An intelligent operating concept that adds color to mix

The easyE4 serves as the SmartWire-DT coordinator for controlling and configuring the RMQ multicolor elements.

Detailed information about the easyE4

More about RMQ MCI

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The easyE4 control relay is the ideal solution for simple control tasks in machine building and system integration. The connection to the intelligent SmartWire-DT (SWD) bus system expands the possibilities of the versatile easyE4 while maintaining its proven flexibility and simplicity. Intelligent components turn the control relay into an exciting solution that makes work on machines and systems even more efficient. These components also include the versatile multicolor light indicator (MCI) elements from the RMQ-Titan family.

Take advantage of an intelligent system solution

By connecting the easyE4 to SmartWire-DT, users not only have data from the field level at their disposal, but can also easily configure the modules directly via the base device using the "client" function. Status information from all components, such as variable frequency drives or pilot devices, is therefore available at all times.

Using the multicolor light indicator as a smart addition to the control relay

The MCI elements integrate multiple RMQ indicators into a single product. The advantages of the combination with the easyE4 are clearly apparent: the multicolor LED element of the M22 version, for instance, can display 16 million colors. Apart from the wide range of available colors, the easyE4 can also be used to set the flashing frequency and the dimming level of the indicator. The data for the entire application (machine or system) are centrally collected via the powerful control relay. The MCI's different light colors can then be used to clearly display the machine status – visualization of machine states made easy.

As with all SWD modules, the MCI elements can be configured on the easyE4 using easySoft 7 and the integrated functions of the SWD-Assist. No additional software is required.

easyE4 and MCI application example

This application example focuses on an industrial continuous oven of the type used in the food sector to mass produce pizza or other baked goods. The easyE4 control relay serves as the master control unit for the entire machine.

A DE1 variable frequency drive, which is integrated via the SmartWire-DT cable, controls the conveyor. The SWD system also incorporates DILM contactors to switch on the heating coils and the ventilation system, as well as three multicolor light indicators for visualization and a number of additional control elements. Finally, the application also includes an 'easy' temperature module, which acts as a thermometer for measuring the oven temperature.

Variable frequency drive: The easyE4 can be used to set the cycle time and to convert it into a motor frequency. The control relay also monitors errors and prevents conveyor belt failure (e.g. failure due to jammed objects).

Contactors: The easyE4 controls the activation/deactivation of the heating coils and fans to regulate the temperature inside the oven.
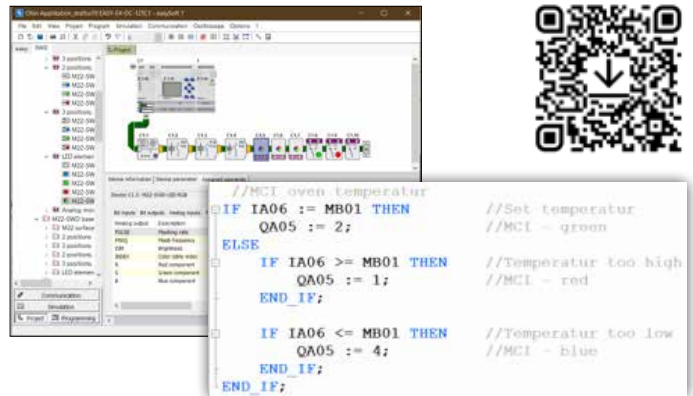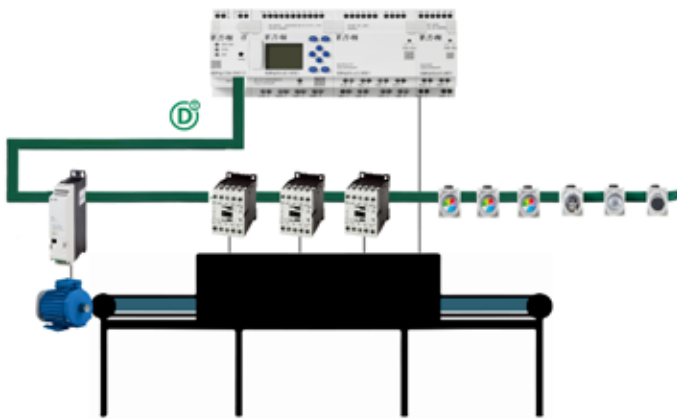
Multicolor Light Indicator:
Oven temperature: setpoint ➡ green, too hot ➡ red, too cold ➡ blue;
Conveyor: speed ➡ flashing frequency;
Machine state: Ok ➡ green, error ➡ red, service ➡ blue, heating up ➡ light flashes yellow, cooling down ➡ light flashes

Key-operated switch and start/stop pushbutton to activate the machine

One tool for configuring the entire system: the proven SWD-Assist interface has now been integrated into easySoft.

MCI SmartWire-DT configuration options

The multicolor LED element with direct connection to the SmartWire-DT system can display up to 16 million colors and enables the intelligent visualization of complete machine or system states.

Brightness	7 brightness levels
Flashing frequency	0 (off), 1 Hz, 0.5 Hz, 2 Hz
Flashing rate / ON/OFF ratio	0 50 50 25 75 75 25
Color index	predefined color settings
Green content	0 - 255
Red content	0 - 255
Blue content	0 - 255

Article no.	Designation	Content
199507	EASY-BOX-E4-UC-SWD1	easyE4 base device (UC) with display and SmartWire-DT communication module
199508	EASY-BOX-E4-UCX-SWD1	easyE4 base device (UC) without display, with SmartWire-DT communication module
199509	EASY-BOX-E4-DC-SWD1	easyE4 base device (DC) with display and SmartWire-DT communication module
199510	EASY-BOX-E4-DCX-SWD1	easyE4 base device (DC) without display, with SmartWire-DT communication module
199511	EASY-BOX-E4-AC-SWD1	easyE4 base device (AC) with display and SmartWire-DT communication module
199512	EASY-BOX-E4-ACX-SWD1	easyE4 base device (AC) without display, with SmartWire-DT communication module
197226	EASYSOFT-SWLIC	easySoft programming software for the easyE series
197576	M22-SWD-LED-RGB	SmartWire-DT multicolor LED element, front mounted
198598	M22-SWD-LEDC-RGB	SmartWire-DT multicolor LED element, floor mounted

For the complete product range, please see the Eaton online catalog: **ecat.eaton.com**

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