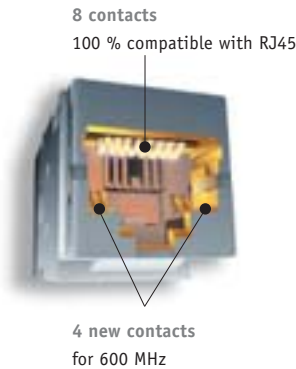


ELine 600® GG45 – two in one: Cat. 6 and Cat. 7 ... now up to 1,000 MHz



ELine 600® GG45: the concept

At the heart of the GG45 concept is the snap-in connector. For the development of the GG45, four new contacts for Cat. 7 transmission were added to the RJ45. These are activated via a switch mechanism in the jack. The GG45 jack thus has the first ever switching mechanism for passive cabling.



In conjunction with the GG45 plug, transmission up to 1,000 MHz is possible on the outer 4 contacts with a suitable cable. This transmission bandwidth ensures that applications of the future F_A class can also be transmitted. The GG45 plug activates the switch via a spacer on the front which activates the 4 new contacts responsible for Cat. 7 transmission.

When the RJ45 is snapped in, the usual 8 contacts are activated and 100, 250 or 500 MHz are transmitted depending on the cable used. The integrated switch is extremely robust and reliable mechanically. Even after over 1,500 plug-in cycles (RJ45 onto new contacts), there is virtually no wear on the switch. The RJ45 leaves no plastic deposits in the jack and does not affect performance in any way.

Two in one: Cat. 6 and Cat. 7!

As a two-in-one connector (complete RJ45 and new 600 MHz interface), GG45 is fully backward-compatible and meets all requirements of Categories 5, 6 and 7. If you invest in ELine 600® GG45 for Class E and F today, considerable savings are guaranteed in comparison with other Class F cabling: For patch and work area purposes, you can for example continue to use the conventional RJ45 patch cords/work area cords. If necessary, you can then successively invest in Category 7 patch cords/work area cords.



Class E



Class F



GG45 is a registered trademark of Nexans HQ, Paris

A secure future and backward compatibility!

ELine 600® GG45 allows economical migration from Cat. 5e and 6 to Cat. 7 by simply replacing the patch cords. This makes the decision for later Class F cabling a “just-in-time” investment: the performance is not paid for until it is required!

Compatibility matrix

Jack	Plug	Cable	Performance of channel
GG45	GG45	1,000 MHz	1,000 MHz
GG45	GG45	250 MHz	250 MHz
GG45	RJ45	500 MHz	250 MHz (depending on quality of RJ45)
RJ45	GG45	600 MHz	Not compatible

Flexibility of use – only with panels and outlets of the NOVUM series!

The choice is yours: The ELine 600® GG45 jack can be mounted into the specially designed GG45 patch panel and in outlet inserts – or integrated into the NOVUM series via an adapter clip.

Easy assembly in standard environments

The GG45 is integrated into standard technology and can be used with standard components like a standard cover frame and standard floorboxes. The installation is based on existing technology and can be used like Cat. 5 and Cat. 6 installations.

The EMC covers on the back of the connector ensure optimum EMC protection via 360° shielding.

With the two system cables MegaLine® SY22 (AWG 22) and SY23 (AWG 23), KERPEN offers two system cables specially designed for this connector which make it much easier to install.

Optimum performance – certified

Measurements by the “Gesellschaft für Hochfrequenztechnik” GHMT (association high-frequency measuring technology) prove the excellent electrical performance of ELine 600® GG45 systems for Class E and F. Even in the worst-case configuration with 4 connectors, the system provides real Cat. 6 and Cat. 7 respectively and high NEXT reserves.

Who needs Class E and F?

If it's a secure future and reserve performance you're after, the answer is obvious: everybody does! One look at the current standardisation shows that Cat. 5/Class D is being phased out.

Use for 1,000BASE-TX specified in draft standard 4657-1 of ANSI TIA/EIA-854 requires a Class E cabling. In contrast to the Gigabit Ethernet standard 1,000BASE-T used up to now, this standardisation project includes only 2 pairs each for transmitting and receiving, i.e. it allows a considerable reduction in the Gigabit Ethernet cards required (“low-cost Gigabit Ethernet”).

Cell-based 1,000 Mbit/s (CB1G), the use specified by the ATM Forum in af-phy-0162000, is not supported by Class D/Cat. 5 cabling.

Applications requiring Class F are also planned. Key word: Standardisation for TP and Fibre Channel via Class F (ISO/IEC CD 14165-114).

However, the largest project of all is 10 GbE via copper: IEEE 802.3an is to support 10 GbE via Class F (100 m).



Class F and multimedia

The GG45 is at present designed for connecting information technology at the workplace. The concept will be expanded in future to include additional products in order to allow multimedia applications.

Conclusion:

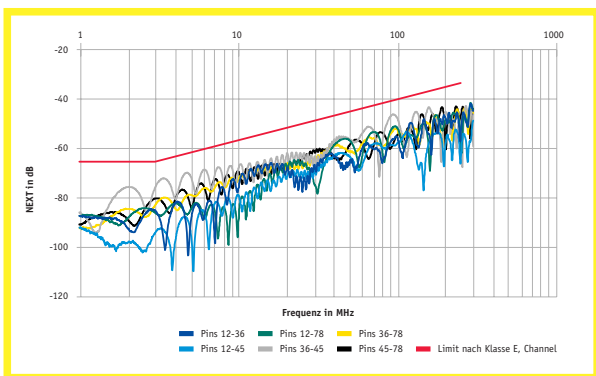
The ELine 600® GG45 cabling system offers considerable advantages and potential savings:

When you first take it into operation, you can connect reasonably priced RJ45 patch cords to the GG45 jack. If more performance is expected of the LAN in later years, you can upgrade the system to a Class F system by simply replacing the RJ45 patch cords by GG45 patch cords. The advantage of this upgrading method is that it can be carried out by the network operator himself. The purchase cost is reduced via "just-in-time" invest-

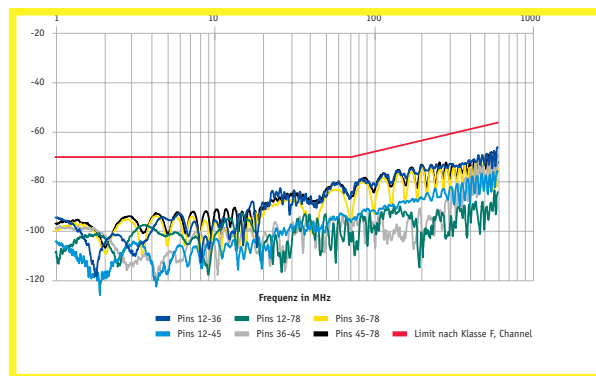
ments (work area cords). And you get the security which only a product standardised worldwide provides! Excellent electrical performance is guaranteed, even in worst case configurations.

A cabling system remains in a building for an average of 15 years. It is impossible to foresee today what new demands will be made on networks during this period. If it's economy and a secure future you're looking for, you should invest in Class F right away.

Today we recommend that you invest in ELine 600® G45 for a Class E and F cabling, for example in conjunction with the MegaLine® SY22 and SY23 GG45 system cable!



NEXT Class E



NEXT Class F

Technical data



Compatible outlets/panels etc

- NOVUM (see p. 80–81) and ELine 600® GG45

Category

- Mode 1: Cat. 6 IEC 60603-7-4 FJ45 up to 250 MHz
- Mode 2: Cat. 7 IEC 60603-7-7 up to 600 MHz

Jack type

- GG45, Cat. 7 – backward-compatible to RJ45 plug connectors
- Article number: 9ZE20001
- Connecting technology: punch-down, gas-tight IDC

System cable

- Recommended system cable:
 - MegaLine® SY22
 - Article number: 7KS01654
- MegaLine® SY23
- Article number: 7KS01568

Certificate

- GHMT certificate for RJ45 Mode Category 6/Class E
- GHMT certificate for GG45 Mode Category 7/Class F 600

