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VECONA

EasyB
断路器系统
EasyB
CIRCUIT BREAKER SYSTEM

模块化24V断路器系统
The modular 24V circuit breaker system

适合工业4.0/物联网

灵活的电路保护

IO-LINK接口

EasyB

可根据要求对24 V的控制电压进行保护，同时处理好负载。这正是设计工程师通过工业4.0/物联网开发各种系统时希望达到的目标。模块化断路器系统EasyB可轻松实现这一目标。

Protecting 24 V control voltages as required and, in doing so, taking care of the loads as well. This is the goal of design engineers when developing numerous systems with Industry 4.0/IoT. The modular circuit breaker system EasyB easily accomplishes this.

系统
THE SYSTEM

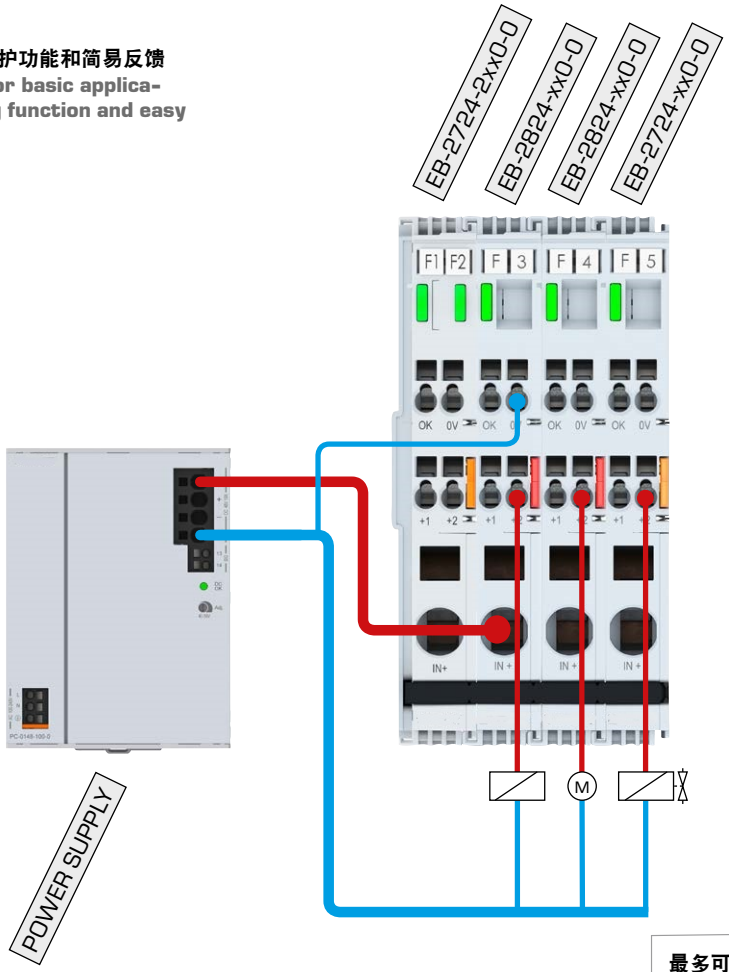
EasyB支持极高的灵活性和集成度。
EasyB allows for high level of flexibility and integration.

几乎90 %的系统均在24 Vdc电压下工作。为了保障这些系统的可用性和操控可靠性，必须为24 V控制电压等级提供可靠的选择性保 护。否则，持久的过载会损坏线体绝缘并可能 导致长期停机。重要的是，这一保护机制可灵活地适应 相应条件，并优化集成到整个系统 中。在实际应用中，需要多个保护通道，并且之后还可根据需要增加单个通道。如需远程监控单个负载的具体状态，当前可供的产品可提供部分特性的监控功能。我们很愿意为您展示新型模块化24 V断路 器系统EasyB产品，证明其如何得以独特的方式完成上述目标。

Almost 90 % of all systems are operated at 24 Vdc. For the availability and operational reliability of such systems, reliable and selective protection of the 24 V control voltage level is a mandatory. Ultimately, a permanent overload can damage wire insulation and may cause a long-term shutdown. It is also essential that the protection concept can be flexibly adapted to the respective conditions and be optimally integrated into the overall system. In the final application, various numbers of protection channels are required and, if needed, individual channels can be subsequently added. If a detailed status of individual loads is to be monitored remotely, currently available products are providing limited features only. Let us show you how the new modular 24 V circuit breaker system, EasyB, demonstrates how this can be done differently.

基本安装
BASIC INSTALLATION

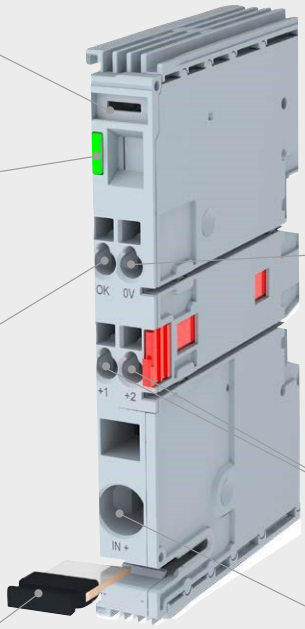
基本应用的典型连接设置，注重保护功能和简易反馈
Exemplary connection set-up for basic application with focus on safeguarding function and easy feedback



最多可并排安装40个通道
UP TO 40 CHANNEL MOUNTABLE SIDE BY SIDE

单通道断路器 EB-2824-xx0-0
1-CHANNEL CIRCUIT BREAKER

限流 Current limiting



标识区
LABELING FIELD

按钮和用于指示状态的多色LED
BUTTONS AND MULTI-COLORED LED FOR STATUS INDICATION

常用复位输入，插接后可自动与其他模块连接
COMMON RESET INPUT, AUTOMATICALLY CONNECTED TO OTHER MODULES BY ATTACHING THEM

电源母线条，容量高达80 A
POWER BUS BAR, CAPACITY UP TO 80 A

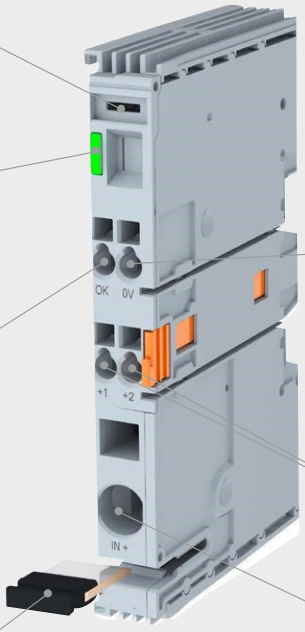
接地 (0 V) 端子插接后可自动与其他模块连接
GROUND (0 V) TERMINAL AUTOMATICALLY CONNECTED TO OTHER MODULES BY ATTACHING THEM

双输出高达 2.5 MM² / 8 AWG
DUAL OUTPUT UP TO 2.5 MM² / 8 AWG

输入端子40 A，高达16 MM² / 6 AWG
INPUT TERMINAL 40 A UP TO 16 MM² / 6 AWG

单通道断路器 EB-2724-xx0-0
1-CHANNEL CIRCUIT BREAKER

热磁特性 Thermo-magnetic charac-teristic



标识区
LABELING FIELD

按钮和用于指示状态的多色LED
BUTTONS AND MULTI-COLORED LED FOR STATUS INDICATION

常用复位输入，插接后可自动与其他模块连接
COMMON RESET INPUT, AUTOMATICALLY CONNECTED TO OTHER MODULES BY ATTACHING THEM

电源母线条，容量高达80 A
POWER BUS BAR, CAPACITY UP TO 80 A

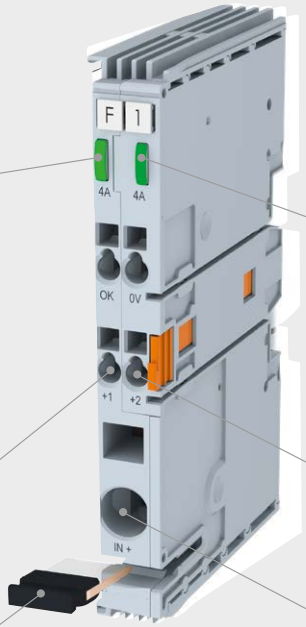
接地 (0 V) 端子插接后可自动与其他模块连接
GROUND (0 V) TERMINAL AUTOMATICALLY CONNECTED TO OTHER MODULES BY ATTACHING THEM

双输出高达 2.5 MM² / 8 AWG
DUAL OUTPUT UP TO 2.5 MM² / 8 AWG

输入端子40 A，高达16 MM² / 6 AWG
INPUT TERMINAL 40 A UP TO 16 MM² / 6 AWG

双通道断路器 EB-2724-2xx0-0
2-CHANNEL CIRCUIT BREAKER

热磁特性 Thermo-magnetic charac-teristic



按钮和用于指示状态的多色LED
BUTTONS AND MULTI-COLORED LED FOR STATUS INDICATION

输出通道1
OUTPUT CHANNEL 1

电源母线条，容量高达80 A
POWER BUS BAR, CAPACITY UP TO 80 A

按钮和用于指示状态的多色LED 通道2
BUTTONS AND MULTI-COLORED LED FOR STATUS INDICATION CHANNEL 2

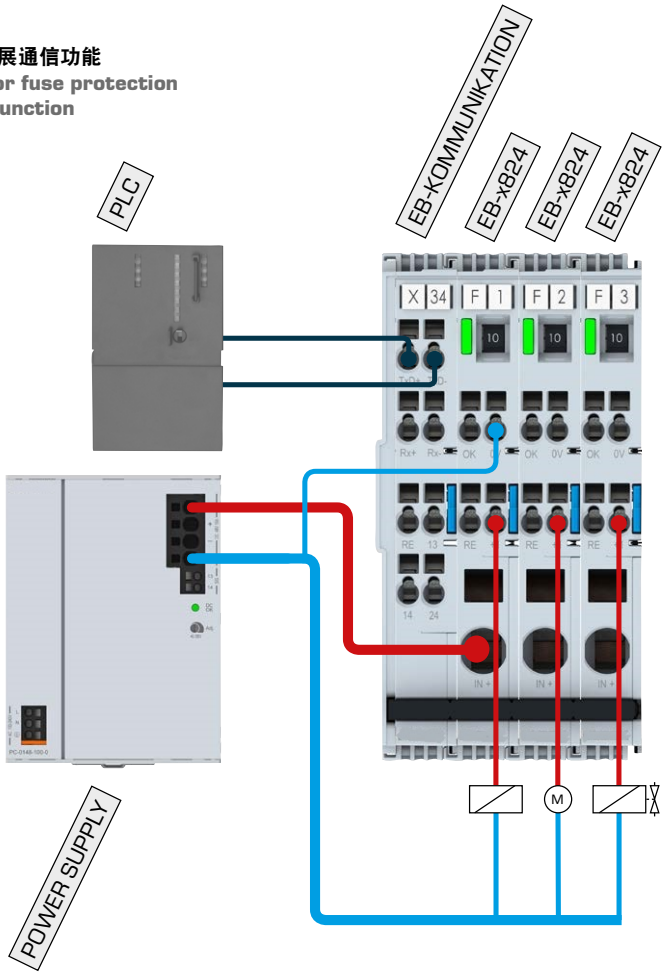
输出通道2
OUTPUT CHANNEL 2

输入端子40 A，高达16 MM² / 6 AWG
INPUT TERMINAL 40 A UP TO 16 MM² / 6 AWG

如有变更，恕不另行通知
Subject to change

带通信功能的安装
INSTALLATION WITH COMMUNICATION

熔断保护的典型连接设置，带有扩展通信功能
Exemplary connection set-up for fuse protection with extended communication function



单通道断路器 EB-x824
1-CHANNEL CIRCUIT BREAKER

限流 Current limiting

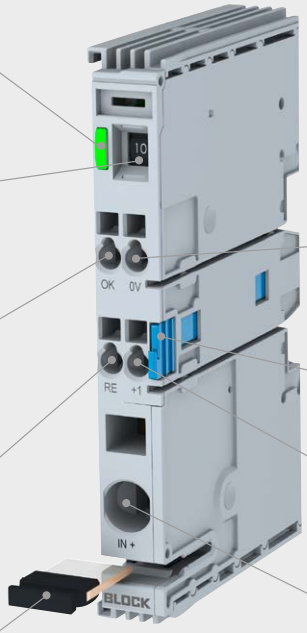
按钮和用于指示状态的多色LED
BUTTONS AND MULTI-COLORED LED FOR STATUS INDICATION

可选设置（用于跳闸电流）
OPTIONAL SETTING FOR TRIPPING CURRENT

常用复位输入，插接后可自动与其他模块连接
COMMON RESET INPUT, AUTOMATICALLY CONNECTED TO OTHER MODULES BY ATTACHING THEM

常用复位输入挂接后即可自动桥接
COMMON RESET INPUT AUTOMATICALLY BRIDGED BY ATTACHING THEM

电源母线条，容量高达80 A
POWER BUS BAR, CAPACITY UP TO 80 A



接地 (0 V) 端子插接后可自动与其他模块连接
GROUND (0 V) TERMINAL AUTOMATICALLY CONNECTED TO OTHER MODULES BY ATTACHING THEM

可从DIN导轨上拆下的控制杆
LEVER FOR REMOVING FROM DIN RAIL

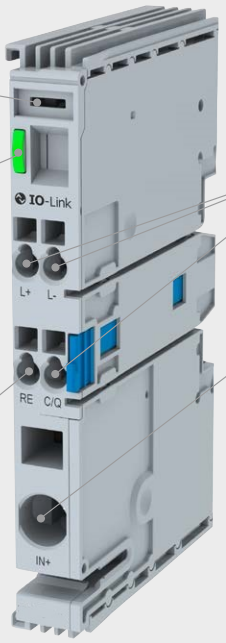
输出高达2.5 MM² / 8 AWG
OUTPUT UP TO 2.5 MM² / 8 AWG

输入端子40 A，高达16 MM² / 6 AWG
INPUT TERMINAL 40 A UP TO 16 MM² / 6 AWG

通信模块 EB-IO-LINK
COMMUNICATION MODULE

IO-Link

新



标识区
LABELING FIELD

用于指示状态的多色LED
MULTI-COLORED LED FOR STATUS INDICATION

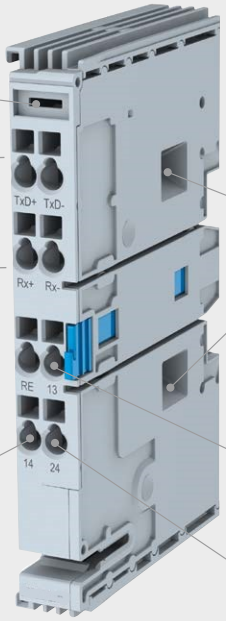
常用复位输入，插接后可自动与其他模块连接
COMMON RESET INPUT, AUTOMATICALLY CONNECTED TO OTHER MODULES BY ATTACHING THEM

IO-LINK接口
IO-LINK INTERFACE

输入端子40 A，高达16 MM² / 6 AWG
INPUT TERMINAL 40 A UP TO 16 MM² / 6 AWG

通信模块 EB-MODBUS-RTU
COMMUNICATION MODULE

Modbus



标识区
LABELING FIELD

MODBUS RTU（4个触点）
MODBUS RTU (4 CONTACTS)

信号触点 90%
SIGNAL CONTACT 90 %

MODBUS RTU 通过 DIP 开关配置
MODBUS RTU CONFIGURATION VIA DIP SWITCH

隔离信号触点输入
INPUT FOR ISOLATED SIGNAL CONTACTS

信号触点通道 跳闸和关闭
SIGNAL CONTACT CHANNEL TRIGGERED AND SWITCHED OFF

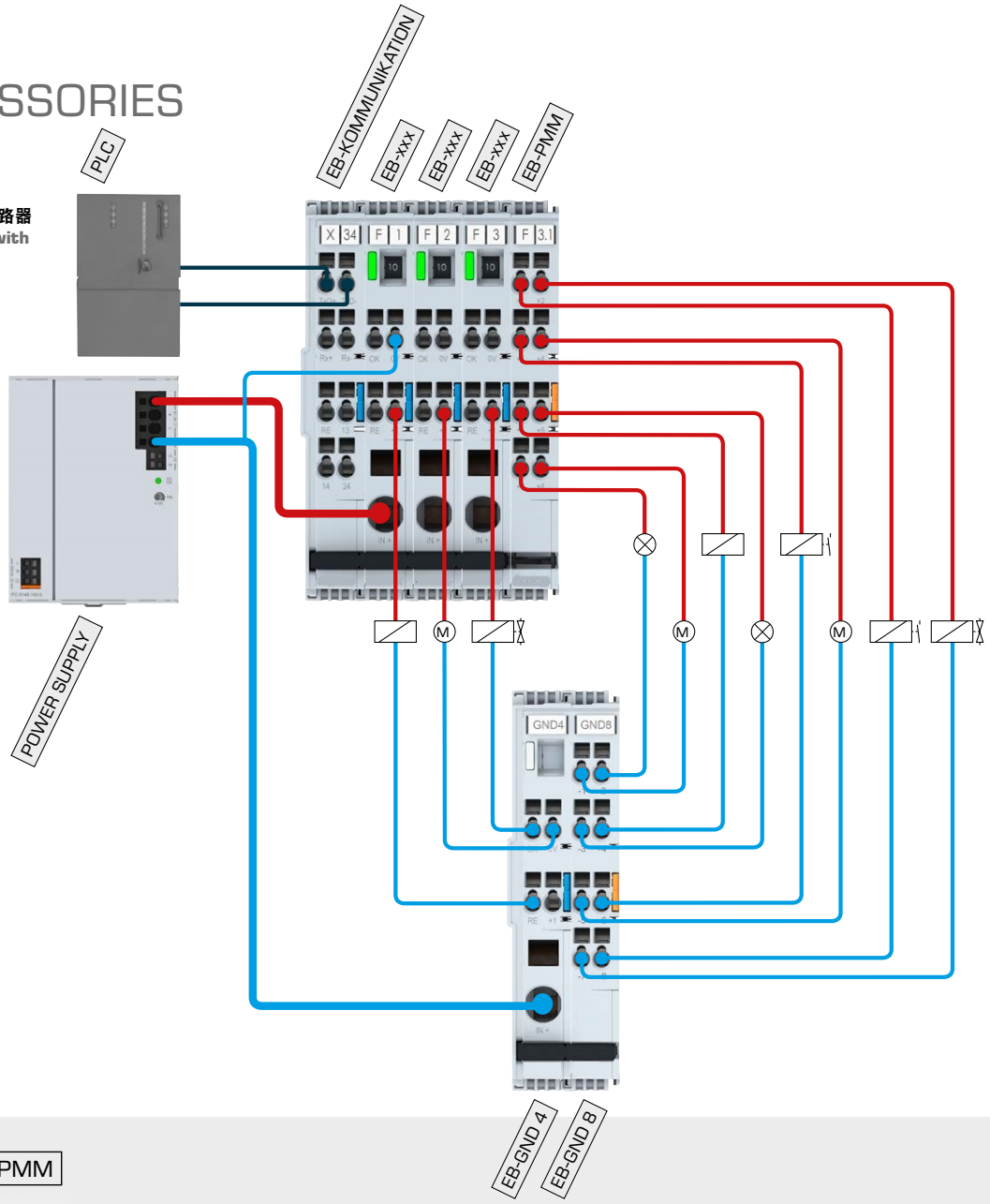
EASY B

如有变更，恕不另行通知
Subject to change

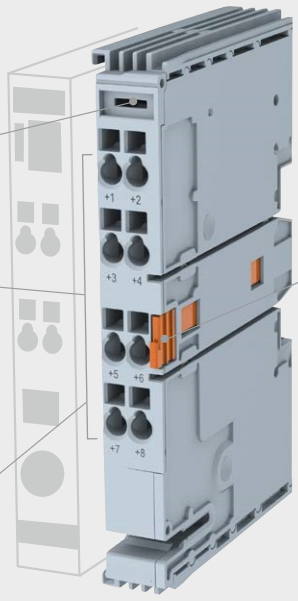
可选附件
OPTIONAL ACCESSORIES

安装带有通信模块和输出扩展模块的单通道断路器
Installation of 1-channel circuit breaker with communication module and output expander

可选择安装接地模块
Optional installation with ground module



输出扩展模块 EB-PMM
OUTPUT EXPANDER



标识区
LABELING FIELD

8个额外的负载输出
8 ADDITIONAL LOAD OUTPUTS

自动连接到左侧断路器
AUTOMATICALLY CONNECTED TO THE LEFT CIRCUIT BREAKER

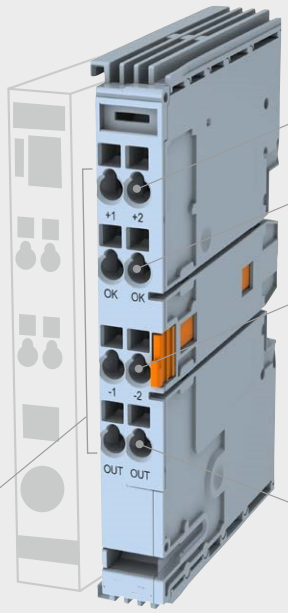
可从DIN导轨上拆下的保护条
LEVER FOR REMOVING FROM DIN RAIL

每个断路器最多可挂接3个输出分配模块
UP TO 3 OUTPUT DISTRIBUTION MODULES CAN BE ATTACHED TO EACH CIRCUIT BREAKER

2 极物理隔离 EB-PT2-0

2-POLE PHYSICAL ISOLATION

新



2 个负载输出
2 LOAD OUTPUTS

控制输入
CONTROL INPUT

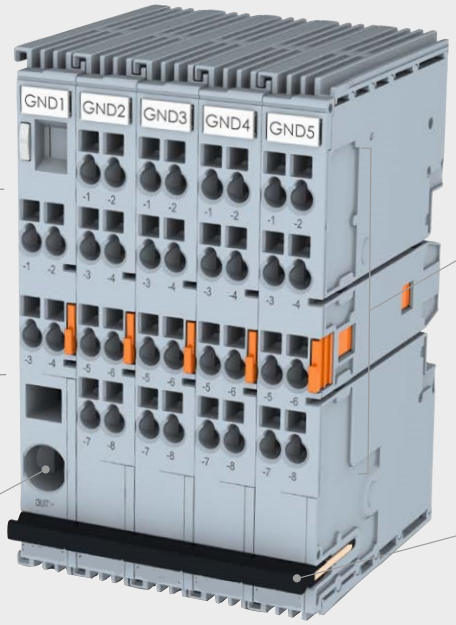
2 个减项负载通道
2 X MINUS OF LOAD

自动连接到左侧断路器
AUTOMATICALLY CONNECTED TO THE LEFT CIRCUIT BREAKER

2 个用于向电源反馈的接地模块
2 X GROUND FOR FEEDBACK TO THE POWER SUPPLY

接地模块 EB-GND

GROUND MODULE



4个端子(2.5 MM² / 14 AWG)，每个输出的最大额定电流为10 A
4 TERMINALS (2.5 MM²/ 14 AWG), MAX. RATED CURRENT 10 A PER OUTPUT

8个端子(2.5 MM² / 14 AWG)，每个输出的最大额定电流为10 A
8 TERMINALS (2.5 MM²/ 14 AWG), MAX. RATED CURRENT 10 A PER OUTPUT

用于电源反馈的16 MM² / 6 AWG 端子
16 MM² / 6 AWG TERMINAL FOR POWER SUPPLY FEEDBACK

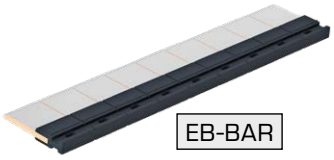
连接到电源母线条，每个模块最大电流为40 A
CONNECTION TO POWER BUS BAR, MAX. 40 A PER MODULE

EASY B

如有变更，恕不另行通知
Subject to change

附件
ACCESSORIES

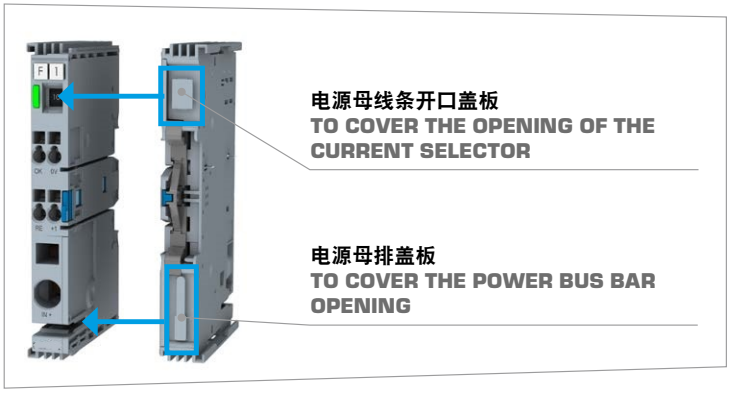
电源母排
POWER BUS BAR



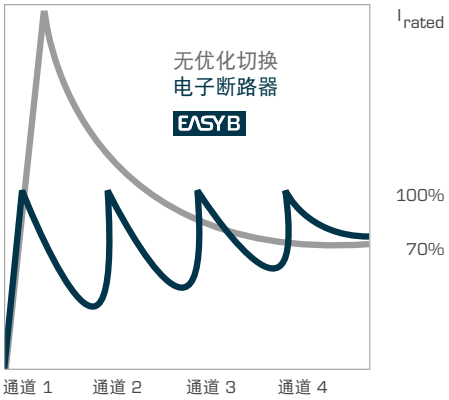
EB-BAR

左侧盖板
LEFT SIDE COVER

EB-COV



可选择性负载-独立接入
SELECTIVE LOAD-DEPENDENT SWITCH-ON



当电流始终低于实际通道的跳闸设置时，依次接入
SEQUENTIAL SWITCH-ON WHEN CURRENT STAYS BELOW TRIP SETTING OF ACTUAL CHANNEL

不再需要尺寸过大的电源
POWER SUPPLY DOES NOT NEED TO BE OVERSIZED ANYMORE

工业4.0/物联网
先进知识

安装断路器通道时，信号触点会自动连接到上一个通道。同样地，各通道可互相作用并将所有信息转发至连接的通信模块，从而在工业4.0/物联网范围内建立监控控制器层面的信息交换。

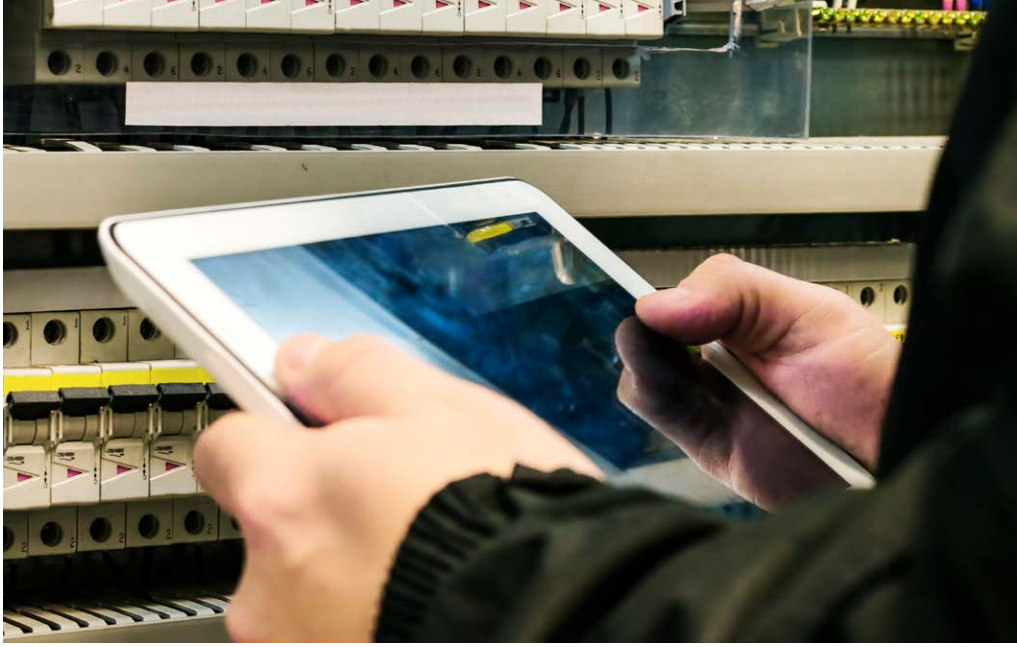
When mounting a circuit breaker channel, the signal contacts are automatically connected to the previous channel. As such, the individual channels can interact and forward all info to a connected communication module, which establishes information exchange within the scope of Industrie 4.0/ IoT to a supervising controller-level.

通道状态
CHANNEL STATUS
单独切换通道
SWITCHING CHANNELS INDIVIDUALLY
实际电流
ACTUAL CURRENT
输入电压
INPUT VOLTAGE
跳闸电流可通过通信模块设置/读取
TRIPPING CURRENT CAN BE SET/READ VIA COMMUNICATION MODULE

EasyB

设置跳闸电流
SETTING THE TRIPPING CURRENT

EasyB是世界上首款模块化24 V断路器系统，可通过通信总线选择跳闸电流，大大简化了入库流程，并可在系统启动过程中消除潜在的误差源。
在连续生产中，此功能可实现自动化，从而大幅度节省开支。由于还提供预设跳闸电流和手动选择性模块，因此无需依赖数字技术。



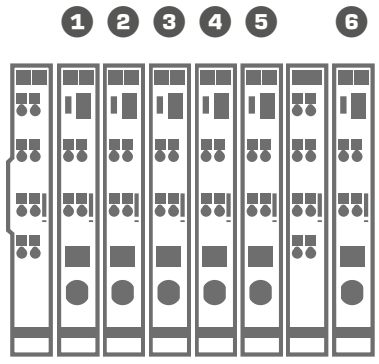
EasyB is the world's first modular 24 V circuit breaker system, which offers the selection of tripping currents via communication bus. Warehousing can be greatly simplified and a potential error source eliminated during system start-up.

For serial production, this feature can be automated, thus enabling a high level of potential savings. The digital benefit is no must as preset tripping currents as well as manual selective modules are also available.

自动寻址
AUTOMATIC ADDRESSING

在打开过程中，通过开发的程序可实现通道自动寻址。原先用于手动分配地址的多余步骤已经成为过去。当系统关断并需要快速更换组件时，这尤为有用。

Channels are automatically addressed during switch-on by a developed procedure. An additional and time-consuming step to assign addresses manually is now a thing of the past. This is particularly an advantage in the event of system shutdowns and when components need to be replaced quickly.



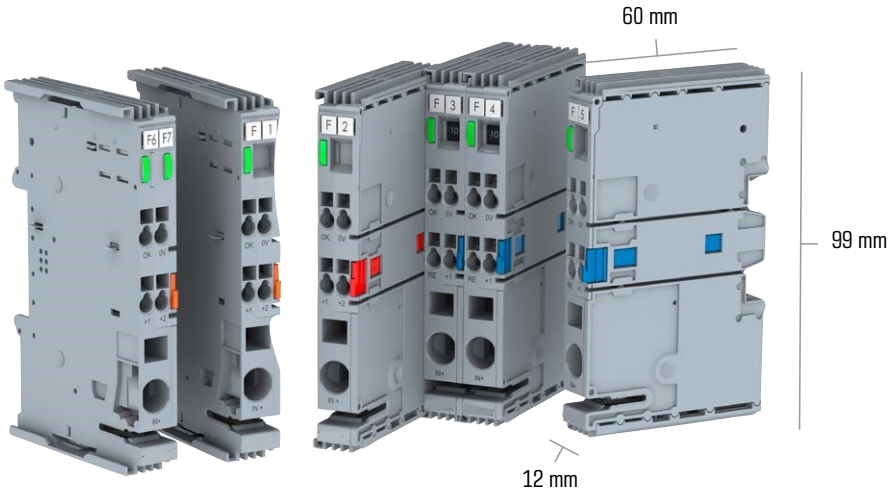
在打开过程中自动执行寻址
ADDRESSING IS PERFORMED AUTOMATICALLY DURING SWITCH-ON

计数从左侧1开始
COUNTING STARTS TO THE LEFT AT 1

相比现有的解决方案，可简化扩展和更换过程
SIMPLIFIED EXTENSION AND REPLACEMENT IN COMPARISON TO EXISTING SOLUTIONS

最多可实现每通道3个输出扩展器寻址
ADDRESSING POSSIBLE FOR UP TO 3 OUTPUT EXPANDERS PER CHANNEL

版本概述
VERSION OVERVIEW



EB-2724-XX0-0	EB-2724-2XX0-0	EB-2824-XX0-0	EB-0824-100-0	EB-1824-XX0-0	EB-3824-100-0	
■	■					热磁特性 Thermomagnetic characteristic
		■	■	■	■	限流1,25倍额定电流 Current limiting 1,25 x rated current
			■	■	■	通信接口 Communication interface
			■	■	■	通道自动寻址 Automatic addressing of channels
			■	■	■	常用复位 Common reset
			■	■	■	在Vin > 18V时选择性打开，取决于负载 Selective switch-on at Vin > 18 V, load-dependent
■	■		■	■	■	电流检测和信号> 90%的额定电流 Current detection and signaling > 90% of rated current
■	■					浪涌能力> 40 000 µF Inrush capacity > 40 000 µF
		■	■	■	■	浪涌能力> 70 000 µF Inrush capacity > 70 000 µF
■	■	■		■		预设跳闸电流 Preset tripping currents
			■			跳闸电流可通过电流选择器开关或接口调节 Tripping currents adjustable via current selector switch or interface
					■	跳闸电流可通过接口调节 Tripping currents adjustable via interface
■		■				第二负载输出 Second load output
			■	■	■	批量关断欠压 Undervoltage switch-off as group
■	■	■				单独关断欠压 Undervoltage switch-off on individual basis
■	■	■	■	■	■	打开/关闭按钮 ON/OFF button
■	■	■	■	■	■	标号选项 Labeling option
■	■	■	■	■	■	按钮上的彩色状态指示器 Colored status indicator on button
■	■	■	■	■	■	用于跳闸/关断通道的常用反馈触点 Common feedback contact for tripped/switched off channels
■	■					橙色控制杆 Orange lever
		■				红色控制杆 Red lever
			■	■	■	蓝色控制杆 Blue lever

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