PRODUCT ENVIRONMENTAL INFORMATION

Manual motor starters

MS132, MO132

ABB's MS132 manual motor starters and MO132 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 and are available with screw or Push-in Spring terminals.

MS132 and MO132 manual motor starters are available up to 32 A (15 kW at 400 V AC) in a compact size of 45 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 MS132/MO132 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)
MS132/MO132 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
MS132/MO132 and related accessories are within the scope of Directive 2011/65/EU (RoHS II) and Amendment 2015/863, starting from July 22 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 IECEE CB sScheme. 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 *

  *MS132 only

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

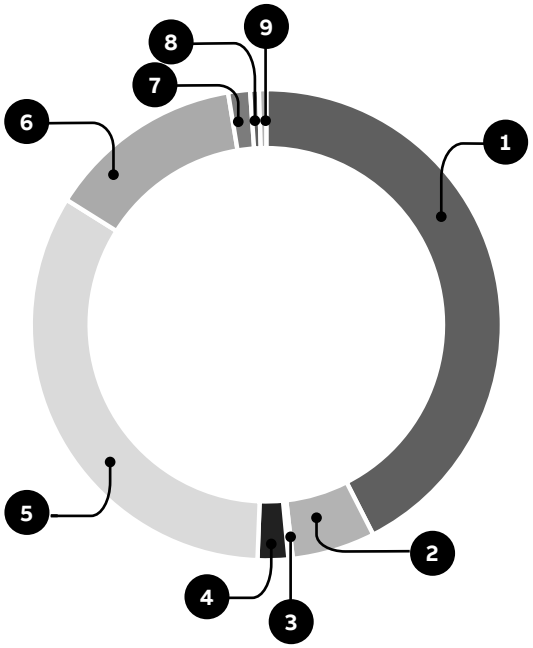
Directives:
- EC “Low Voltage Directive” (LVD) 2014/35/EU
- EC “ATEX Directive” 2014/34/EU *

  *MS132 only

Material declaration

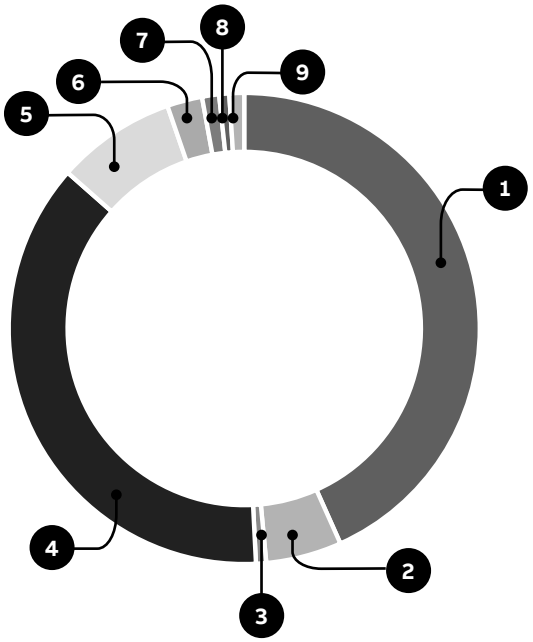
This section outlines the material composition of two representative products of the MS132 range.
MS132-10 for products below and equal 10 A and MS132-32 for products above 10 A.
The constituent materials are distributed as follows.

MS132 10 A with thermal-magnetic release.
The total weight of the product is 265 gr.



Material		% wt
1	PA	42.5 %
2	PBT	5.7 %
3	Thermoset	0.3 %
4	Other thermoplastic	2.1 %
5	Stainless steel	33.3 %
6	Steel	13.5 %
7	Copper	1.5 %
8	Silver alloys	0.6 %
9	Other metals	0.5 %
	TOTAL	100.0 %

MS132 32 A with thermal-magnetic release.
The total weight of the product is 310 gr.

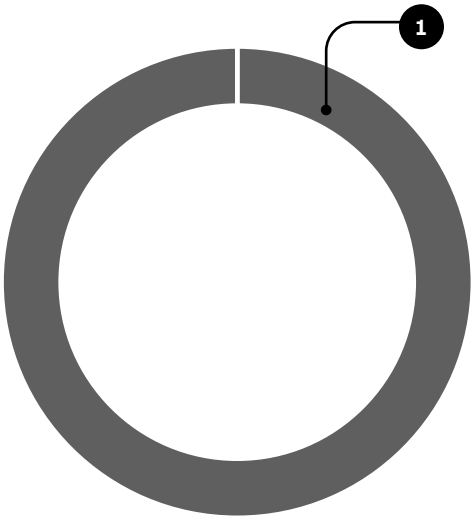


Material		% wt
1	PA	43.3 %
2	PBT	5.2 %
3	Other thermoplastic	0.7 %
4	Steel	37.3 %
5	Copper alloys	8.2 %
6	Stainless steel	2.4 %
7	Copper	1.2 %
8	Silver alloys	0.7 %
9	Other	1.0 %
	TOTAL	100.0 %

Packaging

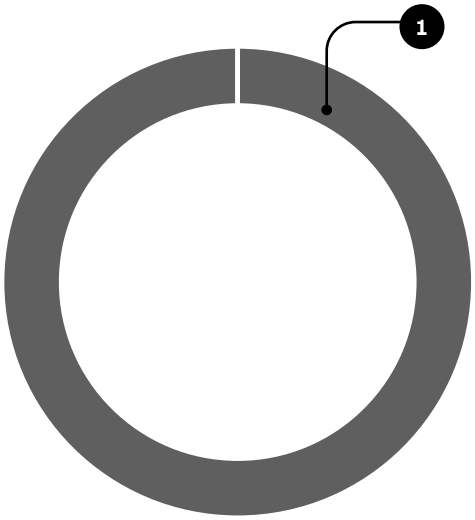
The tables below provide information for each packaging material used. The card box used for the product packaging material is made of recycled fibers and 100 % recyclables.

MS132 10 A
Packaging material composition: total weight 15.71 gr.



Material		% wt
1	Cardbox	100 %
	TOTAL	100 %

MS132 32 A
Packaging material composition: total weight 23.28 gr.



Material		% wt
1	Cardbox	100 %
	TOTAL	100 %

Product use

Energy
Power losses for MS132/MO132 are indicated in the following table.

Type	Power loss (W/device)
MS132-0.16	5.1
MS132-0.25	4.8
MS132-0.4	5.0
MS132-0.63	5.2
MS132-1.0	4.8
MS132-1.6	5.0
MS132-2.5	5.5
MS132-4.0	5.5
MS132-6.3	5.5
MS132-10	6.1
MS132-12	6.9
MS132-16	8.3
MS132-20	6.9
MS132-25	8.5
MS132-32	9.4

Type	Power loss (W/device)
MO132-0.16	5.1
MO132-0.25	4.8
MO132-0.4	4.5
MO132-0.63	4.5
MO132-1.0	4.8
MO132-1.6	5.1
MO132-2.5	5.4
MO132-4.0	2.1
MO132-6.3	3.3
MO132-10	6.6
MO132-12	4.8
MO132-16	5.7
MO132-20	6.3
MO132-25	6.6
MO132-32	9.3

End-of-life

At the end of operating life, constituent components of MS132/MO132 manual motor starters have been optimized in order to reduce waste amount and increase recovery of the material. Metals and polymers contained in MS132/MO132 manual motor starters are characterized by high recycling rates. Most plastic parts are marked for easy sorting.

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