

Chapter 1 : Residential Wiring Best Practices - Rewiring Options and Benefits

The point of connection between the facilities of the serving utility and the premises wiring. Cabinet An enclosure that is designed for either surface mounting or flush mounting and is provided with a frame, mot, or trim in which a swinging door or doors are or can be hung.

If your home is more than 40 years old, it is likely you will need to upgrade the electrical wiring throughout your home. The standard for household power used to be 60 amps but modern homes often require as much as 100 amps to run air conditioners, computer equipment, high-definition televisions and home automation devices. This costs guide looks at the cost of an average size home of 2000 sq. ft. Upgrade electrical service panel: Opening walls and running wires: For a home around 2000 sq. ft. If an electrician can run most of the wiring through a basement, attic, crawlspace or floor joists, the costs will land on the lower end of the estimate. Adding outlets and switches: Each space needs to have outlets per space, according to The Craftsman Book Company. Enhancement and improvement costs Enhance your wiring with structured wiring. This heavy-duty electrical and data cables are designed to handle modern entertainment and communication devices. Additional considerations and costs Save costs by opening walls during a remodel. Once the walls are open for the remodel, electricians can access the wiring. The subcontractor can then finish the walls without extra costs. This is a project for professionals. Upgrading wiring in the home is not a project to do yourself. Trying to rewire a home, without an electrician, can cause electrocution. If your home was built before the 1970s, it may have knob and tube wiring. This wiring is outdated and should be removed as soon as possible. InterNACHI confirmed that no code mandates the complete removal of knob-and-tube wiring, however some local codes require its removal in all accessible locations. Permits are required to change the wiring in a home. Was this guide helpful to you?

Chapter 2 : Electrical wiring - Wikipedia

A point on the wiring system at which currents is taken to supply utilization equipment. Grounded Connected (connecting) to ground or to a conductive body that extends the ground connection.

Aluminum wire materials[edit] New York City utility lines in Aluminum wire has been used as an electrical conductor for a considerable period of time, particularly by electrical utilities related to power transmission lines in use shortly after the beginning of modern power distribution systems being constructed starting in the late s. Aluminum wire requires a larger wire gauge than copper wire to carry the same load or current , but is still less expensive than copper wire for a particular application. Accordingly, one pound of aluminum has the same current carrying capacity as two pounds of copper. The lower weight of aluminum wires in particular makes these electrical conductors well suited for use in power distribution systems by electrical utilities, as supporting towers or structures only need to support half the weight of wires to carry the same load or current. In the early s when there was a housing construction boom in North America and the price of copper spiked, aluminum building wire was manufactured using utility grade AA aluminum alloy in sizes small enough to be used for lower load branch circuits in homes. The first series electric conductor alloy, still widely used in some applications, was developed and patented in by Aluminum Company of America Alcoa. The AA aluminum alloy was more prone to problems related to branch circuit wiring in homes due to mechanical properties that made it more susceptible to failures resulting from the electrical devices being used at that time combined with poor workmanship. The Beverly Hills Supper Club fire was a notable incident triggered by poorly installed aluminum wiring. Aluminum wiring in modern building construction[edit] Aluminum wire used for a modern overhead service drop from a utility to a house Aluminum building wiring for modern construction is manufactured with the newer AA series aluminum alloy sometimes referred to as "new technology" aluminum wiring as specified by the industry standards such as the National Electrical Code NEC for wiring within a building. The use of larger gauge stranded aluminum wire larger than 8 AWG is fairly common in much of North America for modern residential construction. Aluminum wire is used in residential applications for lower voltage service feeders from the utility to the building. This is installed with materials and methods as specified by the local electrical utility companies. Also, larger aluminum stranded building wire made with the newer AA series alloy of aluminum is commonly used for electrical services e. Larger electrical cable that has stranded aluminum wires with an outer sheath used for service entrance feeders from a meter to a panel In North America the use of smaller solid aluminum wires made with newer AA series aluminum alloy are allowed to be used for lower load 15A or 20A branch circuit wiring within a building according to the National Electrical Code. This is particularly a problem with wire to wire connections made with twist-on connectors. As of most twist-on connectors for typical smaller branch circuit wire sizes, even those designed to connect copper to aluminum wiring, are not rated for aluminum-to-aluminum connections, with one exception being the Marelite 63 or 65 used in Canada but not approved by UL for use in the United States. Also, the size of the aluminum wire needs to be larger compared to copper wire used for the same circuit due to the increased resistance of the aluminum alloys. However, smaller solid aluminum branch circuit wiring is almost never used for residential construction in North America. At around the same time the use of steel screws became more common than brass screws for electrical devices. Over time, many of these terminations with solid aluminum wire began to fail due to improper connection techniques and the dissimilar metals having different resistances and significantly different coefficients of thermal expansion, as well as problems with properties of the solid wires. These connection failures generated heat under electrical load and caused overheated connections. These lugs are typically made with a coated aluminum alloy, which can accommodate either an aluminum wire or a copper wire. Larger stranded aluminum wiring with proper terminations is generally considered safe, since long-term installations have proven its reliability. Problems with aluminum wiring[edit] The use of older solid aluminum wiring in residential construction has resulted in failures of connections at electrical devices, has been implicated in house fires according to the U. Consumer Product Safety Commission CPSC , and in some areas it may be difficult to obtain homeowners insurance for a house

with older aluminum wiring. The two main reasons were improper installations poor workmanship and the differences in the coefficient of expansion between aluminum wire used in the s to mids and the terminations, particularly when the termination was a steel screw on an electrical device. However, problems can develop in the future, particularly if connections were not properly installed initially. Improper installation, or poor workmanship, includes: There can also be problems with connections made with too much torque on the connection screw as it causes damage to the wire, particularly with the softer aluminum wire. Coefficient of expansion and creep[edit] Thermal expansion rates of wiring metals: Aluminum highest , brass, copper and steel lowest Most of the problems related to aluminum wire are typically associated with older pre AA alloy solid aluminum wire, sometimes referred to as "old technology" aluminum wiring, as the properties of that wire result in significantly more expansion and contraction than copper wire or modern day AA series aluminum wire. Older solid aluminum wire also had some problems with a property called creep , which results in the wire permanently deforming or relaxing over time under load. Aluminum wire used before the mids had a somewhat higher rate of creep, but a more significant issue was that aluminum wire critically had a coefficient of expansion that varied significantly from steel screws commonly used in lieu of brass screws around this time for terminations at devices such as outlets and switches. Aluminum and steel expand and contract at significantly different rates under thermal load, so a connection can become loose, particularly for older terminations initially installed with inadequate torque of the screws combined with creep of the aluminum over time. Loose connections get progressively worse over time. This resulted in a higher resistance junction, leading to additional overheating. Although many believe that oxidation was the issue, studies have shown that oxidation was not significant in these cases. Some of these devices used larger undercut screw terminals to more securely hold the wire. These devices employ brass screw terminals that are designed to act as a similar metal to aluminum and to expand at a similar rate, and the screws have even deeper undercuts. Aluminum oxidation[edit] Most metals with a few exceptions, such as gold oxidize freely when exposed to air. Aluminium oxide is not an electrical conductor , but rather an electrical insulator. Consequently, the flow of electrons through the oxide layer can be greatly impeded. However, since the oxide layer is only a few nanometers thick, the added resistance is not noticeable under most conditions. When aluminum wire is terminated properly, the mechanical connection breaks the thin, brittle layer of oxide to form an excellent electrical connection. Unless this connection is loosened, there is no way for oxygen to penetrate the connection point to form further oxide. Also, due to the significant difference in thermal expansion rates of older aluminum wire and steel termination screws connections can loosen over time allowing the formation of some additional oxide on the wire. However oxidation was found not to be a substantial factor in failures of aluminum wire terminations. In addition to the oxidation that occurs on the surface of aluminum wires which can cause a poor connection, aluminum and copper are dissimilar metals. As a result, galvanic corrosion can occur in the presence of an electrolyte, and these connections can become unstable over time. Completely rewiring the house with copper wires usually cost prohibitive "Pig-tailing" which involves splicing a short length of copper wire pigtail to the original aluminum wire, and then attaching the copper wire to the existing electrical device. The splice of the copper pigtail to the existing aluminum wire can be accomplished with special crimp connectors, special miniature lug-type connectors, or approved twist-on connectors with special installation procedures. Consumer Product Safety Commission CPSC currently only recommends two alternatives for a "permanent repair" using the pig-tailing method. COPALUM connectors use a special crimping system that creates a cold weld between the copper and aluminum wire, and is considered a permanent, maintenance-free repair. However, there may not be sufficient length of wires in enclosures to permit a special crimping tool to be used, and the resulting connections are sometimes too large to install in existing enclosures due to limited space or "box fill". Installing an enclosure extender for un-finished surfaces, replacing the enclosure with a larger one or installing an additional adjacent enclosure can be done to increase the available space. Also COPALUM connectors are costly to install, require special tools that cannot simply be purchased and electricians certified to use them by the manufacturer, and it can sometimes be very difficult to find local electricians certified to install these connectors. The AlumiConn miniature lug connector can also be used for a permanent repair. Proper torque on the connectors set screws is critical to having an acceptable

repair. However, use of the Alumiconn connectors is a relatively newer repair option for older aluminum wiring compared to other methods, and use of these connectors can have some of the same or similar problems with limited enclosure space as the COPALUM connectors. As of there was only one twist-on connector rated or "UL Listed" for connecting aluminum and copper branch circuit wires in the U. According to the CPSC, even using listed twist-on connectors to attach copper pigtails to older aluminum wires as a temporary repair requires special installation procedures, including abrading and pre-twisting the wires. Also the instructions do not mention physically abrading the wires as recommended by the CPSC, although the manufacturer current literature states the pre-filled "compound cuts aluminum oxide".

Chapter 3 : Residential Construction Academy House Wiring - Greg Fletcher - Google Books

Written in partnership with the Home Builders Institute and endorsed by the National Association of Home Builders, this outstanding resource covers all areas of residential wiring that are required of an entry-level electrician.

Rewiring Options, Benefits and Drawbacks In Part One I discussed knob and tube wiring and the potential problems and issues that may arise if your home still contains legacy knob and tube. Perhaps your home still contains knob and tube, or you are considering remodeling or planning new construction. In this article I will explain current options and residential wiring best practices. Since the s, Knob and Tube has not met current electrical code thus any renovations or new construction built in the last 50 years should contain more modern wiring. All the conductors are individually insulated and the entire bundle is sheathed in PVC plastic to make a nice, neat package. NM cable is by far the most common type of wire used in single-family residential applications today, and been used extensively for the past 40 years. NM cable has several advantages over knob and tube. The wire is protected by 2 layers of insulation, with each individual conductor being insulated and the entire bundle also being insulated. This makes insulation failure a rare occurrence and reduces the risk of accidental electrocution and arcing. The plastic used is resistant to moisture and microbes, and is very durable. The plastic sheathing also has a very high melting point thus is heat and flame resistant. Splices are done in junction boxes, thus protected from the elements and pests. Plus all the wires needed for a circuit are right there together in one neat package. One added benefit of NM cable over knob and tube is that knob and tube emits fairly high levels of low frequency alternating current magnetic fields, due to the separation of the hot and neutral conductors. The magnetic field strength around knob and tube carries a good distance from the wires, and is proportional to the distance between the hot and neutral conductors. Inside NM cable, the hot and neutral conductors are side by side, thus NM emits a much smaller, more localized and weaker magnetic field. The magnetic field strength drops very quickly with distance from the NM cable. BX is sheathed in a flexible metal spiral made either from aluminum or galvanized steel. BX provides all the advantages of NM cable plus some additional benefits. The flexible metal sheathing is easy to install, about as easy as NM cable. It resists puncture by nails and screws, and, as I will describe later, is more resistant to being chewed through by rodents and other pests than NM cable and knob and tube. The metal sheathing absorbs the electric fields emitted by the wires and shunts it to ground. The plastic sheathing of NM cable does not shield electric fields. The main drawback is that BX is more expensive. It is also slightly more difficult to install, as cutting the metal sheathing takes slightly more time, than cutting NM cable. Individual conductors run inside conduit is used primarily in industrial and commercial applications, and is rarely used in residential wiring. It consists of individual, insulated conductors pulled from a spool through conduit, either metal or PVC. This is a more difficult and time consuming wiring method, but is more efficient in commercial applications where wiring runs must be exposed and thus must be inside some form of conduit. If the conduit used is galvanized steel, the benefits are the same as BX, good resistance to puncture, low MF emittance, and good EF shielding. A real world example. Sometimes individual conductors run inside conduit is the only option, but when I have a choice between NM cable and BX, I always choose BX as a residential wiring best practice. There are two main reasons: Many of my concerned clients have spent a lot of effort and money to shield against and reduce their exposure to electric fields. Some even go as far to turn off the circuits to their bedrooms when they sleep to reduce their exposure. If construction, remodels and renovations are done with BX, the electric field exposure is significantly reduced. BX is resistant to nails and screws and rodents and other pests. Here is a true story from when I worked as an electrician: I was working on a job where whenever the client switched on the recessed lights in the living room ceiling, the circuit breaker would trip. Diagnosing this problem required over 2 hours crawling around in an attic and isolating the area where there was a short circuit. I was frustrated to find TWO separate areas and narrowed down the area enough to open up the ceiling and see the problem. A rat, or other rodent, had completely chewed through the insulation of the NM cable, allowing the hot and neutral wires to touch and create a short circuit. This had happened in TWO places in the living room ceiling! If the architect, owner, or contractor had insisted on BX instead of NM cable, this repair would likely not have

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been necessary. This is why I always use BX on my own jobs and recommend it on any project in which I am consulting. Residential Wiring Best Practices is part of a series. See the earlier blog on knob-and-tube common wiring errors here.

Chapter 4 : Structured Wiring for New Construction Homes | All About Home Electronics

Completely up to date with the edition of the National Electrical Code, RESIDENTIAL CONSTRUCTION ACADEMY: HOUSE WIRING, 4e delivers the latest and best practices in residential electrical wiring.

Electrical code Wiring layout plan for a house Wiring installation codes and regulations are intended to protect people and property from electrical shock and fire hazards. They are usually based on a model code with or without local amendments produced by a national or international standards organisation, such as the IEC. The standard is mandatory in both New Zealand and Australia; therefore, all electrical work covered by the standard must comply. Hence national standards follow an identical system of sections and chapters. However, this standard is not written in such language that it can readily be adopted as a national wiring code. Neither is it designed for field use by electrical tradesmen and inspectors for testing compliance with national wiring standards.

North America[edit] The first electrical codes in the United States originated in New York in to regulate installations of electric lighting. States, counties or cities often include the NEC in their local building codes by reference along with local differences. The NEC is modified every three years. It is a consensus code considering suggestions from interested parties. The proposals are studied by committees of engineers , tradesmen , manufacturer representatives, fire fighters and other invitees. The CSA also produces the Canadian Electrical Code , the edition of which references IEC Electrical Installations for Buildings and states that the code addresses the fundamental principles of electrical protection in Section The Canadian code reprints Chapter 13 of IEC , but there are no numerical criteria listed in that chapter to assess the adequacy of any electrical installation. Although the US and Canadian national standards deal with the same physical phenomena and broadly similar objectives, they differ occasionally in technical detail. The 17th edition issued in January includes new sections for microgeneration and solar photovoltaic systems. The first edition was published in

Colour coding of wiring by region[edit] Colour-coded wires in a flexible plastic electrical conduit found commonly in modern European houses In a typical electrical code , some colour-coding of wires is mandatory. Many local rules and exceptions exist per country, state or region. The NEC also requires the "high leg" conductor of a High-leg delta or "bastard-leg" system to have orange insulation. The introduction of the NEC clearly states that it is not intended to be a design manual, and therefore, creating a color code for ungrounded or "hot" conductors falls outside the scope and purpose of the NEC. However, it is a common misconception that "hot" conductor color-coding is required by the Code. In buildings with multiple voltage systems, the grounded conductors neutrals of both systems are required to be identified and made distinguishable to avoid cross-system connections. In the UK, phases could be identified as being live by using coloured indicator lights: The new cable colours of brown, black and grey do not lend themselves to coloured indicators. For this reason, three-phase control panels will often use indicator lights of the old colours.

Chapter 5 : Residential Construction Electricians | Installation & Wiring Services

This program is designed for the junior or senior student to develop the entry-level skills needed for a residential wiring trainee along with the needed foundation.

You also have to follow the national and local building codes related to electrical wiring. In this case, you may still be able to wire your home under the direction of a licensed electrician. Check on the local regulations before wiring your own home. That includes the wiring, outlets, light switches and breaker boxes. Think about what activities you do in each room that require outlets. Entertainment rooms often need a lot more outlets with the ability to support lots of electronics running simultaneously, for example. In the bathroom, you need outlets within reach of the vanity for hairdryers and other electrical grooming tools. You also need to think about things like where outlets and light switches will be most convenient in different rooms. Design an electrical wiring diagram that shows the location of all of the components after you get the okay to wire your home and you have a copy of your local building code for wiring. A wiring diagram shows the location of the breaker box and the path of the wires to each outlet. Even if you have some electrical knowledge, a professional electrician may notice some issues with your design. Determine how many outlets and switches will run on one circuit. Local code controls this in most areas. Normally, you can do six outlets per a voltage circuit in a living area. As few as two per circuit are the standard in a kitchen, where appliances use more wattage. Install the Basic Components With the plan created and approved, you can start installing the basic components of the electrical system. Attach the outlet, switch and fixture boxes to the studs. This is the first step in wiring, and it takes place after you frame the walls but before you install insulation. Check local code for the minimum amount of space between electrical outlets. In general, the more outlets you have, the safer your home. Set your breaker box in an area where you can easily access it in the future. An unfinished location in a basement or a utility room is usually a good choice. Choose the correct amperage for your breaker box, usually amps for a mid-sized home. Add the Wire Once the boxes are in place, you can roll out the wires leading from the breaker box to all of the outlets. Place the roll of wire next to the breaker box, and begin pulling the wire according to your diagram to the closest outlet or switch for each circuit. Be aware that certain appliances, such as the refrigerator, microwave, oven and furnace, are equipped with a volt outlet and require corresponding wire. Check with an electrician if you have any questions. Never splice wires between junction boxes. The biggest cause of fire from faulty wiring occurs with splicing mistakes. If you run short of wire in a wall, pull the entire piece out and use a new piece that is long enough to reach the junction box. Cut the wire after it extends through your first outlet on each circuit. Leave a few inches to work with later. Start a new wire from that outlet to the next one on your diagram. Repeat this process with every switch and outlet, following your diagram carefully. Use wire strippers to remove the outer plastic coating from the ends of the wires and attach them, according to the instructions on the box, at each outlet, fixture or switch. Refer to individual diagrams to wire three-way switches. These diagrams come in the box. Purchase and install the individual circuits for each wiring set. These must match the amperage of the wire and the intended purpose of the outlet. Err on the side of caution if you are unsure about a specific circuit, and install one with a higher load capacity for safety. Always follow the advice of a licensed electrician, and follow the building codes. If you find yourself in over your head, hire an electrician to take over the job.

Chapter 6 : Electrical Construction Wiring | SkillsUSA

Wiring your new home yourself can save you a lot of money, but it's also a potentially risky situation. Mistakes in the wiring can cause electrical fires or shocks, so don't attempt to wire your own home unless you have a working knowledge of electrical circuits.

It takes a long time and endless trips up and down stairs and in and out of house! He was also here recently to help with an evaporator installation for one of the units, which resulted in many hours outside in rain and cold! His work and concentration are amazing! Very pleased with him and his work, and appreciate all the info I learned along the way! Timely, professional and friendly. Highest quality job - exceptional attention to detail. Worked long hours the first day to insure system was cooling before leaving for the day and then returned the next day to balance air flow and recheck everything. Jeff Johnson has also been great through both the sales and installation process quick to follow up and everything. I have never been disappointed with Ravinia service but this experience has been the best by far. Originally, a different date was scheduled, but Ravinia called to reschedule another day and was very kind to make it close to the original date. Charlie arrived here on time. In fact, he was waiting in my driveway when I got home from work. I think that the fees charged are comparable to other companies. He was very polite and informative about what was wrong with the air conditioner and gave me a quote before working on the unit. He also checked the filters and suggested how often we could take care of them to get better air flow from our unit. I will highly recommend your services to friends and use Ravinia for other needs with heating, air conditioning and plumbing. He was efficient and pleasant. He used coverups on his feet prior to entering any carpeted area. He was thorough and efficient. I am very pleased. Needless to say I was thrilled that someone was available so quickly. Within a half hour Ray called me to say he was on his way and would be to my home shortly. When he arrived he was pleasant, remembered being at my house for other service before and he got to work rodding the sewer drain from the street toward the house. We talked while he worked and explained to me that roots are always growing and this maintenance should be done on a regular basis. I truly appreciate the prompt and efficient service on a Saturday afternoon. Thank you Ray and Ravinia Plumbing for being consistently dependable! Your sincere service is appreciated. My Ravinia technician, Chuck, arrived within the hour. He was friendly and professional. Chuck gave me the option of letting him try to find parts for my 28 year old faucet or replacing the faucet with a new one. I selected one from his book, someone delivered it within 15 minutes, and Chuck installed it in a short time. Overall, I was very pleased with the experience. His advice necessitated a return visit in order install specialty bulbs with greater performance than those sold by a supplier. I am extremely satisfied. Cesar, heating and cooling technician, performed a clean and check on my furnace with noted courtesy and attention to my questions regarding humidity. He has serviced me in the past including when an house emergency occurred. He made arrangements for Ravinia Plumbing to fix the problem which was not within work domain. The quality of work has always been 5-star. Technicians arrive in a timely manner and are always friendly and professional. Scheduling appointments runs smoothly and prices are competitive in the area. I called, made an appointment, both technicians showed up on time. You even called ahead to give me the heads up they would be arriving. They did the estimates, then the work and away they went. He arrived as scheduled, and did a thorough inspection of our furnaces and thermostats. I appreciated that he covered his shoes with paper booties as he entered my house. I will absolutely ask for Kevin for the Spring inspection of my air conditioners. They have proven themselves competent, reliable and competitive. They have made me feel that we are in the best hands on the north shore. Now, for the past several years we have used them for our heating and air-conditioning needs and electrical services. Each of their technicians that have come to our home are diligent and professional in their work. Kevin is great plumbing professional. He was friendly and courteous. He knew his stuff and systematically problem solved the very slowly draining bathtub which had been a issue for a year. He also quickly took care of a leaking toilet. Also I called on a Sunday and talked to a live person, got a call from the office on Monday and repair was scheduled for Tuesday.

Chapter 7 : Aluminum building wiring - Wikipedia

Plastic boxes and flexible nonmetallic cable (commonly called Romex) put electrical wiring projects within the skill range of every dedicated DIYer. In this article, we'll show you some house wiring basicsâ€”how to position outlet and switch boxes and run electrical cable between them. We won't.

Structured Wiring In this article we are going to tell you everything we know about structured wiring and how it relates to planning for, wiring and installing a structured wiring panel pictured below system in your home. Structured wiring is both a physical product and also a process. Often times it is also referred to as a Cable distribution box. In both definitions its typically localized in one room of a home and from it all the data, entertainment and communication services enter the home and terminate at the cable distribution box. And, from it all the low voltage wiring exits this central point and are distributed throughout the home to supply each room with its signals for phone service, tv service, computer service etc. In plain words, structured wiring is an organized structured cable distribution panel centrally located which gives a home owner or servicers an easier, more intuitive manner from which to manage the low voltage communication services within a house. The cables originate at a central distribution panel pictured left. From here, each cable branches to devices or outlet jacks throughout the home. Outlets typically have a combination of jacks, although sometimes are just single jacks, to allow maximum flexibility as future needs change and for connecting different devices in the home. All of the outside services, the telephone company, cable company, Internet broadband services, any satellite, or off-air antennas, tie into this distribution panel allowing the homeowner the flexibility to select what services are available at each outlet. A jack used for a phone line today can be easily changed to a computer network jack tomorrow and with the proper module Cat5 Anyline module pictured below serve both functions simultanous. Who benefits from using Structured Wiring A structured wiring system practically becomes a requirement in home construction increasingly more as the size of design of a home increases. These panel systems and plugin modules, similar in nature to electrical panels found in virtually all homes, allow for the organized distribution of low voltage signal wiring, access to future technologies, and more reliable over all performance in low voltage home control, security, communication, network and entertainment systems. Can you get by without installing a cabling distribution system? Absolutely, just like people did without these and cell phones or microwaves or flat panel televisions in the recent past. Structured Wiring Parts Distribution centers come in a variety of sizes and configurations to accommodate different size houses and a variety of applications They have to contain all of the network support equipment for each network as well as power supplies, power strips, and accessory equipment. Many manufacturers use snap-in modules that can be easily moved around in the enclosure. Cat5 Anyline Module When the Cat5 wiring inside a home has a head end located at a structured wiring cable distribution point the Anyline Module from OnQ is an excellent module to maximize the use of the Cat5. The Anyline module will allow for an incoming Cat5 to be distributed amongst up to four locations in the home with the 5th being the output to an additional anyline module to be used for expansion of the setup. This anyline module is designed to use the Blue pair of the cat 5 for household dial tone with the brown pair in the Cat5 also available for a 2nd household landline such as a fax machine. With this are RJ45 ports at the bottom of the module allowing an Ethernet patch cord to connect to a Home Computer network router or switch. This is done to not only protect the wire but to help prevent the wire from being pulled out of the electrical box.

Chapter 8 : Cost to Wire a House - Estimates and Prices at Fixr

Wire Types and Sizing When wiring a house, there are many types wire to choose from, some copper, others aluminum, some rated for outdoors, others indoors. In general however, there are only a couple varieties used for wiring a residential home.