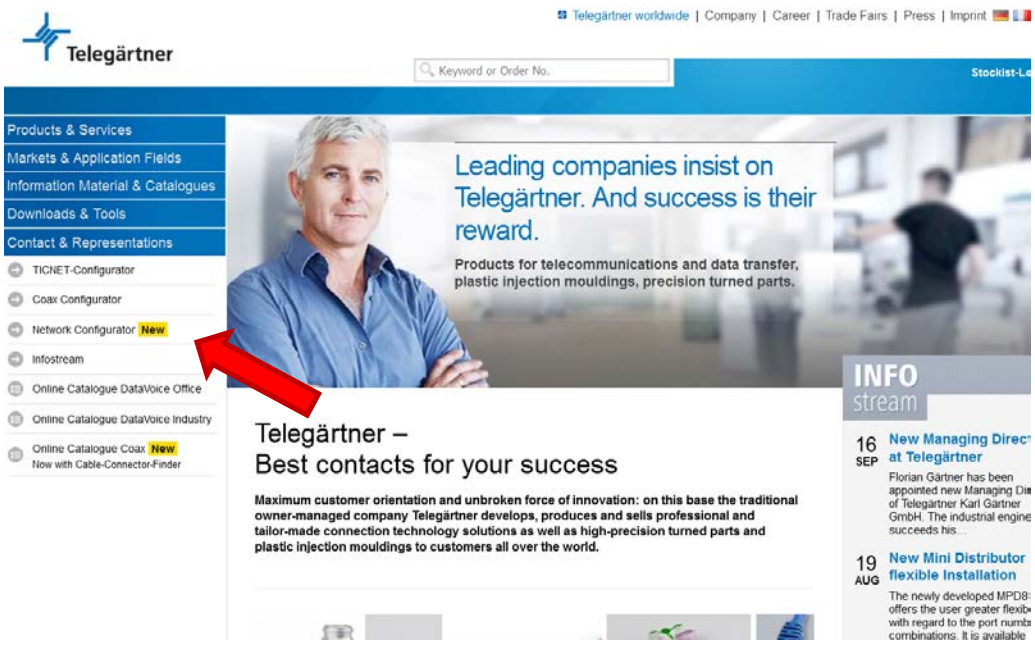
House cabling made the easy way – the trend towards structured cabling in residential buildings

Part 12: Design example for multi-dwelling units

Innovative applications for Smart Homes have one thing in common: they all need a powerful infrastructure. This series of articles has focused to date on the relevant standards, the required components and the necessary tests. The previous article used a specific example to illustrate the approach adopted when design the cabling infrastructure for single-family home – right down to the parts list. This part deals with the design for a multi-dwelling unit.

Extended design

Essentially the design for multiple-dwelling unit is not too different from the design for a single family home. The individual units are simply treated as separate projects. Apartments of a similar kind can easily be copied and adapted to accommodate any special requests expressed by the owners or tenants, which is a straightforward process with the Telegärtner Network Configurator.



Clicking the Network Configurator button on the Telegärtner Web page opens the powerful, easy-to-use design tool.

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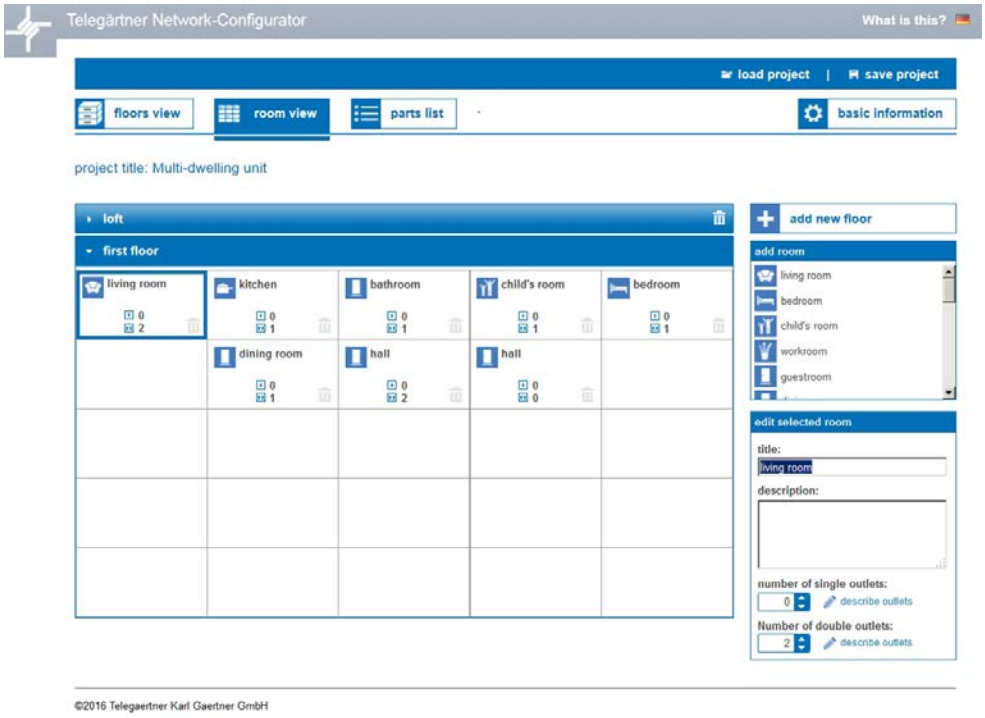
Practice-oriented product selection

The following information is entered in the basic information screen:
• Connection technology (LSA Plus or module/keystone)
• Distributor type (19" cabinet, electrical distributor, surface mounting or no apartment distributor)
• Installation type (surface mounting or flush mounting)
• Average length of installation cable (default recommendation is 35 m)
• Length of patch cables
The next step is to save the project (top right). It only needs to be saved once and then any subsequent changes will be saved automatically.

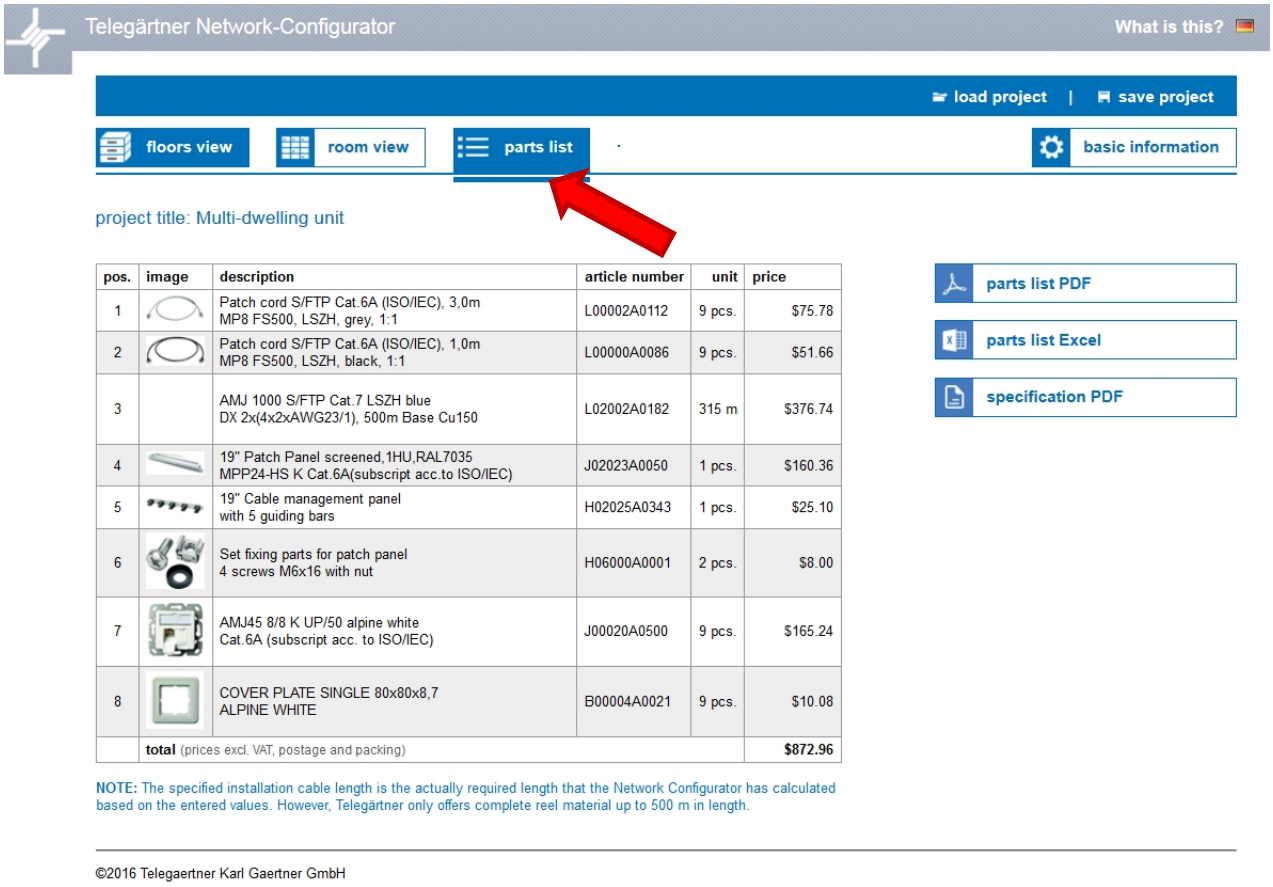
An apartment is usually only on one level therefore the user can change from the floors view to the room view at the click of the mouse. The various rooms can then be dragged from the list of room types on the right-hand side and dropped onto the "floor plan" on the left. The rooms are not to scale. It is simply a matter of specifying the main use of the rooms and the corresponding quantity of single and double outlets required. The quantity for each room can be changed at the click of the mouse under "edit selected room". The name of the room can also be changed in this field.



Example of a three-to-four room apartment. The rooms are dragged from the list onto the plan where they can be moved and rearranged.

BOM with a mouse click

If all rooms are available and adapted, the bill of materials (BOM) for these can be created by clicking on the button. As well as the part numbers and descriptions of the required components, the list also includes images and list prices. You can move back and forth between the floor configuration, room configuration and parts list at any time. The parts list is updated automatically and can be printed out as a PDF file or an Excel file and downloaded to your own computer. Specifications in PDF format and tender texts (Word and GAEB) are also available.



pos.	image	description	article number	unit	price
1		Patch cord S/FTP Cat.6A (ISO/IEC), 3,0m MP8 FS500, LSZH, grey, 1:1	L00002A0112	9 pcs.	$75.78
2		Patch cord S/FTP Cat.6A (ISO/IEC), 1,0m MP8 FS500, LSZH, black, 1:1	L00000A0086	9 pcs.	$51.66
3		AMJ 1000 S/FTP Cat.7 LSZH blue DX 2x(4x2xAWG23/1), 500m Base Cu150	L02002A0182	315 m	$376.74
4		19" Patch Panel screened,1HU,RAL7035 MPP24-HS K Cat.6A(subscript acc.to ISO/IEC)	J02023A0050	1 pcs.	$160.36
5		19" Cable management panel with 5 guiding bars	H02025A0343	1 pcs.	$25.10
6		Set fixing parts for patch panel 4 screws M6x16 with nut	H06000A0001	2 pcs.	$8.00
7		AMJ45 8/8 K UP/50 alpine white Cat.6A (subscript acc. to ISO/IEC)	J00020A0500	9 pcs.	$165.24
8		COVER PLATE SINGLE 80x80x8,7 ALPINE WHITE	B00004A0021	9 pcs.	$10.08
	total (prices excl. VAT, postage and packing)				**$872.96**

NOTE: The specified installation cable length is the actually required length that the Network Configurator has calculated based on the entered values. However, Telegärtner only offers complete reel material up to 500 m in length.

The Telegärtner Network Configurator automatically generates a bill of material of the required components. This eliminates the need for time consuming searches for article numbers

Connection of apartments by optical fiber

The individual apartments are connected with optical fibers either directly or from a building distributor, depending on the provider. Telegärtner has the right products and solutions for both cases, all the way through to pre-assembled fiber-optic cables ready for installation with connectors at one end and a fiber-optic outlet at the other end. Just pull the cable in and install the outlet. Your contact person at Telegärtner will be happy to advise you.

Telegärtner's pre-assembled OAD/S outlet comes ready-to-install. Standard cable lengths are 25 to 100 m, other lengths are also available on request.
The installation is simply a case of pulling the cable to the building distributor and install the outlet. The provider can splice the fibers directly in their distribution box. The cable reel is made of environmentally-friendly recyclable cardboard and can be disposed of easily.

Telegärtner Karl Gärtner GmbH
Lerchenstraße 35
D-71144 Steinenbronn

Tel.: +49 7157 125-0
Fax: +49 7157 125-5120
E-Mail: info@telegaertner.com

Geschäftsführer:
Dipl.-Wirtsch.Ing.(FH) Florian Gärtner
Dipl-Kfm. Christian Harel

Amtsgericht Stuttgart HRB 2431218
Steuernummer: 99010/01157
USt.-IdNr. (VAT-No.): DE 147643868

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