

Overview of rove automation and installation works llc, lighting and access contr...

[Business](#), [Company](#)



Rove Automation & Installation Works LLC, is one of Dubai's most reputed engineering organizations that deals with the sales and distribution of engineering products, and have a wide coverage. They predominantly provide engineering services and a great deal of support and assistance, from a wide selection of products which are used extensively by industries that focus their attention on engineering.

These industries include Power Generation, Low and Medium Voltage Switchgears, Guest Room Management System, Hotel Automation, Fire Alarm Systems, Lighting and Project Management and Energy Solutions

HISTORY

The company initially started off in 1997, to having several branches in different locations worldwide, as a result keeping in line with the vision and foresight of our founder along with our 5 values of Integrity, Commitment, Reliability, Team Spirit and Performance.

The company, has expanded to result in a staff of more than 130 members, and is located in about 10 places, across 5 countries, including UAE, Qatar and Kingdom of Saudi Arabia. RAI is a leading distributor in Gulf, Middle East and Asia.

These decades of vision, dedication, exceptional commitment, and constantly reviewed performance of products, as insured of customers and utmost faith and trust in the skill of the employees led to a successful business.

OVERVIEW

The company was founded in 1997, and has been providing quality service for more than 21 years. It is one of the industrial leaders of the UAE, and aims to provide services for all industrial as well as engineering requirement.

Rove Automation & Installation Works LLC has built a solid reputation in supplying products of high quality for the past 21 years, and aids in improving the technology of the future. The company uses its cutting edge technology to equip industries with the most promising, latest, most innovative and long lasting products which are necessary for various operations in today's world.

Rove Electric specializes in number of engineering fields, namely-

- Guest Room Management System
- Home Automation
- Lighting Control System
- Fire Alarm System
- Access Control System
- Security Systems
- Structuring Cable
- AV Controls

At Rove Automation we have a huge number of expertise in providing

- Design and Consultation
- Turnkey System Integration
- Project Management

- Value Engineering.

Rove Automation & Installation Works LLC strongly believes to attain premiere electric solution provider in the field of electric engineering by providing quality products and services.

Rove Automation & Installation Works LLC have achieved ISO 9001-2000. This certificate shows the “ Quality Assurance of measures to ensure the clients requirement are understood and quality measures have been taken.

Rove Automation & Installation Works LLC with their experience have developed from just electric company to following sectors:

- Infrastructure
- Commercial Building
- Mining
- Process Industry
- Energy & Utilities
- Oil & Gas
- Marine

SUMMARY

Rove Automation & Installation Works LLC Industrial Enterprises is one of the leading engineering organizations that deal with distribution of engineering products. The company was founded in 1997, and for more than 2 decades, it has been a pillar of assistance and support to a large number of engineering industries, serving to bridge the gap between the producer and the consumer. Its headquarters are located in Dubai, Abu Dhabi, Kingdom of

Saudi Arabia, Qatar and India across 4 different countries, including UAE, Kingdom of Saudi Arabia, Qatar and India. Rove Automation & Installation LLC is a major industrial leader in Middle East and Northern Africa regions. Rove Automation & Installation Works LLC shares a strong bond with a number of manufacturing corporations, one of which is Schneider Electric.

SCHNEIDER ELECTRIC

HISTORY

European corporations Schneider Electric are experts engineering fields like energy management, computerize solution, Spanning Hardware, software and services. Adolphe Schneider and Joseph Eugene Schneider founded Schneider in the year 1836, and was publicly traded on Euronext Exchange since its rank in Fortune Global 500 rank and part of Euro Stoxx 50.

Schneider employs about 144, 001 people globally by the end of 2016.

Parker is divided into seven operating divisions over 55 countries. The divisions are namely Building Automation, Electrical Power Distribution, Electrical Power Distribution, Industrial Safety System, Switches and Sockets, Critical Power & Cooling for datacenters, Electrical Grid Automation, Home Automation, Industrial Control System and Smart Grid.

In 1891, Schneider became an expert in military related accessories and started to invest in electricity department.

In 1949, Charles Schneider did an in depth restructuring of Schneider Group

In 1975, Schneider acquired their interest in Merlin Gerin.

In 1988, Schneider made its first ever acquisition. It acquired Telemecanique Products Company in France.

In 1999, Schneider started to focus on electric field by changing its name from Schneider Group to Schneider Electric.

In 2000, Schneider strengthened its position in the automation market with the acquisition of the Crouzet Automatismes.

In 2005, Schneider acquisition of Juno Lighting leaded them as a Lighting products suppliers

In 2010, Schneider started a venture group named as Aster to support the start-ups and give everyone a chance.

In 2011, Schneider started to invest in software related departments.

In 2016, Patents of 20, 000 and 144, 000 companies in 100 countries.

EXOSTURXURE

Schneider is an EcoStruxure IOT enabled is the platform used by Schneider in all their works from Home to Industries.

With EcoStructure platform Schneider is able to provide very reliable, safety, sustainability, high operational performance and connectivity to our customers.

Services provided by Schenider with the help of EcoStruxure are Grid, Power, Building, Plant, IT and Machine.

<https://assignbuster.com/overview-of-rove-automation-installation-works-llc-lighting-and-access-control-system/>

EcoStruxure allows the edge to face the issues about Comfort, Safety and productivity even for a normal employee with maximize energy efficiency and sustainability.

With the help of EcoStruxure building customers and suppliers can save 35% of energy costs. With active control of building spaces we can save up to 50% of energy efficiency.

LIGHTING CONTROL SYSTEM

LIGHTING CONTROL SYSTEM

OUTLINE OF LIGHTING CONTROL SYSTEM

Lighting control System is the capability of the light to monitor and control the level and quantity of light required for the user.

Lighting control System are a centralized means of operation so it can be controlled together. Lighting Control System consists of sensors, input/output communication devices.

Lighting Control System consists of 2 parts which are Bus system and Conventional Switches.

Lighting control system consists of 2 types. Wired Lighting Control System is the one where we need a set of wires to communicate between two devices. Whereas the other one is Wireless in which there is no necessary of wires.

WORKING PRINCIPLE

Main working principle behind the Passive Infrared sensors is the infrared. A photo diode on the floor receives the transmission of infrared from the Light

emitting diode as a reflection. When there is no movement the light remains constant. Whenever there is a movement this sensors activate the light as the Photo Diode is disturbed.

The presence of pre-resistor the lighting generation's voltage is easily divided, which is related to the unused power as the unused power and dissipation of light by resistor. The light is cut at each second but since the operation takes place in nanoseconds it is not visible to our eyes.

ADVANTAGES

- Due to Single User Interface it becomes easy for us to connect more than 6 switches into a single switch. This leads us to easily turn on/off all the lights in a room or whole building just by sitting in the place that we sit.
- Light with a controlled system it leads to Reduced Energy Consumption. As it is well known 75% of light can be saved when we use LED light then normal lights.
- As all the works can be done from the place we sit and it can be changed as per the mood of the user. It will help in increase the Productivity of user.
- Extend Bulb Life. Due to this Lighting Control System the bulbs can be used for more years as it reduce the energy consumption it will ultimately leads to more Bulb's life.
- With the help of Lighting Control System the user can easily Smart Monitor all the things occurring around him when he is not in the place.

APPLICATIONS

Lighting controls due to advanced mechanisms are mostly chosen by constructors for their new buildings. Like Timer Sensors in Parking Garage, Wall mount sensors near Staircase, Ceiling Mount Sensors in corridors etc.

Occupancy Sensors and LEDS kept in the Freezer Case save the power consumption and very high cost effective. When no objects are kept the lights goes off saving more energy.

With the help of Dimmers it becomes easy for 2 people sitting in same room to increase and decrease the light's brightness based on his or her need.

Pressure sensors help the Traffic police to exactly know about the speed at which each car is going.

LIGHTING CONTROL DEVICES

Some instruments that are used in the working principle of Lighting Control are classified into Input Units, Controllers and System Units. These instruments are classified based on their usage, requirements, properties and many other factors. The working principle of Lighting Control is put to use in various types of equipment, as follows-

INPUT UNITS

This are the initial units which are responsible of collecting the information from user and send to the bus telegram.

SENSORS

Sensors are used to recognize different types of physical objects and send the received information to other connected devices by converting them using transducer.

Sensors can be broadly classified into:

- **Passive Infrared Sensors:** The detectors which detects presence of an object based on the temperature or infrared and glow the light in response to it for certain time duration.
- **Ultra Sonic Sensors:** The detectors which detects the presence of an object purely based on movement. If there is a moment then Ultra Sonic Sensors activate the light. If there is no movement of an object then the light will go off.
- **Light Level Sensors:** The detectors used to detect the amount or the level of light is being present there and based on that the light is turned on by this sensors.

SWITCHES

Switches are the devices used to control certain functions.

CONTROLLERS

DIMMERS

Dimmers are used to reduce the intensity of Light. Dimmers are one of the main feature of Lighting Control System as they are the one who reduces the brightness of light based on the usage or needs of the user.

Changes of light's intensity are refereed to us as Fade off and Fade on.

Due to high efficiency and very little power, Semiconductors are used to manufacture Dimmers in modern days instead of the variable resistors.

Dimmers can be classified into two categories: Analog and Digital.

Analog dimmers are those dimmers in which the dimmers operate based on continuous variable signals. Ex: Leading and Trailing edge Dimmers, 1-10 V

When the half cycle of each wave is cut in the front it is called as Leading Edge Dimmers. They have a high minimum load.

When the second half of the half cycle of each wave is cut it is called as Trailing edge Dimmers. Trailing edge are preferred more due to their silent running, smooth nature and soft start. They have a low minimum load.

1-10V are used to dim the light in the range of 1 to 10V. This is done with 2 wires which as both positive and negative side. 1-10V is a unidirectional dimmer.

Digital type in which the dimmers are based on the digital outputs and inputs. EX: DALI

DALI (Digital Addressable Lighting Interface) is a control through which we can easily communicate with our lighting equipment's digitally about how it should operate.

RELAYS/SWITCHES

Based on the preprogrammed function or on/off function the light glows or turns off.

ACCESS CONTROL SYSTEM

Outline of Access Control System

Access control System is a means of restricting the entry to certain places so that only authorized people will be able to enter the restricted area.

Access control System uses cards for controlling the credentials. Credentials is a means by which the details about an individual is stored saying who is he and what all permission he has. With the help of this credentials, Access Control Card takes care of the people's safety.

Access Control System helps to be safer as only trusted people will be able to enter.

Access Control System has two main types which are Network-Based and Standalone. Network-Based is a type of Access Control System in which we can connect a lot of access points in a single location. Rove Automation mostly creates this type of Access Control System so that it can easily be monitored etc. Whereas the Standalone is a type of Access Control System in which each point of access is connected separately.

Working Principle

When the Access Controller is accessed by the user using the credentials or proximity cards a request sent to the main server which is placed in the workstation through the controller which is connected to the workstation using Optical Fiber and using Category 5 wires to the door. Then based on the authentication information given by the user the server checks the eligibility of the user to be allowed or denied. Once the information is verified

the server sends a confirmation or rejection to the controller from which the information is proceeding to Magnetic Lock which consists of an electric cable. As soon as the electricity is blackout using the electromagnetic property the Door lock is released and access control which is connected through RJ-45 to Door Lock said as allowed and the user is allowed or denied inside the building. While coming out he needs to use the Push Button which released the door contact ultimately leading the person to leave the room.

Proximity Cards uses the Radio Frequency to send the details of the user to access control device. When this Proximity Card comes in a minimal distance with the Access Control Devices the card's microchip is energizes by the coil present inside which contains a specific code for each unique cards. Once that unique code matches with the data in the server the user is permitted to enter.

Advantages

With the help of Access Control System, it becomes easy to regulate and control the number of people enter for different shifts of the office which reduces tumult.

As only authorized people are eligible to enter it gives us and personal items a well-shielded support. The scared of losing our valuable items by theft when we are not there is reduced as a result we can go out without worrying about our valuable items.

With the help of Access Control System, the dependency of Keys reduces. As cards can be easily replaced or updated when an employer is left. Without

Access Control System it would have been tough for the company to replace or unlock the door.

Safety is increased as strangers and unknown people are not permitted to enter the restricted area because of this Access Control System. At the same time, we can easily know who is coming in and going out so that we can easily monitor what's going on just by sitting in the one place.

With the help of Access Control System, the amount of time and money spent on Security System is reduced as just one controller itself controls the function of multiple doors present in the area or buildings. Which ultimately leads to the Reduction of Security Costs.

Application

Access Control System plays a key role in Treasury as with the help of Access Control System it becomes easy for the Treasury officers to easily regulate only the authorized person permitted in so that the money kept inside the treasury is safe with the worry about thief.

Based on the Access control System in parking slot it becomes easy for the authority to exactly know how many cars comes in and goes out and based on that they can easily come to know how many vacancy are there so the outsiders can come to know about the vacancy easily.

One of the source that utilize this Access control System most is the Hotels and Industry. As in Industry there are multi shifts it become easy for them to regulate who enters and who leaves.

Components

Card Reader:

Card Readers are the devices which are accessed by means of a Contiguity Card.

Magnetic Locks:

Magnetic Locks is a type of lock which is used to open and close the door based on the electromagnetic popery.

Door Contact:

Door Contact is the most essential part of an access control system as door contact based on the door's contact detect the situation of the door whether it is closed or open.

Push Buttons

Push Buttons is a button which is used for unlocking or releasing the door lock

Controllers:

Controllers are the main distribution box which regulates all the wires between the access controller and server.