



The SPM-ILCO system, in its basic version, consists of:

- Bluetooth Control Unit
- SPM-ILCO tool with traffic light at 360 degrees
- No 2 batteries
- Battery-charger

On demand Sofca can provide the SPM-ILCO system arranged as "operating station" and configured according to the customer needs; the station, in its typical configuration, consists of:

- Bench with anodized aluminum frame
- Tool with the traffic light for successful operation
- Control Unit with optional 360 degree lights
- Dedicated printer for timely report of the operations
- Barcode device to select the appropriate control parameters (the programs can be selected via barcode and taken in charge by the system automatically).
- Program selector GPBOX

The SPM-ILCO can be provided in another configuration where the connection between the control unit and the tool is made by cable. The system performances are the same as with Bluetooth. This configuration is especially used when the electromagnetic environment is hostile or when the tool has to be installed in an automated station.



## SPM-ILCO ELECTRONIC SYSTEM FOR TIGHTENING CLIC CLAMPS





The Bluetooth system SPM-ILCO was designed and built by SOFCA s.r.l. to objectify and control the tightening of the CLIC clamps.

The system is able to check the proper tightening, count the number of clamps that perform the assembly cycle, transfer the data to a storage system based on the use of a PLC, PC, or ETHERNET interacting on an information technology level and in real time with the control systems that contribute to the complex vertical supervision activity according to various types of networks and protocols.

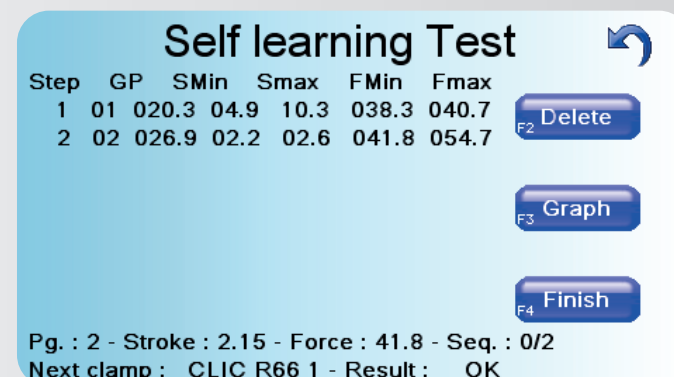
The use of the Bluetooth system offers the advantage of eliminating the wiring for transferring the information between the tool and the control system when the tool is used at a distance from the control unit not exceeding 25 meters. The use of a system with Bluetooth technology allows the operator to easily handle the tool during the tightening operations.



On the electrical tool there is a ring-shaped light where LEDs are placed to visualize the result of the operation according to the computation of the system SPM-ILCO based on the analysis of the parameters detected during tightening.

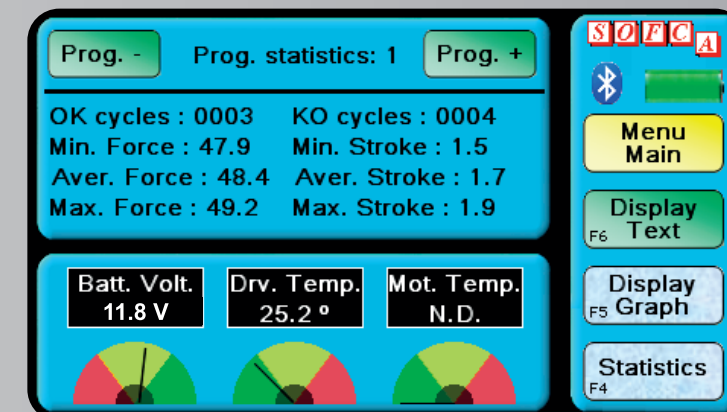


The Objectification is a procedure that, when executed, makes a smart equipment capable of monitoring a production process. The objectification consists of two phases: a programming phase and an execution phase, which includes the series production. During programming an expert performs a sequence of assemblies that have to be performed properly; in this phase the equipment is set in acquisition mode with the purpose of learning what is being done. In the next phase of execution the equipment will have to monitor the operations on the production line, verify them with respect to what it has learned previously and, in case, report any anomaly in the values of the measured parameters.



The SPM-ILCO system gives the best possible guarantee on the CLIC clamp tightness by applying the following strategies:

- Self-learning for setting parameters that ensure a good tightening
- Detection of the parameter values is in real time, during the tightening process, by reading the sensors
- Data processing and decision based on the outcome of the tightening
- Event outcome as a graphic on the control unit, switching-on of the light on the tool, print out of the results, release of the data on PLC/PC or remotely on Ethernet when required
- Scheduled maintenance borne by the control unit which, on the basis of the number of cycles implemented, will warn the operator



#### Characteristics of the SPM-ILCO system:

- Practical system, since there are no cables and hoses to drag
- Reduced tool weight, about 1,6 kg
- Maintenance limited to the replacement of the pliers
- 360° repositionable head
- Long life of the battery, on average you get about 1400 tightenings of the larger CLIC, those employing more power, or a work shift
- Battery replacement in about 4-5 seconds
- About one hour time to charge the 10,8 VDC lithium battery with the convenience of having the second battery in charge
- Graph of Force/Stroke with indications of their acceptance thresholds after cycle performed
- Flexible interface for monitoring, remote control, uni and bi-directional data exchange
- Availability of an on-site bench for the verification of the tightening force through the use of a load cell with ACCREDIA reference

