K30 Pro Indicator

Datasheet

30 mm Programmable Multicolor RGB Indicator with Flashing Input Control

- Bright, uniform indicator light
- Seven default colors in one device (Green, Red, Yellow, Blue, White, Cyan, Magenta)
- Programmable using Banner’s Pro Editor software and Pro Converter Cable
- 22 mm threaded polycarbonate base
- Translucent polycarbonate dome
- Rugged IEC IP67, IEC IP69, UL Type 12, and UL Type 4X and UL Type 13 design
- Bimodal inputs (PNP/NPN), depending on source wiring
- All models have flashing input control
- Variety of connector options
- Terminal connection models available for panel wiring applications

Pro Editor

Use Banner’s Pro Editor software and Pro Converter Cable to create custom configurations by selecting different colors, flash patterns, and animations. For more information visit www.bannerengineering.com/proeditor.

Models

<table>
<thead>
<tr>
<th>Family</th>
<th>Material</th>
<th>Color &amp; Input</th>
<th>Connector*</th>
</tr>
</thead>
<tbody>
<tr>
<td>K30L2</td>
<td></td>
<td>RGB7</td>
<td>Q</td>
</tr>
<tr>
<td></td>
<td>Blank = Standard</td>
<td>RGB7 = RGB Multicolor (7 Colors)</td>
<td></td>
</tr>
</tbody>
</table>

* Models with a quick disconnect require a mating cordset

Blank = 2 m (6.5 ft) integral PVC cable
Q = Integral 5-pin M12/Euro-style quick disconnect
QP = 150 mm (5.9 in) PVC cable with 5-pin M12/Euro-style quick disconnect
T = Terminal screw
### Wiring Diagrams

**PNP**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>White</td>
<td>Blue</td>
</tr>
</tbody>
</table>

**NPN**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>10–30 V dc</td>
<td>10–30 V dc</td>
<td></td>
</tr>
</tbody>
</table>

**Key**

1. Brown
2. White
3. Blue
4. Black
5. Gray

Gray wire (flashing input)

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**Table 1: Default Color Definition**

<table>
<thead>
<tr>
<th>Color</th>
<th>Red</th>
<th>Yellow</th>
<th>Green</th>
<th>Cyan</th>
<th>Blue</th>
<th>Magenta</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input 1</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input 2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Input 3</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An “X” denotes an active input, for example when Input 1 and Input 3 are active, the indicator will show Magenta.

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**Specifications**

**Supply Voltage and Current**

- 10 V dc to 30 V dc
  - 60 mA at 10 V dc
  - 50 mA at 12 V dc
  - 35 mA at 24 V dc
  - 30 mA at 30 V dc

**Supply Protection**

Protected against reverse polarity and transient voltages

**Leakage Current Immunity**

400 µA

**Input Response Time**

250 milliseconds maximum

**Flash**

Default 1.5 Hz flash rate through flash input wire

**Connections**

- Integral 5-pin M12/Euro-style male quick disconnect, 150 mm (6 in) PVC cable with a M12/Euro-style quick disconnect, or 2 m (6.5 ft) integral PVC cable, depending on model
- Models with a quick disconnect require a mating cordset

**Mounting**

- M22 by 1.5 threaded base, maximum torque 2.25 N·m (20 inch·ibf)
- Mounting nut included

**Construction**

- Base, Dome, and Nut: Polycarbonate

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**Pro Editor Configuration**

Connection to Pro Editor software enables control of:

- **Animation**: Steady, Flash, Two Color Flash, Intensity Sweep, Demo
- **Color**: Green, Red, Yellow, Blue, White, Cyan, Magenta, Amber, Rose, Lime Green, Orange, Sky Blue, Violet, Spring Green
- **Intensity**: Low, Medium, High
- **Speed**: Slow, Standard, Fast

Pro Converter Cable required to interface between PC and indicator, see accessories

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**Default Indicator Characteristics**

<table>
<thead>
<tr>
<th>Color</th>
<th>Dominant Wavelength (nm) or Color Temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>528 nm</td>
</tr>
<tr>
<td>Red</td>
<td>625 nm</td>
</tr>
<tr>
<td>Yellow</td>
<td>–</td>
</tr>
<tr>
<td>Blue</td>
<td>470 nm</td>
</tr>
<tr>
<td>White</td>
<td>6150 K</td>
</tr>
<tr>
<td>Cyan</td>
<td>–</td>
</tr>
<tr>
<td>Magenta</td>
<td>–</td>
</tr>
</tbody>
</table>

Refer to CIE 1931 chromaticity diagram or color chart, to show equivalent color with indicated color coordinates.
Vibration and Mechanical Shock
Meets IEC 60068-2-6 requirements (Vibration: 10 Hz to 55 Hz, 1.0 mm amplitude, 5 minutes sweep, 30 minutes dwell)
Meets IEC 60068-2-27 requirements (Shock: 30G 11 ms duration, half sine wave)

Operating Conditions
-40 °C to +50 °C (–40 °F to +122 °F)
90% at +50 °C maximum relative humidity (non-condensing)
Storage Temperature: –40 °C to +70 °C (–40 °F to +158 °F)

Environmental Rating
IEC IP67, IEC IP69. Cabled models also meet IEC IP69 if the cable and cable entrance are protected from high-pressure spray. Indicator side of terminal models meet IEC IP69 when installed in an enclosure. Screw connection points meet IEC IP00.
Meets UL Type 12.
Meets UL Type 4X and UL Type 13 when used in a suitable enclosure.

Certifications

Dimensions

Required Overcurrent Protection

<table>
<thead>
<tr>
<th>Supply Wiring (AWG)</th>
<th>Required Overcurrent Protection (Amps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>5.0</td>
</tr>
<tr>
<td>22</td>
<td>3.0</td>
</tr>
<tr>
<td>24</td>
<td>2.0</td>
</tr>
<tr>
<td>26</td>
<td>1.0</td>
</tr>
<tr>
<td>28</td>
<td>0.8</td>
</tr>
<tr>
<td>30</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Accessories

Pro Editor Hardware

MQDC-506-USB
- Pro Converter Cable
- 1.83 m (6 ft) M12/Euro-style quick disconnect to Device and USB to PC
- Required for connection to Pro Editor

CSB-M12S1FM12S1M
- 5-pin parallel Y splitter (Male-Male-Female)
- For full Pro Editor preview capability
- Requires external power supply, sold separately

PSW-24-1
- 24 V dc, 1 A power supply
- 2 m (6.5 ft) PVC cable with M12/Euro-style quick disconnect
- Provides external power with splitter cable, sold separately

ACC-PRO-CABLES
- Mating accessory for cabled and terminal models
- 150 mm (6 inch) PVC cable with M12/Euro-style quick disconnect
- Lever wire nuts included (qty 5)
- Required to connect cabled models to Pro Converter Cable, sold separately
Cordsets

5-Pin Threaded M12/Euro-Style Cordsets—Single Ended

<table>
<thead>
<tr>
<th>Model</th>
<th>Length</th>
<th>Style</th>
<th>Dimensions</th>
<th>Pinout (Female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQDC1-501.5</td>
<td>0.50 m (1.5 ft)</td>
<td>Straight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MQDC1-506</td>
<td>1.83 m (6 ft)</td>
<td>Straight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MQDC1-515</td>
<td>4.57 m (15 ft)</td>
<td>Straight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MQDC1-530</td>
<td>9.14 m (30 ft)</td>
<td>Straight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MQDC1-506RA</td>
<td>1.83 m (6 ft)</td>
<td>Right-Angle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MQDC1-515RA</td>
<td>4.57 m (15 ft)</td>
<td>Right-Angle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MQDC1-530RA</td>
<td>9.14 m (30 ft)</td>
<td>Right-Angle</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5-Pin Threaded M12/Euro-Style Washdown Cordsets with Shield—Single Ended

<table>
<thead>
<tr>
<th>Model</th>
<th>Length</th>
<th>Style</th>
<th>Dimensions</th>
<th>Pinout (Female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQDCWD-506</td>
<td>1.83 m (6 ft)</td>
<td>Straight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MQDCWD-530</td>
<td>9.14 m (30 ft)</td>
<td>Straight</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Splitter Cables for Use with IO-Blocks

5-Pin Threaded M12/Euro-Style to 4-Pin Threaded M12/Euro Style Combiner Cordset with Flat Junction

<table>
<thead>
<tr>
<th>Model</th>
<th>Branches (Male)</th>
<th>Trunk (Female)</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF-M12F51M12M41</td>
<td>4-pin Euro Quick Disconnect, 2 × 0.31 m</td>
<td>5-pin Euro Quick Disconnect, 0.31 m</td>
<td>Female</td>
</tr>
</tbody>
</table>

Male

Trunk Branch 1 Branch 2
1 = Brown 1 = NC 1 = NC
2 = White 2 = Brown 2 = Gray
3 = Blue 3 = Blue 3 = Blue
4 = Black 4 = Black 4 = White
5 = Gray
Brackets

**SM822A**
- Right-angle bracket with curved slot for versatile orientation
- 12-ga. stainless steel
- Mounting hole for 22 mm sensor

**SM822AK**
- V-clamp, flat bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm diameter tubing or 1 in. square extrusions
- 22 mm hole for mounting sensor

**SM822RA**
- Right-angle SM822A series bracket with 22 mm hole for mounting sensors
- Articulation slots for 90° rotation
- 12-ga. (2.6 mm) cold-rolled steel

**SM822RAK**
- V-clamp, right-angle bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm diameter tubing or 1 in. square extrusions
- 22 mm hole for mounting sensor

**SM822RAK**
- V-clamp, right-angle bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm diameter tubing or 1 in. square extrusions
- 22 mm hole for mounting sensor

**SMBAMS22P**
- Flat SMBAMS series bracket with 22 mm hole for mounting sensors
- Articulation slots for 90° rotation
- 12-ga. (2.6 mm) cold-rolled steel

**SMBAMS22RA**
- Right-angle SMBAMS series bracket with 22 mm hole for mounting sensors
- Articulation slots for 90° rotation
- 12-ga. (2.6 mm) cold-rolled steel

**SMBAMS22RAK**
- Right-angle SMBAMS series bracket with 22 mm hole for mounting sensors
- Articulation slots for 90° rotation
- 12-ga. (2.6 mm) cold-rolled steel

**SMBAMS22RAK**
- Right-angle SMBAMS series bracket with 22 mm hole for mounting sensors
- Articulation slots for 90° rotation
- 12-ga. (2.6 mm) cold-rolled steel

**SM822AK**
- V-clamp, flat bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm diameter tubing or 1 in. square extrusions
- 22 mm hole for mounting sensor

**SM822RA**
- Right-angle SM822A series bracket with 22 mm hole for mounting sensors
- Articulation slots for 90° rotation
- 12-ga. (2.6 mm) cold-rolled steel

**SM822RAK**
- Right-angle SMBAMS series bracket with 22 mm hole for mounting sensors
- Articulation slots for 90° rotation
- 12-ga. (2.6 mm) cold-rolled steel

**SM822RAK**
- Right-angle SMBAMS series bracket with 22 mm hole for mounting sensors
- Articulation slots for 90° rotation
- 12-ga. (2.6 mm) cold-rolled steel

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FCC Part 15 and CAN ICES-3 (B)/NMB-3(B)

This device complies with part 15 of the FCC Rules and CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules and CAN ICES-3 (B)/NMB-3(B). These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the manufacturer.