



# **SALES CHECK LISTS**

**RESISTOR FOR MOBILITY APPLICATION**



**MICROELETTRICA**



## Resistor Product Specification

**Product Management**

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**Project-No.**

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**Customer**

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**Project-Part**

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**System**

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<b>Created in date:</b>	
<b>Name:</b>	

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## Resistor Product Specification

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### Revision History

Rev	Date	Name	Para	Description of change

The original document was issued in English language.



## Resistor Product Specification

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## 1 Overview

The checklist should enable Microelettrica sales personnel to gather all relevant information from the potential customers necessary for the preparation of a reasonable (budgetary) offer. It is meant as a guideline for sales people to allow them asking customers the right questions concerning the main characteristics and parameters of the components to used on tractions systems and industry in question.

## 2 Referenced Documents

<b>Doc. ID</b>	<b>Doc. No</b>	<b>Issue (Index, ..)</b>	<b>Title</b>



### 3 Definitions

#### 3.1 Abbreviations

Abbreviation	Description
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### 4 General Project Information

General Project Information

No.	Detail	Comment (check)
4.1	Project name	
4.2	Vehicle Manufacturer	
4.3	Operating Company	
4.4	Type of Vehicle	
4.5	Maximum speed	_____ km/h
4.6	Vehicle Quantity	
4.7	Cars per Vehicle	
4.8	Mono- or Bidirectional Vehicles	<input type="checkbox"/> 1 Direction <input type="checkbox"/> 2 Directions
4.9	Catenary Voltage	
4.10	Environmental conditions	
4.10.1	Altitude class acc. to EN 50125	_____ m
4.10.2	Temperature class acc. to EN 50125	_____ °C
4.10.3	Snow class acc. to EN 50125	_____ mm

Table 1: General Project Information

**5 Traction System Component specific information**

No.	Detail	Comment (check)
<b>5.1</b>	<b>Pre-charge resistor</b>	
5.1.1	Quantity per train	
5.1.2	Position on board	<input type="checkbox"/> On the roof <input type="checkbox"/> Under frame <input type="checkbox"/> Inside a cubicle
5.1.3	Resistance value at 20°C	____ Ω
5.1.4	Max. resistance value at hot	____ Ω
5.1.5	Rated operation voltage	____ V
5.1.6	Peak Current	____ A
5.1.7	Peak Energy	____ Joule
5.1.8	Number of peaks repetitions before cool down	
5.1.9	Max. Hot spot temperature	____ °C
5.1.10	Max Resistor weight	____ kg
5.1.11	Degree protection of the ext. frame	IP____
<b>5.2</b>	<b>Braking Resistor</b>	
5.2.1	Quantity per train	<input type="checkbox"/> On the roof <input type="checkbox"/> Under frame <input type="checkbox"/> Inside a vehicle
5.2.2	Position on board	
5.2.3	Ohmic value at 20°C	____ Ω
5.2.4	Max. Ohmic value at hot	____ Ω
5.2.5	Rated operation voltage	____ V
5.2.6	Continuous Rated power	____ kW
5.2.7	Peak Power Cycle	____ kW
5.2.8	Air Cooling	<input type="checkbox"/> Forced <input type="checkbox"/> Natural convection
5.2.9	Air Side Pressure Drop (due to train aerodynamic effects)	____ Pa
5.2.10	Available dimensions (Length x width x height)	____ x ____ x ____ [mm]
5.2.11	Fixing points / Vehicle interface	
5.2.12	Max Resistor weight	____ kg
5.2.13	Degree protection of the ext. frame	IP____



5.2.14	PWL noise	_____ dBA
<b>5.3</b>	<b>Damping resistor</b>	
5.3.1	Quantity per train	
5.3.2	Position on board	<input type="checkbox"/> On the roof <input type="checkbox"/> Under frame <input type="checkbox"/> Inside a cubicle
5.3.3	Resistance value at 20°C	_____ Ω
5.3.4	Max. resistance value at hot	_____ Ω
5.3.5	Rated operation voltage	_____ V
5.3.6	Peak Current	_____ A
5.3.7	Peak Energy	_____ Joule
5.3.8	Number of peaks repetitions before cool down	
5.3.9	Max. Hot spot temperature	_____ °C
5.3.10	Max Resistor weight	_____ kg
5.3.11	Degree protection of the ext. frame	IP_____
<b>5.4</b>	<b>Overvoltage protection resistor</b>	
5.4.1	Quantity per train	
5.4.2	Position on board	<input type="checkbox"/> On the roof <input type="checkbox"/> Under frame <input type="checkbox"/> Inside a cubicle
5.4.3	Resistance value at 20°C	_____ Ω
5.4.4	Max. resistance value at hot	_____ Ω
5.4.5	Rated operation voltage	_____ V
5.4.6	Peak Current	_____ A
5.4.7	Peak Energy	_____ Joule
5.4.8	Number of peaks repetitions before cool down	
5.4.9	Max. Hot spot temperature	_____ °C
5.4.10	Max Resistor weight	_____ kg
5.4.11	Degree protection of the ext. frame	IP_____
<b>5.5</b>	<b>Line test resistor</b>	
5.5.1	Quantity per train	
5.5.2	Position on board	<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor
5.5.3	Resistance value at 20°C	_____ Ω





5.5.4	Max. resistance value at hot	_____ Ω
5.5.5	Rated operation voltage	_____ V
5.5.6	Peak Current	_____ A
5.5.7	Peak Energy	_____ Joule
5.5.8	Number of peaks repetitions before cool down	
5.5.9	Max. Hot spot temperature	_____ °C
5.5.10	Max Resistor weight	_____ kg
5.5.11	Degree protection of the ext. frame	IP_____
<b>5.6</b>	<b>Discharge resistor</b>	
5.6.1	Quantity per train	
5.6.2	Position on board	<input type="checkbox"/> On the roof <input type="checkbox"/> Under frame <input type="checkbox"/> Inside a cubicle
5.6.3	Resistance value at 20°C	_____ Ω
5.6.4	Max. resistance value at hot	_____ Ω
5.6.5	Rated operation voltage	_____ V
5.6.6	Peak Current	_____ A
5.6.7	Peak Energy	_____ Joule
5.6.8	Number of peaks repetitions before cool down	
5.6.9	Max. Hot spot temperature	_____ °C
5.6.10	Max Resistor weight	_____ kg
5.6.11	Degree protection of the ext. frame	IP_____

Table2: Traction System Component specific information

**6 Norms und Standards (required)**

No.	Detail	Comment (exact description of the standard)
<b>6.1</b>	General requirements	
6.1.1	Fire and Smoke	
6.1.2	EMC	
6.1.3	Prohibited materials	
6.1.4	Safety requirements	
6.1.5	Homologation of Vehicle	
<b>6.2</b>	International / Local Standards	
6.2.1		
6.2.2		
6.2.3		
6.2.4		
6.2.5		

Table 2: Norm's und Standards

**7 Documentation**

No.	Detail	Comment (check)
<b>7.1</b>	Scope of the documentation	
<b>7.2</b>	Language of documentation Russian	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>7.3</b>	Language of documentation English	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>7.4</b>	Additional languages	

Table 3: Documentation

**8 Warranty**

No.	Detail	Comment
<b>8.1</b>	Warranty	Month

Table 4: Warranty



## 9 Format for file exchange

No.	Detail	Comment
9.1	Format for file exchange	

Table 5: Format for file exchange