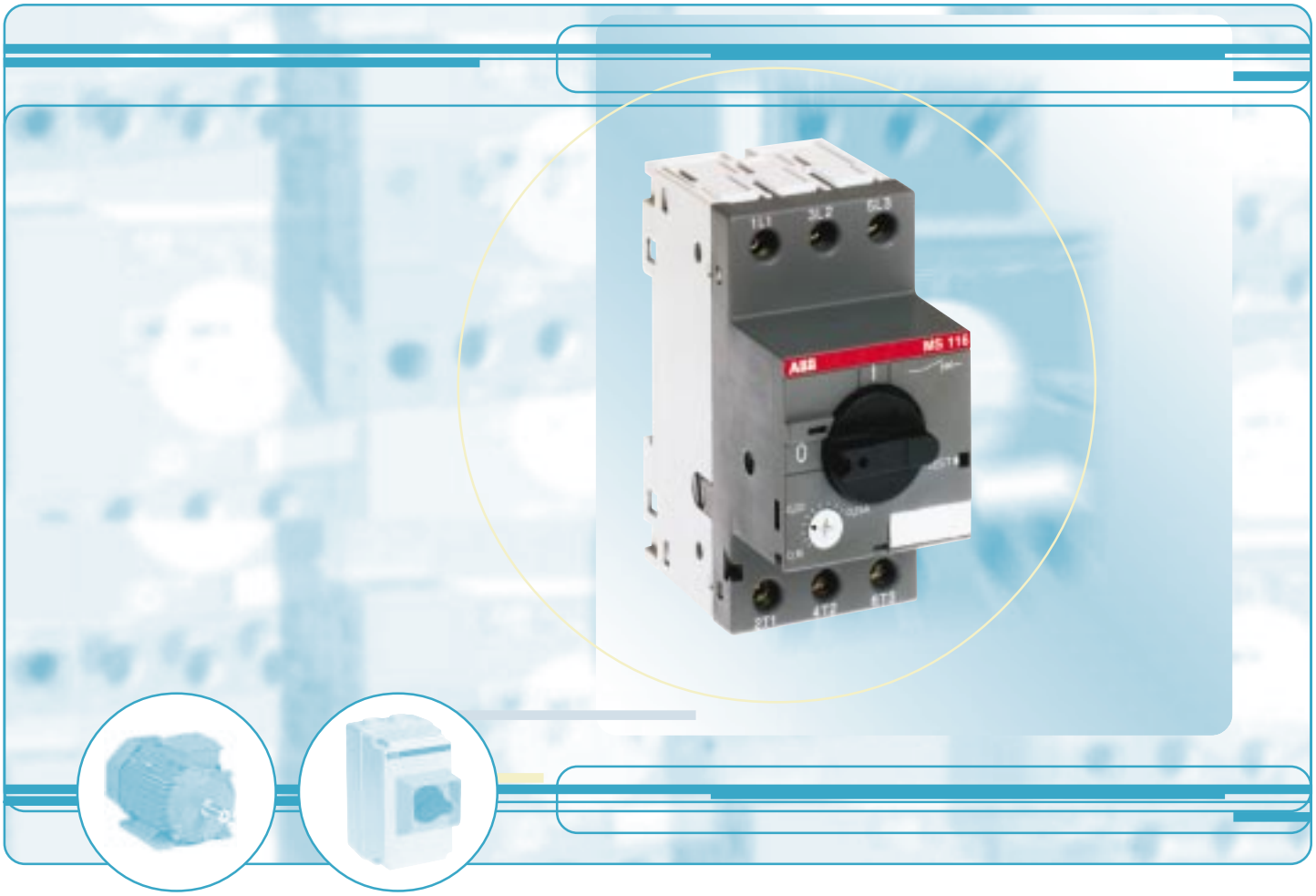
New Dimension in Motor Protection
Compact Manual Motor Starter MS 116



Low Voltage Products and Systems

ABB



Economic fuseless protection for motors up to 7.5 kW

Know-how you can trust

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 within the motor or the installation, so your drives must be protected against:

- Overload
- Short Circuit
- Faults in cable or wiring
- Phase fault

All of the above can destroy the motor, the wiring and in a worst case scenario even your whole installation. Therefore, in cases of faults or damage, every motor needs a reliable protection.

ABB is experienced in the production of circiut 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 protection.

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

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





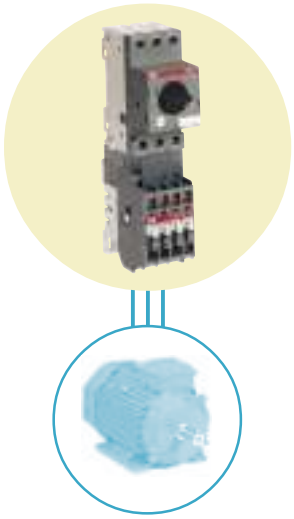


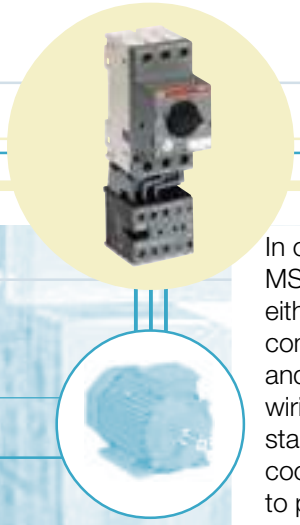
MS 116: a new asset among manual motor starters

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

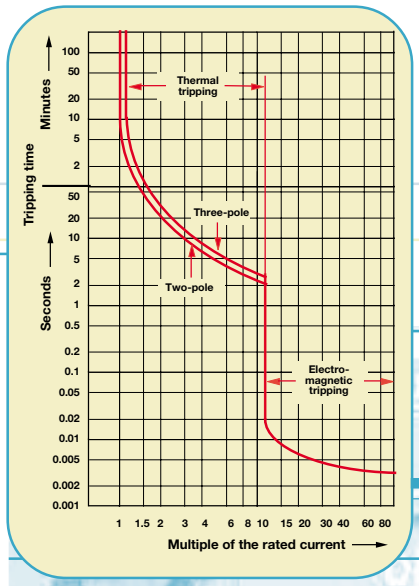




In order to form a motor starter combination the MS 116 can be equipped with an adapter for either ABB minicontactors series B or for the contactors of ABB's series A, types A9, A12 and A16. By using these adapters no additional wiring is necessary since the manual motor starters and the contactors are 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.

General Technical Data

Rated current:	0.1 ... 16 A Only 11 ranges
Width:	45 mm
Rated operating voltage:	690 V AC / 440 V DC
Tripping Class:	10 /10 A
Rated short circuit breaking capacity I_{CS} at 400 V AC,16 A:	10 kA
Mechanical life time:	100.000 switches

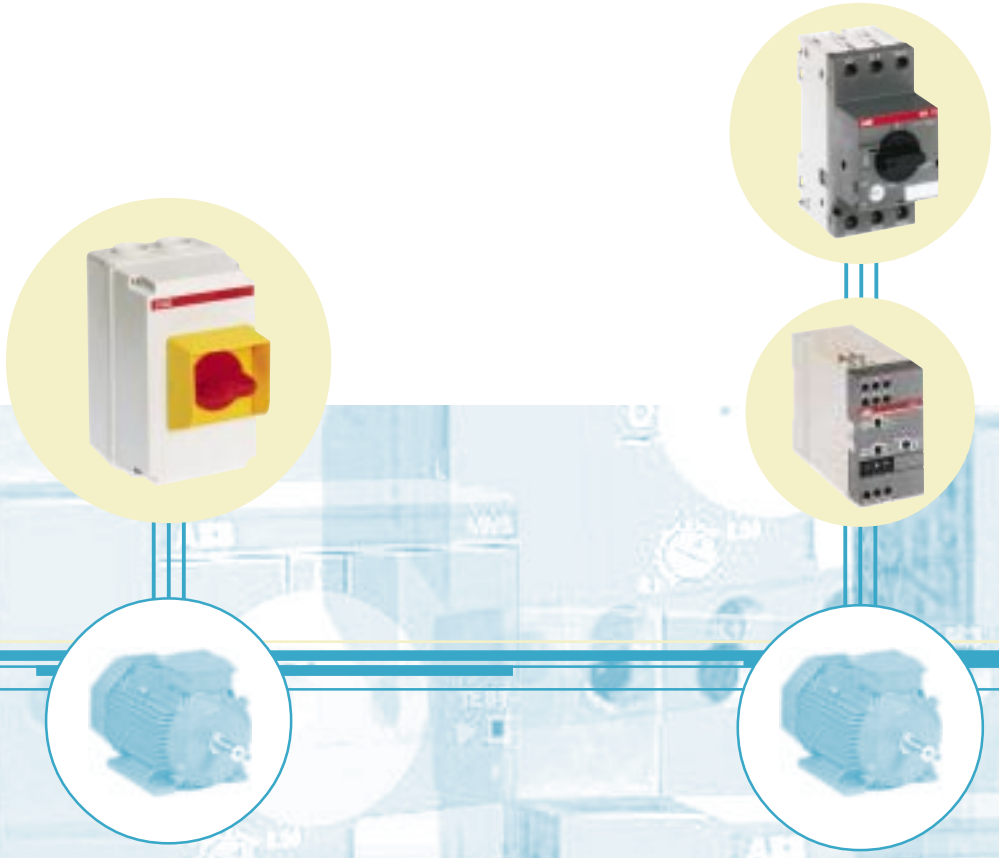


Tripping Curve MS 116



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 turnlever 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.



Technical Data, Ordering Details

Type	Order Code	Setting Range AC3 380-400 V	Motorload kW
with thermal and electromagnetic trips short circuit protection up to 10 kA			
MS116 - 0,16	1SAM250 000 R 1001	0.1 ... 0.16	
MS116 - 0,25	1SAM250 000 R 1002	0.16 ... 0.25	0.06
MS116 - 0,4	1SAM250 000 R 1003	0.25 ... 0.4	0.1
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 - 1,6	1SAM250 000 R 1006	1.0 ... 1.6	0.55
MS116 - 2,5	1SAM250 000 R 1007	1.6 ... 2.5	1
MS116 - 4	1SAM250 000 R 1008	2.5 ... 4.0	1.5
MS116 - 6,3	1SAM250 000 R 1009	4.0 ... 6.3	2.2
MS116 - 10,0	1SAM250 000 R 1010	6.3 ... 10.0	4
MS116 - 16,0	1SAM250 000 R 1011	10 ... 16.0	7.5

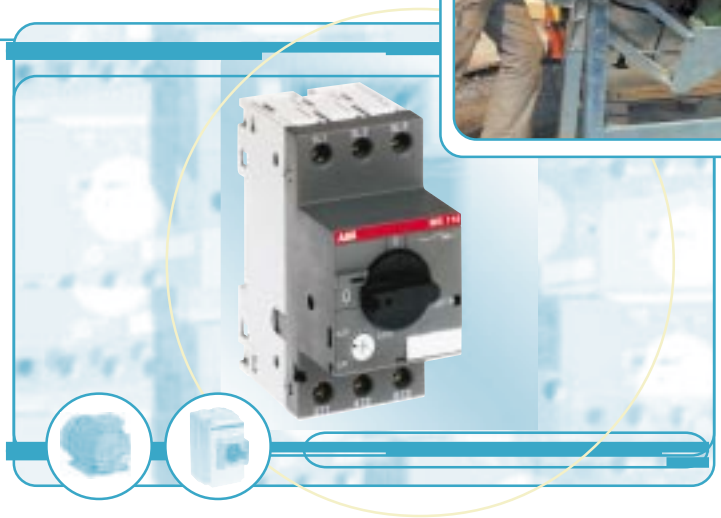
Accessories

Auxiliary contact for front mounting		
HKF1-11	1SAM201 901 R 1001	1NO + 1NC
Auxiliary contact for lateral attachment at right, max. 2 pieces		
HK1-11	1SAM201 902 R 1001	1NO + 1NC
HK1-20	1SAM201 902 R 1002	2NO
HK1-02	1SAM201 902 R 1003	2NC
Signal contact for lateral attachment at right, max. 2 pieces		
SK1-11	1SAM201 903 R 1001	1NO + 1NC
SK1-20	1SAM201 903 R 1002	2NO
SK1-02	1SAM201 903 R 1003	2NC
Phase busses for cross wiring, for 2 devices		
PS1-2-0	1SAM201 906 R 1002	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
Phase busses for cross wiring, for 4 devices		
PS1-4-0	1SAM201 906 R 1004	without auxiliary contact
PS1-4-1	1SAM201 906 R 1014	with 1 auxiliary contact
PS1-4-2	1SAM201 906 R 1024	with 2 auxiliary contacts
Power infeed blocks, up to 63 A, 690 V		
S1-M1	1SAM201 907 R 1001	flat
S1-M2	1SAM201 907 R 1002	high
Insulating enclosures for wall mounting, triple lockable, with N- and PE-Terminal, IP 65		
OTPA116L2P1	1SCA022 594 R 4350	with black handle
OTPA116A2P1	1SCA022 594 R 4010	with red/yellow handle

Other accessories see MS 116 catalogue:

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





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.

Device type	Approvals		Ships' classification societies	
Test mark				
Abbreviation Validity	CSA Canada	USA	GL Germany	LRS Great Britain

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