

Creativity in action

The Han-Yellock® concept is a new open-design enhancement to HARTING's Han® series of products expanding the range of possibilities with core features such as security locking and contact bridging functionalities. The Han-Yellock® product family delivers outstanding flexibility, impressive package density and perfect all-round protection. The goal is to provide additional field options and enhanced functionality for high-performance machine design.

» Frank Quast, Product Manager, Germany, HARTING Technology Group, Frank.Quast@HARTING.com



EXPANDING THE HORIZON

The primary feature that characterizes a genuine connector product family is a broad selection of housing sizes and meaningful scalability to optimize the space/functionality ratio. Han-Yellock® is currently available in size 30 and size 60. The so-called size 30 has space for three Han-Yellock® modules with five contacts each. The size 60 version can accommodate six Han-Yellock® modules for larger interfaces.

Both connector versions are exceptionally compact. Overall height has been reduced by roughly 13 % compared to conventional interface solutions. Despite the compact profile, wiring space inside the hood has been increased by 12 %. The connectors also feature an optimal cable entry angle on the side entry version. The cables can be packed more closely together and arranged by function.

The improvements are most noticeable in applications where wiring needs to be attached and removed and where setup times in low-volume injection moulding and small-series systems manufacturing can be reduced with the aid of Han-Yellock® fast push button release.

MAXIMUM CONTACT DENSITY

A major aspect of Han-Yellock® conceptual differentiation is contact density which is achieved through the use of high density inserts. There is enough room in a 80 x 60 mm housing flange for 25 contacts rated at 500 V. The 60 mm Han-Yellock® version can accommodate 48 contacts. Due to the impressive concentration of power contacts, machine designers can either cut down the number of interfaces or include additional functionality. This is a key requirement in multi-axis machine applications where compact design is a must, and it is also vital in latest-generation robotics and machinery. As usual on the Han-Yellock® series, the high density inserts can be inserted into the Han-Yellock® housing from the mating or termination side. Inserts with a high number of contacts and large cable diameters are easier to handle, reducing effort for harness makers.

HAN-MODULAR® INCREASES FLEXIBILITY

State-of-the-art interfaces are designed to be as compact as possible. In order to reduce size, the connectors have to be designed to accommodate copper, fiber optics and pneumatic lines. The popular Han-Modular® range currently includes a whole series of modules which safely and securely combine



Fig. 1: Han-Yellock® as pencil sharpener: A big hit at the Hannover Messe 2010

different current ratings, data and media in one interface. This versatility and the resulting flexibility in delivering technical solutions is also available for Han-Yellock® size 30 which holds two modules, while the size 60 version offers room for four modules. These modules can be quickly inserted into the housing from both sides with the aid of an adapter frame. The excellent features of the Han-Modular® inserts can be combined with the capabilities of the Han-Yellock® to deliver unparalleled flexibility and product variety.

MATING COMPATIBLE FIELD TERMINATION TECHNIQUE

The contact multiplier functionality is a core feature of the Han-Yellock® series, and that is something which has not been available on previous connectors. The idea of bridging contacts inside the connector to save space creates new wiring options and can help reduce cable diameters. Han-Yellock® features crimp termination, and will also be available using the Han-Quick Lock® connection technology. HARTING Han-Quick Lock® combines the reliability and handling

BENEFITS

- Convenient handling
- Contact multiplication
- Locking mechanism inside

simplicity of a spring terminal with the space-saving advantages of crimp technology. Han-Yellock® modules can be connected without special tools and they are mating compatible with all crimp versions.

Field attachable inserts are an important aspect for the after-sales market. One high-volume manufacturer, which ships its products to a large geographical area, is able to significantly reduce downtime and idle time by using a Han-Quick Lock® version, because special items such as crimping tools, removal tools and contacts are not readily available in remote locations.

SIMPLE PROTECTION MECHANISMS

The main function of a connector is to protect the electrical contacts. The Han-Yellock® housing design offers excellent mechanical protection, and the IP 67 rated housings effectively

keep out dust and moisture. This also applies to the protection covers which add the final aesthetic touch to the connectors and enhance the overall innovative impression. The covers protect the connectors against moisture and contamination when they are unplugged, increasing the service life of the interface.

As a special feature of the Han-Yellock® housing, a bearing plate with protective cover can be snapped onto the housing if needed. The user can mount the cover so that it opens from either side. The connectors can be tailored to the application during the design or retrofit phase.

Connector interfaces are typically arranged in panel outlets. In addition to maximum packing density, the instantly recognizable distribution of the hoods to the panel-mounted housings is also a major consideration. This can be done either by applying labels to the interfaces or by mechanical coding on the housings. Han-Yellock® offers both options. The product portfolio includes thermal transfer labels which are designed to fit a special groove on the hood. The

labels exhibit good edge protection, are abrasion and scratch resistant and offer significant design flexibility.

The underlying concept behind the Han-Yellock® product family is to provide a new dimension in functionality and cost-optimized protection for industrial applications. ■

<http://www.han-yellock.de/en>



Serial award winner

Two trade publications have now selected the connector as “Product of the Month”.

Since its recent market launch, the HARTING Technology Group’s new Han-Yellock® connector has already picked up two awards from the trade press. After an award from the trade magazine “ke Konstruktion & Engineering”, “Elektronikjournal” has now also named HARTING’s world-first innovation as its “Product of the Month.”

