



## DataSheet VistaZ Link

### Overview

The VistaZ Link by CoolR is a state-of-the-art smart camera to enable continuous and reliable taking of shelf images and their automatic transmission. The VistaZ Link forms part of CoolR's connectivity ecosystem enabling our clients to generate always-on insights and actions such as workflow automation or order automation. The key features of VistaZ Link are:

- Zero energy: Harvesting energy from in-store light sources to self-recharge it's battery for reliable, continuous operation and minimal expense & effort for clients.
- Consumer safe: The unit is designed to be tamper-proof and equally pose the least possible risk to consumer by choice of materials & design (assuming clients take reasonable & expected care in handling).
- Unibody: A single case holds all elements which means no cables or power plugs are needed.
- Optimal field of vision: The lens types and arrangements are specially designed for a wide variety of refrigerators and freezers for simple planning and installation routines.
- Peel and stick: The unibody VistaZ Link gets installed simply by peeling the industrial-strength adhesive and sticking the VistaZ Link on the inside of the glass-door. The installation is done quickly & easily by anyone.
- Wide operating environment: The VistaZ Link is designed to work in freezers, fridges or on ambient shelves.

### Notes

- After several years of operations, the rechargeable battery might need replacement – depending on operating conditions as specified in the table below. The battery replacement must be done by authorized personnel but is a simple and fast process.
- Battery life considerations
  - As stated in the table below, the time till complete discharge is based on 1 picture plus 1 extra ping per day.
  - Note that complete discharge is not equal to end of battery life even though full discharges do shorten useable battery life.
  - Device life is to be expected 3+ years when VistaZ and VistaZ Link are placed in same cabinet/cooler.
- Impact of off-season / downtime / no-light-conditions
  - If the device was put into sleep mode before off-season starts (assuming this equals no light irradiation) and was at good charge levels at that point, it will take 3-5 days for the device to recharge itself once out of sleep mode.
  - If, however, the device was not put into sleep mode at the beginning of the off-season, then it will require approx. 30days after that off-season to be recharged sufficiently.
- Safe handling considerations
  - The battery or unit should not be dropped, immersed in water or punctured.
  - The solar panels should not be punctured.
- NOTE: This is the DRAFT version of the VistaZ Link datasheet. Final specifications may change and as of now changes might most likely occur in these areas: size (may be +/- 10% vs indicated dimensions), shape (may change a little vs image shown), battery life (may improve with firmware optimizations)

## Features

### Physical/ Environmental

Power Supply	Rechargeable 18650 LT Li-ion
Size (LxWxH)	2500 mAH (Secondary) 159mm x 55mm x 35.4mm
Temperature Range	Operating: -20°C to +50°C Storage: -20°C to +70°C
Data Storage	32-Mbit Flash
LED	(internal only for diagnostics)

### Wireless Connectivity

#### Bluetooth

Module	Nordic nRF52840
Type	Bluetooth Low Energy 5.4
Sensitivity	-95 dBm
Max Power Output	+8 dBm
Antenna Type	onboard
Frequency	2400Mhz to 2483Mhz
Data Rate	2Mbps Max

#### WiFi

Module	ESP8266EX
Protocols	802.11b/g/n(HT20)
Wifi Max power Output	802.11 b:+20dBm
Antenna Type	onboard
Frequency Support	2400Mhz to 2483.5 Mhz
Wifi Data Rate	11 Mbps
WPA2/WPA3 support	ECOPACK® RoHS and "green" compliant WPA2 supports 2.4GHz Customization available Separately

### Ambient Sensors

Temperature	±5 °C accuracy @ -40 to +85 °C
-------------	-----------------------------------

### Movement

Accelerometer	±2g/±4g/±8g/±16g dynamically selectable
Gyroscope	Selectable full scale of ± 15.6/31.2/62.5/125/250/500/1 000/2000 dps sensitivity change vs. temperature ±5

### Camera

Sensor Type	OV5640
Size	Upto 5.0 Megapixel (2592 x 1944)
Temperature range	-20°C to 50°C
Camera count	1
Lens material	Glass
FoV (default)	210° diagonal

### Ambient Energy Harvesting

Type	Indoor light energy harvester
------	-------------------------------

Protection Laminated cells

### Processors

Primary processor	ARM® Cortex® -M4 32-bit
Co-Processor	FPGA

### Expected Time for Battery Discharge

Device life is to be expected 3+ years  
Assumption: 12+ hours of light

### Certifications (planned)

FCC, CE, UKCA, RoHS  
Bluetooth module pre-certified  
IP65(Targeted)  
Testing for no source of ignition  
MSDS, IEC, UN38.3