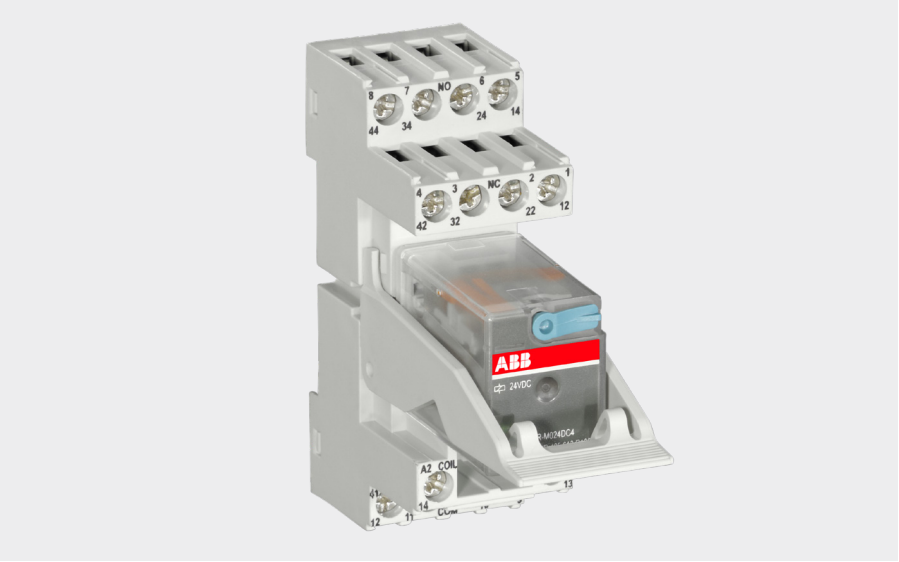
PRODUCT ENVIRONMENTAL INFORMATION

Interface relays and optocouplers

CR-M interface relay range



ABB's CR-M relays and sockets are universally applicable and are utilized in a diverse array of applications. They are a significant element in contemporary industrial processes and are used in applications where galvanic isolation, circuit multiplication and voltage conversion.

The CR-M range offers relays with up to 4 change over contacts and are available in both AC and DC rated control supply voltage. They are equipped with an integrated test button (orange for AC control voltage and blue for DC) for manual actuation and the locking of the output contacts. The range also includes variants with an integrated free-wheeling diode and LED. Variants with gold plated contacts are also available, which are essential for switching sensitive signals and loads. Furthermore; standard sockets, logic sockets, pluggable function modules, holder and marker are available as accessories within the range.

Product conformity & compliance

REACH (Regulation EC 1907/2006)
The CR-M range 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). According to our best knowledge, products of the CR-M interface relay range and related accessories do not contain SVHC substances exceeding 0.1 % w/w.

RoHS II
The CR-M range 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 scheme. CB certificate has been issued.
ABB 's relays comply with national and international standards, proving their high quality and reliability whilst ensuring their safe use.

Standards:
- EN/IEC 61810-1:2015
- EN/IEC 50581: 2012

Directives:
- Low Voltage Directive no. 2014/35/EU
- RoHS 2011/65/EU include 2015/863/EU

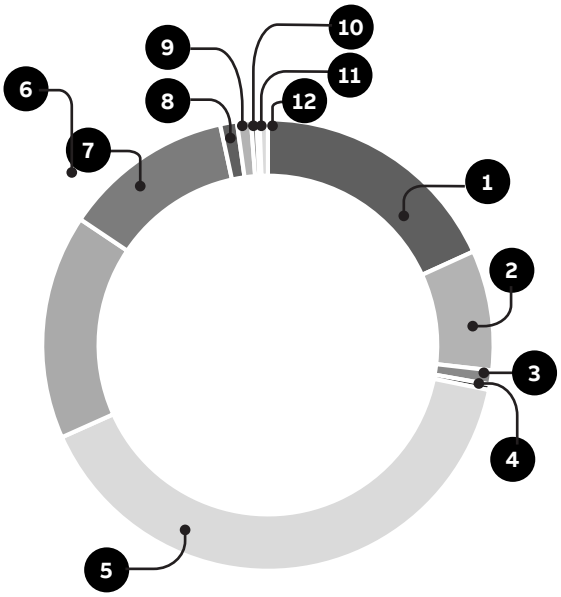
Material declaration

This section outlines the material composition of a combinations of two representative products i.e. CR-M230AC4L relay and CR-M4SS socket of the CR-M range. The CR-M230AC4L relay operates with a 230 V AC rated control supply voltage and has a 4 c/o (SPDT) output with contacts rated at 250 V / 6 A.

This relay has an integrated LED and orange test button. The CR-M4SS standard socket has screw connection terminals and is compatible with the aforementioned CR-M230AC4L relay. Pluggable function modules, jumper bars, holders and markers are available as accessories within the CR-M range.

The charts below show the constituents of CR-M230AC4L with 4 c/o contacts. The constituent materials are distributed as follows.

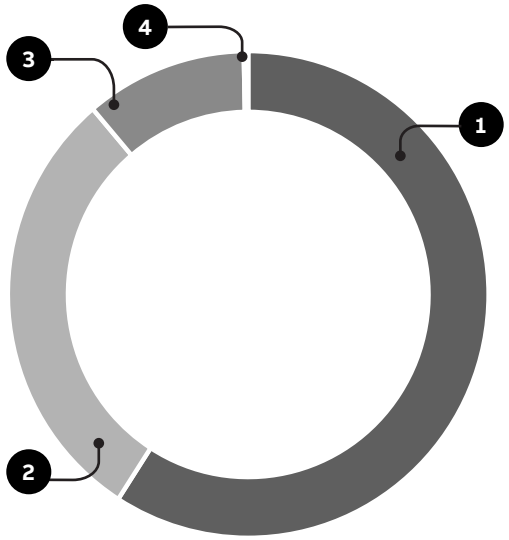
CR-M230AC4L
The total weight of the product is 30.12 gr.



Material		% wt
1	PBT	18.2 %
2	PC	8.6 %
3	POM	1.0 %
4	Other plastics (PVC,PYE, Polyester)	0.4 %
5	Rfe Steel	40.1 %
6	Copper	16.1 %
7	Copper alloys	12.2 %
8	Other metals	1.2 %
9	Steel	1.0 %
10	Silver	0.4 %
11	Aluminum	0.2 %
12	Others	0.6 %
	TOTAL	100.0 %

The charts below show the constituents of CR-M4SS Socket suitable for CR-M relays with 2 c/o and 4 c/o contacts.
The constituent materials are distributed as follows.

CR-M4SS
The total weight of the product is 64 gr.

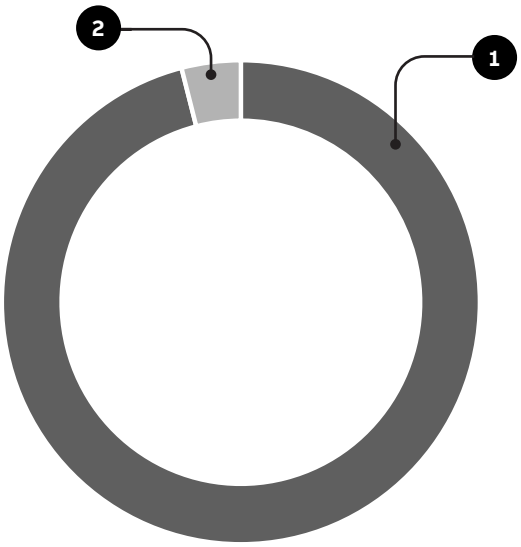


Material		% wt
1	PA6 plastic	59.1 %
2	Low carbon steel	29.7 %
3	Copper alloys	10.9 %
4	Stainless steel	0.3 %
	TOTAL	100.0 %

Packaging

The charts below provide information for each packaging material used. The cardbox and the paper used for the product material are made of recycled fibers and are 100 % recyclables. The polymer films used are marked with the proper identification code and are recyclable.

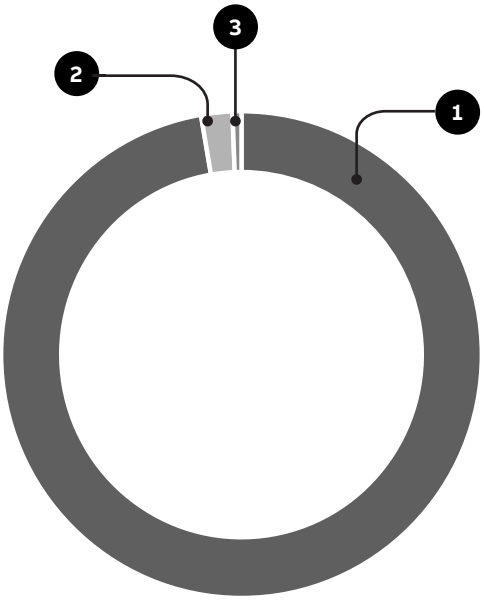
CR-M230AC4L
Packaging material composition: total weight = 21.093 gr. for a package of 10 relays



Material		%
1	Cardbox	96 %
2	Paper	4 %
	TOTAL	100 %

CR-M4SS

Packaging material composition: total weight = 36.5 gr. for a package of 10 sockets



Material		%
1	Corrugated paper	97.2 %
2	Chinese coated paper	2.1 %
3	70G double gummed paper	0.6 %
	TOTAL	100 %

Product use

Energy

Power losses for CR-M230AC4L and CR-M4SS are indicated in the following table.

Type	Power loss (W)
CR-M230AC4L	1.36
CR-M4SS	0[1]

[1] CR-M4SS socket does not contain any resistive components

ABB STOTZ-KONTAKT GmbH
Eppelheimer Strasse 82
69123 Heidelberg, Germany

abb.com/lowvoltage

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