

Produce different wire harnesses without converting! Zeta 655 offers precise, flexible and reliable two-sided block loading



The new block loading robot Komax Zeta 655 has been well received on the market and is already performing the widest variety of applications. Thanks to its flexibility, the short conversion times and the high processing quality, the Zeta 655 is a highly economical alternative to manual processing.

Stefan Christen *Product Manager*

One such successfully executed application involves the insertion of the SG64 gel housing from Bosch. With this type of housing, the terminal must penetrate a gel mat and be aligned and centered with the utmost accuracy even though alignment features hardly exist.

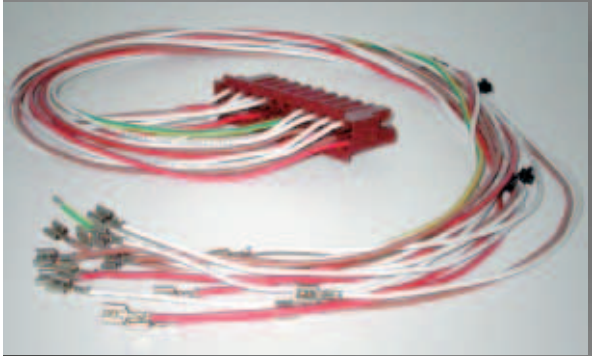
Conversion time < 1 minute

Thanks to a flexible pallet system and the elimination of terminal-specific parts, the time required for an application change has been reduced to less than a minute. For the first time ever it is possible to produce different wire harnesses cost effectively on the same machine and to spread the investment across several applications. The amortization period for the system is markedly reduced as a result. During insertion, the cable is held directly. This feature, coupled with terminal-independent alignment, allows a wide variety of terminal shapes to be processed within a single harness. This, in turn, opens up a new dimension in flexibility.

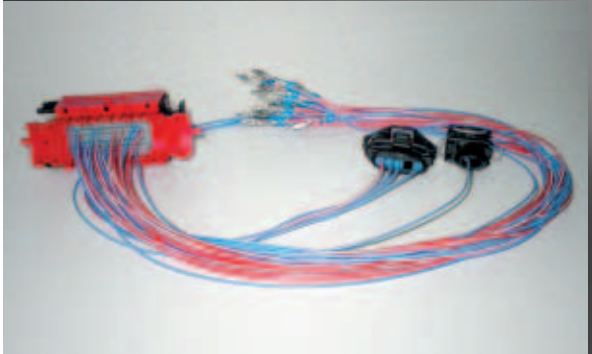
Reliable insertion

The more precisely a terminal is aligned, the more reliable will be the insertion process. On the Zeta 655 all terminals are aligned precisely with the aid of two laser sensors and a rotation gripper: The laser sensor unit recognizes the exact position of the terminal from shadow images – the rotating gripper corrects the position of the terminal until it is in a horizontal position. This non-contact measurement allows the most diverse contacts and terminals to be inserted without conversion.

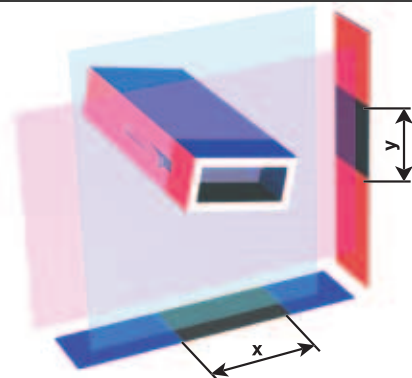
Wire harness white market



The conversion time between the two wire harnesses shown here is less than one minute!



Wire harness for the automotive industry – mixture of one-sided and two-sided block loading



Flexible insertion thanks to non-contact measurement

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Gel housing SG64 from Bosch



Inserted round terminal
Gel housing SG64

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Flexible basic machine

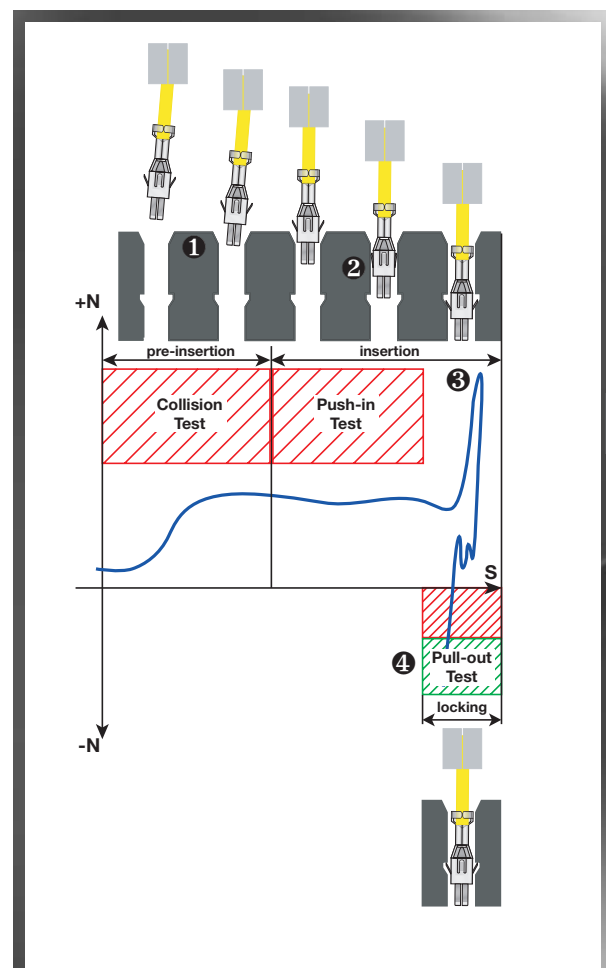
Small jobs can also be efficiently produced on the Zeta 633. With its 36-slot wire selector and several crimping station featuring crimp height adjustment, the basic machine can accommodate well over 500 different wire/terminal variations without any conversion. The wires can also be marked at whatever position desired with different texts.



ber (1) and during the insertion of the terminal (2). The increase in force (3) verifies that the insertion end position has been reached. The correct locking of the terminal is then checked in a pull-out test (4) with an increase in force. The terminal-specific quality parameters are easy to enter and allow efficient good/bad sorting.

Quality

Machine insertion ensures consistently top quality across the entire product range, even in the smallest of grid intervals. This, in turn, reduces testing work and the costs for subsequently remedying errors. Since the terminal is inserted directly into the protective housing, the risk of the crimped terminals being damaged in transport are virtually eliminated with automatic insertion.



Force-displacement diagram

Force monitoring

Each and every insertion operation is monitored by a piezosensor (force measurement). The patented Komax measurement procedure monitors the entire insertion operation (force-displacement diagram). The defined maximum forces are not permitted to be exceeded on entry into the cham-

Your benefits

Consistently high quality – no incorrect insertion

Less testing – lower costs

Variety of wire harnesses on a single machine – conversion time < 1 min.

Short amortization time

Integrated quality monitoring with good/bad sorting