

## Bulletin 856T — 70 mm Control Tower Stack Lights

### Light Modules



Steady LED Module



Multi-function LED Module



Steady/Flashing Beacon Style

856T —  $\frac{\text{B}}{\text{a}}$   $\frac{\text{T}}{\text{b}}$   $\frac{\text{4}}{\text{c}}$   $\frac{\text{d}}$

a	
Housing Color	
Code	Description
B	Black

b	
Module Type	
Code	Description
T	Steady LED
B	Multi-function LED steady/ flashing/strobe 1/strobe 2
R	Rotating LED
MC	7-color LED (RGB) <sup>(1)</sup> <sup>(2)</sup>
GB	Steady/flashing, non-stackable beacon style
SB	Strobe 1/strobe 2, non-stackable beacon style <sup>(3)</sup>
RB	Rotating LED, non-stackable beacon style <sup>(4)</sup>
MB	7-color LED (RGB), non-stackable beacon style <sup>(1)</sup> <sup>(2)</sup>

c	
Output Color	
Code	Description
3	Green
4	Red
5	Amber
6	Blue
7	Clear
8	Yellow
9	Magenta <sup>(5)</sup>
Blank	For use with Module Type MC and MB only

d	
Lens Finish	
Code	Description
Blank	Standard

- (1) Output Color must be Blank (Table c).
- (2) Can use three circuits to display up to seven colors, two circuits to display three colors, or one circuit to display one color.
- (3) Can only be used with Output Color 4, 5, or 6 (Table c).
- (4) Can only be used with Output Color 4 or 5 (Table c).
- (5) Cannot be used with Module Type R and GB (Table b).

### Sound Modules



Transducer Sounder



In-line Piezo Sounder



Top-mount Piezo Sounder

856T -  $\frac{B}{a}$   $\frac{P1}{b}$

a	
Housing Color	
Code	Description
B	Black

b	
Module Type	
Code	Description
P1	Single-circuit piezo, eight tones, top mount
TR3	Transducer, 16 tone tables/seven tones per table, three circuits <sup>(1)</sup>
PL1	In-line piezo, single circuit, eight tones

(1) Can use three circuits to play up to seven tones, two circuits to play three tones, or one circuit to play one tone.

### Power Modules



Power Module 24V AC/DC



Power Module 120/240V AC (3 circuits)



Power Module 120/240V AC (7 circuits)

856T –  $\frac{B}{a}$   $\frac{24}{b}$   $\frac{C}{c}$   $\frac{C}{d}$

a	
Housing Color	
Code	Description
B	Black

b	
Voltage	
Code	Description
24	24V AC/DC
AC3	90...250V AC, three circuit
AC7	90...250V AC, seven circuit

c	
Terminal Block	
Code	Description
Blank	Push-in

d	
Cap Option	
Code	Description
C	Cap included

### Base Mounting Adapters



Surface 1/2 in. NPT



Surface with Screws



Vertical Mount



Pole Mount



Threaded Tube Mount

856T –  $\frac{BMA}{a}$   $\frac{P10}{b}$   $\frac{C}{c}$

a	
Housing Color	
Code	Description
BMA	Black

b	
Mounting Style	
Code	Description
SN	NPT surface mount, Type 4/4X/13
VM	Vertical mount
SH	Surface mount NPT, Type 4/4X/13, preinstalled mounting hardware
P10	10 cm aluminum pole mount
P25	25 cm aluminum pole mount
P40	40 cm aluminum pole mount
P60	60 cm aluminum pole mount
T10	10 cm threaded tube (M20)
T25	25 cm threaded tube (M20)

c	
Cap Option	
Code	Description
Blank	No cap

### Preassembled Bases



Surface with M12  
Micro connector (5 pin)



Surface with M12 Micro  
connector (8 pin)



Catalog Number 856T-B24SNC  
Surface Mount for 24V AC/DC (seven levels)



Catalog Number 856T-BA7VMC  
Vertical Mount for 120/240V AC (seven levels)



Quick Release  
Five levels (prewired)



Catalog Number 856T-BA3P10C  
10 cm Pole for 120/240V AC (three levels)

856T –                           
          a      b      c      d      e

a	
Network Option	
Code	Description
Blank	No network option

b	
Housing Color	
Code	Description
B	Black

c	
Voltage Type	
Code	Description
24	24V AC/DC
A3	90...250V AC, 3 circuit
A7	90...250V AC, 7 circuit

d	
Mounting Style	
Code	Description
SN	1/2 in. NPT surface mount
VM	Vertical mount
SH	Surface mount, preinstalled mounting hardware
P10	10 cm aluminum pole mount
P25	25 cm aluminum pole mount
P40	40 cm aluminum pole mount
P60	60 cm aluminum pole mount
T10	10 cm threaded tube (M20)
T25	25 cm threaded tube (M20)
Q10	10 cm quick release <sup>(1)</sup>
Q25	25 cm quick release <sup>(1)</sup>
QD5	5-pin M12 connector, M30 mounting thread <sup>(1)</sup>
QD8	8-pin M12 connector, M30 mounting thread <sup>(1)</sup>

e	
Cap Option	
Code	Description
C	Cap included

(1) Can only be used with Voltage 24 (Table c).

## Pre-configured Control Tower Lights, 1...7 Modules

856TC	P10			B 24			Y 4		B 5		B 3		R 7		Y 6		R 8		B 6	
	a	b	c	d	e	f	g	h	g	h	g	h	g	h	g	h	g	h	g	h

(Level 1, g+h) (Level 2, g+h) (Level 3, g+h) (Level 4, g+h) (Level 5, g+h) (Level 6, g+h) (Level 7, g+h)

a	
Network Options	
Code	Description
Blank	No network option

b	
Base Type	
Code	Description
SN	1/2 in. NPT surface mount
VM	Vertical mount
SH	Surface mount, preinstalled mounting hardware
P10	10 cm aluminum pole mount
P25	25 cm aluminum pole mount
P40	40 cm aluminum pole mount
P60	60 cm aluminum pole mount
Q10	10 cm quick release <sup>(1) (2)</sup>
Q25	25 cm quick release <sup>(1) (2)</sup>
QD5	5-pin M12 connector <sup>(1) (3)</sup>
QD8	8-pin M12 connector <sup>(1)</sup>
T10	10 cm threaded tube (M20)
T25	25 cm threaded tube (M20)
X	No base (modules only) <sup>(4)</sup>

c	
Terminal Block	
Code	Description
Blank	Push-in

d	
Housing Color	
Code	Description
B	Black

- (1) Must be used with Voltage 24 (Table e)
- (2) Maximum number of levels is five.
- (3) Maximum number of levels is four.
- (4) Voltage (Table e) must be Blank for this option.

e	
Voltage	
Code	Description
24	24V AC/DC
A3	90...250V AC, 3 circuit
A7	90...250V AC, 7 circuit
Blank	For use with Base Type X only







f	
Lens Option	
Code	Description
Blank	Standard

g	
Module Type	
Code	Description
Y	Steady LED
B	Multi-function LED steady/flashing/strobe 1/ strobe 2
R	Rotating
MC	7-color LED (RGB) <sup>(1) (2)</sup>
P	Top mount piezo sounder <sup>(3)</sup>
T	Transducer <sup>(3) (4)</sup>
D	Beacon, steady/flashing <sup>(3)</sup>
K	Beacon, strobe 1/strobe 2 <sup>(3) (5)</sup>
Z	Beacon, rotating <sup>(3) (6)</sup>
MB	Beacon, multicolor <sup>(1) (2) (3)</sup>
W	In-line sounder

h	
Output Color/Sound	
Code	Description
1	Sound module <sup>(7)</sup>
3	Green
4	Red
5	Amber
6	Blue
7	White
8	Yellow
9	Magenta <sup>(8)</sup>
Blank	For use with Module Type MC and MB only

- (1) Output Color must be Blank (Table c).
- (2) Can use three circuits to display up to seven colors, two circuits to display three colors, or one circuit to display one color.
- (3) Must be in top position.
- (4) Can use three circuits to play up to seven tones, two circuits to play three tones, or one circuit to play one tone.
- (5) Can only be used with Output Color 4, 5, or 6 (Table h).
- (6) Can only be used with Output Color 4 or 5 (Table h).
- (7) Can only be selected with Module Type P, H, T, and W (Table g).
- (8) Cannot be used with Module Type R, D, K, and Z (Table g).

**Accessories — Bulletin 856T**

	Description	Cat. No.
	O-rings for lenses and bases (Bag of 1)	856T-ARNG
	Flat gasket for SN and SH surface bases (Bag of 1)	856T-ASFG
	Vertical mount gasket (Bag of 1)	856T-AVFG
	Cap (black)	856T-ABCAP
	Transition module	856T-ATM
	Diffuser kit	856T-ADK

**Specifications — Bulletin 856T**

**Table 112 - Mechanical**

Attribute		Based on the weight and style of mounting; tower lights are subject to damage from shock and vibration. The following are reference guidelines for maximum acceptable conditions.	
		Shock [G]	Vibration [G]
Surface Mount Base	≤1 module stack	TBD	TBD
	≤3 module stack	TBD	TBD
	≤5 module stack	TBD	TBD
Vertical Mount Base	≤1 module stack	TBD	TBD
	≤3 module stack	TBD	TBD
	≤5 module stack	TBD	TBD
10 cm Pole/Tube Base	≤1 module stack	TBD	TBD
	≤3 module stack	TBD	TBD
	≤5 module stack	TBD	TBD
25 cm Pole/Tube Base	≤1 module stack	TBD	TBD
	≤3 module stack	TBD	TBD
	≤5 module stack	TBD	TBD
40 cm Pole Base	≤1 module stack	TBD	TBD
	≤3 module stack	TBD	TBD
	≤5 module stack	TBD	TBD
60 cm Pole Base	≤1 module stack	TBD	TBD
	≤3 module stack	TBD	TBD
	≤5 module stack	TBD	TBD
QR Base	≤1 module stack	TBD	TBD
	≤3 module stack	TBD	TBD
	≤5 module stack	TBD	TBD
QD Base	≤1 module stack	TBD	TBD
	≤3 module stack	TBD	TBD
	≤5 module stack	TBD	TBD
Recommended Wire Sizes		24...14 AWG (UL)/0.2...1.5 mm <sup>2</sup> (IEC) (push-in type terminal block)	

**Table 113 - Environmental**

Attribute		Value
Ingress Ratings		UL Type 4/4X/ 13, IP66/67 <sup>(1)</sup> Suitable for indoor and outdoor use
Temperature Ranges	Operating	-30...+70 °C (-22...+158 °F) <sup>(2)</sup>
	Storage	-30...+85 °C (-22...+185 °F)
Relative Humidity		90% noncondensing

(1) QR, QD, 24V, and AC3 bases are IP66.  
 (2) -30...+45 °C (-22...+113 °F) for QD bases.

**Table 114 - Materials**

Part	Material <sup>(1)</sup>
Bases, Cap, Sound Module Housing, Lens, Pole Foot, Diffuser	Polycarbonate
Threaded Tube/Pole Bases	Aluminum with clear powder coat
Gaskets and O-rings	Nitrile rubber
Mounting Screw Washers	Polypropylene

(1) RoHS compliant

**Table 115 - Decibel Rating (Sound Modules)**

Device	Decibel Rating <sup>(1)</sup>	Volume Control	No. of Tones
856T-BP1, Piezo, Top mount	105 dB(A), max	Adjustable -20 dB	8
856T-BTR3, Transducer	Rated: 105 dB(A) (107 dB(A), max @ 2700 Hz)	Adjustable -10 dB (also three adjustment pots for tone customization)	80 tones, 7 stages configured via DIP switch and 3 inputs
856T-BPL1, Piezo, In-line	102 dB(A), max	Adjustable -20 dB	8

(1) All dB(A) ratings are determined at a distance of 1 m (3.3 ft) from sound module.

**Table 116 - Light Output**

Device	Light Output [mcd]	
<b>Steady</b>		
856T-BT3 (Green)	7200	
856T-BT4 (Red)	5200	
856T-BT5 (Amber)	9500	
856T-BT6 (Blue)	1300	
856T-BT7 (White)	17,200	
856T-BT8 (Yellow)	15,800	
856T-BT9 (Magenta)	5600	
<b>Multifunction</b>		
856T-BB3 (Green)	12,600	
856T-BB4 (Red)	Four functions: • Steady • Flashing (2 Hz) • Single strobe (1.4 Hz) • Double flash strobe (1.4 Hz) (Selectable via DIP switches)	6900
856T-BB5 (Amber)		16,700
856T-BB6 (Blue)		2300
856T-BB7 (White)		30,300
856T-BB8 (Yellow)		27,800
856T-BB9 (Magenta)		9900
<b>Rotating</b>		
856T-BR3 (Green)	Two rotating speeds: • Speed 1 = 90 RPM • Speed 2 = 180 RPM (Selectable via DIP switch)	6300
856T-BR4 (Red)		5000
856T-BR5 (Amber)		8300
856T-BR6 (Blue)		1100
856T-BR7 (White)		15,000
856T-BR8 (Yellow)		13,800

Device	Light Output [mcd]	
<b>Multicolor</b>		
856T-BMC	Seven colors: • Green • Red • Yellow • Blue • White • Magenta • Turquoise (Selectable via three inputs)	4800
<b>Beacon (Steady/Flashing)</b>		
856T-BGB3 (Green)	Steady or flashing function selectable via DIP switch or by using two inputs (Flashing frequency = 2 Hz)	8400
856T-BGB4 (Red)		7200
856T-BGB5 (Amber)		11,100
856T-BGB6 (Blue)		1500
856T-BGB7 (White)		20,000
856T-BGB8 (Yellow)		18,400
<b>Beacon (Strobe)</b>		
856T-BSB4 (Red)	Single or double strobe function selectable via DIP switch (1.4 Hz)	10,600
856T-BSB5 (Amber)		21,300
856T-BSB6 (Blue)		2900
<b>Beacon (Rotating)</b>		
856T-BRB4 (Red)	Two speeds: • Speed 1 = 90 RPM • Speed 2 = 180 RPM (Selectable via DIP switch)	7500
856T-BRB5 (Amber)		23,200
<b>Beacon (Multicolor)</b>		
856T-BMB	See <a href="#">Multicolor</a> for color options	8100

**Table 117 - Operating Voltage <sup>(1)</sup>**

Device	Operating Voltage	
	Nominal Voltage	Voltage Range
All modules	24V AC/DC, 50/60 Hz	21...30V DC/ 21.6...26.4V AC
856T-B24C		
856T-BAC3C, 3-Circuit SMPS	120/240V AC	90...250V AC, 50/60Hz
856T-BAC7C, 7-Circuit SMPS	120/240V AC	90...250V AC, 50/60Hz

(1) Maximum input switching frequency for SMPS (that is, from a PLC) is 5 Hz.



**Table 118 - Current Consumption and Life**

Device	Nominal Current	Inrush Current	Life
<b>Power Modules</b>			
856T-B24C	—	—	—
856T-BAC3C, 3-circuit SMPS	150 mA, max	6 A, max	30,000 hr
856T-BAC7C, 7-circuit SMPS	340 mA, max	3.5 A, max	30,000 hr
<b>Sound Modules</b>			
856T-BP1, Piezo, Top mount	120 mA	1.8 A DC 2.15 A AC	20,000 hr
856T-BTR3, Transducer	200 mA	1.06 A DC 1.24 A AC	20,000 hr
856T-BPL1, Piezo, In-line	120 mA	1.8 A DC 2.15 A AC	20,000 hr
<b>Steady Light Modules</b>			
856T-BT3, Green	58 mA	—	>60,000 hr
856T-BT4, Red		—	>40,000 hr
856T-BT5, Amber		—	>60,000 hr
856T-BT6, Blue		—	
856T-BT7, White		—	
856T-BT8, Yellow		—	
856T-BT9, Magenta		—	
<b>Multifunction Light Modules</b>			
856T-BB3, Green	100 mA	1.79 A DC 2.66 A AC	>60,000 hr
856T-BB4, Red		1.82 A DC 2.66 A AC	>40,000 hr
856T-BB5, Amber		1.79 A DC 2.66 A AC	>60,000 hr
856T-BB6, Blue			
856T-BB7, White			
856T-BB8, Yellow			
856T-BB9, Magenta			
<b>Rotating Light Modules</b>			
856T-BR3, Green	40 mA	1.79 A DC 2.64 A AC	>60,000 hr
856T-BR4, Red	45 mA	1.79 A DC 2.66 A AC	>40,000 hr
856T-BR5, Amber	40 mA	1.79 A DC 2.64 A AC	>60,000 hr
856T-BR6, Blue			
856T-BR7, White			
856T-BR8, Yellow			
<b>Multicolor Light Modules</b>			
856T-BMC	110 mA	1.30 A DC 1.94 A AC	30,000 hr
<b>Beacon Light Modules (Steady/Flashing)</b>			
856T-BGB3, Green	100 mA	0.74 A DC 1.24 A AC	>60,000 hr
856T-BGB4, Red	108 mA	0.70 A DC 1.16 A AC	>40,000 hr
856T-BGB5, Amber	100 mA	0.74 A DC 1.24 A AC	>60,000 hr
856T-BGB6, Blue			
856T-BGB7, White			
856T-BGB8, Yellow			
<b>Beacon Light Modules (Strobe)</b>			
856T-BSB4, Red	190 mA	0.76 A DC 1.11 A AC	>40,000 hr
856T-BSB5, Amber		0.77 A DC 1.11 A AC	>60,000 hr
856T-BSB6, Blue			

**Table 118 - Current Consumption and Life**

Device	Nominal Current	Inrush Current	Life
<b>Beacon Light Modules (Rotating)</b>			
856T-BRB4, Red	65 mA	0.74 A DC 1.09 A AC	>40,000 hr
856T-BRB5, Amber		0.75 A DC 1.11 A AC	>60,000 hr
<b>Beacon Light Modules (Multicolor)</b>			
856T-BMB	200 mA	1.65 A DC 2.46 A AC	30,000 hr

*Standards Compliance*

- UL 60947-5-1
- CSA C22.2 No. 14
- CE
  - EN 60947-5-1:2004 + A1:2009
  - EN 61000-6-2:2005
  - EN 61000-6-3:2007 + A1:2011
  - EN 50581: 2012  
2014/35/EU (Low Voltage Directive)  
2014/30/EU (EMC Directive)  
2011/65/EU (RoHS Directive)

*Certifications*

- c-UL-us Listed (File No. E14840, Guides NKCR, NKCR7)
- CE Marked
- KCC (Registration No. R-REM-RAA-856T)
- China RoHS
- WEEE
- RCM (EN 61000-6-2:2005 and EN 61000-6-3:2007 + A1:2011)