

SpotFix connect Secondary circuit connector

Spot welding connectors | Welding Automation

EN



OUR EXPERTISE FOR YOUR PERFORMANCE

Advanced technology

Stäubli offers technologically leading solutions. With a passion for innovation, we focus on maximum product efficiency and user safety. Each Stäubli assembly is designed and manufactured with carefully coordinated, high-quality components.

We draw on inspiration, strong research drive and technical expertise to constantly work on the future-oriented, flexible connection solutions that we manufacture in our own factories. Our significant industrial experience allows us to supply customers in various market segments with proven products across the board.

Quality and innovation

Reliability, maximum operational safety and longevity are trademarks of Stäubli solutions. The unique MULTILAM technology is both the basis for and guarantee of performance: Since 1962, this sophisticated development has been the core element of all Stäubli electrical connectors. It enables the highly efficient transmission of energy, signals and data with minimum contact resistance and an outstanding service life.

With our connectors and innovative solutions, we not only want to meet the changing market demands, but set new standards.

Unmatched technology

The Stäubli MULTILAM are specially formed and resistant contact elements. Thanks to their constant contact force, MULTILAM louvers ensure continuous contact with contact surfaces. This results in consistently low contact resistance and excellent contact quality with a long service life.

The MULTILAM technology ensures maximum efficiency even under the toughest conditions and is especially recommended for applications with more demanding requirements. Certain products in the connector line can reach up to 1 million mating cycles.



MULTILAM LA-CUDD:

- long-lasting
- reliable
- robust
- high performing
- safe

SPOTFIX CONNECT

Connector for the secondary circuit of resistance welding devices

Cable connection points in the secondary circuit of resistance welding equipment must be made carefully. Screwed cable connection points deteriorate during operation, increasing contact resistance and energy losses. Replacing worn secondary circuit components, e.g., connecting cables, requires extensive machining of old cable connection points. Such machining depends on the application engineer. Insufficient machining leads to undefined contact resistances, higher energy losses, and shortened service life of secondary circuitry.

SpotFix connect was specially developed for use in the secondary circuit of resistance welding equipment. The **connector** eliminates the disadvantages of the screw connection. It also ensures **permanently reliable contact conditions and optimum system availability**.

Thanks to Stäubli's reliable MULTILAM contact technology, it is possible to implement pluggable high-current applications while keeping contact resistances consistently low. Thus, elements of a resistance welding machine can be replaced quickly and safely.

Stäubli's expertise allows us to offer a plugable connection concept for resistance welding guns and equipment. In addition to classic solutions, this also enables new design methods and applications:

- Resistance welding guns
- One transformer supplies several machines
- Manually pluggable jigs
- Automated pluggable jigs in welding lines
- Power supply in welding tools

Technical data	
Pin/Socket diameter	32 mm
Cable cross section (Transformer connector to gunarm connector)	600 mm ²
Total contact resistance (Transformer connector to gunarm connector)	< 30 µΩ
Rated voltage	AC 25 V / DC 60 V
Rated current max.	6.5 kA
Max. current for 20 % D.C.	12.5 kA (Temperature 100 °C with 250 mm cable)
Temperature equilibrium with 250 mm cable	70 °C @ I _{RMS} = 4 kA (6 l/min, δ _{amb} = 20 °C) 100 °C @ I _{RMS} = 5,6 kA (6 l/min, δ _{amb} = 20 °C) 125 °C @ I _{RMS} = 5,6 kA (6 l/min, δ _{amb} = 20 °C)
Ambient temperature	Max. 40 °C
Contact material	Cu, silver plated
No wetting-disturbing substances	Silicone-free
Transformer connector	MF100 according to customer standard, others possible

Overview of models and ordering information

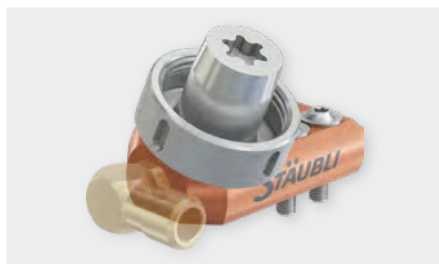
	Order no.	Type	Description	Diameter	Weight
	30.6200	SpotFix C-P32-GAC-01	Gun arm connector	32 mm	2657 g
	30.6100	SpotFix C-P32-TC0-01	Transformer connector, 0°	32 mm	1300 g
	30.6101	SpotFix C-P32-TC25-01	Transformer connector, 25°	32 mm	1317 g
	30.6102	SpotFix C-P32-TCR-01	Transformer connector round	32 mm	915 g
	30.6000-¹⁾	SpotFix C-SP32/600-CC-01	Connection cable 600 mm ²	32 mm	2942 g (300 mm) ²⁾
	30.6500	SpotFix C-SP32/600-01	Socket with crimp connection 600 mm ² (single socket without braided cable)	32 mm	

1) Please add total cable length in cm

2) Cable weight 6 kg/m, corresponds to 150 g per 25 mm



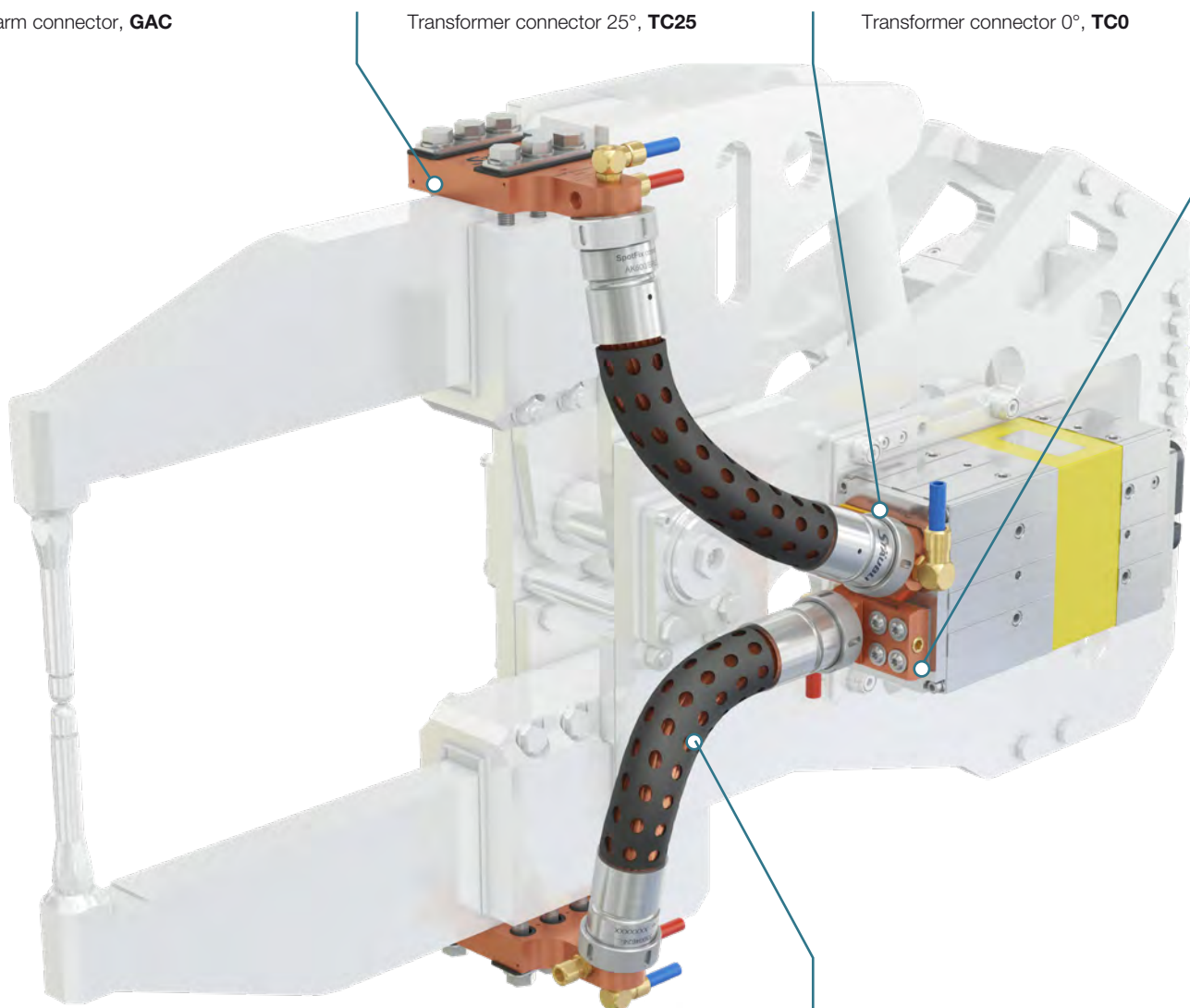
Gun arm connector, **GAC**



Transformer connector 25°, **TC25**



Transformer connector 0°, **TC0**



Transformer connector round, **TCR**

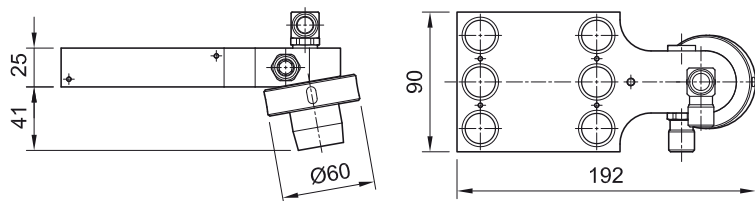


Connection cable 600 mm², **CC600**

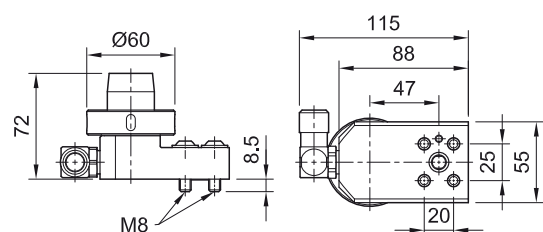
Quick and safe exchange thanks to plug-in connectors. No user processing is required.

Technical drawings

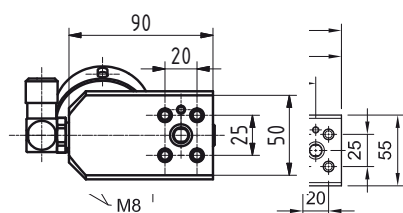
Gun arm connector **GAC**



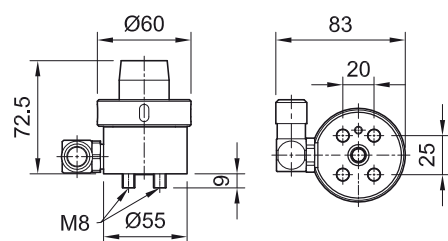
Transformer connector 0° **TC0**



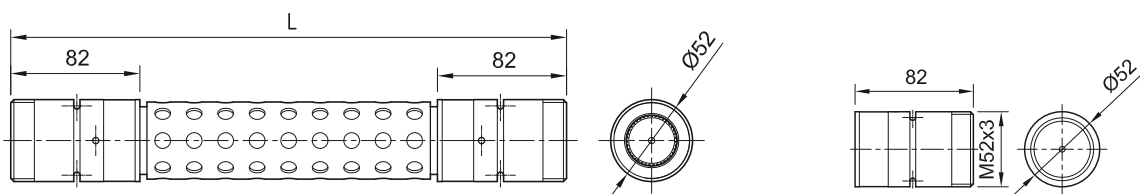
Transformer connector 25° **TC25**



Transformer connector round **TCR**

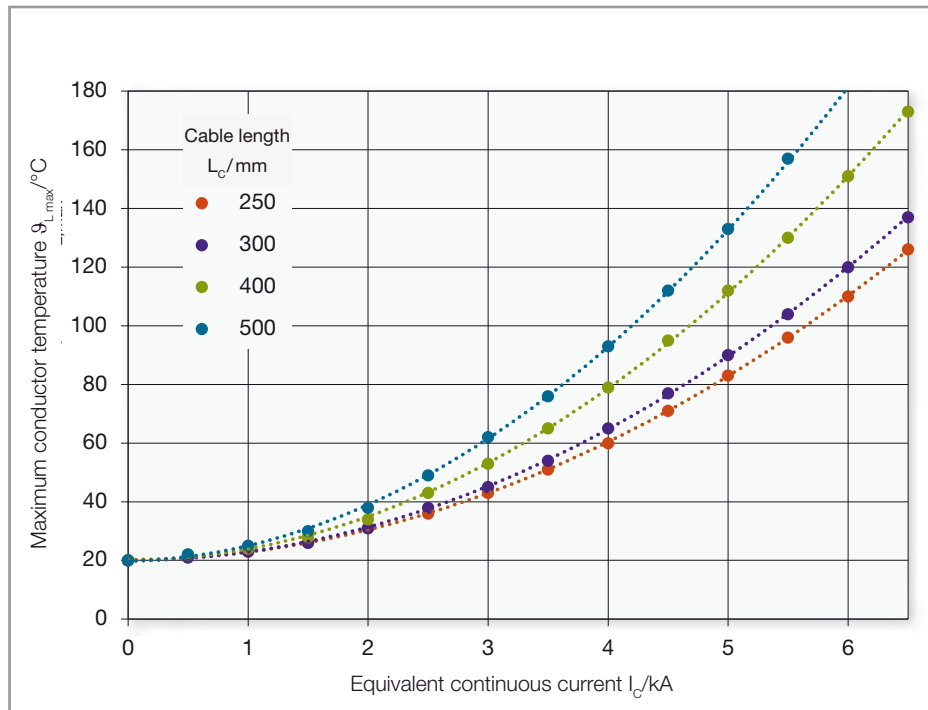


Connection cable **CC600**, Socket with crimp connection



Diagrams

Diagram temperature increase



The equivalent continuous current I_C is calculated from the actual welding task. If the welding currents I_W are always the same $I_C = I_W \cdot \sqrt{D.C.}$. The duty cycle refers to max. 60 s. For further information, see data sheet DVS2918.

Example: A welding task consisting of 12 welds with a welding current $I_W = 8.8$ kA and a welding time $t_s = 380$ ms is performed every 70 s.

$$D.C. = (12 \cdot 0.38 \text{ s}) : 60 \text{ s}$$

$$D.C. = 0.076 \text{ bzw. } 7.6 \%$$

The I_C can be calculated from this:

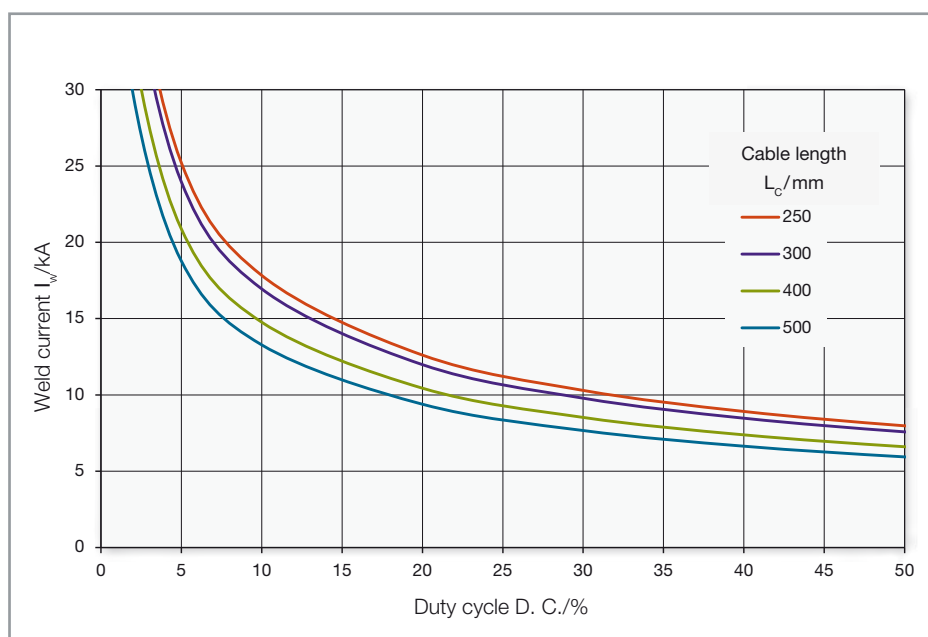
$$I_C = 8.8 \text{ kA} \cdot \sqrt{0.076}$$

$$I_C = 2.4 \text{ kA}$$

With this value, the conductor temperature can be read from the diagram depending on the cable length. For a 400 mm long cable, the temperature at the warmest point is around 40 °C.

Diagram of duty cycle

at a maximum conductor temperature of 100 °



If the duty cycle is known (see above for calculation), the maximum possible welding current can be read from the diagram. With the example at the top (D.C. = 7.6 %), this is 15 kA for a 500 mm length of cable. The shorter the cable, the higher the possible welding current.



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Global presence of the Stäubli Group

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