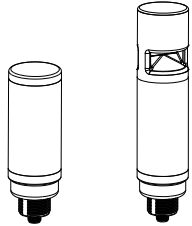


CL50 Pro Column Light



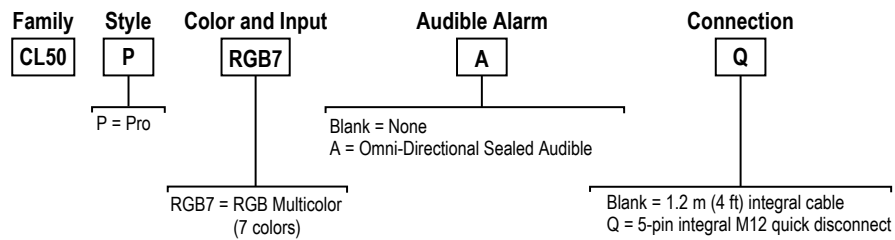
Datasheet

50 mm Programmable Multicolor RGB Column Light



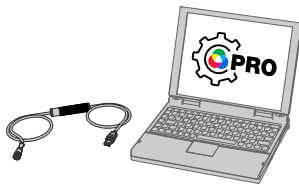
- Rugged, versatile, and easy-to-install multicolor indicators
- Programmable using Banner's Pro Editor software and Pro Converter Cable
- Illumination provides easy-to-see operator guidance and indication of equipment status
- Audible models available with omni-directional audible element
- 12 V DC to 30 V DC operation
- No assembly required

Models



Configuration Instructions

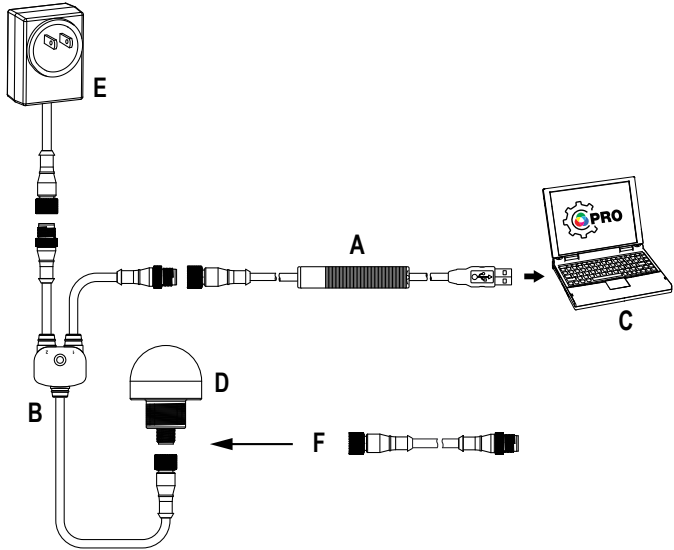
Pro Editor



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.



Full Preview Connection (Required)



- A = Pro Converter Cable (MQDC-506-USB)
- B = Splitter (CSB-M1251FM1251M)
- C = PC running Pro Editor software
- D = Any Banner Pro Series-enabled device (K50 shown)
- E = Power Supply (PSW-24-1 or PSD-24-4)
- F = 8-Pin to 5-Pin Double-Ended Cordset (MQDC-801-5M-PRO), required for 8-Pin models

Wiring

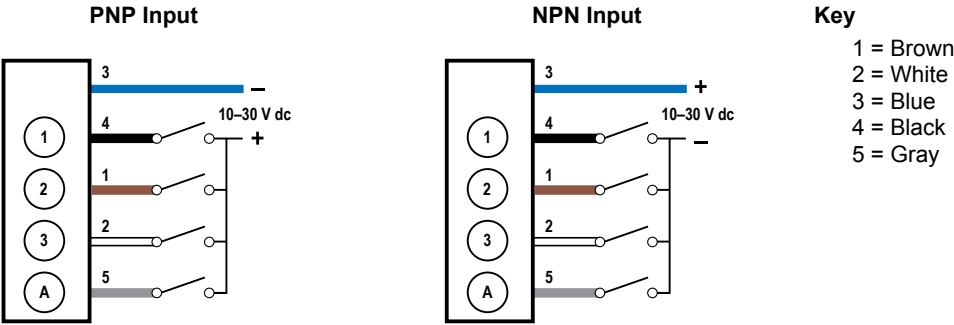


Table 1: Default Color Definition

	Red	Yellow	Green	Cyan	Blue	Magenta	White
Input 1	X	X				X	X
Input 2		X	X	X			X
Input 3				X	X	X	X

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

Pro Editor Configuration for the CL50 Pro

Banner's Pro Editor software offers an easy way to configure Pro Series-enabled touch and indicator devices, allowing users full control of device states. The easy-to-use configuration software provides a variety of tools and capabilities to solve a wide range of applications. Pro Editor includes a preview mode that allows users to verify device performance before writing a configuration to a device. Configure any Pro Series-enabled device using the free Pro Editor software, available for download at www.bannerengineering.com/proeditor.

Connection to Pro Editor software enables control of:

- Animation: Off, Steady, Two Color Flash, Intensity Sweep
- 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

I/O State – Basic

Four state control. Configurations made in I/O State – Basic assign one wire to one state, with the following override control:

- Pin 1 (Brown) overrides Pin 4 (Black)
- Pin 2 (White) overrides Pins 1 and 4 (Brown and Black)
- Pin 5 (Gray) overrides Pins 1, 2, and 4 (Brown, White, and Black)

I/O State – Advanced

Default I/O state with full 15 state options for maximum configurability. Configurations made in I/O State – Advanced assign binary wiring combinations of all valid inputs to each state.

I/O State – I/O Block

Three state control for use with I/O block. Configurations made in I/O State – I/O Block assign states to the black, white, and combination of black and white wires for use with I/O blocks for which power (brown) and common (blue) are always on for five pin connections.

Specifications

Supply Voltage and Current

12 V DC to 30 V DC
 255 mA at 12 V DC
 115 mA at 24 V DC
 95 mA at 30 V DC
 Maximum current for Omni-Directional Sealed Audible: 35 mA

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Input Rating

Leakage Current Immunity: 400 uA
 Indicator On/Off Response Time: 250 ms (maximum)

Connections

5-pin integral M12 quick disconnect; 1 m (6.5 ft) integral PVC cable, depending on model
 Models with a quick disconnect require a mating cordset

Construction

Bases, Covers, Light Segment: Polycarbonate

Operating Conditions

Non-Audible: -40 °C to +50 °C (-40 °F to +122 °F)
Audible: -20 °C to +50 °C (-4 °F to +122 °F)
 95% at +50 °C maximum relative humidity (non-condensing)

Certifications



Banner Engineering Europe
 Park Lane, Culliganlaan 2F bus 3,
 1831 Diegem, BELGIUM



Turck Banner LTD Blenheim
 House, Blenheim Court, Wickford,
 Essex SS11 8YT, Great Britain



Environmental Rating

IP65, UL Type 4X

Vibration and Mechanical Shock

Vibration: 10 Hz to 55 Hz, 0.5 mm peak-to-peak amplitude per IEC 60068-2-6
 Shock: 30G 11 ms duration, half sine wave per IEC 60068-2-27

Audible Alarm

3.1 kHz ± 500 Hz oscillation frequency
 Intensity: 93 dB at 1 m (typical)

Required Overcurrent Protection



WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.
 Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.
 Supply wiring leads < 24 AWG shall not be spliced.
 For additional product support, go to www.bannerengineering.com.

Supply Wiring (AWG)	Required Overcurrent Protection (Amps)
20	5.0
22	3.0
24	2.0
26	1.0
28	0.8
30	0.5

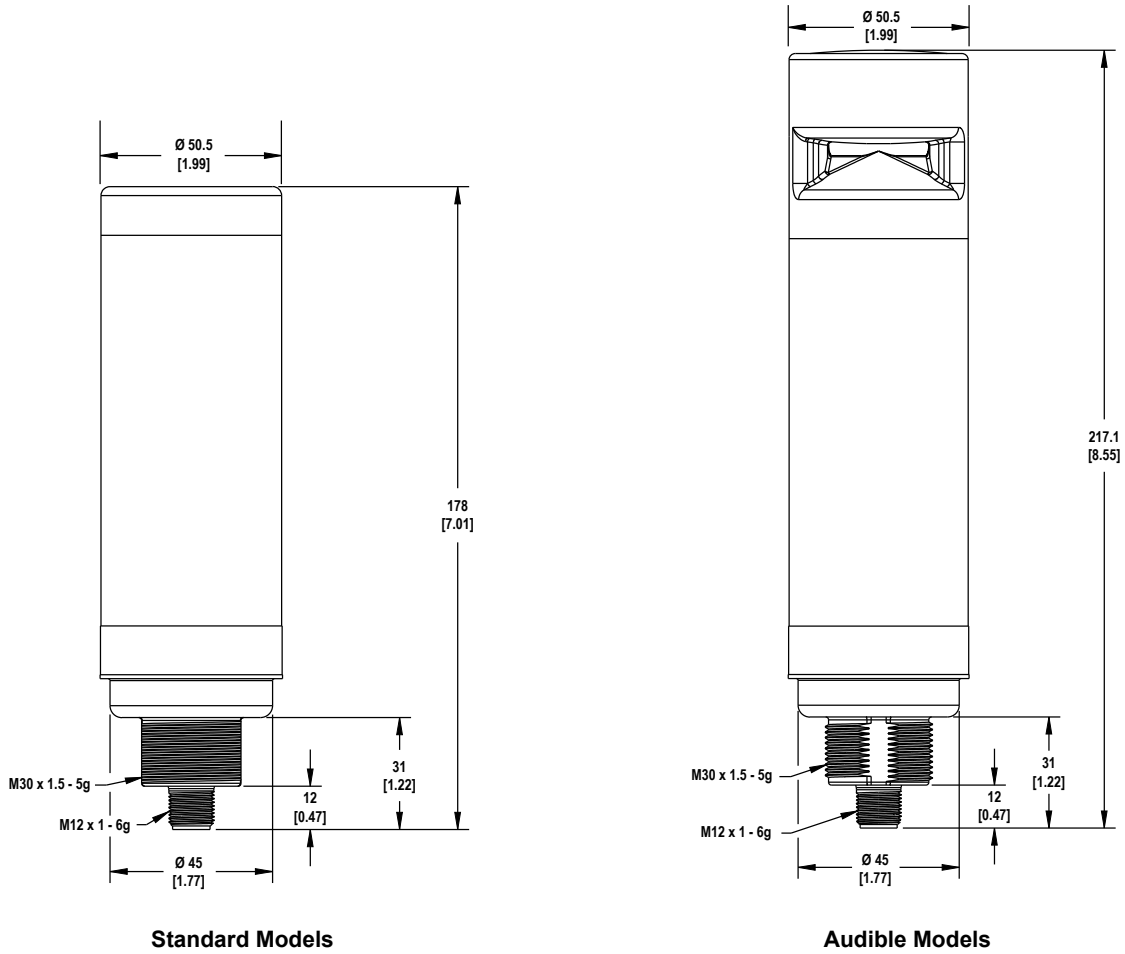
Indicator Characteristics

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Color Coordinates ¹		Lumen Output Per Segment (Typical at 25 °C)
		X	Y	
Amber	589	0.539	0.431	57.2
Blue	466	0.139	0.083	11.6
Cyan	493	0.163	0.352	57.9
Green	522	0.195	0.710	52.2
Lime Green	562	0.367	0.567	64.0
Magenta	-	0.370	0.185	36.7
Orange	599	0.600	0.382	43.6
Red	620	0.668	0.318	29.1
Rose	-	0.494	0.238	30.3
Sky Blue	486	0.153	0.262	56.5
Spring Green	508	0.180	0.520	53.2
Violet	-	0.223	0.119	19.9
White	5700 K	0.326	0.347	79.4
Yellow	576	0.455	0.500	75.9

¹ Refer to CIE 1931 chromaticity diagram or color chart to show equivalent color with indicated color coordinates

Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise.



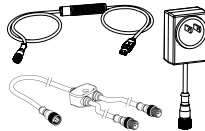
Accessories

Pro Editor Hardware

PRO-KIT

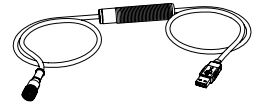
Includes:

- Pro Converter Cable (MQDC-506-USB)
- Splitter (CSB-M1251FM1251M)
- Power Supply (PSW-24-1)



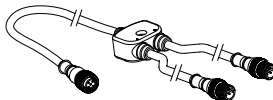
MQDC-506-USB

- Pro Converter Cable
- 1.83 m (6 ft) length 5-pin M12 quick disconnect to Device and USB to PC
- Required for connection to Pro Editor



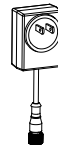
CSB-M1251FM1251M

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



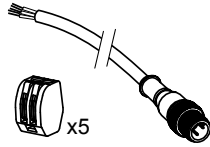
PSW-24-1

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



ACC-PRO-CABLE5

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



Cordsets

5-Pin Threaded M12 Cordsets—Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC1-501.5	0.5 m (1.5 ft)	Straight		<p>1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray</p>
MQDC1-506	2 m (6.5 ft)			
MQDC1-515	5 m (16.4 ft)			
MQDC1-530	9 m (29.5 ft)			
MQDC1-506RA	2 m (6.5 ft)	Right-Angle		
MQDC1-515RA	5 m (16.4 ft)			
MQDC1-530RA	9 m (29.5 ft)			

Splitter Cables for Use with IO-Blocks

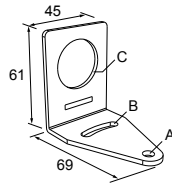
5-Pin Threaded M12 to 4-Pin Threaded M12 Combiner Cordset with Flat Junction																					
Model	Branches (Male)	Trunk (Female)	Pinout																		
CSF-M12F51M12M41	4-pin Quick Disconnect, 2 × 0.31 m (1.02 ft)	5-pin Quick Disconnect, 0.31 m (1.02 ft)	<p>Female</p> <p>Male</p>																		
			<table border="1"> <thead> <tr> <th>Trunk</th> <th>Branch 1</th> <th>Branch 2</th> </tr> </thead> <tbody> <tr> <td>1 = Brown</td> <td>1 = NC</td> <td>1 = NC</td> </tr> <tr> <td>2 = White</td> <td>2 = Brown</td> <td>2 = Gray</td> </tr> <tr> <td>3 = Blue</td> <td>3 = Blue</td> <td>3 = Blue</td> </tr> <tr> <td>4 = Black</td> <td>4 = Black</td> <td>4 = White</td> </tr> <tr> <td>5 = Gray</td> <td></td> <td></td> </tr> </tbody> </table>	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		
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																					

Mounting Brackets

All measurements are listed in millimeters [inches], unless noted otherwise.

SMB30A

- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-ga. stainless steel

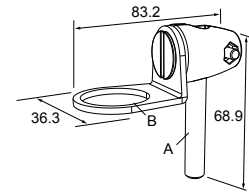


Hole center spacing: A to B=40

Hole size: A=∅ 6.3, B= 27.1 x 6.3, C=∅ 30.5

SMB30FA

- Swivel bracket with tilt and pan movement for precise adjustment
- Mounting hole for 30 mm sensor
- 12-ga. 304 stainless steel
- Easy sensor mounting to extrude rail T-slot
- Metric and inch size bolt available

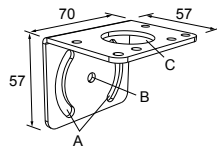


Bolt thread: SMB30FA, A= 3/8 - 16 x 2 in; SMB30FAM10, A= M10 - 1.5 x 50

Hole size: B= ∅ 30.1

SMB30MM

- 12-ga. stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor

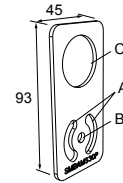


Hole center spacing: A = 51, A to B = 25.4

Hole size: A = 42.6 x 7, B = ∅ 6.4, C = ∅ 30.1

SMBAMS30P

- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. 300 series stainless steel

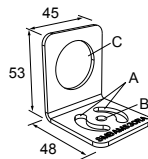


Hole center spacing: A=26.0, A to B=13.0

Hole size: A=26.8 x 7.0, B=∅ 6.5, C=∅ 31.0

SMBAMS30RA

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

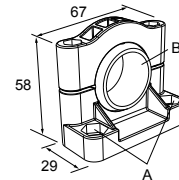


Hole center spacing: A=26.0, A to B=13.0

Hole size: A=26.8 x 7.0, B=∅ 6.5, C=∅ 31.0

SMB30SC

- Swivel bracket with 30 mm mounting hole for sensor
- Black reinforced thermoplastic polyester
- Stainless steel mounting and swivel locking hardware included



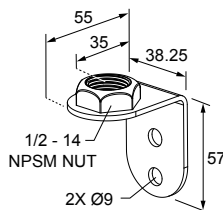
Hole center spacing: A=∅ 50.8

Hole size: A=∅ 7.0, B=∅ 30.0

LMBE12RA35

- Direct mounting of stand-off pipe, with common bracket type
- Zinc-plated steel
- 1/2-14 NPSM nut
- Mounting distance from the wall to the center of the 1/2-14 NPSM nut is 35 mm

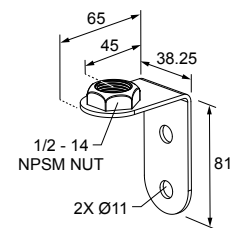
Hole center spacing: 20.0



LMBE12RA45

- Direct mounting of stand-off pipe, with common bracket type
- Zinc-plated steel
- 1/2-14 NPSM nut
- Mounting distance from the wall to the center of the 1/2-14 NPSM nut is 45 mm




Hole center spacing: 35.0



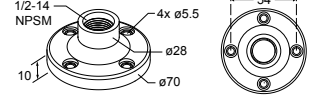
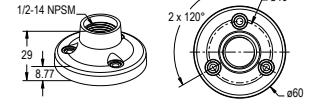
LMB Sealed Right-Angle Bracket

Model	Description	Construction	
LMB30RA	Direct-Mount Models: Bracket kit with base, 30 mm adapter, set screw, fasteners, O-rings, and gaskets.	Black polycarbonate	
LMB30RAC		Gray polycarbonate	
LMBE12RA	Pipe-Mount Models: Bracket kit with base, ½-14 pipe adapter, set screw, fasteners, O-rings, and gaskets. For use with stand-off pipe (listed and sold separately).	Black polycarbonate	
LMBE12RAC		Gray polycarbonate	

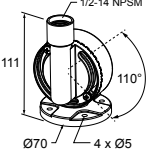
Elevated Mount System

Model			Features	Components
SA-M30TE12 - Black ABS			<ul style="list-style-type: none"> Streamlined black ABS or white UHMW stand-off pipe adapter/cover Connects between 30 mm light base and ½ in. NPSM/DN15 pipe Mounting hardware included 	
SA-M30TE12C - White UHMW				
Polished 304 Stainless Steel	Black Anodized Aluminum	Clear Anodized Aluminum	<ul style="list-style-type: none"> Elevated-use stand-off pipe (½ in. NPSM/DN15) Polished 304 stainless steel, black anodized aluminum, or clear anodized aluminum surface ½ in. NPT thread at both ends Compatible with most industrial environments 	
SOP-E12-150SS 150 mm (6 in) long	SOP-E12-150A 150 mm (6 in) long	SOP-E12-150AC 150 mm (6 in) long		
SOP-E12-300SS 300 mm (12 in) long	SOP-E12-300A 300 mm (12 in) long	SOP-E12-300AC 300 mm (12 in) long		
SOP-E12-900SS 900 mm (36 in) long	SOP-E12-900A 900 mm (36 in) long	SOP-E12-900AC 900 mm (36 in) long		
SA-E12M30 - Black ABS			<ul style="list-style-type: none"> Streamlined black ABS or white UHMW mounting base adapter/cover Connects between ½ in. NPSM/DN15 pipe and 30 mm (1-3/16 in) drilled hole Mounting hardware included 	
SA-E12M30C - White UHMW				

Pipe Mounting Flange

Pipe Mounting Flange			
Model	Features	Construction	
SA-F12	<ul style="list-style-type: none"> Elevated-use stand-off pipes (½ in, NPSM/DN15) M5 mounting hardware and nitrile gasket included 	Die-cast zinc base with black paint	
SA-F12-3	<ul style="list-style-type: none"> Elevated-use stand-off pipes (½ in, NPSM/DN15) M4 mounting hardware and nitrile blend gasket included 	Black Polycarbonate	

Foldable Mounting Brackets

Foldable Mounting Brackets			
Model	Features	Construction	
SA-FFB12	<ul style="list-style-type: none"> For use with 1/2 inch stand-off pipes Stainless steel hardware 	Black polycarbonate	
SA-FFB12C		Gray polycarbonate	

Banner Engineering Corp. Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

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This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

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www.bannerengineering.com.

For patent information, see www.bannerengineering.com/patents.

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.



more sensors, more solutions