

### Features

- Compatible with IEC-62386-101 102 207 (DALI) international standards
- Compatible with Philips, OSRAM, Siemens, Tridonic central control system
- Convert EnOcean protocol to DALI standard
- Provide EnOcean switch/PIR matching and 16-group and scene DALI setting
- Support max 16 EnOcean switches
- Support to control of ON/OFF, dimming, Cold/Warm, RGB, and RGBW lighting devices on the DALI bus
- Built-in DALI power and OVP at DALI bus (AC100V~277V)
- Designed for DALI loop, easy to install, requires only two wires regardless of signal polarity
- Low power consumption.

### Applications

- EnOcean to DALI protocol converter

### Absolute Maximum Ratings

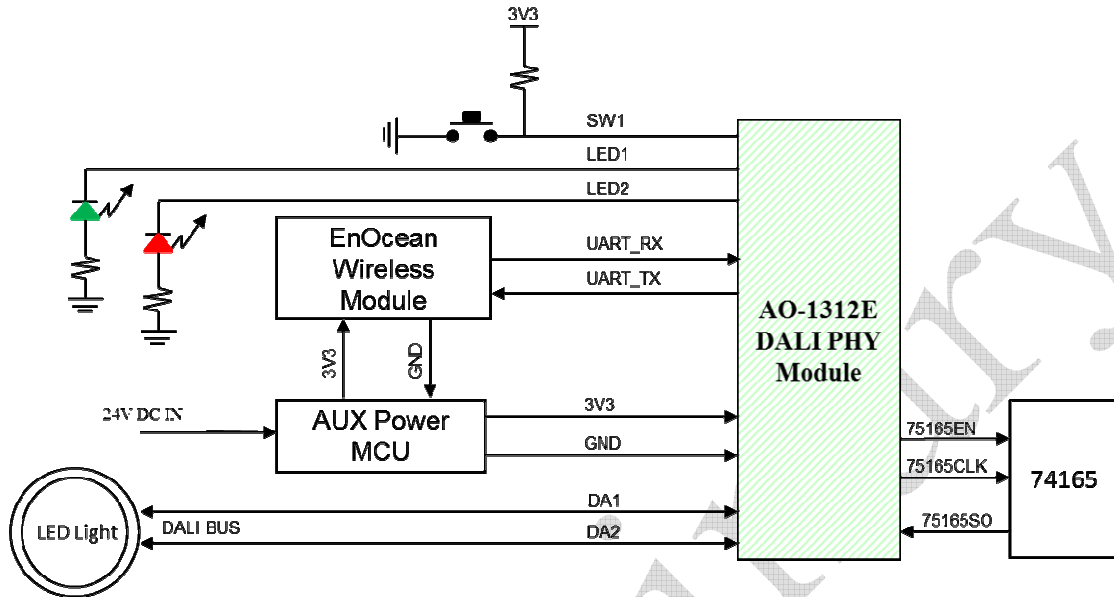
PARAMETER	SYMBOL	MIN	Typ	MAX	UNITS
Storage Temperature Range	T <sub>S</sub>	-40		105	°C
Operating Ambient Temperature Range	T <sub>A</sub>	-40		85	°C
Input Voltage	V <sub>DC</sub>	2.7	3.3	3.6	V
Input Current	I <sub>DC</sub>	12	16.6	21	mA
Operating Power	P <sub>OP</sub>	32.4	54.78	75.6	mW
Analog Input Pin		0		3.6	V
DALI High Level Voltage		11.5	16	20.5	V
DALI Low Level Voltage		-4.5	0	4.5	V

### Order Information

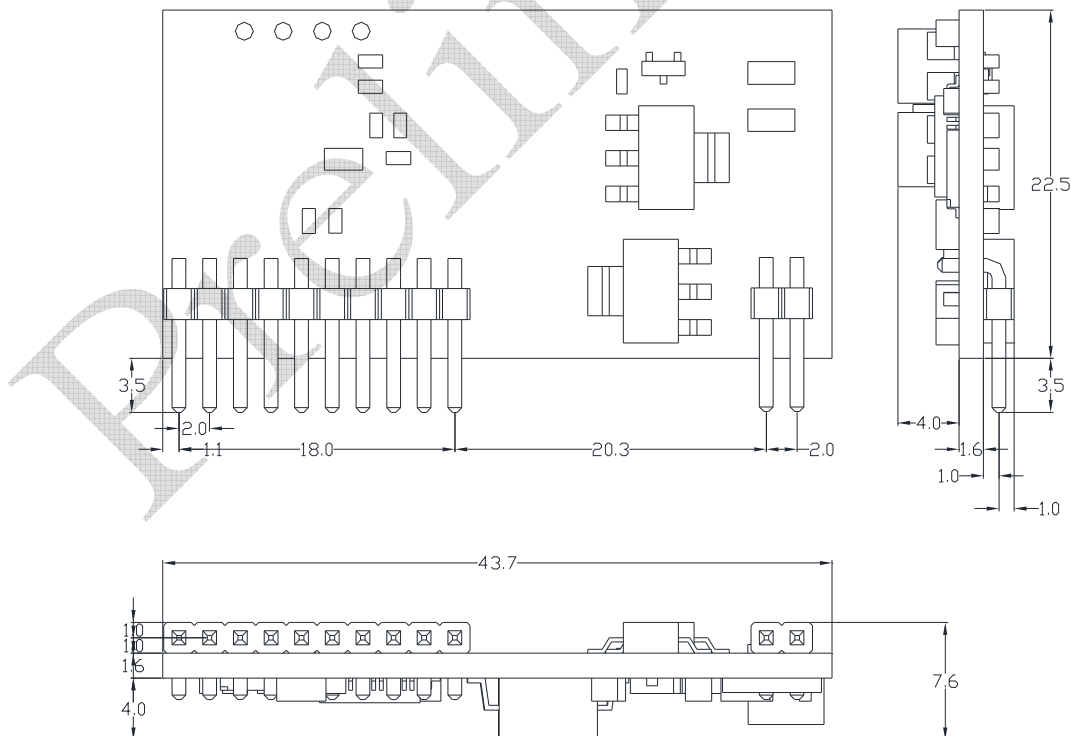
PART NUMBER	TYPE	IN/OUT Voltage	IN/OUT INTERFACE
AO-1312E	3.3V	DC/DC	EnOcean / DALI

### Setting and Connection

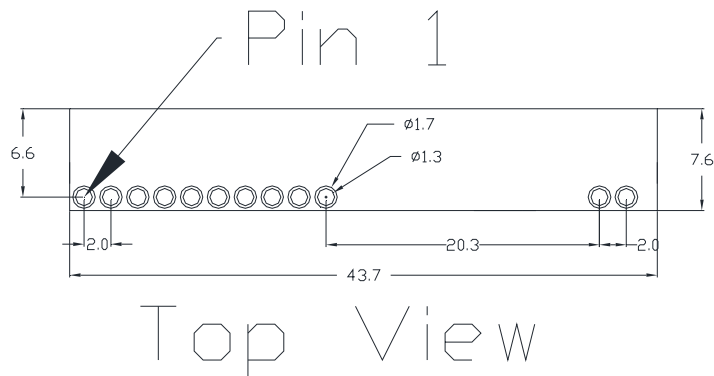
1. Diagram for Installation:



2. Dimensions: (unit: mm)



### 3. PCB pin assignment



Pin No	Signal Name	I/O Type	Description
1	VDD	Power	Power Pin (+3.3V)
2	GND	Power	GND Pin (0 V)
3	LED1	O	Status Display 1
4	LED2	O	Status Display 2
5	SW1	I	Push Bottom (User Interface)
6	UART_TX	O	Serial TX Port (Baud rate: 57600bps)
7	UART_RX	I	Serial RX Port (Baud rate: 57600bps)
8	74165EN	O	74165 Enable
9	74165CLK	O	74165 Clock
10	74165SO	I	74165 Serial Data Output (AO-1312E Data Input)
11	DA1	IO	DALI I/O Pin1
12	DA2	IO	DALI I/O Pin2

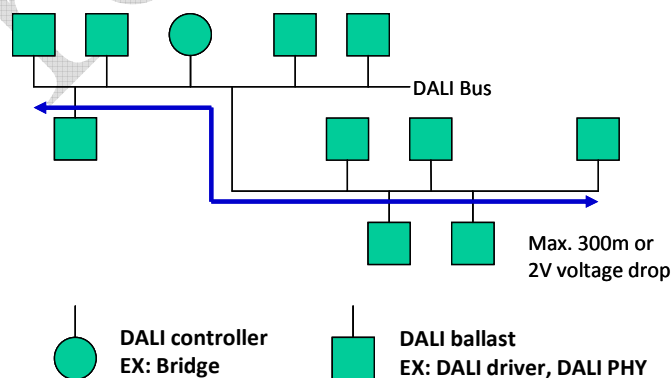
### LED Indicator

Mode \ LED	LED1 (Green)	LED2 (Red)
Normal	OFF	If send DALI signal, LED2 flashing. Otherwise, LED2 OFF.
Group Learning (without records)	Keep up flashing per 0.4s. If received a correct EnOcean message, LED1 ON 2s. After saving a record, flashing per 0.4s	OFF
Group Learning (with records)	After deleting the original record and adding a new record, alternating flashing 8 times and interval 0.2s between ON and OFF. And then resume flashing per 0.4s	OFF
Scene Learning (without records)	OFF	keep up flashing per 0.4s. If received a correct EnOcean message, LED2 ON 2s. After saving a record, flashing per 0.4s
Scene Learning (with records)	OFF	After deleting the original record and adding a new record, alternating flashing 8 times and interval 0.2s between ON and OFF. And then resume flashing per 0.4s
DALI Address Allocation	ON	If send DALI signal, LED2 flashing. Otherwise, LED2 OFF.
Delete All Records	Alternating flashing 8 times and interval 0.2s between ON and OFF. After delete records, LED1 OFF.	Alternating flashing 8 times, interval 0.2s between LED2 ON and OFF. After delete records, LED2 OFF.

### DALI Wire Specification

Need to meet the DALI transmission distance of 300m and pressure drop <2V requirements.

Layout of a DALI installation



Because the color and thickness of the wire are not clearly defined in the DALI specification, only need to comply with the maximum wire length of 300m and the maximum voltage drop of 2V. Suggested use of wire diameter: 11 ~ 18AWG.