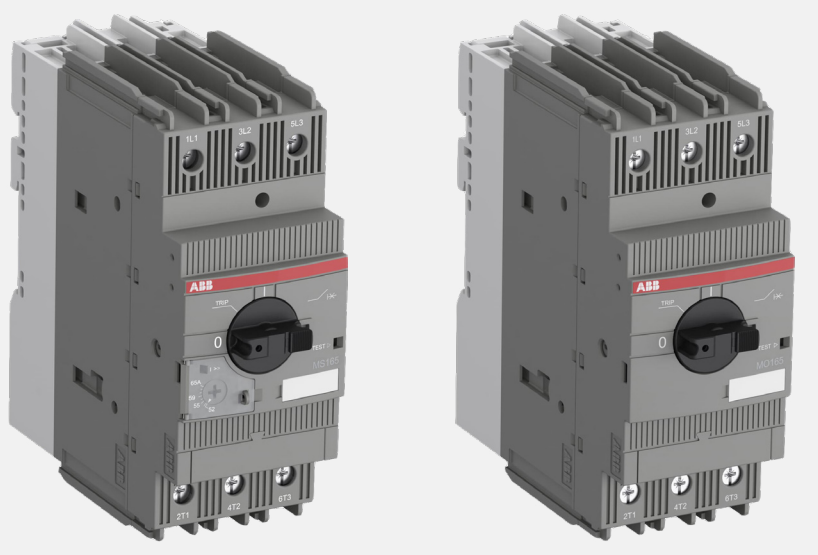


Manual motor starters

MS165, MO165



ABB's MS165 manual motor starters and MO165 manual motor starters magnetic only, are electro-mechanical protection devices for the main circuit. They are mainly used to provide fuseless protection of motors against short-circuits, overloads and phase failures. In addition, they are used to switch motors ON/OFF manually. Starter combinations are setup together with contactors.

MS165 and MO165 manual motor starters are available up to 80 A (45 kW at 400 V AC) in a compact size of 55 mm width. These product ranges offer short-circuit service breaking capacities (Ics) up to 100 kA. Furthermore, they incorporate a disconnection function, temperature compensation up to 60 °C and a magnetic trip indication. Due to various approvals and certifications MS165/MO165 can be used worldwide for a variety of applications, including motor protection in harsh environments. Along with the main devices, ABB offers a wide range of accessories (auxiliary contacts, signal contacts, shunt trips, undervoltage releases, enclosures, etc) that are harmonized for the complete MS1xx and MO1xx family.

Product conformity & compliance

REACH (Regulation EC 1907/2006)

MS165/MO165 and related accessories were classified as articles and, during normal and reasonably foreseeable conditions of use, do not intentionally release any substance or preparation. ABB continuously undertakes communications throughout its supply chain in order to collect information about suppliers' compliance with REACH regulation.

SVHC (Regulation EC 1907/2006 REACH)

ABB continuously assesses its products for content of Substances of Very High Concern (SVHC), as included in the "Candidate List" by the European Chemicals Agency (ECHA). ABB publishes the data about the products that are having a part with SVHC in the SCIP database.

RoHS II

MS165/MO165 and related accessories are within the scope of directive 2011/65/EU (RoHS II) and amendment 2015/863, starting from July 2019.

WEEE

The Waste Electrical and Electronic Equipment Directive (WEEE Directive) is the European Community directive 2012/19/EU on waste electrical and electronic equipment (WEEE) which, together with the RoHS Directive, became European law in February 2003.

Product safety

Compliance with essential health and safety requirements has been assured by compliance with the applicable product and safety standards.

The validation according to the product and safety standards is carried out by third party tests laboratory (STIEE / TL030) in respect of the EN ISO/IEC 17025 European standard, according to IEC/EN CB scheme. CB certificate has been issued.

Standard:

- IEC/EN 60947-1
 - IEC/EN 60947-2
 - IEC/EN 60947-4-1
 - IEC/EN 60947-5-1
 - IEC/EN 60079-1 *
 - IEC/EN 60079-7 *
 - IEC/EN 60079-14 *
 - IEC/EN 60079-31 *
- *MS165 only

- UL 60947-1
- UL 60947-4-1
- UL 60947-5-1

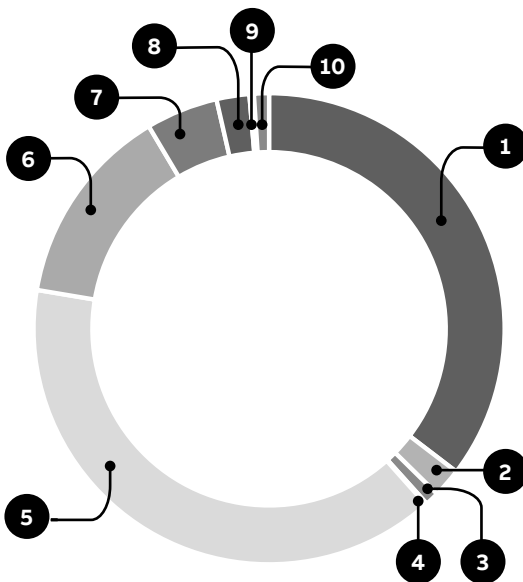
Directives:

- EC "Low Voltage Directive" (LVD) 2014/35/EU
 - EC "ATEX Directive" 2014/34/EU *
- *MS165 only

Material declaration

This section outlines the material composition of MS165 80 A as representative product of the MS165 range.

MS165 80 A with thermal-magnetic release.
The total weight of the product is 1000 gr.



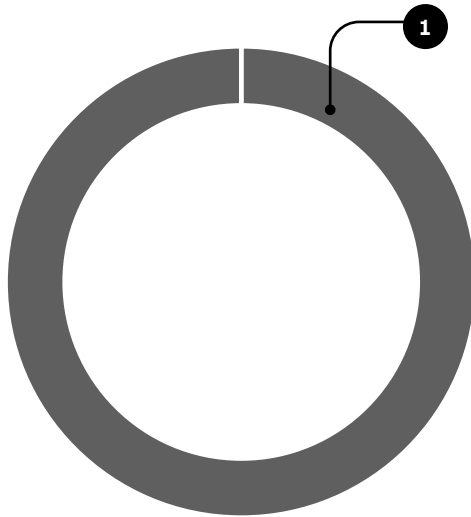
Material	% wt
1 PA	35.4 %
2 PBT	2.0 %
3 Thermoset	1.0 %
4 Other thermoplastic	0.1 %
5 Steel	39.2 %
6 Copper	13.8 %
7 Copper alloys	4.9 %
8 Stainless steel	2.3 %
9 Silver alloys	0.3 %
10 Other	1.0 %
TOTAL	100.0 %

Packaging

The tables below provide information for each packaging material used. The card box used for the product packaging material is made of recycled fibers and 100 % recyclables.

MS165

Packaging material composition: total weight 96.17 gr.



Material	% wt
1 Cardbox	100 %
TOTAL	100 %

Product use



Energy

Power losses for MS165/MO165 are indicated in the following table.

Type	Power loss (W/device)
MS165-16	11.44
MS165-20	11.16
MS165-25	10.88
MS165-32	13.21
MS165-42	16.41
MS165-54	21.00
MS165-65	24.08
MS165-73	28.78
MS165-80	32.64

Type	Power loss (W/device)
MO165-16	11.44
MO165-20	11.16
MO165-25	10.88
MO165-32	13.21
MO165-42	16.41
MO165-54	21.00
MO165-65	24.08
MO165-73	28.78
MO165-80	32.64

End-of-life

At the end of operating life, constituent components of MS165/MO165 manual motor starters have been optimized in order to reduce waste amount and increase recovery of the material.

Metals and polymers contained in MS165/MO165 manual motor starters are characterized by high recycling rates. Most plastic parts are marked for easy sorting.

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