



Crimp Force Monitors CFM MX

Quality control system for wire harnessing



Crimp Force Monitor CFM MX

Piezoelectric force sensors measuring the crimping force are being installed in the crimping press: either in the split base plate under the applicator or in the ram above the applicator. In both locations the sensor receives the full crimping force which will then be evaluated in the control unit CFM MX. Alternatively a piezo strain sensor mounted on the press frame can be used. To decide whether a good or bad crimp is being produced, the CFM MX "learns" the characteristics of a "good" crimp by a teach-in procedure before production is started.

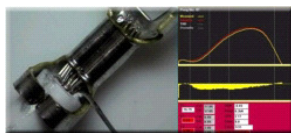
The characteristics of a "good" crimp are visualized as a reference force curve. Tolerance limits have to be set. During production the force curve of every crimp is being compared with the reference curve. Whilst the crimp force measured is within the tolerance limits, all crimps are classified as "good". If the crimp force is out of the tolerances set, the control unit gives alarm at the LED display, alarm sound beeps and a stop signal (relay) or an eject signal (pulse) is generated.

Performance Features

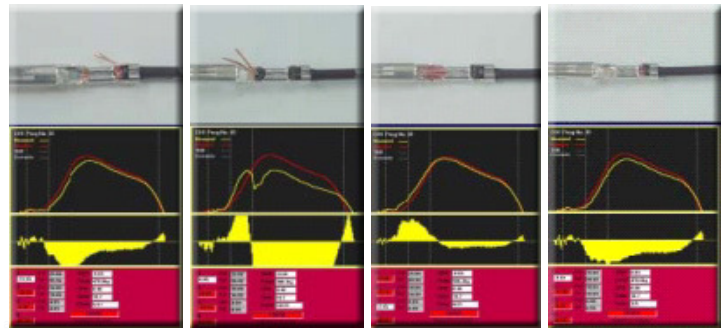
- ⊗ Easily adaptable to most types of manual presses, semi-automatic stripper crimper machines and automatic wire processing machines
- ⊗ High accuracy, 300 readings per crimp, 256 gain levels
- ⊗ Automatic trigger system, no rotary encoders or prox. sensors required, but it's use is possible on request
- ⊗ Simple T1, T2, T3 & TD analysis tools
- ⊗ Many output signals available for sorting, machine stopping, short wire cutting during teach-in, chopper interfaces...
- ⊗ BBMX network allows up to 32 MX systems to be daisy-chained together via RS485
- ⊗ All critical functions can be protected from unauthorized use by either using a code word or a security dongle
- ⊗ The use of approved components secures a reliable function and low maintenance cost
- ⊗ Equipment standards for a lot of crimp presses available



Good Crimp



Bad Crimp



Typical failures, which are safely detected

The following defects are detected safely:

- ☉ Strands out
- ☉ Insulation in core crimp
- ☉ High insulation
- ☉ Low conductor
- ☉ Insulation barrel bent in or outside
- ☉ Inappropriate wire gauge
- ☉ Tooling damages or misadjustment

Crimp Force Monitoring Systems CFM MX are available in two versions:

- ☉ CFM MX 10 (single channel) for benchtop presses and semi-automatic stripper crimper presses
- ☉ CFM MX 20 (dual channel) for automatic wire processing machines

Technical Data

Model

	CFM MX 10	CFM MX 20
☉ Number of presses monitored	1	2
☉ Standard kit contains	1 main unit 1 force sensor up to 25 kN 1 BNC cable 1 I/O cable	1 main unit 2 force sensors up to 25 kN 2 BNC cables 1 I/O cable
☉ Scope of application	Manual presses Semi-automatic stripper crimper/machines	Automatic wire processing machines
☉ Power source	100 – 240 VAC 50/60 Hz	
☉ Data interface	RS232	
☉ Dimensions	288 x 72 x 220 mm	
☉ Weight	2.2 kg	