

CN

EN

版本 1
Edition 1



电感元件
INDUCTIVE
COMPONENTS

铁路技术 RAILWAY TECHNOLOGY

BLOCK为铁路技术领域定制产品

BLOCK custom-made products
for railway technology

MADE BY BLOCK    

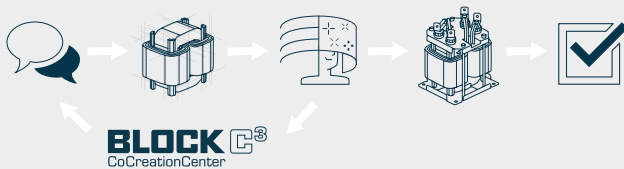
BLOCK 
perfecting power

跨学科融合 推动电感产品市场的成熟型产品进程

INTERDISCIPLINARY APPROACH TO MARKET-READY INDUCTORS

中频和高温范围的电感器和变压器为轨道交通技术提供了动态的开发领域。近年来，新材料和新技术实现了该领域的持续创新。凭借强大的专家团队，BLOCK现在希望更早地参与其客户的开发过程，从而持续缩短新组件开发的上市时间。仿真软件在这一过程中具有显著的优势。

Inductors and transformers for railway technology represent a dynamic field for development. New materials and technologies have enabled innovative steps on a continuous basis over recent years. With a strong interdisciplinary team of experts, BLOCK now plans to get involved in its customers' development process at an earlier stage and thus sustainably reduce the time to market when developing new components. Simulation software offers a significant advantage in this process.

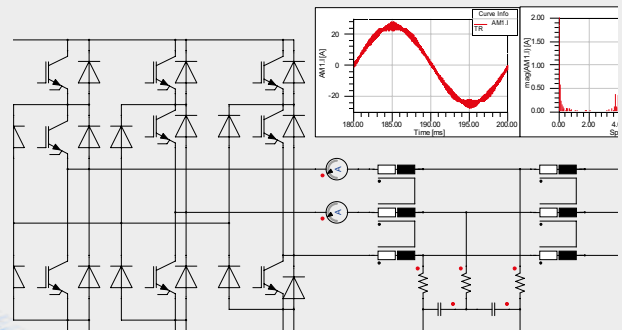
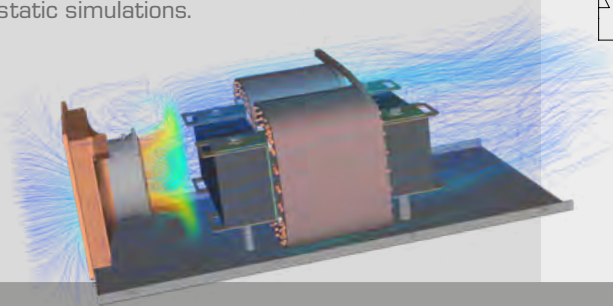


Ansys Simplorer 仿真软件可以对客户系统进行建模，以模拟我们产品在实际应用中的电气行为。所使用的型号仅在BLOCK有售。

Ansys Simplorer simulation software enables customer systems to be modeled in order to simulate the electrical behavior of our products in actual applications. The models used are only available at BLOCK.

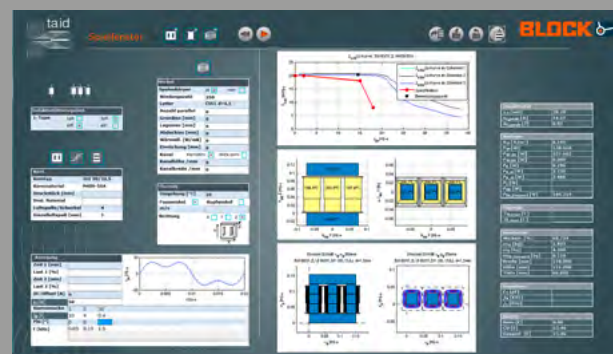
COMSOL Multiphysics 是一个用来模拟物理过程的软件程序。该程序是基于所谓的有限元方法(FEM)。COMSOL允许我们计算特殊发展过程、某些特定现象、电、磁、热、流动和静态模拟。

COMSOL Multiphysics is a software program designed to simulate physical processes. The program is based on the so-called finite element method (FEM). COMSOL allows us to calculate special developments, certain phenomena, electrical, magnetic, thermal, flow and static simulations.



taid 是BLOCK所有的计算系统，可以对感应线圈产品进行磁、电、热解析计算和量纲计算。根据这些专业知识，BLOCK开发了计算算法，让我们的客户受益于我们独特的理论专业知识和先进的技术知识。

taid is BLOCK's proprietary calculation system and enables inductive coiled products to be magnetically, electrically and thermo-analytically calculated and dimensioned. The calculation algorithms were developed by BLOCK with this in mind, allowing our customers to benefit from our unique theoretical expertise and technologically advanced knowledge.



我们的解决方案 可以提高运输效率

OUR SOLUTIONS TO BOOST YOUR TRANSPORTATION EFFICIENCY

承担运输数百万乘客任务的交通工具对技术、制造工艺和安全性提出了最高的要求。在轨道交通领域使用的产品年限为30年，并且长时间应用在炎热、寒冷、潮湿和充满灰尘的环境中。这就使得产品解决方案的抵抗力、可靠性和安全性处于核心地位。

在轨道交通技术领域，客户们受益于BLOCK多年的行业经验。我们的解决方案是专门针对轨道技术实际应用研发和设计的。在研发过程中，我们考虑到所有相关标准，并在我们公司内部的实验室测试，以确保它们符合最严格的要求。

Means of transportation for moving millions of passengers place the highest demands on technologies, manufacturing processes and safety. Products in railway technology are in use around the clock for 30 years or more in heat, cold, moisture and dust. The resistance, reliability and safety of the product solutions used are therefore of particular importance.

When it comes to applications for railway technology, industry customers benefit from BLOCK's many years of experience. Our solutions are developed and designed specifically for railway applications - taking all relevant standards into account - and tested in our in-house test laboratory to ensure they meet the most adverse requirements. The use of BLOCK railway products stands for the highest quality and reliability on the track.

- › 根据**EN60310**，对水、冰、雪和金属粉尘等恶劣条件具有很高的抵抗力
- › 防污等级 **PD4**
- › 防火符合 **EN45545 HL3**
- › High resistance against harsh conditions like water, ice, snow and metal dust according to **EN60310**
- › Pollution degree **PD4**
- › Fire protection according to **EN45545 HL3**



铁路技术达标
Railway technology
standards

100%



节流阀*

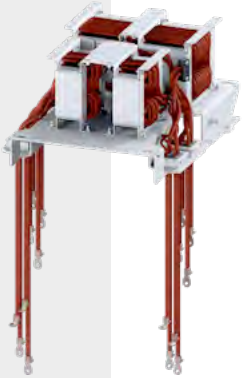
空芯节流阀用于将电压干扰的影响降至最低，并控制尖峰电流。专用于加强至 3 m/s 的空气制冷

电感: 2,3 mH
电流 RMS: 300 A
电流峰值: 500 A (discontinuous mode)
频率: 30 kHz

REACTOR*

Air-core reactor for minimizing the effects of voltage drops and for limiting peak currents. Prepared for accelerated air-cooling with 3 m/s

Inductance: 2,3 mH
Current RMS: 300 A
Current peak: 210 A (discontinuous mode)
Frequency: 30 kHz



中频变压器*

四个空气制冷的中频变压器组成一个部件组。适用于污浊区域内的装配 (PD4)

功率: 2x 84kVA + 2x 14kVA
初级电压: 600 V
次级电压: 750 V / 150 V
频率: 18 kHz
重量: 49 kg

MF-TRANSFORMER*

Combination of four air-cooled medium-frequency transformers in one assembly. Suitable for installation in dirty areas (PD4)

Power: 2x 84kVA + 2x 14kVA
Primary voltage: 600 V
Secondary voltage: 750 V / 150 V
Frequency: 18 kHz
Weight: 49 kg



中频变压器*

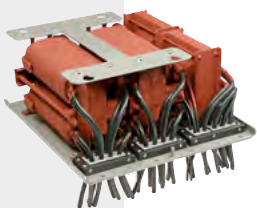
中频-未裁剪纳米晶体变压器核心科技: 大大降低噪音, 低损耗并散热

功率: 50 kVA
初级电压: 500 V
次级电压: 750 V
频率: 2,5 kHz square wave voltage
重量: 30 kg

MF-TRANSFORMER*

Medium frequency transformer with uncut nanocrystalline core technology: significant noise reduction, lower losses and heat dissipation

Power: 50 kVA
Primary voltage: 500 V
Secondary voltage: 750 V
Frequency: 2,5 kHz square wave voltage
Weight: 30 kg



中频变压器*

四个空气制冷的中频变压器组成一个部件组。适用于污浊区域内的装配 (PD4)

功率: 2 x 100 kVA / 2 x 20 kVA
初级电压: 600 V
次级电压: 750 V / 150 V
频率: 18 kHz
重量: 65 kg

MF-TRANSFORMER*

Combination of four air-cooled medium-frequency transformers in one assembly. Suitable for installation in dirty areas (PD4)

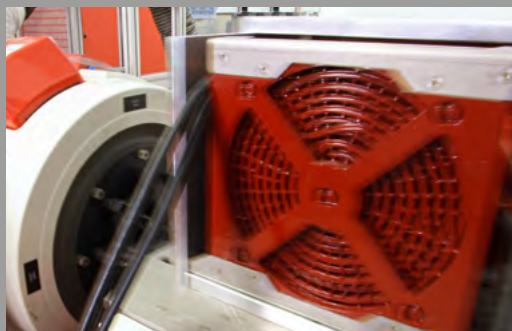
Power: 2 x 100 kVA / 2 x 20 kVA
Primary voltage: 600 V
Secondary voltage: 750 V / 150 V
Frequency: 18 kHz
Weight: 65 kg

在BLOCKLAB进行测试

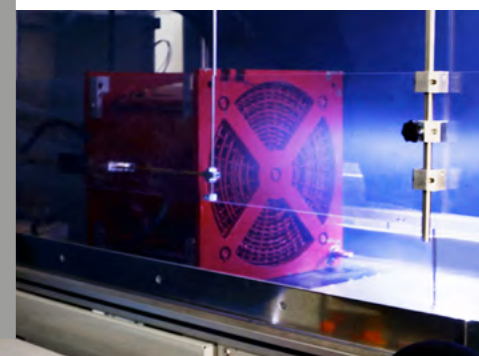
在设备齐全的BLOCK测试实验室中，我们的产品在几乎真实的环境条件下进行了测试和测量。例如，在冲击和振动测试中，包含正弦波振动，宽冲击脉宽范围，测试重量最大为350公斤。

IN-HOUSE TESTS AT BLOCKLAB

In the fully equipped BLOCK test laboratory, our products are tested and measured under almost real environmental conditions. During the shock and vibration tests for example, products with a test weight of max. 350 kg are subjected to sinusoidal oscillation, shock tests and broadband noise.



根据EN61373标准进行冲击和振动测试
Shock and vibration test according to EN61373



风洞用于未来环境条件下的测试
Wind tunnel for measuring under future environmental conditions



铁路系统在防火标准和材料管理方面需要非常高的专业知识。BLOCK在整个产品生命周期，甚至30年的生命周期中都可以为客户提供支持！

Railway systems require very high expertise in fire protection standards and material management. BLOCK provides both to support its customer in the complete product life cycle, even for 30 years of life time!

EN 45545-2
50124-1
60310



电抗器*

带有铁氧体芯的升压转换电抗器，适用于散热器或散热板安装

电感: 12 μ H
电流 RMS: 110 A
电流峰值: 210 A (discontinuous mode)
频率: 30 kHz

REACTOR*

Boost converter reactor with ferrite core, suitable for heat sink or cooling plate installation

Inductance: 12 μ H
Current RMS: 110 A
Current peak: 210 A (discontinuous mode)
Frequency: 30 kHz



电抗器*

EMI滤波器电抗器的差分模式与集成共模铁氧体磁芯

电感: 2 x 1,0 mH
电流 DC: 90 A

REACTOR*

EMI filter reactor for differential mode with integrated ferrite cores for common mode

Inductance: 2 x 1,0 mH
Current DC: 90 A



电抗器*

带有自然风冷通道的三相正弦滤波器

电感: 110 μ H
电流 RMS: 100 A
基频: 50 Hz
主电流谐波频率: 7400 Hz

REACTOR*

Three-phase sine filter reactor with cooling channels for natural air cooling

Inductance: 110 μ H
Current RMS: 100 A
Fundamental frequency: 50 Hz
Main current harmonic frequency: 7400 Hz



电抗器*

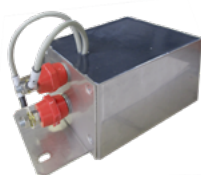
铁氧体铁芯输入电抗器自然地通过空气降温

电感: 230 μ H
电流 DC: 70 A
电流 AC: 110 A
主电流谐波频率: 5 kHz

REACTOR*

Ferrite core input reactor with cooling channels for natural air cooling

Inductance: 230 μ H
Current DC: 70 A
Current AC: 110 A
Main current harmonic frequency: 5 kHz



电抗器*

使用不锈钢冷却安装板全密封的电抗器

电感: 1,1mH
电流 RMS: 26A
基频: 50Hz
主电流谐波频率: 7500Hz

REACTOR*

Potted electrical steel reactor for cooling plate mounting

Inductance: 1,1mH
Current RMS: 26A
Fundamental frequency: 50Hz
Main current harmonic frequency: 7500Hz

* 上述技术数据仅供参考

* The technical values mentioned are examples.

全球化的公司 A GLOBAL COMPANY



总部和生产基地
Headquarters and
production sites



生产基地
Production
sites



子公司
Subsidiaries



全球代理
International
agencies



生产代表
Manufacturing
Representatives

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Kunshan City 215321, Jiangsu Province • P.R.China
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info@block-china.cn • www.block-china.cn

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perfecting power