

Data sheet **Citygrid Zhaga Controller**



The Citygrid Zhaga Controller is the intelligent device that transforms a luminaire into a Smart Light.

The easy-to-use design allows the Citygrid Zhaga Controller to be easily attached to the lighting fixture using the standardized Zhaga socket technology. Conforming to the standard the Citygrid Zhaga Controller can be used in combination with any luminaire accommodating a Zhaga Book 18 socket.

A Citygrid installation can consist of any combination of the Citygrid Controllers including the Citygrid Zhaga Controller, Citygrid Zhaga with Sensor, Citygrid On Pole Controller and the InFix24 controller. Operation of the installation can be as standalone (non-connected) or connected to the Citygrid cloud solution using the Citygrid Gateway.

BENEFITS

- One step mounting with Zhaga book 18
- Dimming control
- Optional motion control with Citygrid Motion Sensor.
- Standby power < 0,5W
- Automatic system fault detection

FEATURES

- DALI2 and D4i compliant
- Dimming control; DALI2
- Wireless local connectivity using 6LoWPAN
- AES-128 encrypted wireless communication
- Temperature measurement
- Power metering reading from the LED Driver
- Astronomical & real-time clock integrated
- All data stored on flash memory

ELECTRICAL CHARACTERISTICS - INPUT

Name	Value	Unit	Condition
Universal input voltage	24	V _{dc}	± 10% (typically powered by LED driver)
Power consumption	< 0,5	W	Always active, no sleep mode

DIMMING

Name	Value	Unit	Condition
Dimming range	0...100	%	Minimum level dependent on the LED Driver
Dimming type	DALI 2		

ON BOARD SENSING

Sensor type	Value	Unit	Condition
Ambient light sensor	0,01 - < 100.000	Lux	Dependent on housing clarity
Temperature (measurement range)	-30 to +90	°C	Tc – Controller PCB

TEMPERATURE & HUMIDITY

Type	Value	Unit	Condition
Operational temperature	-25 to +60	°C	Ambient
Storage temperature	-30 to +80	°C	Ambient
Relative humidity	0 - 90	%	Non condensing. For use up to 2000m above sea level

PROTECTION

Specification item	Value	Unit	Condition
Required external fuse	<1	A	
IP rating	IP66		
IK rating	IK09		Top and side impact

WIRELESS COMMUNICATION			
Specification item	Value	Unit	Condition
Gateway ratio	1:128	Control unit	Maximum 500 Control units per site
Frequency Range	868,3	MHz	
Standard	IEEE 802.15.4		
Protocol	6LowPAN		
Encryption	AES -128		
Over-the-air update	Yes		
Recommended distance between units	<200	meter	Theoretical communication distance
Maximum Range	500*	meter	

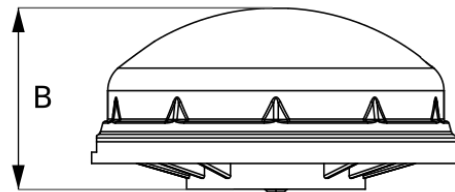
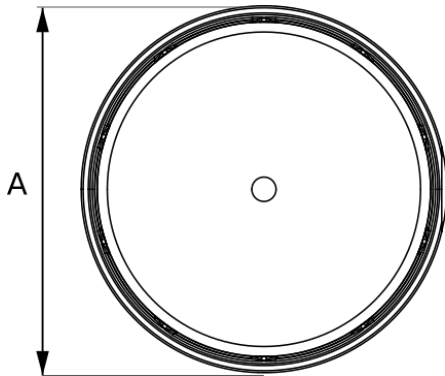
* Maximum range under ideal conditions such as RF matching, line of sight, maximum power. Actual results may vary depending on the customer's design.

ELECTRICAL CONNECTIONS			
Name / (PIN-number)	Value	Unit	Condition
Power in (1)	24	V _{dc}	± 10%
Shared GND and DALI – (2)	GND		
DALI+ (3)	16	V _{dc}	± 6,50 V _{dc}
General I/O (4)	7-24	V	

* The Citygrid Zhaga controller outputs a maximum of 10mA of power on PIN 3 to power the DALI line. Consider max power allowed on the DALI line.

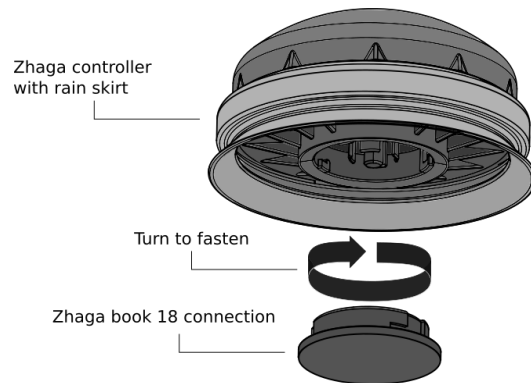
APPROVALS	
Directive:	Standard:
Radio Equipment Directive (RED): 2014/53/EU Electromagnetic Compatibility Directive (EMC): 2014/30/EU	EN 301 489 -1 and EN 301 489-3
	EN 300 220-1 and EN 300 220-2
	EN 61547:2009 (EMC)
	EN 55015:2013 (EMC)
RoHS Directive: 2011/65/EU	EN 50581:2012

DIMENSIONS & WEIGHT			
Item	Value	Unit	Comment
A	80	mm	Diameter
B	39	mm	Height
Weight	0,065	kg	



INSTALLATION	
Description	Illustration
<p>The sensor is installed on the top or on the underside of the luminaire head on a Zhaga book 18 socket.</p>	
<p>Rain skirt on Zhaga controller</p>	

Hold the unit up to the Zhaga book 18 connection, turn to find the right position where the socket falls into place, and then turn to fasten.



LOGISTIC DATA	
Specification item	Value
Product Name	Citygrid Zhaga Controller
Seneco Order number	21003
Fagerhult Article number	86493
Parts	Citygrid Zhaga controller and rain skirt
Pieces per box	
Box dimensions	
Box weight	

WARRANTY AND EXPECTED LIFETIME	
Specification item	Value
Warranty	5 years
Expected lifetime	100.000 hours of operation or 20 years since initial commissioning. Expected failure rate < 1%



CAUTION

- Avoid touching live parts!
- Do not use the Citygrid Zhaga Controller with damaged housing and/or connectors!
- Do not service the Citygrid Zhaga Controller when the mains voltage is connected; this includes connecting or disconnecting a LED driver.
- The Citygrid Zhaga Controller should only be installed by a trained and qualified person.

Warranty and further information: www.seneco.dk

