



CIRCULARITY INSTRUCTION

TX-I/O Module

Reference product: TXM1.16D

Products TXM1.xx(-ML) – TX-I/O modules

Represented by TXM1.16D



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About this guide

To conserve important resources, we work to reduce the materials we use and support the circular economy beginning with the design of the product. A key path to reaching that goal is resource recovery from end-of-life electronics.

The *Siemens Circularity Instructions* are guidelines for implementing the circular economy requirements. They include recommendations concerning reusing, repairing, refurbishing, and recycling existing materials and products for as long as possible.

Siemens Circularity Instructions also provide guidance for recyclers on how to safely disassemble products to maximize recovery of resources. The guides provide step-by-step disassembly instructions and information on the material composition to help recyclers direct fractions to the appropriate material recycler.

Disassembly procedures are intended to be performed only by trained electronics recycling professionals. The recycler is responsible for independently evaluating and ensuring compliance with all applicable environmental, health, and safety laws related to the work. These include but are not limited to laws relating to the management, handling, shipping, and disposal of the outputs of this work as waste and laws in place to ensure the health and safety of all employees who support this work.

Safety considerations

The recycler is responsible for independently evaluating all activities undertaken by its employees to perform or support the work and ensuring compliance with all applicable health and safety laws related to the work. These include but are not limited to laws relating to the health and safety of all employees who perform or support this work. The recycler is also responsible for evaluating the workspace and ensuring that the area in which the work is to be undertaken is designed using ergonomic best practices and meets all ergonomic requirements to ensure the protection of its employees.

Hazard Warning (DIN EN ISO 7010)



General warning sign



Warning: Flammable material



Warning: Sharp element



Warning: Crushing of hands

Personal protective equipment should be worn during the entire recycling process.



General mandatory action sign



Wear eye protection



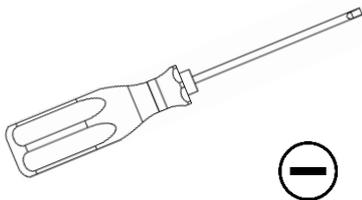
Refer to instruction manual



Wear protective gloves

Recommended Tools

Slotted screwdriver



Substance and component declaration

1. Directive 2012/19/EU Annex VII Components

As a minimum the following substances, mixtures and components have to be removed from this product.

Substance/Component	Part	Disassembly Step
printed circuit boards with a surface greater than 10 square centimeters	D	Step 4
plastic containing brominated flame retardants	D, E	Step 4, 6

2. Information beyond directive 2012/19/EU

To support the circular economy, we as Siemens create transparency beyond the regulatory requirements. In the following table we provide additional information on smaller printed circuit boards or displays that are not in scope of Directive 2012/19/EU Annex VII

Substance/Component	Part	Disassembly Step
liquid crystal displays (together with their casing where appropriate) of a surface <u>smaller</u> than 100 square centimeters *- only in -ML versions	D	Step 4

3. EU critical raw materials (CRMs)

CRMs combine a high economic importance to the EU with a high risk associated with their supply. To address this challenge, the European Commission has created a list of critical raw materials. The following list shows the position of CRMs and where they are the main component / ingredient of a part:

Substance/Component	Part	Disassembly Step
Antimony	D	Step 4
Not declared	D	Step 4

4. Precious metals

Presence of precious metals in product of > 1 mg.

Substance/Component	Part	Disassembly Step
Not declared	D	Step 2, 4
Gold	E	Step 5, 6

5. Dangerous substances SVHC

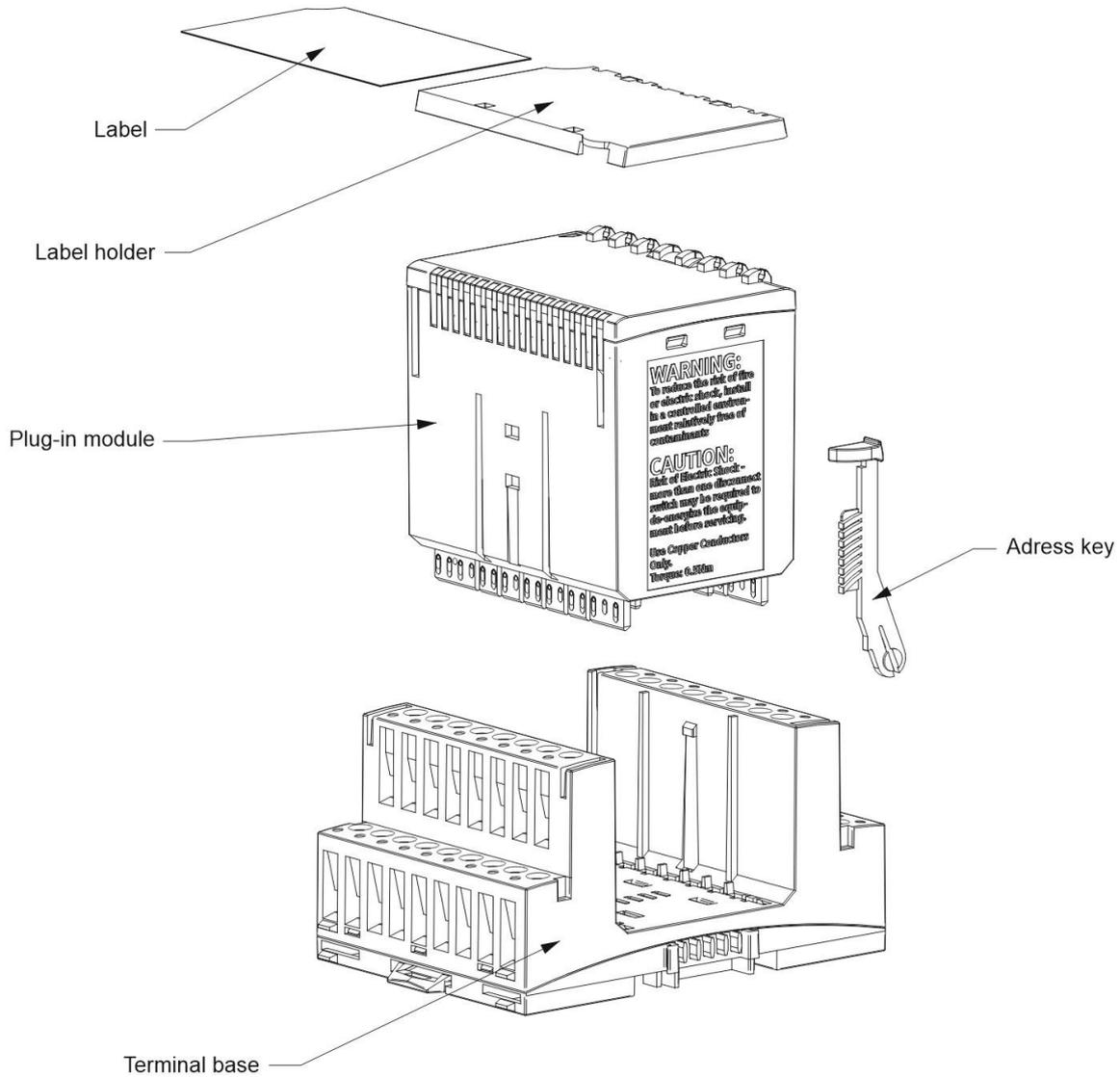
We want to guarantee our partners and customers that we use hazardous substances in products with high sensitivity and strive for a reduction to a minimum.

We provide detailed, transparent, and reliable data on the environmental impact of products, including the obligation according to Article 33, REACH Regulation.

See the detailed overview of the used substances in the product data sheet: [SiePortal \(siemens.com\)](#)

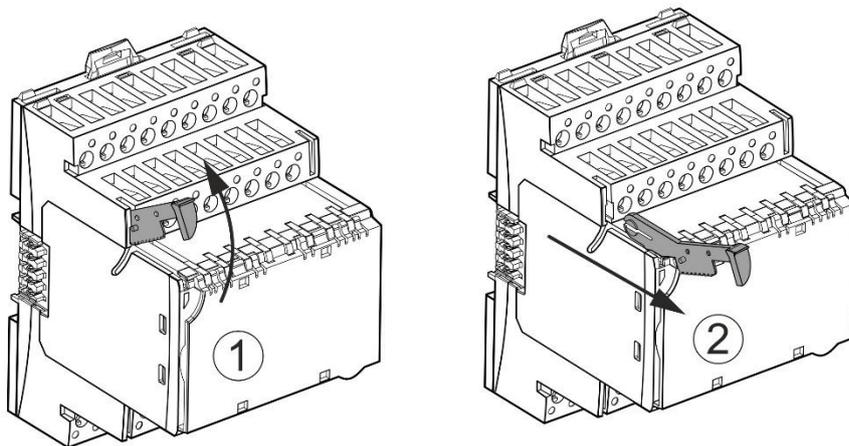
Disassembly instructions

The following instructions provide detailed information on how to disassemble the product after the end-of-life, and what kind of materials can be collected and recycled to support the circular economy.

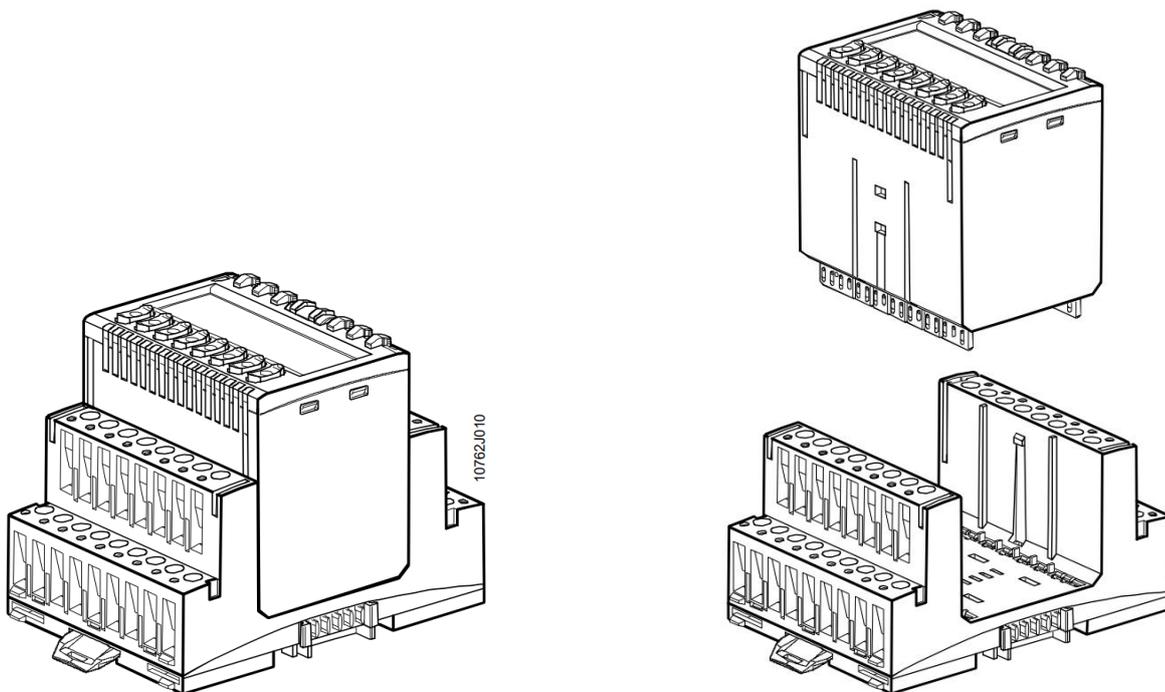


Part	Part	Material	Disassembly Step
A	Label	Paper	Step 3
B	Label holder	Plastic	Step 3
C	Adress Key	Plastic	Step 1
D	Plug-in module	Plastic / Electronic (CCA) / (LCD)	Step 2, 4
E	Terminal base	Plastic / Metal	Step 5, 6

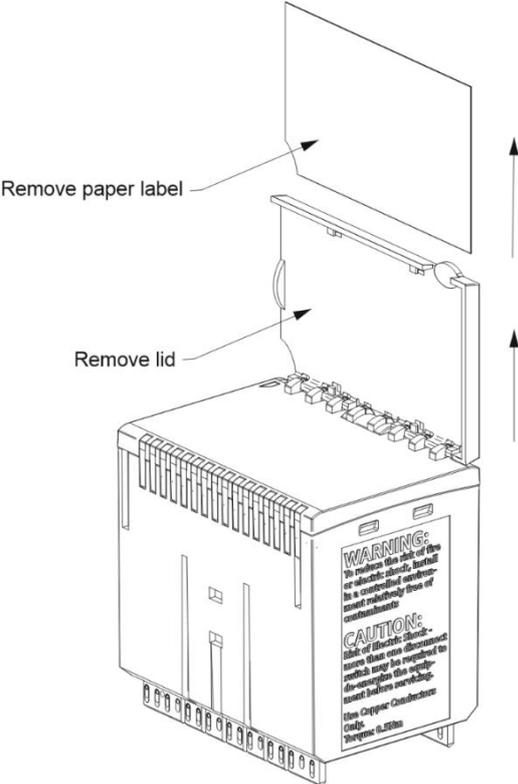
Step 1 Remove address key



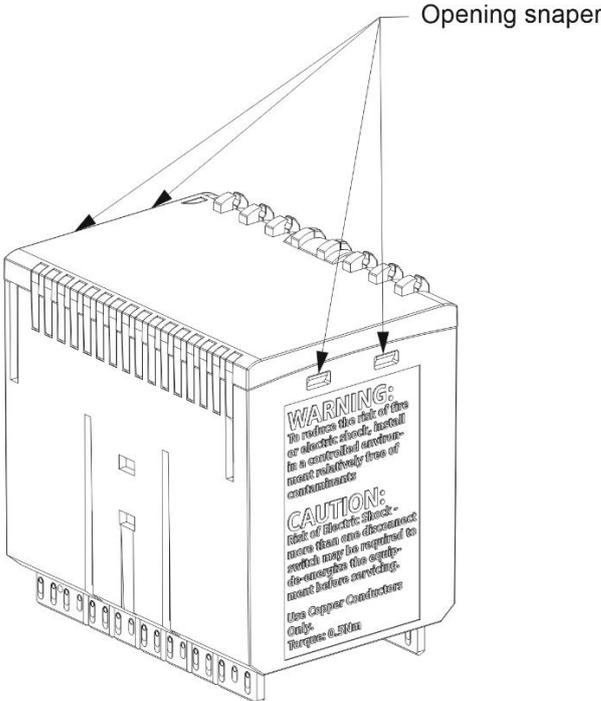
Step 2 Remove plug-in module



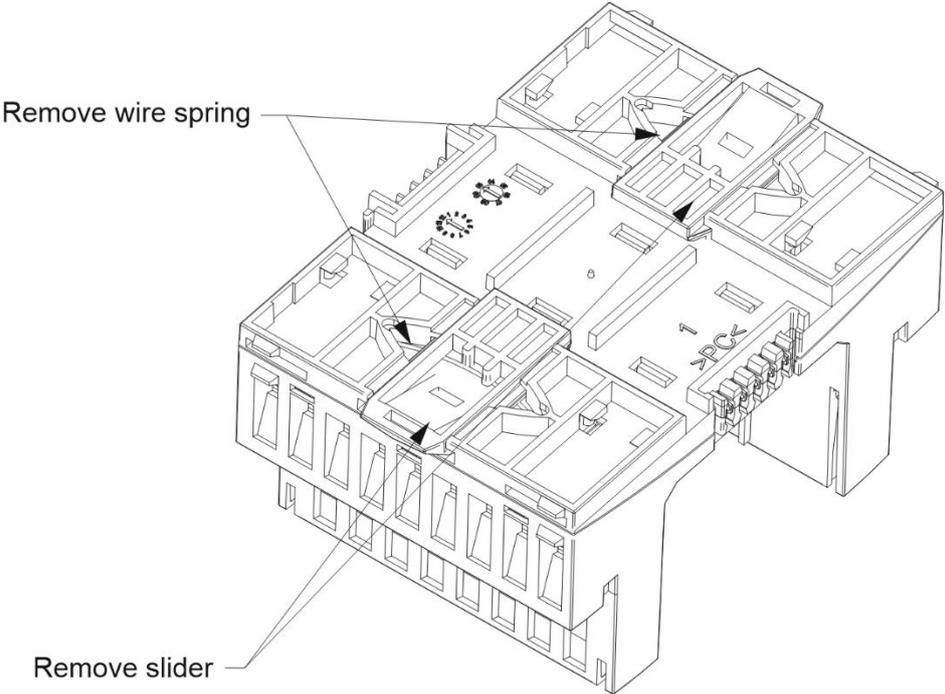
Step 3 Remove label and label holder



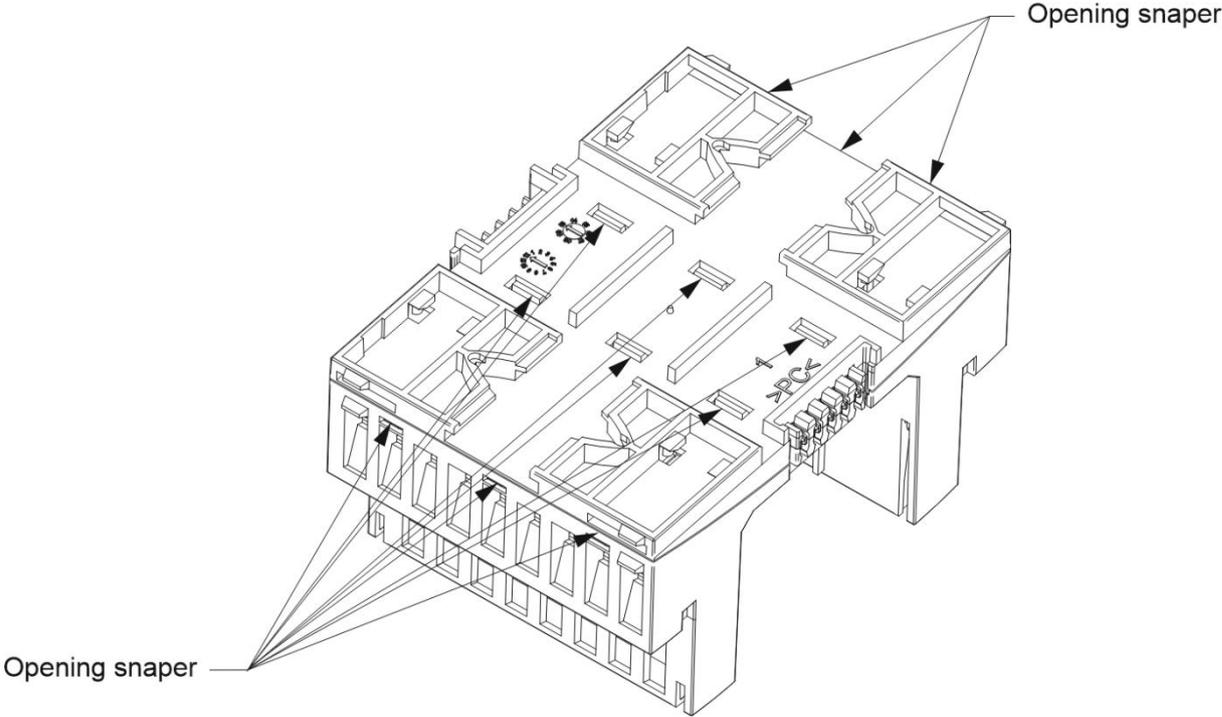
Step 4 Disassemble plug-in module (CCA inside)



Step 5 Disassemble slider and spring



Step 6 Disassemble terminal socket (metal contacts inside)



Output material fractions

All outputs from this process must be managed, handled, and disposed of in accordance with applicable waste laws and regulations, including but not limited to the Waste Framework Directive and its national enactments in Europe and worldwide. The following table provides the main material fractions but is non-exhaustive.

Part	Potential material fractions (non-exhaustive)	weight [g]
B, C, D, E	PC	107.9
E	Bronze STOL76 (contact springs)	17.6
E	CuFe 2P (busbar)	8
E	Steel (terminal cages, slide fittings, screws)	32.4
D	Circuit boards with components, FR4, 8% bromium TBBA	34

Disposal and return options for packaging and electrical appliances

Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Proper disposal of the product is the only way to ensure a circular economy.

The device should not be disposed of as unsorted municipal waste. Special treatment for specific components may be mandated by law or recommended for environmental reasons. Observe all local and applicable laws.

If you no longer want to use your products or no longer need them, we offer you a take-back process for these products. For more information, see: https://support.industry.siemens.com/information/on_return_options

The product packaging is made of sustainable materials and can be completely recycled, observe all local and applicable laws.

History

Date	Version	Changes
01.03.2024	a	Initial release

Legal Disclaimer

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