EZ-LIGHT® TL50C Compact Tower Light

Datasheet

Multi-Color General-Purpose or Audible Indicators

Standard Audible

Sealed Audible

Omni-Directional Sealed Audible
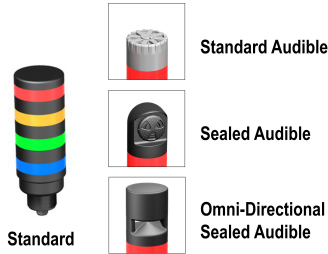
Standard

- Bright, uniform lighted segments at only half the height of the standard TL50 models
- Rugged, cost-effective, and easy-to-install multi-segment indicators
- Illuminated segments provide easy-to-see operator guidance and indication of equipment status
- Up to 7 stacked colors available
- Available in black or light gray housing
- Audible models available with standard, sealed, or omni-directional audible element
- Compact devices are completely self-contained, no controller needed
- 12 V dc to 30 V dc or 24 V ac operation
- No assembly required

Models

Non-Audible Models [1]	# of LED Colors	LED Colors [2]	Connection [3]
TL50CRQ	1	Red	4-pin M12/Euro-Style Integral QD
TL50CGRQ	2	Green, Red	4-pin M12/Euro-Style Integral QD
TL50CGYRQ	3	Green, Yellow, Red	4-pin M12/Euro-Style Integral QD
TL50CBGYRQ	4	Blue, Green, Yellow, Red	5-pin M12/Euro-Style Integral QD
TL50CWBGYRQ	5	White, Blue, Green, Yellow, Red	8-pin M12/Euro-Style Integral QD

Standard Audible Models [1]	# of LED Colors	LED Colors [2]	Connection [3]
TL50CRAQ	1	Red	4-pin M12/Euro-Style Integral QD
TL50CGRAQ	2	Green, Red	4-pin M12/Euro-Style Integral QD
TL50CGYRAQ	3	Green, Yellow, Red	5-pin M12/Euro-Style Integral QD
TL50CBGYRAQ	4	Blue, Green, Yellow, Red	8-pin M12/Euro-Style Integral QD
TL50CWBGYRAQ	5	White, Blue, Green, Yellow, Red	8-pin M12/Euro-Style Integral QD

Sealed Audible Models [1]			# of LED Colors	LED Colors [2]	Connection [3]
Continuous	Pulsed at 1.6 Hz	Staccato			
TL50CRALSQ	TL50CRALS3Q	TL50CRALS4Q	1	Red	4-pin M12/Euro-Style Integral QD
TL50CGRALSQ	TL50CGRALS3Q	TL50CGRALS4Q	2	Green, Red	4-pin M12/Euro-Style Integral QD
TL50CGYRALSQ	TL50CGYRALS3Q	TL50CGYRALS4Q	3	Green, Yellow, Red	5-pin M12/Euro-Style Integral QD
TL50CBGYRALSQ	TL50CBGYRALS3Q	TL50CBGYRALS4Q	4	Blue, Green, Yellow, Red	8-pin M12/Euro-Style Integral QD
TL50CWBGYRALSQ	TL50CWBGYRALS3Q	TL50CWBGYRALS4Q	5	White, Blue, Green, Yellow, Red	8-pin M12/Euro-Style Integral QD

[1]
- Models with black housing are listed. For gray housing, add the suffix "C" at the end of the cabled model number or before the "Q" in quick disconnect model numbers. For example, TL50CRAC or TL50CRACQ.
- All models have Bimodal (NPN or PNP) inputs.

[2]
- The first color listed is the bottom color, going up in successive order.
- Available colors include: Green (G), Red (R), Yellow (Y), Blue (B), Orange (O), White (W), Turquoise (T), Violet (V), Magenta (M) and Sky Blue (S).
- Contact Banner Engineering for other colors and color combinations.

[3]
- To order the 150 mm (6 in) PVC cable model with a M12/Euro-style quick disconnect, replace the suffix "Q" with "QP" in the model number. For example, TL50CRAQP.
- To order the 2 m (6.5 ft) PVC cable model, omit the suffix "Q" in the model number. For example, TL50CRA.
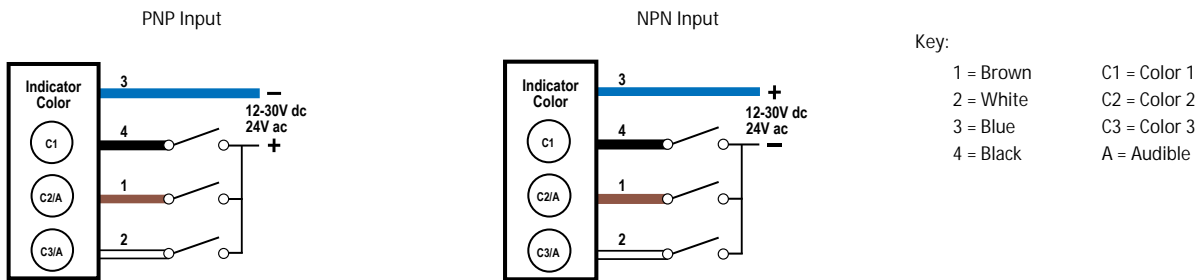- Models with a quick disconnect require a mating cordset.

Omni-Directional Sealed Audible Models[1]			# of LED Colors	LED Colors [2]	Connection [3]
Continuous	Pulsed at 1.6 Hz	Staccato			
TL50CRAOSQ	TL50CRAOS3Q	TL50CRAOS4Q	1	Red	4-pin M12/Euro-Style Integral QD
TL50CGRAOSQ	TL50CGRAOS3Q	TL50CGRAOS4Q	2	Green, Red	
TL50CGYRAOSQ	TL50CGYRAOS3Q	TL50CGYRAOS4Q	3	Green, Yellow, Red	5-pin M12/Euro-Style Integral QD
TL50CBGYRAOSQ	TL50CBGYRAOS3Q	TL50CBGYRAOS4Q	4	Blue, Green, Yellow, Red	8-pin M12/Euro-Style Integral QD
TL50CWBGYRAOSQ	TL50CWBGYRAOS3Q	TL50CWBGYRAOS4Q	5	White, Blue, Green, Yellow, Red	

Omni-Directional Sealed Audible Models with Intensity Adjustment[1]			# of LED Colors	LED Colors [2]	Connection [3]
Continuous	Pulsed at 1.6 Hz	Staccato			
TL50CRAOSIQ	TL50CRAOS3IQ	TL50CRAOS4IQ	1	Red	4-pin M12/Euro-Style Integral QD
TL50CGRAOSIQ	TL50CGRAOS3IQ	TL50CGRAOS4IQ	2	Green, Red	
TL50CGYRAOSIQ	TL50CGYRAOS3IQ	TL50CGYRAOS4IQ	3	Green, Yellow, Red	5-pin M12/Euro-Style Integral QD
TL50CBGYRAOSIQ	TL50CBGYRAOS3IQ	TL50CBGYRAOS4IQ	4	Blue, Green, Yellow, Red	8-pin M12/Euro-Style Integral QD
TL50CWBGYRAOSIQ	TL50CWBGYRAOS3IQ	TL50CWBGYRAOS4IQ	5	White, Blue, Green, Yellow, Red	

Wiring Diagram — 4-Pin Models

Models with 1 to 3 segments

PNP Input

NPN Input

Key:
1 = Brown   C1 = Color 1
2 = White   C2 = Color 2
3 = Blue   C3 = Color 3
4 = Black   A = Audible
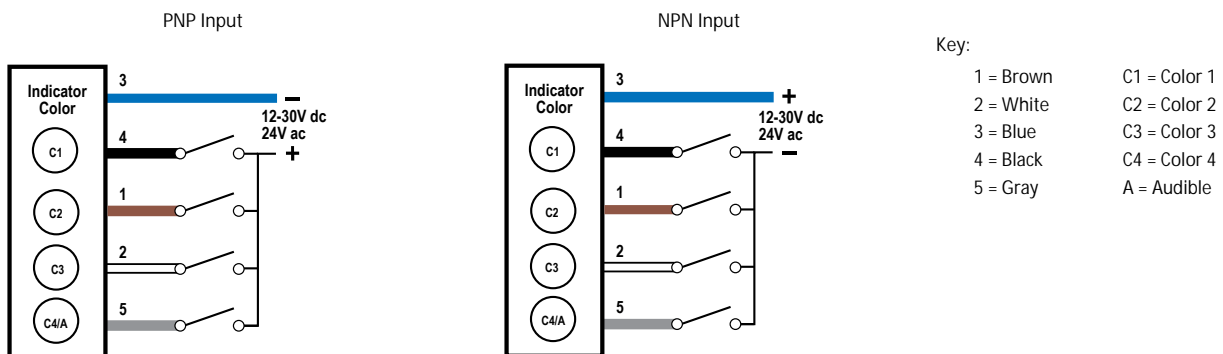
Pins 1 and 2 could activate the corresponding color or the audible function, if available.

Wiring Diagram — 5-Pin Models

Models with 4 segments
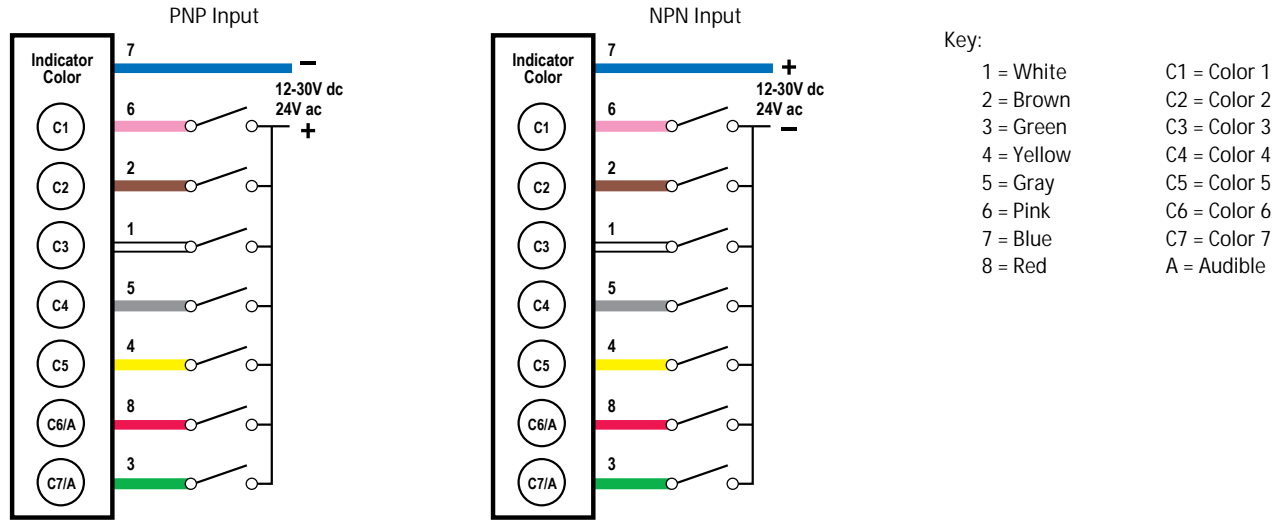
PNP Input

NPN Input

Key:
1 = Brown   C1 = Color 1
2 = White   C2 = Color 2
3 = Blue   C3 = Color 3
4 = Black   C4 = Color 4
5 = Gray   A = Audible

Pin 5 could activate the corresponding color or the audible function, if available.

Wiring Diagram — 8-Pin Models

Models with 5 to 7 segments

PNP Input

NPN Input

Key:

1 = White   C1 = Color 1
2 = Brown   C2 = Color 2
3 = Green   C3 = Color 3
4 = Yellow   C4 = Color 4
5 = Gray   C5 = Color 5
6 = Pink   C6 = Color 6
7 = Blue   C7 = Color 7
8 = Red   A = Audible

12-30V dc
24V ac

Pins 3 and 8 can activate the corresponding color or the audible function, if available.

Specifications

Supply Voltage and Current
    12 V dc to 30 V dc; or 24 V ac (± 3 V) at 50 Hz to 60 Hz
    Indicators—maximum current per LED color:
        135 mA at 12 V dc
        45 mA at 30 V dc
        60 mA at 24 V ac
    Standard Audible Alarm: 25 mA maximum current
    Sealed Audible Alarm: 35 mA maximum current
    Omni-Directional Sealed Audible Alarm: 45 mA maximum current

Audible Alarm
    Standard Audible Alarm: 2.7 kHz ± 500 Hz oscillation frequency; maximum intensity 92 dB at 1 m (3.3ft) (typical)
    Sealed Audible Alarm: 2.9 kHz ± 250 Hz oscillation frequency; maximum intensity 94 dB at 1 m (3.3 ft) (typical)
    Omni-Directional Sealed Audible Alarm: 2.1 kHz ± 250 Hz oscillation frequency; maximum intensity 99 dB at 1 m (3.3 ft) (typical)
    Omni-Directional Sealed Audible Alarm with Intensity Adjustment: 2.1 kHz ± 250 Hz oscillation frequency; maximum intensity 95 dB at 1 m (3.3 ft) (typical)

Audible Adjustment
    Standard Audible Alarm: Unscrew the cover (up to 1.5 turns maximum) to adjust the audible intensity. (Do not exceed 1.5 turns or the cover may detach during operation.) For maximum intensity, rotate the center plug 180° counterclockwise to remove it.
    Sealed Audible Alarm and **Omni-Directional** Sealed Audible Alarm with Intensity Adjustment: Rotate the front cover until the desired intensity is reached.
    Typical **Reduction** in Sound Intensity with Audible Adjustment (maximum to minimum)
      •   Standard Audible: 30 dB
      •   Sealed Audible: 20 dB
      •   **Omni-Directional** Sealed Audible: 12 dB

Supply **Protection** Circuitry
    Protected against transient voltages

Connections
    Integral 4-pin, 5-pin, or 8-pin M12/Euro-style QD, 150 mm (6 in) PVC cable with QD, or 2 m (6.5 ft) integral cable, depending on model

Indicators
    LEDs are independently selected; 1 to 7 colors depending on model

Input Response Time
    Indicator On/Off: 10 ms (maximum)

Indicator **Characteristics**

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Color Coordinates[4]		Lumen Output (Typical at 25 °C)
		x	y	
Green	528 nm	–	–	27.0
Red	625 nm	–	–	9.0
Yellow	590 nm	–	–	6.0
Blue	470 nm	–	–	4.5
Orange	608 nm	–	–	18.5
White	6000 K	–	–	25.0
Turquoise	–	0.19	0.37	6.5
Violet	–	0.20	0.08	3.0
Magenta	–	0.35	0.15	3.5
Sky Blue	–	0.19	0.26	14.5

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[4]   Refer to CIE 1931 chromaticity diagram or color chart, to show equivalent color with indicated color coordinates.

Vibration and Mechanical Shock

All models meet Mil Std. 202F requirements. Method 201A (vibration: 10 Hz to 60 Hz max., double amplitude 0.06 inch, maximum acceleration 10G). Also meets IEC 947-5-2 requirements: 30G 11 ms duration, half sine wave.

Operating Conditions

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

Construction

Bases and Covers: ABS
Light Segment: Polycarbonate

Environmental **Rating**

NEMA/UL Type 13
Non-Audible and Sealed Audible: IEC IP67
Standard Audible: IEC IP50

Certifications

CE   cULus LISTED

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.
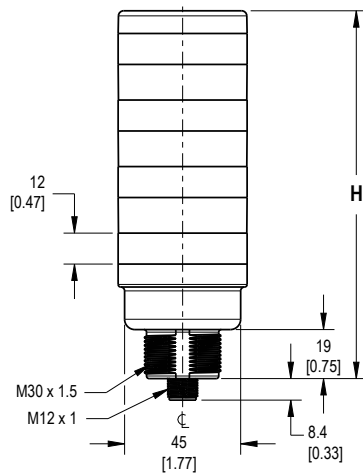Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.
Supply wiring leads < 24 AWG shall not be spliced.
For additional product support, go to *www.bannerengineering.com*.

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

Dimensions

# of Colors	Tower Height (H)			
	Non-Audible	Standard Audible*	Sealed Audible	**Omni-Directional** Sealed Audible
1	46.2 mm (1.8 in)	77.1 mm (3.1 in)	100.2 mm (4.0 in)	114.2 mm (4.48 in)
2	72.0 mm (2.83 in)	102.9 mm (4.1 in)	126.0 mm (5.0 in)	140.0 mm (5.5 in)
3	97.8 mm (3.85 in)	128.7 mm (5.1 in)	151.8 mm (6.0 in)	165.8 mm (6.5 in)
4	123.6 mm (4.9 in)	154.5 mm (6.1 in)	177.6 mm (7.0 in)	191.6 mm (7.54 in)
5	149.4 mm (5.9 in)	180.3 mm (7.1 in)	203.4 mm (8.0 in)	217.4 mm (8.56 in)
6	175.2 mm (6.9 in)	206.1 mm (8.1 in)	229.2 mm (9.0 in)	243.4 mm (9.58 in)
7	201.0 mm (7.9 in)	-	-	-

*Tower height (H) with top unscrewed approximately 3.5 mm to allow sound to escape

Dimensions (drawing): 12 [0.47], H, 19 [0.75], M30 x 1.5, M12 x 1, 45 [1.77], 8.4 [0.33]

Accessories

Cordsets

4-Pin Threaded M12/Euro-Style Cordsets				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-406	1.83 m (6 ft)	Straight	44 Typ. M12 x 1 ø 14.5	1 = Brown 2 = White 3 = Blue 4 = Black
MQDC-415	4.57 m (15 ft)			
MQDC-430	9.14 m (30 ft)			
MQDC-450	15.2 m (50 ft)			

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

Model	Length	Style	Dimensions	Pinout (Female)
MQDC1-501.5	0.50 m (1.5 ft)	Straight		
MQDC1-506	1.83 m (6 ft)			
MQDC1-515	4.57 m (15 ft)			
MQDC1-530	9.14 m (30 ft)			
MQDC1-506RA	1.83 m (6 ft)	Right-Angle		1 = Brown
MQDC1-515RA	4.57 m (15 ft)			2 = White
MQDC1-530RA	9.14 m (30 ft)			3 = Blue
				4 = Black
				5 = Gray

8-Pin Threaded M12/Euro-Style Cordsets with Open-Shield

Model	Length	Style	Dimensions	Pinout (Female)
MQDC2S-806	1.83 m (6 ft)	Straight		
MQDC2S-815	4.57 m (15 ft)			
MQDC2S-830	9.14 m (30 ft)			
MQDC2S-850	15.2 m (50 ft)			
MQDC2S-806RA	1.83 m (6 ft)	Right-Angle		1 = White
MQDC2S-815RA	4.57 m (15 ft)			2 = Brown
MQDC2S-830RA	9.14 m (30 ft)			3 = Green
MQDC2S-850RA	15.2 m (50 ft)			4 = Yellow
				5 = Gray
				6 = Pink
				7 = Blue
				8 = Red

Mounting Brackets

SMB30A
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
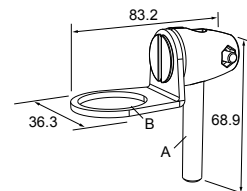- 12-ga. stainless steel
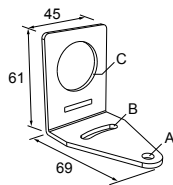
Hole center spacing: A to B=40
Hole size: A=ø 6.3, B= 27.1 x 6.3, C=ø 30.5

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
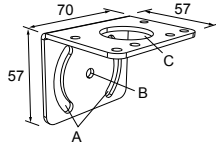- Metric and inch size bolt available

Bolt thread: SMB30FA, A= 3/8 - 16 x 2 in; SMB30FAM10, A= M10 - 1.5 x 50
Hole size: B= ø 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 = ø 6.4, C = ø 30.1

SMBAMS30P
- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. 300 series stainless steel
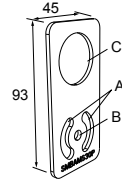
Hole center spacing: A=26.0, A to B=13.0
Hole size: A=26.8 x 7.0, B=ø 6.5, C=ø 31.0

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
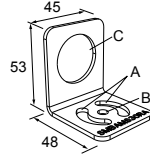
Hole center spacing: A=26.0, A to B=13.0
Hole size: A=26.8 x 7.0, B=ø 6.5, C=ø 31.0

SMB30SC
- Swivel bracket with 30 mm mounting hole for sensor
- Black reinforced thermoplastic polyester
- Stainless steel mounting and swivel locking hardware included
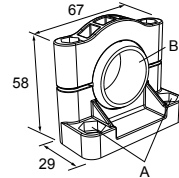
Hole center spacing: A=ø 50.8
Hole size: A=ø 7.0, B=ø 30.0

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

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 Acetal			• Streamlined black acetal 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	• 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 Acetal			• Streamlined black acetal 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	• For use elevated stand-off pipes (½ in, NPSM/DN15) • M5 mounting hardware and nitrile gasket included	Die-cast zinc base with black paint	1/2-14 NPSM 4x ø5.5 ø28 10 ø70 54

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