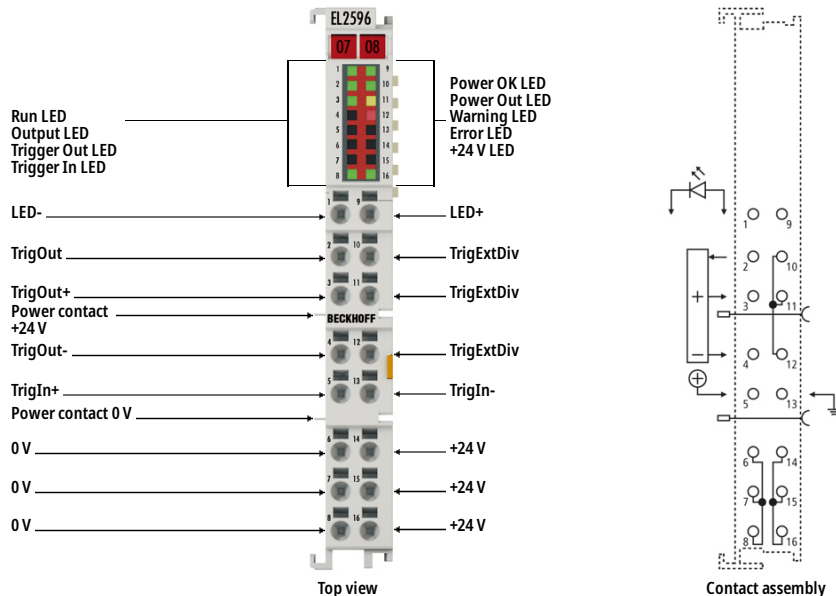
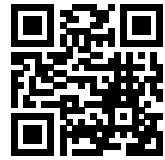


# EL2596 | EtherCAT Terminal, 1-channel LED output, 24 V DC, 3 A



**i Product status:** Regular delivery

The EL2596 LED strobe control terminal contains a flexible power supply unit that supplies the LED with the required current and voltage. Applications from continuous light to short light pulses in the kHz range are thus possible. Each individual flash can be triggered in a controlled manner by the control system via the distributed clocks/timestamp function. The EL2596 has a trigger output for triggering cameras and high-quality, fast current and voltage control, so that line scan cameras, for example, also benefit from constant illumination. Extensive real-time diagnostics, e.g. for input current/voltage and output current/voltage allow detailed monitoring of the LED light intensity. Thus, overdrive applications with short high-current pulses through the LED are possible. If a specifiable load corridor is exited, e.g., due to load errors, the EL2596 switches off to protect the LED (resettable).

Special features:

- Suitable for lighting-related vision applications up to 24 V DC
- Max. output current 0...3 A in pulse mode / 0...1.2 A in continuous mode
- Different operating modes possible
  - Continuous mode (current and voltage output, PWM)
  - Pulse operation
  - RGB/common anode mode
- Support of XFC technology timestamp
- Synchronized operation through distributed clocks XFC technology possible

Application recommendations:

- The EL2595 LED terminal of the 1st generation is often sufficient for simple lighting tasks.
- The EL2596 and EL2596-0010 are the significantly more powerful successors and are thus suitable for applications requiring high-precision control.
- The EL2564 is the right choice for simple continuous lighting applications with RGBW LEDs in voltage mode

## Product information

### Technical Data

Technical data	EL2596
Recommended use	standard terminal for illumination in vision applications up to 24 V DC
Connection technology	2-wire
Number of outputs	1
Input voltage	24 V DC (-15 %/+20 %)
Load type	LED (ohmic)
Distributed clocks	yes
Distributed clock precision	<< 1 µs
Output voltage	Continuous light mode : $0 \dots U_{IN}$ Continuous light operation PWM: $0 \dots (U_{IN} - 0,5 \text{ V})$ Pulsed operation (0...2 A): $0 \dots (U_{IN} - 2 \text{ V})$ Pulsed operation (3 A*): $0 \dots (U_{IN} - 3 \text{ V})$ *linear behavior of the maximum output voltage between 2 A and 3 A
Max. output current	0...3 A in pulsed mode (depending on output voltage and Duty Cycle) 0...1.2 A in continuous mode
Switching times	typ. TON: < 1 µs, typ. TOFF: < 1 µs, pulses from 25 µs...10 s
Trigger output (to camera)	1 (electrically isolated, max. 10 mA push-pull, 10...24 V DC, voltage adjustable via externally connectable voltage distributor)
Trigger input (from camera)	1 (electrically isolated, typ. 3 mA, 4...24 V DC, switchable sensitivity)
Current consumption E-bus	typ. 240 mA
Electrical isolation	500 V (E-bus/field potential)
Current consumption power contacts	–
Special features	constant voltage, constant current and PWM as available operating modes; extensive real-time diagnostics; connection option voltage divider TriggerOut; continuous LED operation; RGB/common anode operation
Weight	approx. 55 g
Operating/storage temperature	0...+55 °C/-25...+85 °C
Relative humidity	95 %, no condensation
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4
Protect. rating/installation pos.	IP20/see documentation
Approvals/markings	CE
Housing data	EL-12-16pin
Design form	HD (High Density) housing with signal LEDs

<b>Material</b>	polycarbonate
<b>Dimensions (W x H x D)</b>	12 mm x 100 mm x 68 mm
<b>Installation</b>	on 35 mm DIN rail, conforming to EN 60715 with lock
<b>Side by side mounting by means of</b>	double slot and key connection
<b>Marking</b>	labeling of the BZxxx series
<b>Wiring</b>	solid conductors (e): direct plug-in technique; fine-stranded conductors (f) and ferrule (a): spring actuation by screwdriver
<b>Connection cross-section</b>	s*: 0.08...1.5 mm <sup>2</sup> , st*: 0.25...1.5 mm <sup>2</sup> , f*: 0.14...0.75 mm <sup>2</sup>
<b>Connection cross-section AWG</b>	s*: AWG 28...16, st*: AWG 22...16, f*: AWG 26...19
<b>Stripping length</b>	8...9 mm
<b>Current load power contacts</b>	I <sub>max</sub> : 10 A

\*s: solid wire; st: stranded wire; f: with ferrule