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controls

# IKEA DISTRIBUTION CENTER

## PORT KLANG, SELANGOR, MALAYSIA

## INTRODUCTION

*IKEA opened a regional distribution and supply chain center in Malaysia in 2020 for its Association of Southeast Asian Nations (ASEAN) market. Much like the furniture giant's distribution center in Germany in structure and technology, the new ASEAN hub is among IKEA's 10 largest regional distribution centers in the world. At over 100,000 square meters, the warehouse uses an integrated information communication technology system and automation to reduce dependency on labor and increase efficiency and its inventory management accuracy. The Port Klang facility is the first LEED Gold–certified warehouse and distribution center in Malaysia.*

## PROJECT DETAILS

Reliable Controls Authorized Dealer Shinmacon Engineering installed a building automation system during construction of the Port Klang IKEA Distribution Center. Seven MACH-ProCom controllers and 15 MACH-ProSys controllers, expanded with 35 MACH-ProPoint expansion modules, communicate over BACnet/IP to control a variable refrigerant flow system, digital power and water meters, computer room air-conditioning equipment, a louvred ventilator, a fire alarm system, and variable speed drives. With their extensive network routing capabilities, highly scalable inputs and outputs, and small size, the MACH-ProCom and MACH-ProSys are fully programmable BACnet Building Controllers that achieve an optimum balance between form and function.

Shinmacon relied on the flexibility of RC-Studio BACnet Advanced Operator Workstation software to integrate equipment from nine different vendors into the building control system. The real-time fault detection and diagnostics in RC-Studio empower facility owners to improve operational efficiency and occupant comfort while maintaining their sustainability goals. RC-WebView, a browser-based building management software solution, connects multiple independent control systems into a single Enterprise Website, accessible using a secure single sign-on, that allows scalable visibility and control at a glance.

RC-Archive software continuously downloads data logs to an industry-standard SQL database, delivering a robust record of building performance. Facility managers use RC-Reporter software to extract intelligence from this data that helps them identify, evaluate, and rank actionable insights to improve operational efficiency. To simplify IT management and improve data communications security, Shinmacon implemented RC-RemoteAccess software, a flexible BACnet Secure Network solution that doesn't require additional routers or controllers and permits multiple separate VLAN configurations.

"The new distribution center will help to reach out to more customers in Southeast Asia and a steady supply of the home furnishings our customers love," said Lee Bee Chin, managing director of IKEA Supply Malaysia at the ground-breaking ceremony for the new warehouse in 2019. Reliable Controls and Shinmacon were pleased to help the IKEA Distribution Center in Port Klang achieve its LEED v4 rating with a building automation system that optimizes lighting and HVAC efficiency.

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**PROJECT TYPE**
New construction

**MARKET SEGMENT**
Warehouse

**INSTALLATION TYPE**
HVAC, lighting

**TOTAL AREA**
100,000 m² (1,076,391 ft²)

**PROTOCOL**
BACnet, Modbus

**INSTALLED EQUIPMENT**
7 MACH-ProCom™ controllers
29 MACH-ProPoint™
Input expansion modules
6 MACH-ProPoint™
Input/Output expansion modules
15 MACH-ProSys™ controllers
RC-Archive® software
RC-RemoteAccess® software
RC-Reporter® software
RC-Studio® software
RC-WebView® software

**INTEGRATED EQUIPMENT**
Panasonic variable refrigerant flow system, Mikro digital power meter, Schneider digital power meter and computer room air-conditioning equipment, Siemens digital power meter, Colt louvred ventilator, Vizulinx fire alarm system, Kamstrup water meter, Danfoss variable speed drives

**TOTAL SYSTEM OBJECTS**
3,700

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