WELDING SYSTEMS

SKS INFO

SKS Weld Process Controller
Overview of Features

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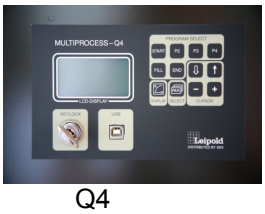
Overview Weld Process Controller

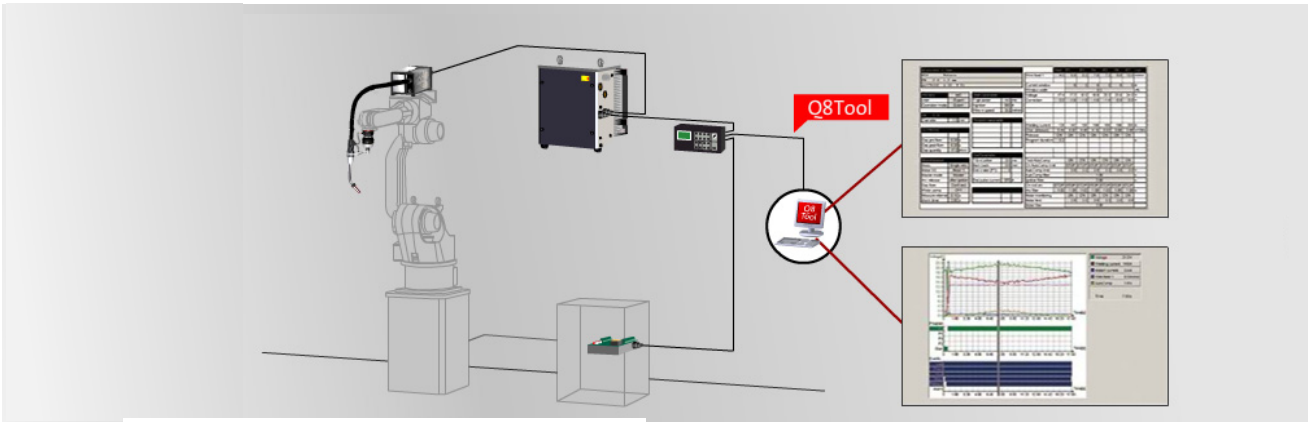

Q4


Q6pw


Q8pw


Q8pt

The SKS weld controller concept starts with a cost optimized solution Q4 (integrated into the power source) and is completed with the high end solution Q84 with touchscreen and weld data visualization technology.



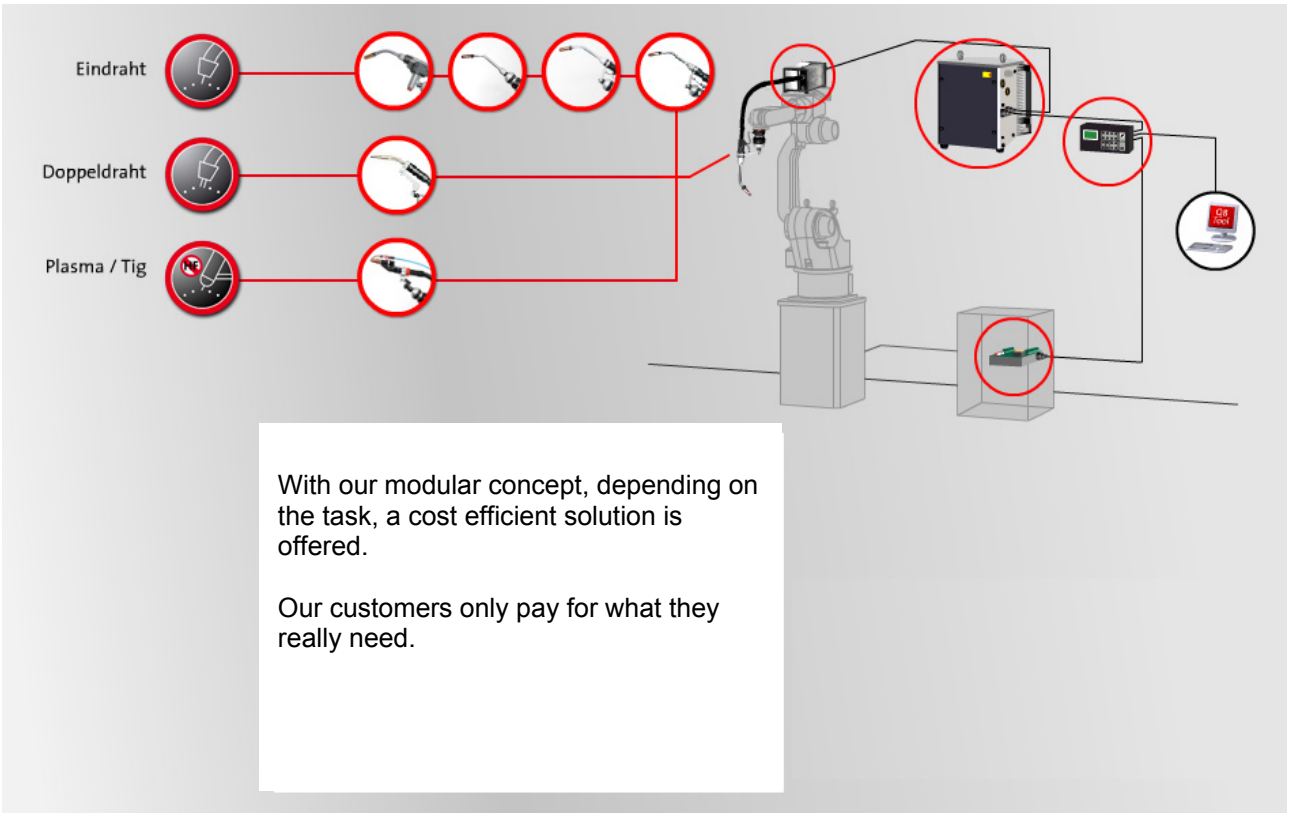
The cost optimized model is integrated into the power source. All other weld controller can be flexibly placed within the weld cell – for a perfect operationability.

Overview Weld Process Controller

Q84

Q8Tool4 or Q8Tool software for all SKS weld process controller | DCOM optional

With the additional software package Q8Tool or Q8Tool4 our weld process controllers are prepared for future applications. Furthermore, the software package is in the scope of supply of our weld controllers and will not be charged additionally.



With our modular concept, depending on the task, a cost efficient solution is offered.

Our customers only pay for what they really need.

Q4 Weld Process Controller

To fulfill customer requirements, a cost-reduced solution was developed by SKS. The integration of the weld process control into the power source provides a significant cost advantage.

The universal weld process control Q4 calculates the ideal weld parameters for the various welding processes. Only basic data such as material, wire material, wire feeding speed and gas must be entered.

Brief summary of technical details:

- Weld Processes: MIG/MAG (GMAW), I Pulse, U Pulse, KF Pulse, Synchroweld™, RWDE™
- Digital program selection: 186 programs
- Materials: Steel, CrNi steel, Al, CuSi
- Q8TOOL4 software (local administration of weld data)
- Q4 weld control is integrated in the front panel of the LSQ Power Source
- General functions: display of measurement values on LCD, alarms
- Monitoring functions: Weld current monitoring, auto compensation, arc- und ignition monitoring, motor current-, gas- and water monitoring
- Connectivity: USB, SPW

LSQ3 / LSQ5 Power Source for Q4 Weld Process Control

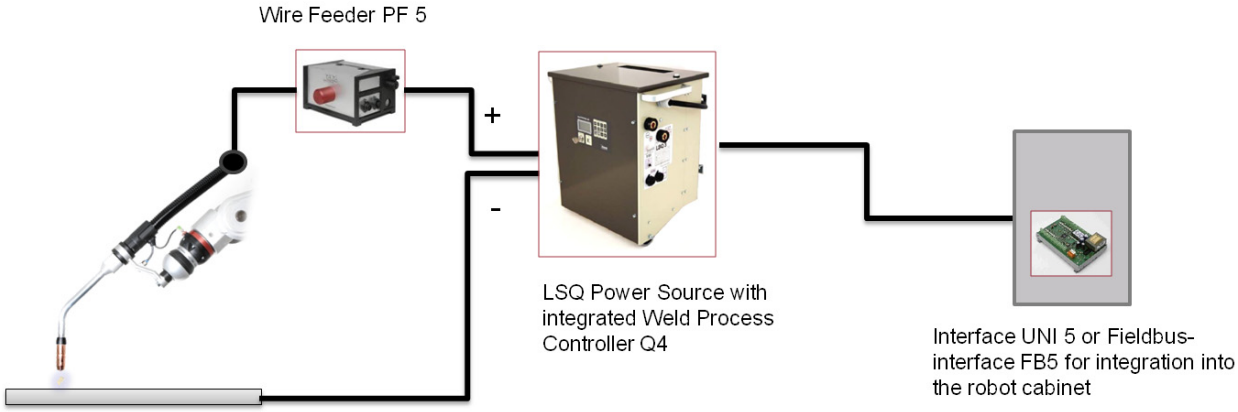
LSQ power sources ensure the optimum arc energy. They uniquely adjust to different weld processes. Unlike conventional power sources with inverter technology, the LSQ3/5 with Direct Control Technology controls its switching transistors without any fixed clock frequency according to the needs of the weld process.

Overview LSQ3 and LSQ5 for integration of Q4

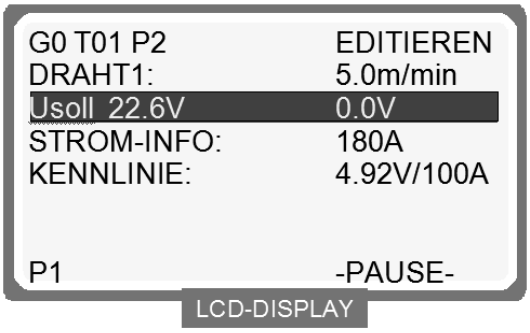
Power Sources	LSQ3	LSQ5
Technical Data		
Power 60% duty cycle	340 A	420 A
Processes	MIG/MAG (GMAW)	MIG/MAG (GMAW)
Weight	37 kg	49 kg
Primary voltage	3 x 400 V	3 x 400 (480) V (switchable)
Wall mounting	YES (integrated)	YES (optional)
Conformities	CE	CE, CSA, UL

With the integration of the Q4 Weld Process Control into the power sources LSQ3 or LSQ5 a cost optimized solution for wide range of applications is available.

Configuration example



Frontview of Q4 Weld Controller in power source



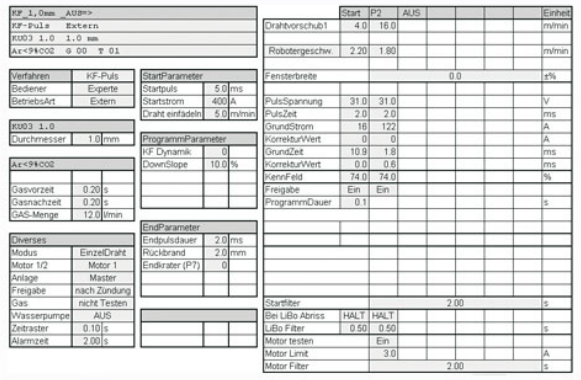
Q6pw Weld Process Controller

The Q6pw is the cost optimized version of the Q8pw/t. The functionality is similar to the Q8pw/t but with no networking features. For cost optimization it is equipped with a USB connector only.

The Weld Process Controller Q6pw calculates the ideal weld parameters for the various welding processes. Only basic data such as material, wire material, wire feeding speed and gas must be entered.

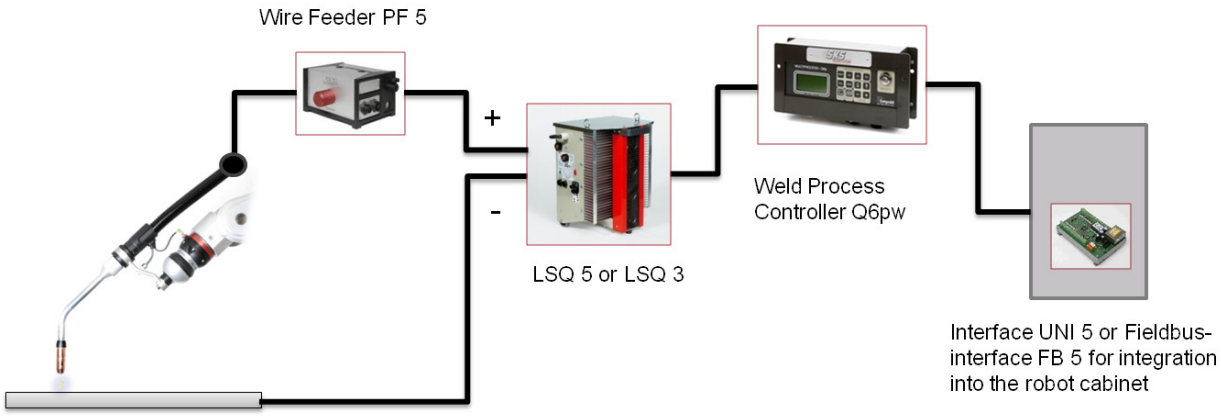
Brief summary of technical details:

- Weld processes: MIG/MAG (GMAW), I Pulse, U Pulse, KF Pulse, Synchroweld™, RWDE™
- Digital program selection: 186 programs
- Materials: Steel, CrNi steel, Al, CuSi
- Q8TOOL4 software (local administration of weld data)
- General functions: display of measurement values on LCD, alarms
- Monitoring functions: Weld current monitoring, auto compensation, arc- und ignition monitoring, motor current-, gas- and water monitoring
- Connectivity: USB, RS232 (local), SPW



With the Q8Tool4 software package the Q6 weld controller can easily be programmed over USB with a standard PC. Additionally, all weld parameters are displayed graphically advanced.

Configuration example:



Front- and backside view of Q6pw Weld Process Controller

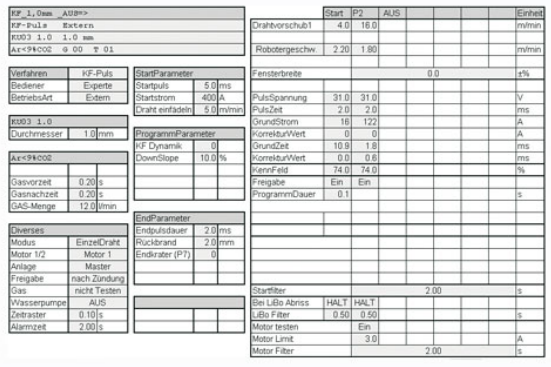
Q8pw/t Weld Process Controller

With the Integration of an Ethernet interface into the Q8pw/t weld process controller, weld machines can easily be networked. With the free Q8Tool software package with network support, comprehensive applications, where network functionality is essential, are supported.

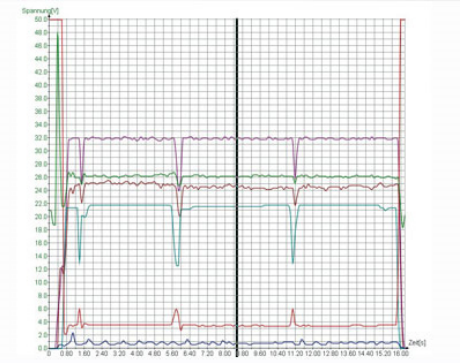
The universal Q8 calculates the ideal weld parameters for the various welding processes. Only basic data such as material, wire material, wire feeding speed and gas must be entered.

Brief summary of technical details:

- Weld Processes: MIG/MAG (GMAW), I Pulse, U Pulse, KF Pulse, microMIG™, Synchroweld™, RWDE™, NWDE™
- Digital program selection: 992 Programme
- Materials: Steel, CrNi steel Al, CuSi
- Q8TOOL software package (weld data administration, network)
- General functions: display of measurement values, alarms
- Monitoring functions: Weld current monitoring, auto compensation, arc- und ignition monitoring, motor current-, gas- and water monitoring
- Connectivity: RJ45 Ethernet (NWDE), USB, SPW, RS232

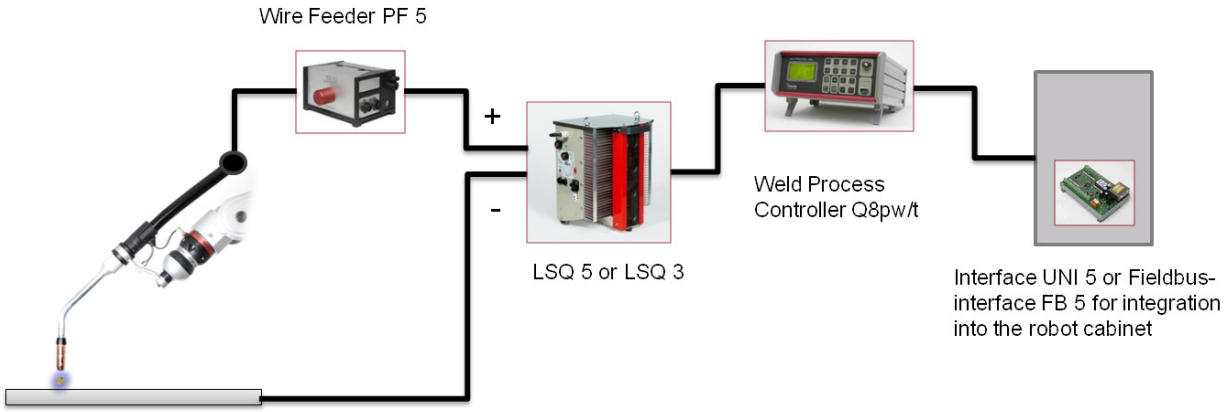


With the Q8Tool4 software package the Q6 weld controller can easily be programmed over USB with a standard PC. Additionally, all weld parameters are displayed graphically advanced.
Furthermore, the Q8Tool software package supports networking with the Q8pw/t.



Measurements can be visualized with the Q8Tool4-software package.

Configuration example



Front and backside view of the Q8pw, model table (-t)

Front and backside view of the Q8pw, model for wall mounting

Q84 Weld Process Controller

Innovative usability concept: Q84 weld controller

Absolute modularity: With the Q84 weld controller you can operate up to 4 weld machines from a central point. With a maximum of four pluggable Q81 weld cards, plugged into its internal slots, the Q84 can be configured for best profitable efficiency.
The graphical design of the large touchscreen is following the proven software design of the Q8Tool4. Thus it provides a really intuitive interface. With VNC, the weld controller can be remote controlled from other computers, and provides full access on the welding equipment. The offered modularity particularly brings advantages in pricing an ease of use; especially in welding cells with several welding machines. The Q81 weld cards have the same functionality as a Q8p weld controller.

Technical details in brief:

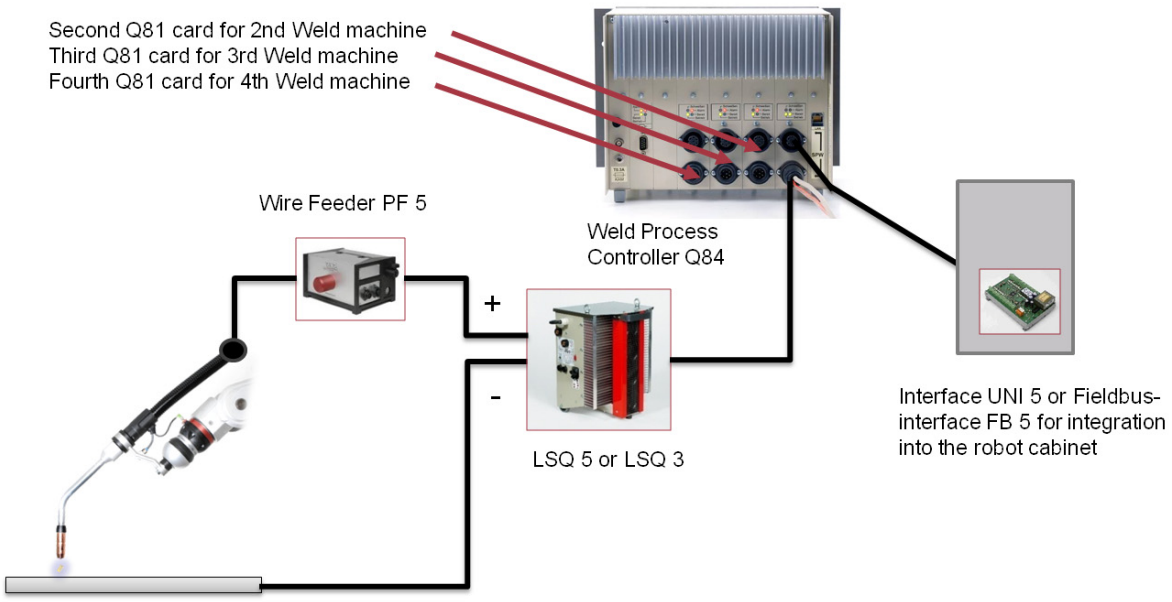
- Processes/techniques: MIG/MAG (GMAW), I Pulse, U Pulse, KF Pulse, PlasmaTIG, Dual Wire, microMIG™, Synchroweld™, RWDE™, NWDE™
- Digital program selection: 992 programs (per Q81 weld card), a maximum of 4 weld cards supported
- Materials: steel, CrNi steel, Al, CuSi
- Q8TOOL4 software (local weld data administration), VNC remote control,
- Innovative graphical user design with touchscreen
- General functions: display of measured values and alarms
- Monitoring functions: weld current monitoring, autocompensation, arc and ignition monitoring, motor current, gas and cooling water monitoring.
- Connectors: RJ45 Ethernet (NWDE), SPW BUS

The universal weld control calculates the optimal parameters for each welding process. Only basic data such as material, wire type, wire feeding speed and type of gas must be entered. Q84 calculates the optimal weld current for short arc or spray arc, respectively the parameter for the pulse process. Additionally, the fully digital control unit calculates the ideal current weld curves fort the different weld processes. Further on, the weld controller provides a function for stabilizing the arc: auto compensation. The current is controlled depended from the distance changes to the welded part to get a constant penetration.

A free software for administration of the Q84 (Q8Tool) is available. The Q8Tool software provides accurate and comprehensive process monitoring. The user can store weld parameters for documentation on a PC and/or administrate them. Additionally, the Q8Tool software supports networking functionality. So every SKS weld controller with Ethernet connector can easily be integrated into the corporate network topology; even with DCOM functionalities as an option.

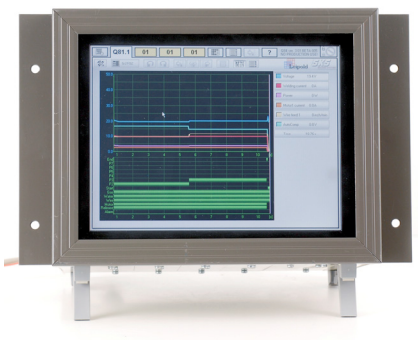
The Q84 comes preconfigured with standard weld programs ready to weld. It has a one button operation concept so that chained up parameters can be adapted fast and easy. For worldwide usage the operator can change the language of the weld controller.

Configuration Example



Innovative usability concept with touchscreen

Up to four Q81 weld cards can be plugged in



Q8Tool4 and Q8Tool software package

SKS software provides the necessary basic features for a comprehensive process control.
As a part of the scope of delivery of our weld process controller (Q4, Q6pw, Q8pt, Q8pw und Q84) we add a professional software package. The software Q8Tool4 is for administration of the process weld controller, i.e. all the service and data recording features can easily be used. Extended functionalities can be found in the Q8Tool Software package.
With the Q8Tool software package, our weld process controller (Q8pt, Q8pw und Q84) can easily be integrated into our customer's corporate networks.
The result: All over documentation of weld data up to TRACEABILITY.

Q8Tool4 for working locally

The Q8Tool4 software package provides a precise and comprehensive process control. With this software package weld parameters for documentation can be saved on a standard PC and can be administrated locally. Aside the basic functions such as reading, modifying and the documentation of weld parameters, new parameters can be applied and transferred to the universal SKS weld controller. Weld parameters, such as current, voltage and feeding speed can be administrated by software very easily. The integrated measurement functionality visualizes the weld parameters given above, graphical or numerical. Additionally, special functions, such as, Auto Compensation™ or Synchroweld™ (heat input per unit length, TCP speed), are displayed.

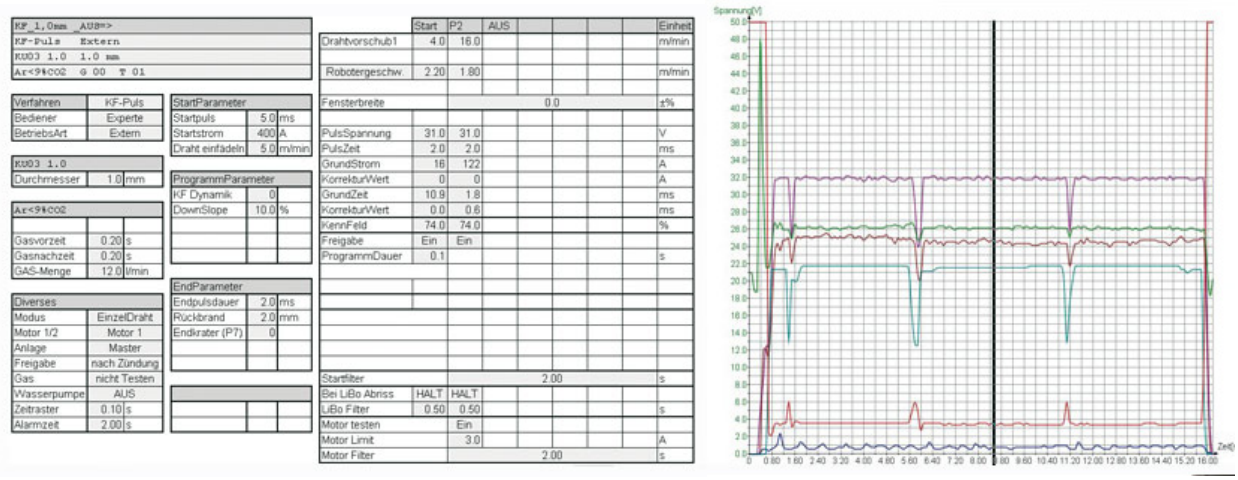
Content, saved once, is transferrable and the installation of new weld controller in new installations or the retooling of used equipment is made much easier. Furthermore, the Q8Tool4 software package provides reading and exporting of measurements and alarms. The graphical and numerical measurement allows fast identification of parameters and the optimiziation of parameters for new parts. Thus, our customers obtain an effective instrument for analyzing and documenting their weld seams.

Q8Tool for working networked

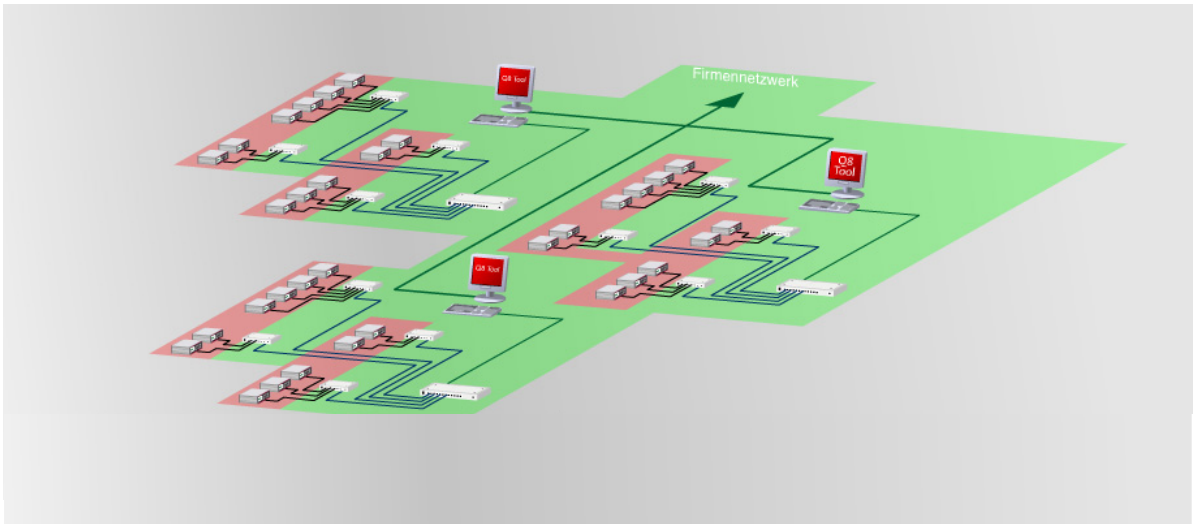
Aside from the local features of the Q8Tool4 software, Q8Tool additionally comes with comprehensive networking functions. With Ethernet support SKS weld process controller can be integrated into the corporate's network. The solution: comprehensive documentation of weld data up to **TRACEABILITY**.

Perfect integration into own applications

DCOM (Distributed Component Object Model) is a network application interface for windows based software. With this technology weld data can be used with windows software modules. Thus, plausibility controls can be made cost optimized and comprehensive documentation of the welded work piece can be completed and statistically processed.



Apart from creating, saving, backup and transferring features of weld programs, the Q8Tool, as well as the Q8Tool4 software, have lots of data visualization functions. As an advancement of the Q8Tool4 software, Q8Tool4 software provides comprehensive network functionality.



Networking with the Q8Tool software and further processing of the weld data with the help of the DCOM interface in the corporate network.

Weld Process Controller: Overview functions

Steuerungstyp	Q4	Q6pw	Q8pw	Q8pt	Q84*
Connectivity					
RS232 local	--	X	X	X	--
USB (local)	X	X	X	X	--
Ethernet / UDP (for NWDE)	--	--	X	X	X
SPW bus connection (L700)	--	X	X	X	X
Micro SD card slot	--	--	--	--	X
Programs					
START	X	X	X	X	X
Weld programs	93	93	744	744	744(x4)
Filling of end crater	FILL	FILL	P7	P7	P7
END	X	X	X	X	X
Maximum of programs	186	186	992	992	992(x4)
Processes					
GMAW	X	X	X	X	X
I Pulse	X	X	X	X	X
U Pulse	X	X	X	X	X
KF Pulse	X	X	X	X	X
TIG DC	X	X	X	X	X
PlasmaTIG	--	--	X	X	X
TIG Pulse	--	--	X	X	X
Dual Wire	--	--	X	X	X
microMIG	--	--	X	X	X
General functions					
Display of measurement values	X	X	X	X	X
Saving of measurement values	--	--	X	X	X
Display of alarms	X	X	X	X	X
Saving of alarms	--	--	X	X	X
RWDE supported (Robot- Welder Data Exchange): serial communication to robot provides Synchroweld functionality	X	X	X	X	X
Touchscreen with graphical visualisation interface	--	--	--	--	X
Internal expansion slots for up to four Q81 weld cards	--	--	--	--	X
General functions	(X)	X	X	--	(X)
Monitoring functions					
Weld current monitoring (current window)	X	X	X	X	X
Autocompensation	X	X	X	X	X
Arc monitoring	X	X	X	X	X
Ignition monitoring	X	X	X	X	X
Motor current monitoring	X	X	X	X	X
Gas monitoring	X	X	X	X	X
Cooling water monitoring	X	X	X	X	X
PC functions	X	X	X	X	X
Administration of weld parameters (local)	--	--	X	X	X
NWDE (Network- Welder Data Exchange): Networking for central administration Recording of weld data	--	--	--	--	X

--: Functionality not available, X: Functionality available

* : Denoted functionality is for a Q84 configuration with a single Q81 weld card.

Notes:

WELDING SYSTEMS

www.sks-welding.com
www.powerjoint.com
www.plasmatig.com
www.power-feeder.com
www.synchroweld.com

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