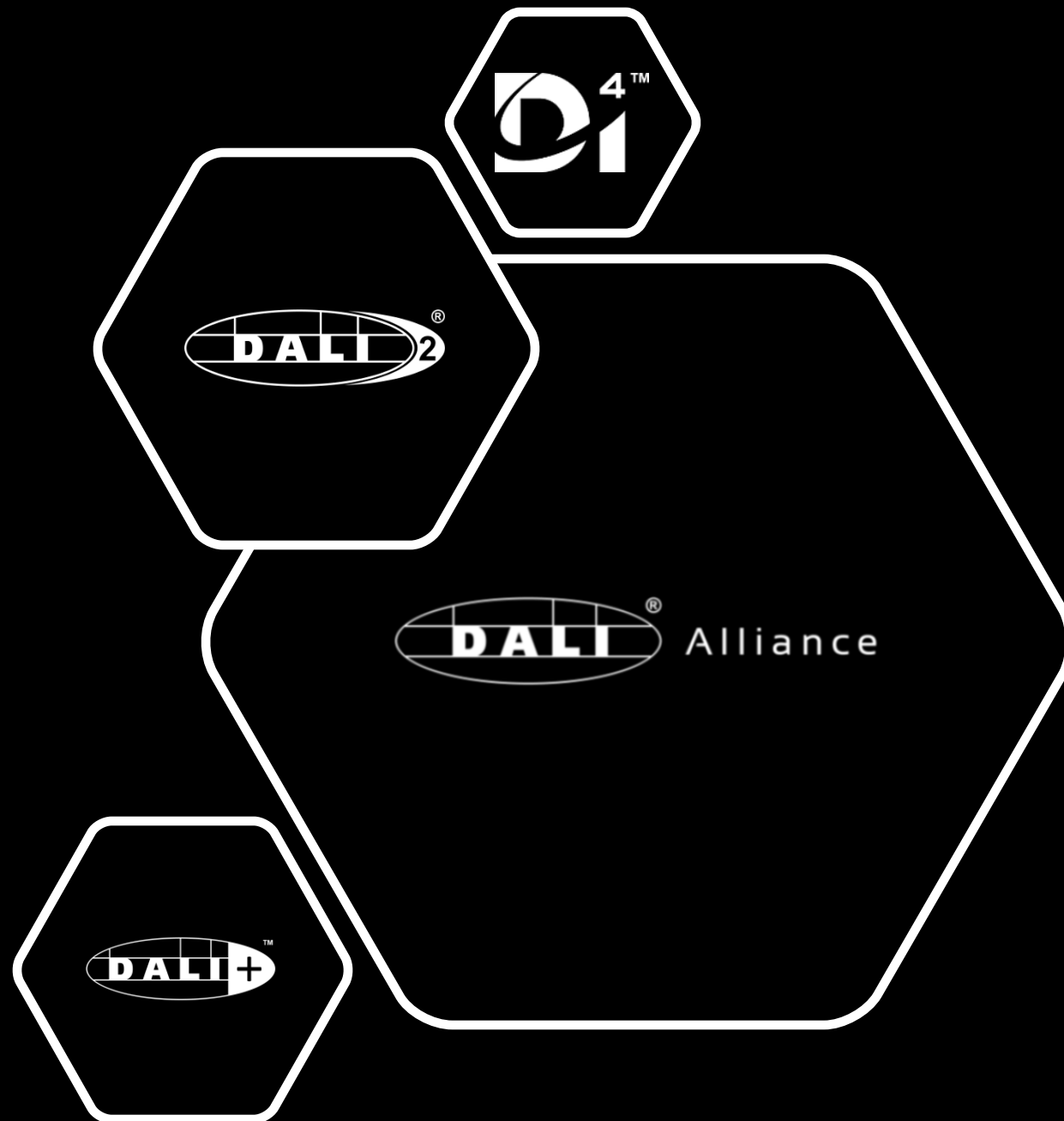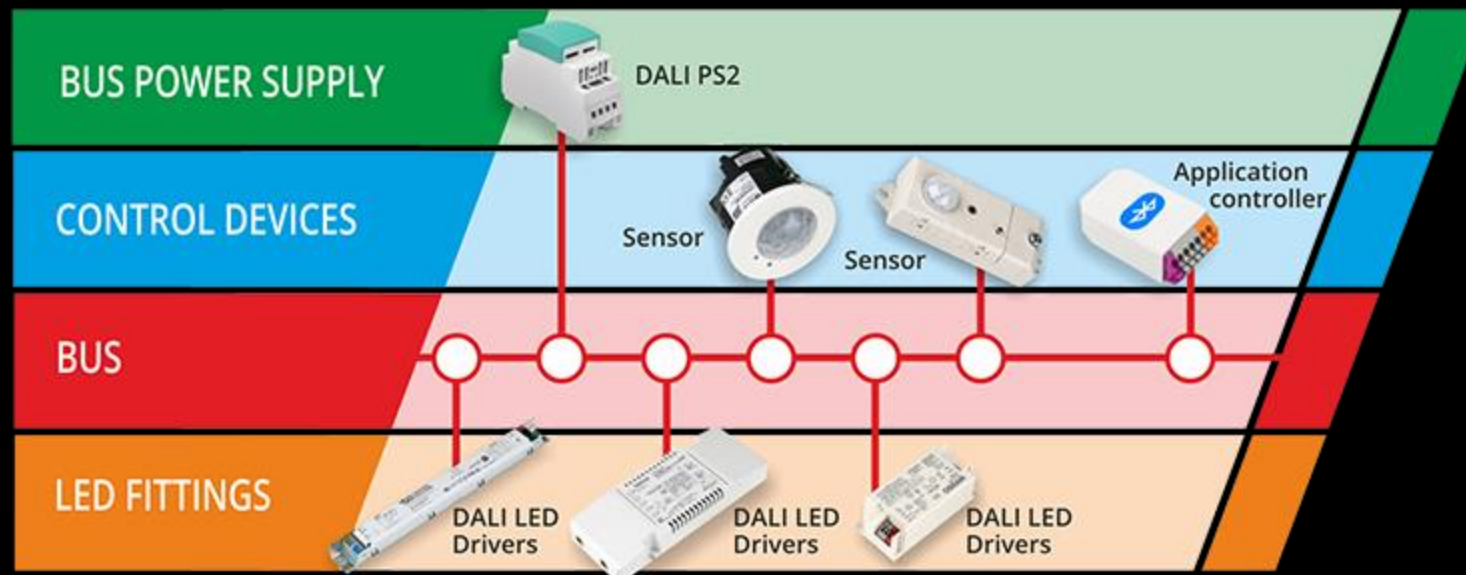# Dali Based Street Light Controller

What Is DALI ?

- Digitally Addressable lighting Interface Protocol

- Originated late 1990s , IEC60929

- Latest DALI2, IEC62386

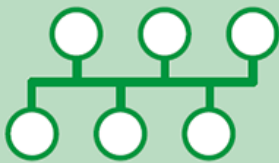# How Does DALI Work   ?

How is DALI Wired ?

DALI WIRING TOPOLOGIES

Ring wiring   Mesh wiring

Bus wiring   Star wiring (Hub & spoke)   Tree wiring   Line wiring

DALI vs 1-10V/0-10V
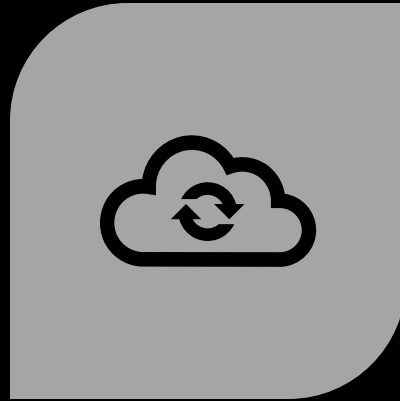
DALI is addressable

DALI is Digital , Not Analog

DALI is standard

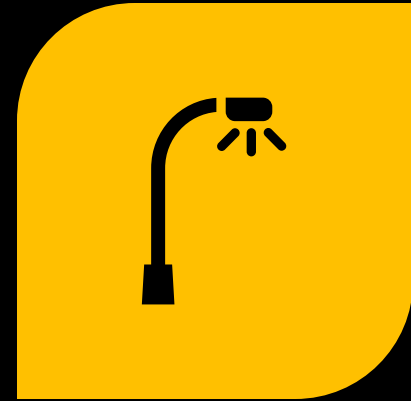Not only Dimming but other lighting features are included

DALI Protocol : Key Features

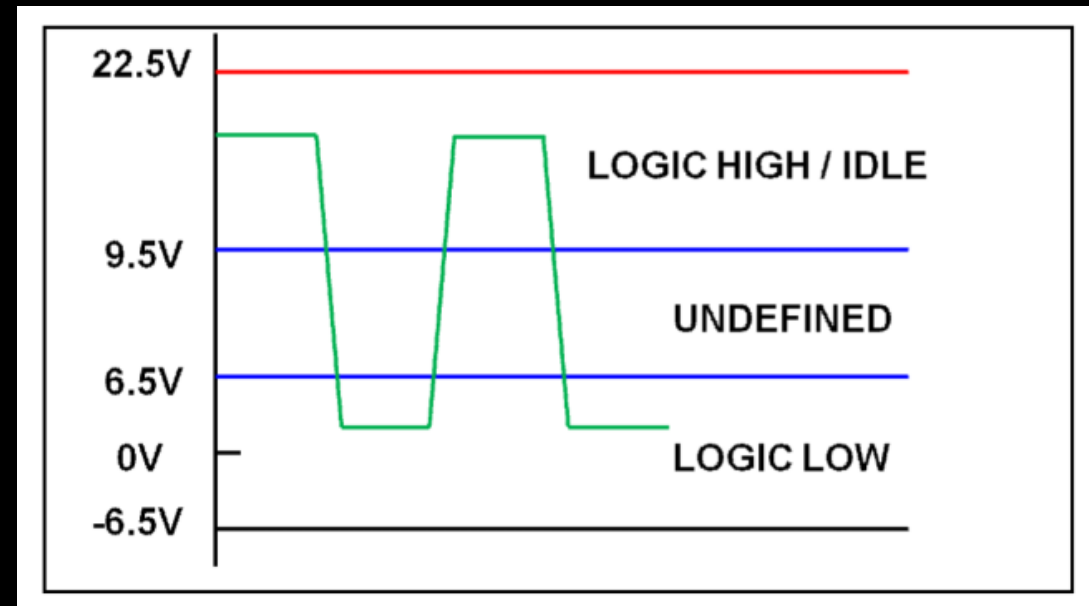CONTROL : ON, OFF, DIMMING(SET SCENE LEVEL)

CONFIGURATION : CHANGE FADE TIME , CHANGE LIGHT LEVEL STORED IN SCENE

QUERY : STAUS CURRENT LIGHT LEVEL , LAMP FAILURE
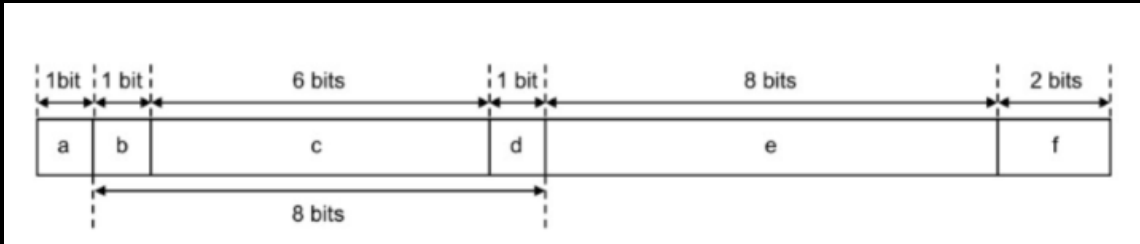
DALI Communication

- Max Current limited 250mA

- Typical Bus Voltage level 16v

- Each interface current Consumption limited to 2mA

- Max Distance 300meter
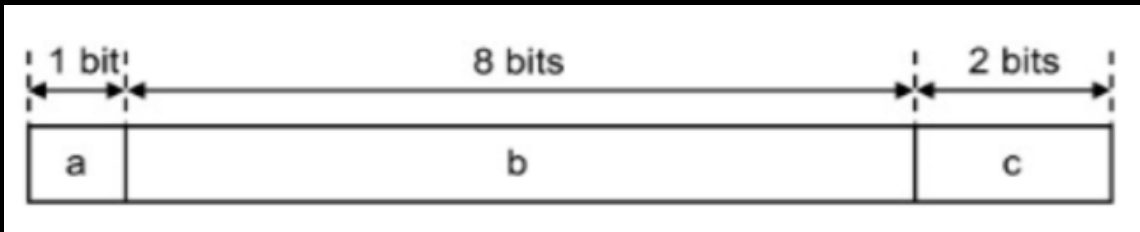
DALI Communication

- Forward Frame structure:

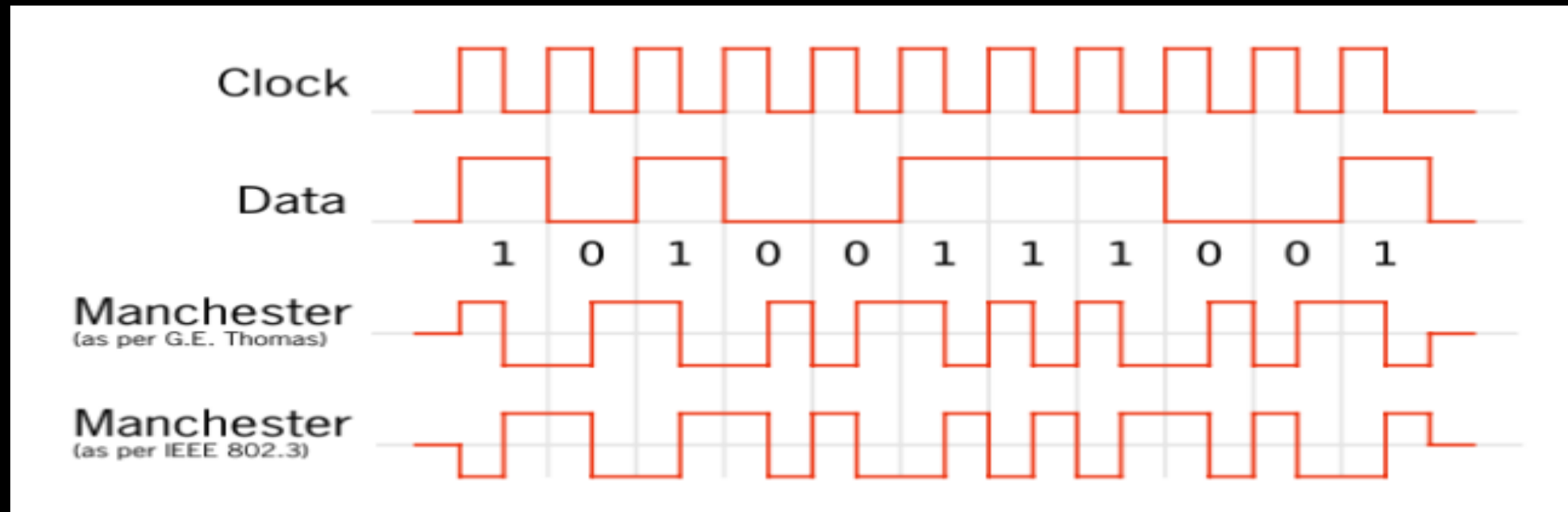| a	Start Bit (1 bit)	Always "1"
b	Short address or group address (1 bit)	Short = 0 , group = 1
c	Adress bits (6 bit)	Short address or group address
d	Direct arc Power control (0)or other command (1bit)	Command bit
e	Data bits (8 bits)	Data bits
F	Stop bit (2 bits)	Always "1"

DALI Communication

- Backward Frame Structure

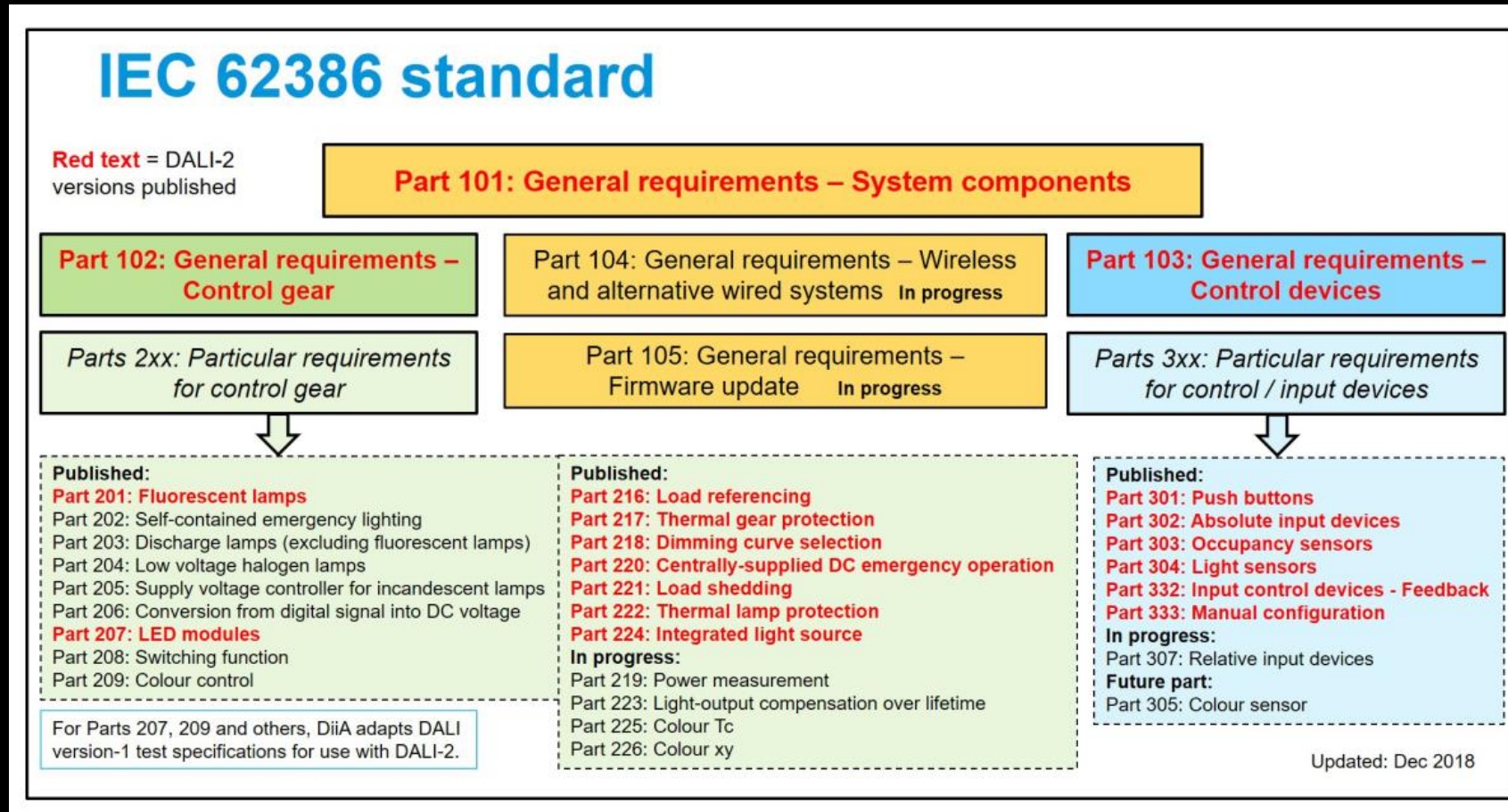|		
a	Start bit (1bit)	Always "1"
b	Data Bits (8 bits)	
c	Stop Bits (2 bits)	Always " 1"

DALI Communication

- Manchester encoding Timing Diagram
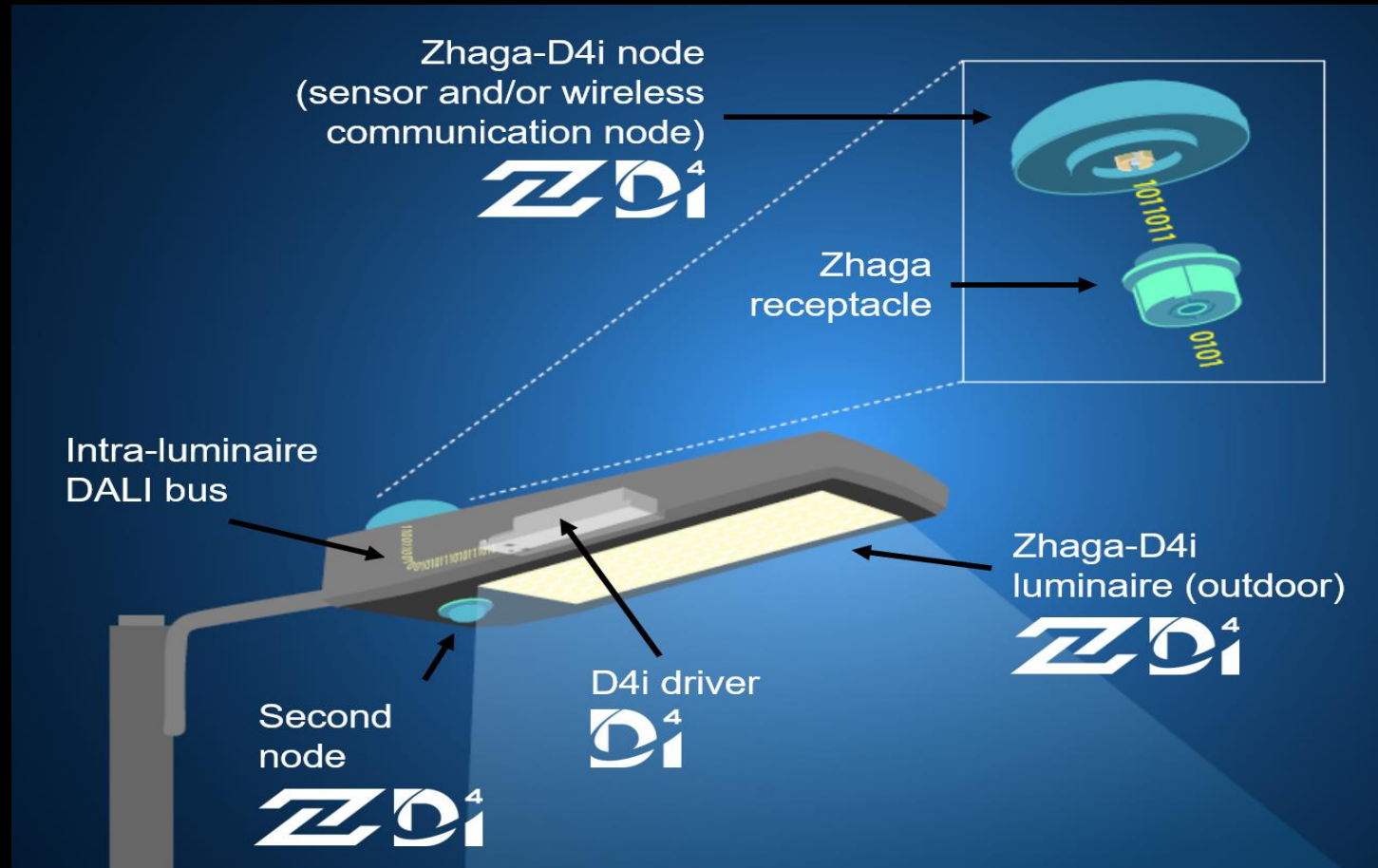
DIIA

- Digital illumination interface alliance
- DALI – 1
- DALI – 2
- D4i
- DALI+
- Zhaga- D4i

IEC :Internation Electrotechnical Commission

ZHAGA – D4i Ecosystem

Product : SELC External RF DC Node

- [SELC](#)
- [Data Sheet](#)

D4i Certified LED Driver :

- [DataSheet](#)

ILC Category Device Type

- Control Device : DIIA specifications
- D4i certification
1. Type D : A control device with an integrated single master Application Controller
2. DALI PART 351 : luminaire Mounted Control Devices
3. DALI PART 101: General requirement for System Components
4. DALI PART 103 : General Requirement for Control Devices
- Zhaga Certification :

Zhaga Book 20 Implementation Required

Dali based Lamp dimming Kit Details.

Boards/Parts	Approx Cost(INR)	Qty
Lamp(90-100W)	3000	1
Dali Interface Board	3000	1
Development Board	8000	1
Driver Dali based	5000	1

Thank You