We Connect Everything to improve the quality of life

Carrot Smart Building Solutions
Smart Display System

HKC
香港通訊

" Autonomous technologies, AI, and internet of things"

The Smart Display System consists of the following six components :

- Smart Display User Interface (SDUI)

- Home Energy Consumption Information System (HECIS)

- Water Consumption Information System (WCIS)

- Waste Management Information System (WMIS)

- Home Health and Wellness Information System (HHWIS)

- Building Management System (BMS)

Detailed Description

The Smart Display System (SDS) for New Buildings is an intelligent platform for internet-of-things (IoT) devices. The system, includes sensors and energy meters, can empower building residents and property managers with relevant and timely information to lead a healthy and green lifestyle, and to manage the building efficiently respectively. SDS provides real-time feedback of power, gas and water consumption levels (and their equivalent carbon emissions), household waste and recycled waste generated, as well as instantaneous indoor air quality level in the form of temperature, relative humidity and total volatile organic compounds (TVOC), and a host of other useful information such as lifts and communal washing machines/dryers status. Every home in the "eResidence" project is installed with a state-of-the-art touch screen (called Smart Display System) that provides easy-to-understand infographics to apprise the users (i.e. homeowners) of the afore-mentioned information, as well as many other functions such as video door phone and clubhouse facility booking system (please refer to the attached User Manual for the comprehensive list of functions).

In addition, smart bins equipped with IoT sensors, located in the refuse room on each floor, collect general waste and recycled waste weight information and fill levels of the bins, so that infographics of the waste disposal as well as the optimal waste collection strategy can be formulated to improve the efficiency in property management.
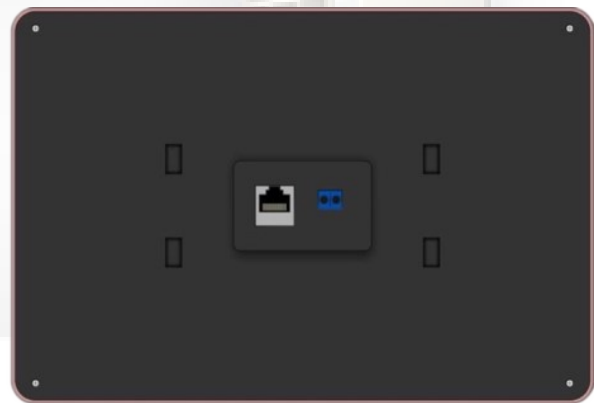
Moreover, the users can set alert levels for the power and gas consumption levels, as well as temperature, relative humidity and TVOC levels. Thus, notification alerts will be popped up on the SDS when the users consume more energy than they intended, or when TVOC has exceeded the pre-set or default (EPD recommended) parameters.

In order to help users to track their energy usages and waste generation in previous years, SDS also provides historical charts of this information up to 18 months for providing a meaningful year-over-year comparison.
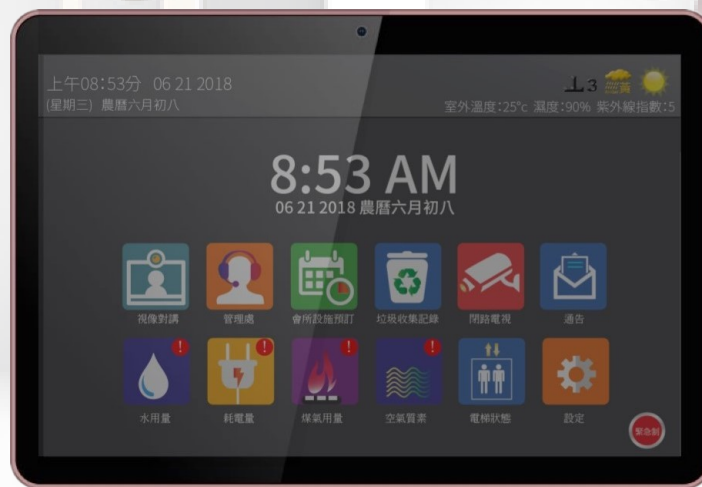
Smart Display User Interface (SDUI)

A typical implementation is to integrate the Smart Display User Interface (SDUI) with a Video Door Phone inside the flat unit.

Home Energy Consumption Information System (HECIS)

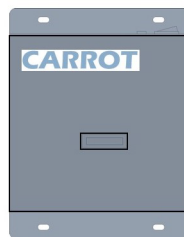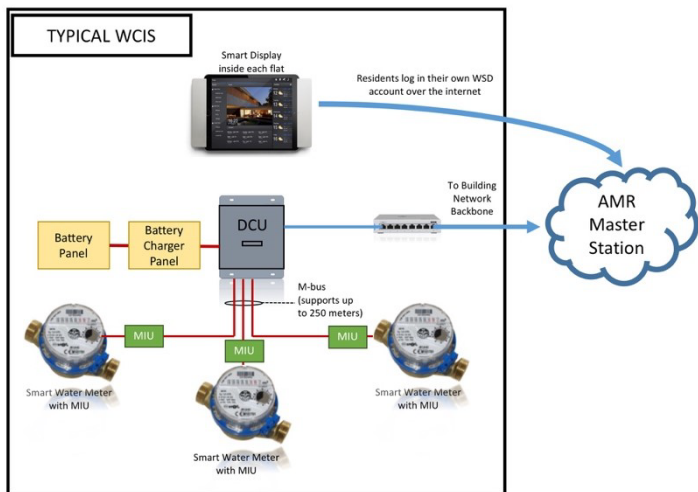SDUI front page features icons for HECIS for energy information.

This Power Consumption function shows the current month's total power consumption and its corresponding carbon emission value. You can display the data for the last 18 months by selecting from the drop-down box. You can also set the alert level for over-consumption by selecting the Tool Icon.

This Gas Consumption function shows the current month's total gas consumption and its corresponding carbon emission value. You can display the data for each of the last 12 months by selecting from the drop-down box. You can also set the alert level for over-consumption by selecting the Tool Icon.
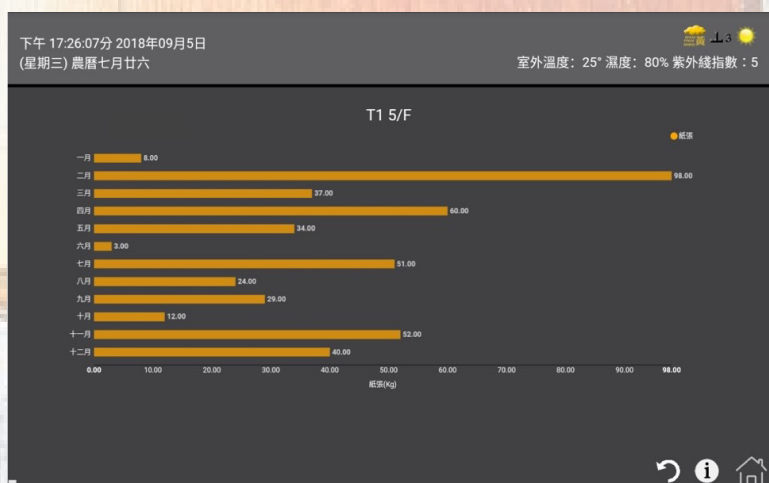

Water Consumption Information System (WCIS)

Parameter	Specification
Model No.	CIU-GPIO2
Operating Power	12VDC 800mA
Dimension	160mm (W) x 200mm (H) x 40mm (D)
No. of Digital Inputs	40
No. of Digital Outputs	12
IP Address DIP SW	1
RS-485/Modbus Ports	4
10/100 Ethernet	1
USB 2.0 Ports	2
Power Switch	1
Watch Dog	Y

Waste Management Information System (WMIS)

This Waste Collection Information allows you to view current monthly totals for the various types of waste collected/recycled from this floor. By selecting each of the waste type (General, Paper, Paper Box, Glass, Plastic and Aluminum), you can also view the month-by-month collection history the type selected. .
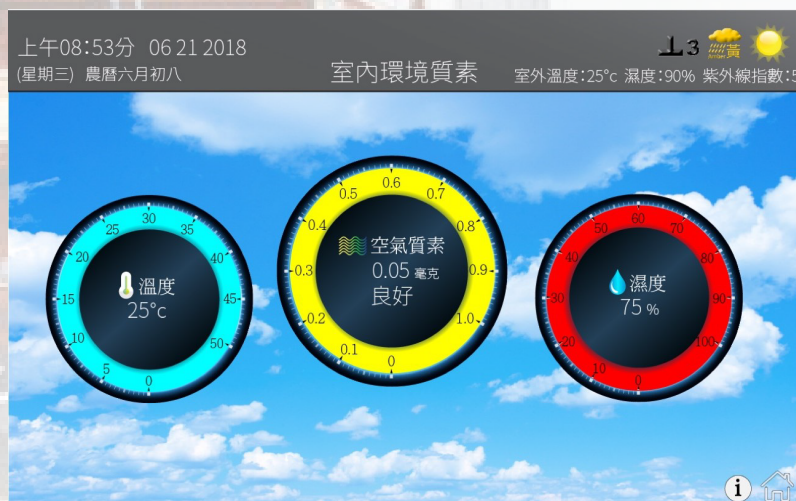

This graph shows the month-by-month waste collection history for the last 12 months.

Home Health and Wellness Information System (HHWIS)

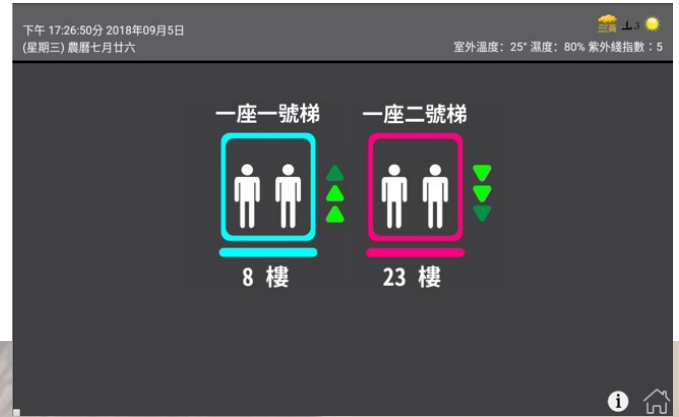A Carrot Multi-sensor for indoor TVOC, temperature and relative humidity.

This Air Quality function shows the current total volatile organic compound (TVOC), air temperature and air humidity in the room. The red dots along the rim of the three dials indicate the temperature, TVOC, and humidity, respectively. You can set the alert level for each of these measured values by selecting the corresponding Tool Icon under each dial. The face of each dial changes color to indicate the severity of the measurement. The possible colors are blue (Low), yellow (Normal) and red (Severe).

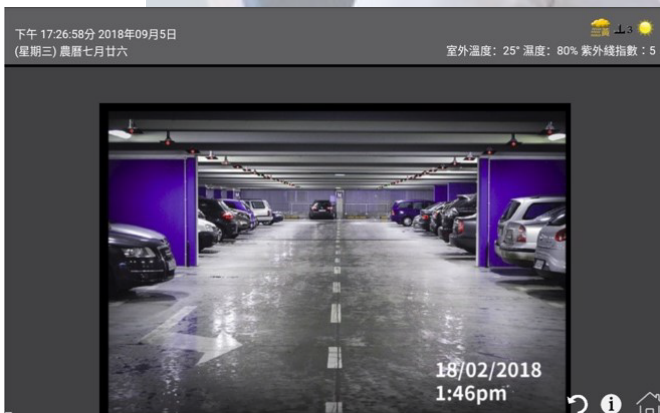# Building Management System (BMS)

This Notice Board function displays all the current notices and events of this development. By selecting any of the entries, you can read in more details about the news or event.

This screen shows the current locations and travelling directions of the lifts.

This Facility Booking function allows you to reserve online time slots for the Yoga room, Multi-function Room, and Gym Room. Please select from the corresponding tabs on top of the screen for the facility you want to book. Then, choose the date and time slots. Enter the Resident's information and payment method. Finally, please confirm.

By selecting any of the CCTV camera locations shown, you can view the real-time video from that camera.

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