

SP-401S SOLAR RUNWAY END LIGHT

MEDIUM INTENSITY





Compliance:

ICAO Annex 14 Vol. I (7th. Edition, July 2016)



FEATURES

- Operates 365 days on solar energy
- 5-level protection against system failure

Weight: 12,4 kg

· 380 hrs of autonom

APPLICATION

Unidirectional optics; designed for permanent usage at airports located in regions without access to electricity and with high photovoltaic potential.

Five levels of protection against system failure
 Secondary power supply: backup battery
 Real-time monitoring via ALCMS

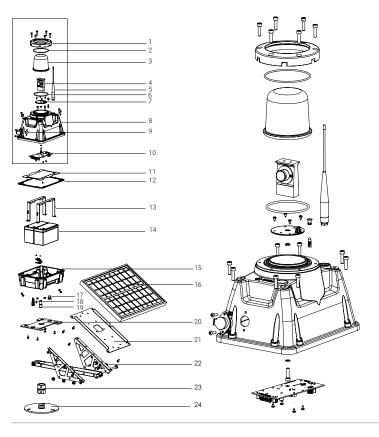
TECHNICAL SPECIFICATIONS

	TECHNICAL 5									
Optics										
• 320 cd light	output (tested by accredited laboratory)									
Unidirections	al type									
LED lifespan	: 100.000 hrs									
Maximum po	ower consumption: 1,8W									
·	tible, Infrared LEDs (optional)									
Color: red										
User-replace	able									
Battery										
	2x built-in batteries, user-replaceable, air transportable									
	Autonomy: 380 hrs (minimum intensity)									
Standard battery	Total capacity: 216W (2x9Ah/12V)									
	Deep-cycle VRLA, 12V/9Ah (available worldwide)									
	Lifespan: 1.200 cycles (designed for 4-5 years)									
	1x built-in battery, user-replaceable, air transportable									
Cyclon battery	Autonomy: 210 hrs (minimum intensity) This is a 100 M (100 M (100 M)) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (100 M) (100 M) This is a 100 M (
(Arctic Pack)	 Total capacity: 120W (10Ah/12V) Lifespan: 300 cycles (designed for 10-15 years) 									
0-10	- Ellespail. 300 cycles (designed for 10-13 years)									
Solar Power Supply										
	anel, separately installed									
	ne type (optional: monocrystalline)									
Lifespan: 15 MARRI Tomp	/ Built-in inverter 12-36V/2A									
Control & Monitoring	/ Built-III IIIVerter 12-30V/2A									
3	ch type network									
	 Wireless mesh type network Operating frequency: 868 MHz (optional 2.4GHz or 433 Mhz) 									
	inge: up to 1.5 km, relayed (each light is a repeater)									
Operating M										
	shing / Dusk till dawn									
	ared (optional) / Visible + Infrared (optional)									
Activation or	otions:									
Via ALCMS (Computer Interface (requires UR-201)									
Via UR-201 (Control & Monitoring Unit									
Via UR-101 F	Handheld Controller									
Casing & Components										
Materials										
Dome: glass	, UV-resistant									
Casing: Lexa	an polycarbonate, UV-stabilized, color: aviation yellow									
Mounting: ga	alvanized steel (optional: marine grade stainless steel)									
	ounting: aluminum (tested by accredited laboratory)									
Detachable a										
	bilizing valve, transportation fuse									
Battery level										
Carrying har										
Casing lifesp										
Dimensions	(LxWxH): 557 mm x 450 mm x 358 mm									

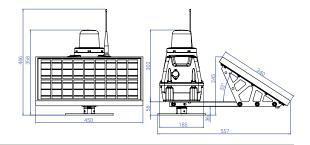
Real-time monitoring via ALCMS (Airfield Lighting Control and Monitoring System)													
Emergency ON/OF	F button												
Environmental Conditions • Temperature range: -20 to 50 °C (-4 to 122 °F)													
Optional: -40 to 80 °C (-40 to 176 °F) • Ingress protection: IP-67 (tested by accredited laboratory)													
Impact Resistance	 Impact Resistance: IK-10 (tested by accredited laboratory) Jet Blast Resistance: 240 kph (tested by accredited laboratory) 												
	ce: 240 kph (tested by accredited laboratory)												
Compliance													
Photometric & Chromaticity	ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 5.3.11.4, Appendix 1, Figure A1-1b												
Jet Blast Resistance	ICAO, Annex 14th, Volume I, 8th Edition dated July 2018. Doc 9157, Part 6, clause 3.2.2 & clause 4.9.1.												
Jet blast resistance	FAA AC 150/5345-50B dated September 2007, clause 3.2.2												
	ICAO Doc 9157 AN901 Aerodrome Design Manual Part 6, 1st Edition dated 2006, clause 4.9												
Frangibility	ICAO, Annex 14th, Volume I, 8th Edition dated July 2018, clause 5.3.1.3												
	FAA AC 150-5345-46E clause 3.4.2.1												
	FAA AC 150/5220-23, clause 3.2												
Secondary Power Supply	ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 8.1.8-8.1.9 & clause 8.1.11												
CE Declaration of Conformity	2014/53/EU RED Directive, clauses 3.1a, 3.1b, 3.2												
GE Decidiation of Comonnity	2011/65/EU ROHS Directive, clause 4.1												
Accredited Laboratory Testing													
Photometric & Chromaticity	Intertek Laboratory												
Jet Blast Resistance	Warsaw Institute of Aviation The Laboratory of Aerodynamics												
Frangibility	Laborex Research Laboratory												
Ingress Protection	EMAG Institute of Innovative Technologies												
Impact Resistance	Laborex Research Laboratory												
Electromagnetic Compatibility	Military Institute of Armament Technology												



TECHNICAL DRAWING



1. Adapter for glass dome O-ring for the glass dome Glass dome LED optics Radio antenna for wireless control & monitoring O-ring under the glass dome PCB board Casing upper part Charging port 10. Micro-computer with integrated radio transceiver Protective plate Rubber gasket 12. 13. Battery holder 14. 2x batteries built-in, VRLA type 12V/9Ah 15. Casing bottom part 16. 20W Solar panel with standard optimal inclination 17. Pressure stabilizing valve 18. Emergency ON/OFF button 19. Transportation fuse 20. Mounting plate 21. Holding frame for solar panel 22. Holder for solar panel frame 23. Frangible coupling



24. Base plate

PHOTOMETRIC PERFORMANCE

Red	d																																										
12°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									-	-	SP-401 RUNWAY END															
11,5°	-	-	-	-	-	-	-	-	-	-	-	-	-	-															TEST	TEST AREA REQUIRED					RESULTS								
11°	-	-	-	-	-	-	-	-	-	-																			ARE	A 1			М	IN. 20	CD		MIN. 149,79 CD AVG. 328,16 CD						
10,5°	-	-	-	-	-	-	-	-																					(BLUE	PART))	1	AVERA	GE MIN	1. 50 C	D			X. 447				
10°	-	-	-	-	-	-	-	61																					ARE	A 2				IN. 10	o D			MIN	76.00	0.00			
9,5°	-	-	-	-	-	70	71	71																				(YELLOV	V PAR	T)		IVI	IN. 10	CD		MIN. 76,98 CD						
9°	-	-	-				83	83		85		84			83	83	83	81	81	81	81	80	80	78	78	78	77		ARE	A 3				IIN. 5 C				MIN OF OCOD					
8,5°	-	-	-				98	97			99	100			99	99	99		96		95		94	92	92	91	90		(PINK	PART)			IV	IIN. 5 C	, 0		MIN. 35,06 CD						
8°	-	-	112				113	114	115																				105		103		101						91	-	-		
7,5°	-	-	130				132	132	134	135	134	135			136	136	135		133		130		129		126	125	125	125	123		121		118	117					107	-	-		
7°	-		150	150	152		154	154	154	155	154	156		157	156	155	158	157	156	152	152	150	150	149	148	147	145	143	143		139	137	137	136		131		128	125		-		
6,5°	-		174	175	176	176	178	179	180	179	179	181		183	182	181	181	180	178	176	176	172	172	171	169	168	167	165	164		162	159	158	157	154	152			146		-		
6°	-		195		199	200	201	203	203	206	207	209	206	208	208	208	206	205	205	203	202	200	198	197	195	194	191	191	190		188	184	183	182		175	174	171	166		-		
5,5°	-		221	223	225	227	227	230	230	235	233	235	236	238	234	235	235	235	232	232	230	227	226	222	221	220	217	220	216	214	212	208	208	204	202	200	196	192	190	187	-		
5°	246	247	248	248	251	252	253	257	259	260	262	262		265	263	263	262	260	259	259	259	256	253	251	251	252	248	248	245		240	236	236	233		226	221	220	217		210		
4,5°	269	270	272	277	280	280	279	284	287	290	292	292	293	297	294	296	295	292	290	287	288	285	283	281	282	281	279	272	271	274	271	266	264	263	257	252	251	246	241		235		
4°	295		297	300	304	305	308	310	314	318	320	321	322	323	323	324	320	322	319	319	319	316	313	310	311	310	310	307	304	301	300	296	291	288		283	278	276	269	264	260		
3,5°	320		322	324	326	325	332	337	339	342	346	349	351	352	349	352	351	352	346	348	344	344	342	338	339	338	338	336	334	332	330	326	323	321	315	307	305	302	299		291		
3°	338	340	344	347	353	355	359	361	365	365	367	370	372	379	380	380	378	378	372	370	369	368	369	363	363	362	363	361	361	361	357	351	347	345		338	333	330	326		317		
2,5°	351		363	365	369	374	379	386	389	390	390	390	394	395	401	405	399	399	394	394	395	395	396	390	391	389	389	390	387	381	381	380	371	368		364	359	352	350	346	341		
2°	366	372	372	378	379	387	388	393	400	403	406	414		417	415	415	413	418	421	419	413	413	417	414	413	411	410	410	410		405	400	401	392		383	379	377			364		
1,5°	-	378	383	388	391	398	402	405	409	414	417	423	422	428	427	430	429	434	434	428	429	427	427	426	426	428	423	423	423		420	420	414	413		401	397	392	392	387	-		
1°	-	384	386	393	396	400	408	413	416	420	422	428	433	437	435	437	437	439	439	440	438	437	440	442	442	439	436	433	432	434	437	434	428	427	424	415	410	410	406		-		
0,5°	-		387	393		405	406	413	418	422	428	431		437	438	444	441	442	444	447	447	446	440	437	440	440	447	447	444		443	441	438	433					415		-		
0°	-	-	381	387	392		398	407	410	418	423	427	428	431	431	435	438	441	439	442	442	438	436	438	437	439	440	440	440		441	440	435	432	429	428	422	423	420	-			
V/H	10	9,5	-9	-8,5	-8	-7,5	-7	-6,5	-6	-5,5	-5	-4,5	-4	-3,5	-3	-2,5	-2	-1,5	-1	-0,5	0	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5	9	9,5	10		

SHIPPING DATA

Item	Dimensions of Package (LxWxH)	Gross Weight
SP-401 Lighting Unit	630 mm x 270 mm x 380 mm	15 kg
SP-401 Lighting Unit, NO batteries	630 mm x 270 mm x 380 mm	9,8 kg