

# TPL-CONTROL-1

## SINGLE-CHANNEL PRECISION LIGHT CONTROLLER

Based on a Modular Approach – Up to 16 Channels



**TPL-CONTROL-1**  
Master & Slave

TPL-CONTROL-1 is a **precision light controller** with current and voltage regulation to control **any LED illumination setup** in machine vision and image acquisition applications. The lighting can be controlled in a **continuous mode** as well as in a **flash mode**. Currents of **up to 20A** (per channel) are possible. By regulating current and voltage, high efficiency and thus lower heat generation is achieved.

The **modular Master/Slave architecture** allows the TPL-CONTROL-1 lighting controllers to be used in a wide range of applications.

### COMPATIBLE WITH THE EXTERNAL CONTROL (EC) RANGE



EBAR+ EC



HPBACK EC



M-TBAR EC



M-HPRING EC



ELINE EC



M-TRING EC

One TPL-CONTROL-1 module supplies power to one LED light channel. In total, **up to 16 independent lighting systems** can be controlled in this way. Since a **TPL-CONTROL-1 Master** consists of both a communication and a power section, it serves as the configuration interface for the user and all light channels. A **TPL-CONTROL-1 Slave**, on the other hand, has only a power section. All connected channels can be configured conveniently and easily via a **single interface** on the Master module. The respective channel configuration is stored decentrally in each module separately.

## ADVANTAGES

- CURRENTS OF UP TO 20A PER CHANNEL
- FLEXIBILITY AND SCALABILITY THROUGH MODULAR DESIGN
- EASY CONFIGURATION VIA INTEGRATED WEBSITE
- ETHERNET AND SERIAL INTERFACE
- WIDE RANGE OF EXTERNAL CONTROL (EC) PRODUCTS



TPL VISION IS AN **ISO 9001**  
CERTIFIED MANUFACTURER.

# TPL-CONTROL-1



## SINGLE-CHANNEL PRECISION LIGHT CONTROLLER

### TECHNICAL DATA:

|                                      | TPL-CONTROL-1 MASTER   | TPL-CONTROL-1 SLAVE |
|--------------------------------------|--|---------------------|
| Supply voltage (V <sub>IN</sub> )    | 12 to 48 V <sub>DC</sub>   |                     |
| Output voltage (V <sub>OUT</sub> )   | 0.7 V <sub>DC</sub> to (V <sub>IN</sub> - 2) V <sub>DC</sub>   |                     |
| Output power                         | Up to 3 A continuous* or up to 20 A pulsed   |                     |
| Step width                           | <ul style="list-style-type: none"> <li>• 0.1 mA (1 mA to 50,0 mA)</li> <li>• 0.5 mA (50,5 mA to 100,0 mA)</li> <li>• 1 mA (101 mA to 500 mA)</li> <li>• 5 mA (505 mA to 1500 mA)</li> <li>• 10 mA (1510 mA to 3000 mA)</li> <li>• 25 mA (3025 mA to 10000 mA)</li> <li>• 50 mA (10050 mA to 20000 mA)</li> </ul> |                     |
| Trigger input                        | <ul style="list-style-type: none"> <li>• High-Level: 3 V - 24 V</li> <li>• Low-Level: 0 V - 1.4 V</li> <li>• Max. 30 V / 10 mA</li> </ul>  |                     |
| Trigger output                       | Open Collector max. 30 V / 50 mA   |                     |
| Interface                            | RS232 @ 57600bps<br>RJ45 @ UDP (with configuration website)  | N/A                 |
| Flash duration                       | 0.005 - 59000 ms   |                     |
| Switch-on delay                      | 0.023 - 59000 ms   |                     |
| Installation                         | 35 mm DIN top-hat rail, EN50022; cooling slots upwards   |                     |
| Dimensions (w x d x h)               | 22.6 mm x 92 mm x 99 mm  |                     |
| Weight                               | 130 g  | 106 g               |
| Operation temperature                | 0 °C - 50 °C   |                     |
| Overtemperature (shutdown, internal) | 80 °C  |                     |

\* If a limit temperature is exceeded, the output switches off automatically. Observe total current over all modules, must not exceed 24 A.

### TPL-CONTROL-1 PORTS:

| TYPE    | PIN | ASSIGNMENT | DESCRIPTION         |
|---------|-----|------------|---------------------|
| SUPPLY  | ①   | GND        | Supply GND          |
|         | ②   | GND        | Supply GND**        |
|         | ③   | Vcc        | Supply +12 - 48 V   |
|         | ④   | Vcc        | Supply +12 - 48 V** |
| TRIGGER | ⑤   | TRO-       | Trigger Out -       |
|         | ⑥   | TRO+       | Trigger Out +       |
|         | ⑦   | TRI-       | Trigger In -        |
|         | ⑧   | TRI+       | Trigger In +        |
| RS232   | ⑨   | TXD        | RXD PC o. SPS       |
|         | ⑩   | RXD        | TXD PC o. SPS       |
|         | ⑪   | nc         | -                   |
|         | ⑫   | GND        | GND of RS232        |
| OUTPUT  | ⑬   | +          | LED light +         |
|         | ⑭   | nc         | -                   |
|         | ⑮   | -          | LED light -         |
|         | ⑯   | nc         | -                   |
| RJ45    | ⑰   | Ethernet   | network             |

\*\* Required if more than 8 power modules are connected.



**MASTER**  
(Supply, Trigger, RS232, Output, Ethernet)

**SLAVE**  
(Trigger, Output)

### REFERENCES:

- TPL-CONTROL-1 **MASTER**:

**TPL-CTRL-1C-M**

- TPL-CONTROL-1 **SLAVE**:

**TPL-CTRL-1C-S**



Get more information:

[www.tpl-vision.com](http://www.tpl-vision.com)