

# TRB-220

MaxLumina® Rotating Beacon



TIDELAND ENGINEERED

TRB-220 is a high intensity rotating beacon capable of providing simple and complex flash characters. This beacon can be configured to provide high efficiency in effective intensities using a wide range of low wattage marine signal lamps as well as LED light source.

Tideland Signal's TRB-220 MaxLumina® is excellent in battery operations where a proper charge level can be maintained through photovoltaic charging from solar panels. A 6-lens carousel, light source, gearless direct drive motor and electronic control module are contained in a watertight aluminium and fiberglass housing (IP65) with acrylic glazing and stainless steel fasteners.

Mounted on a light tower of proper height, TRB-220 gives coastal shipping up to a 20 Nm range light (@ T = 0.74).



## FEATURES

- 6-lens carousel, consisting of a flash panel design with catadioptric prisms
- Operates with up to a 110-watt lamp without need for ventilation or cooling fans
- Brushless DC direct drive motor designed for smooth operation at low RPM
- Over 16 preprogrammed rotation periods, ranging from a period of 6 to 120 seconds
- 25 years of useful life
- Available in all IALA colours
- No scheduled maintenance for life of motor
- Accommodates Tideland's TF-3B MicroPower OMNIBUS® II 6-place lampchanger, MaxiHALO-60RB (LED) or MLED-Retro
- Automatic switchover to standby lantern
- Full monitor and control access

# TRB-220 ROTATING BEACON, HEXAGONAL LENS CAROUSEL CONFIGURATION

Effective Intensity Table for Selected Rotation Periods  
(All Calculations were made with the Schmidt-Clausen Method)

LAMP SIZE	HOR. DIV. (deg)	FIXED INT.** (cd)	ROTATION PERIOD / SPEED								
			120 sec / 0.5 rpm	90 sec / .666 rpm	72 sec / .833 rpm	60 sec / 1.0 rpm	48 sec / 1.25 rpm	40 sec / 1.5 rpm	30 sec / 2.0 rpm	24 sec / 2.5 rpm	
12 V / 10 W On-Time, Sec	1.60°	42,724	21,987 0.533	18,936 0.400	16,616 0.320	14,803 0.267	12,724 0.213	11,157 0.178	8,952 0.133	7,475 0.107	
12 V / 20 W On-Time, Sec	1.53°	109,561	58,509 0.51	50,670 0.383	44,652 0.306	39,912 0.255	34,438 0.204	30,285 0.170	24,400 0.128	20,430 0.102	
12 V / 35 W On-Time, Sec	1.93°	169,903	104,364 0.643	92,516 0.483	83,033 0.386	75,313 0.322	66,111 0.257	58,914 0.214	48,379 0.161	41,040 0.129	
12 V / 50 W On-Time, Sec	1.90°	241,131	145,260 0.633	128,321 0.475	114,848 0.380	103,935 0.317	90,993 0.253	80,916 0.211	66,245 0.158	56,077 0.127	
12 V / 75 W On-Time, Sec	2.35°	238,643	148,914 0.783	132,388 0.588	119,092 0.470	108,223 0.392	95,214 0.313	84,997 0.261	69,979 0.196	59,471 0.157	
12 V / 100 W On-Time, Sec	2.40°	367,823	238,459 0.800	213,526 0.600	193,204 0.480	176,414 0.400	156,105 0.320	139,990 0.267	116,032 0.200	99,077 0.160	

LAMP SIZE	HOR. DIV. (deg)	FIXED INT.** (cd)	ROTATION PERIOD / SPEED							
			20 sec / 3.0 rpm	15 sec / 4.0 rpm	12 sec / 5.0 rpm	10 sec / 6.0 rpm	9 sec / 6.66 rpm	8 sec / 7.5 rpm	7 sec / 8.57 rpm	6 sec / 10.0 rpm
12 V / 10 W On-Time, Sec	1.60°	42,724	6,416 0.089	5,000 0.067	4,096 0.053	3,469 0.044	3,150 0.040	2,821 0.036	2,489 0.031	2,151 0.027
12 V / 20 W On-Time, Sec	1.53°	109,561	17,571 0.085	13,729 0.064	11,265 0.051	9,551 0.043	8,680 0.038	7,777 0.034	6,867 0.030	5,938 0.026
12 V / 35 W On-Time, Sec	1.93°	169,903	35,635 0.107	28,205 0.080	23,339 0.064	19,905 0.054	18,143 0.048	16,306 0.043	14,443 0.038	12,530 0.032
12 V / 50 W On-Time, Sec	1.90°	241,131	48,615 0.106	38,397 0.079	31,728 0.063	27,033 0.053	24,627 0.048	22,122 0.042	19,584 0.037	16,981 0.032
12 V / 75 W On-Time, Sec	2.35°	238,643	51,707 0.131	41,000 0.098	33,968 0.078	28,994 0.065	26,439 0.059	23,773 0.052	21,067 0.046	18,285 0.039
12 V / 100 W On-Time, Sec	2.40°	367,823	86,445 0.133	68,881 0.100	57,249 0.080	48,978 0.067	44,714 0.060	40,254 0.053	35,716 0.047	31,040 0.040

- \*\*NOTES: 1. All fixed intensities were measured with the outer glazing in place.  
2. The Schmidt-Clausen Formula is used in compliance with IALA's "Recommendation for the Calculation of the Effective Intensity of a Rhythmic Light", November 1980.  
3. Intensities may be reduced due to shadowing when using a 6-place lampchanger by approximately 20% at two small arcs 180° apart.

## SPECIFICATIONS

### Power Consumption

Lamp version	As specified (from 3 to 110W)
LED version	Up to 30W
Motor	Average 2.5W

### Power Input

DC Version	9 – 36 VDC
AC Version (requires additional equipment)	110 – 240 VAC, 50/60 Hz

### Light Source

Tideland TF-3B OMNIBUS® II, high temperature, 3 or 6 place lampchanger, MaxiHALO-60RB (LED) or MLED-Retro

### Drive System

Brushless DC motor; gearless direct drive

### Optics

Acrylic Moulded Flash Panel	110mm focal length, Catadioptric Fresnel Lens
Glazing	330mm UV-resistant acrylic

### Lens Configuration

Standard 220mm Hexagonal

### Ventilation

Not required (up to 110W bulb)

### Rotation Periods

16 rotation periods, field selectable  
Standard Periods 120, 90, 72, 60, 48, 40, 30, 24, 20, 15, 12, 10, 9, 8, 7 and 6 seconds

### Environmental

Temperature	-40°C to +55°C
Humidity	100% non-condensing

### Physical Size

Height	851mm (33.5in) with spike
Weight	20.5kg (45lb)
IP Rating	IP65

NOTE: Specifications are subject to change.

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