QUICKON
Quick Connection System

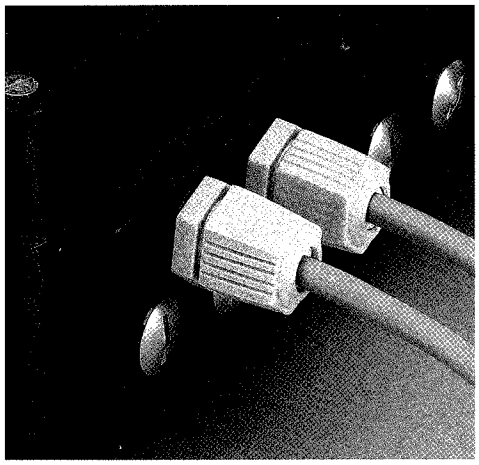
Advantages

- drastic reduction of wiring time,
- no stripping of the conductors,
- no special tools,
- easy assembly,
- integrated strain relief,
- protection type IP 67 (in acc. with IEC 529:1989),
- no necessity to open the device to connect the conductor,
- compact and robust.

Applications

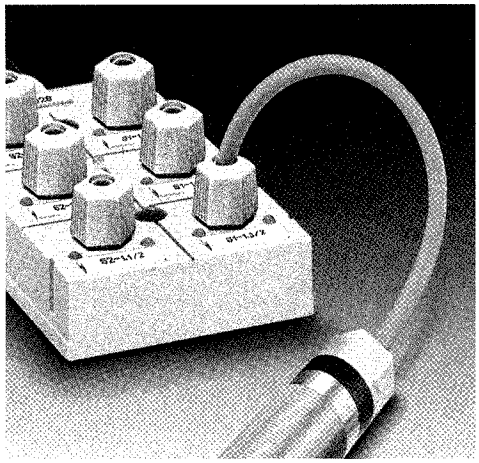
The QUICKON quick connection system makes a multitude of applications possible.

1. Panel feed throughs for a conductor often take a considerable length of time to create. The QUICKON quick connection system provides further advantages for these applications:
- external wiring can also be carried out at start-up,
- the device need not be opened to connect the conductor, thus keeping the sensitive contents of the device protected at all times.



An interesting alternative, not only for PG glands but also for device panel feed throughs using feed through plug connectors, is QUICKON. The often time-consuming assembly of the plug connector is not necessary.

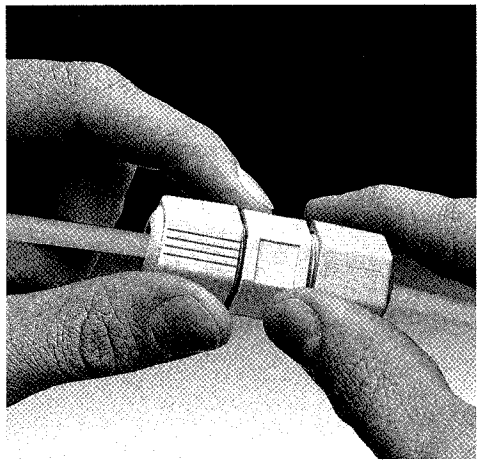
2. Sensors and actuators are generally connected with round conductors. The QUICKON quick connection system is particularly suited for fast and reliable wiring for:
- connection of the individual sensors/actuators,
- for one common connection of several sensors/actuators to the controller with the sensor/actuator boxes (see page 180).



There is a wide range of products available for wiring the sensors and actuators, and for special requirements there are application-specific QUICKON solutions.

3. A common task, lengthening the round conductor.

The QUICKON quick connection system enables a speedy and professional solution.



The QUICKON Contact

The QUICKON contact point fulfills the following requirements and it thus provides the user with a secure connection which remains stable in the long term:
- reliable electrical contact,
- high electrical conductivity,
- corrosion resistant and
- sufficient mechanical stability.

With the QUICKON quick connection technique, contacting is carried out by pressing the conductor into a defined cutting area. During this process, the conductor insulation is cut open and a gas-proof connection between the conductor and the contact metal is created (see figure 174/1).

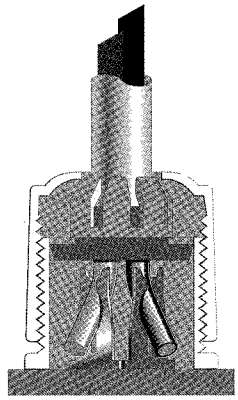


Fig. 174/1: The contact

In addition to the contact area, the seal and strain relief are particularly important for the quality of the connection. With the QUICKON quick connection system, the seal to the conductor sheath and the QUICKON contact carrier, as well as to the union nut is made using special seals. The device connection conductor is strain relieved by a clamp type cage.

The QUICKON quick connection system described here fulfills the requirements and tests for inaccessible insulation displacement terminal blocks as standardized in DIN 60 352-4. The contact quality of this connection technique is thus ensured.

Demands on the conductors which can be used

With the "conductor-device" or "conductor-conductor" connection, protection type IP 67 is achieved using QUICKON, if the diameter of the external conductor sheath has the following dimensions:
- 5.6 to 8.0 mm for PG 11 and
- 5.6 to 8.5 mm for PG 13,5.

The core cross section must be in the range of ≥ 0.75 to ≤ 1.5 mm^2, whereby the individual strands must have a diameter of at least 0.2 mm.

A range of products for the connection of further cables is in preparation.

With QUICKON, the range of cross sections and the construction of the core thus correspond to the relevant practical applications. This provides a high degree of freedom in the choice of the conductor.

Conductors with PVC and PE insulated cores can be used.

Note:

Repeated connection with the same contact system is possible up to ten times. When connecting the conductor again, you must make sure that the section of conductor already contacted before is cut off from the conductor. When using a new conductor, the same core cross section must be used. This procedure ensures that a gas-proof contact point is again created.

Assembly of the Conductor

QUICKON – the new type of connection system makes the installation of e.g. sensors, actuators and other system components in automation technology not only faster, but also simpler and less expensive.

The assembly principle of QUICKON is extremely simple.

1. Preparation
- remove the conductor sheath (approx. 15 mm),
- slide on the union nut, the cap and the rubber seal (as far as the rim of the insulation).

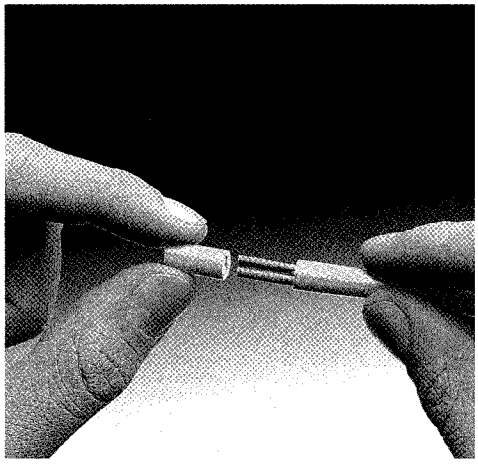


Fig 175/1: Preparation

2. Mounting QUICKON Components
- insert the core ends into the feed through of the splice ring. To ensure the correct assignment, these are labelled (1, 2, 3 and 4).
- cut off the projecting core ends (the core ends must be flush with the splice ring)

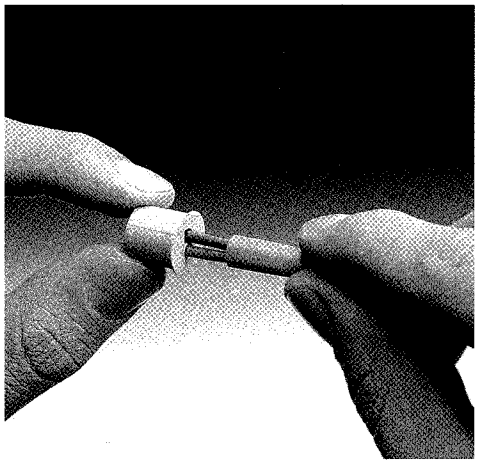


Fig 175/2: Mounting QUICKON components

3. Tightening
- insert the prepared conductor into the contact carrier,
- tighten the union nut.

The QUICKON quick connection system automatically creates the contact and strain relief when tightened, without any extra tools. Special seals protect against dust and splashed water (IP 67).

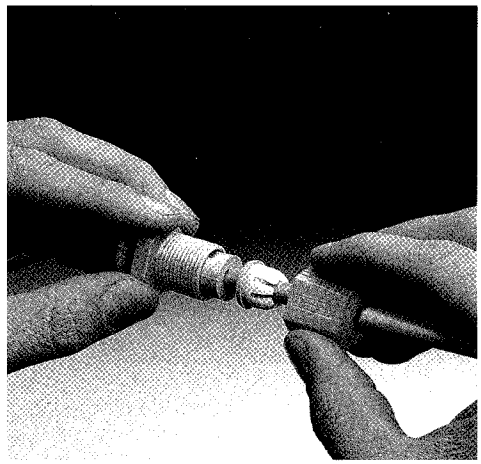


Fig 175/3: Tightening

After assembling the conductor on the QUICKON, the latter can be mounted on the corresponding slots of the sensor/actuator boxes or on valve plugs or sensors.

Removing the conductor

1. Open the gland
2. Remove the conductor
- the cable can be removed from the terminal point by pulling on the conductor,
- surplus insulation must be removed before repeated connection.

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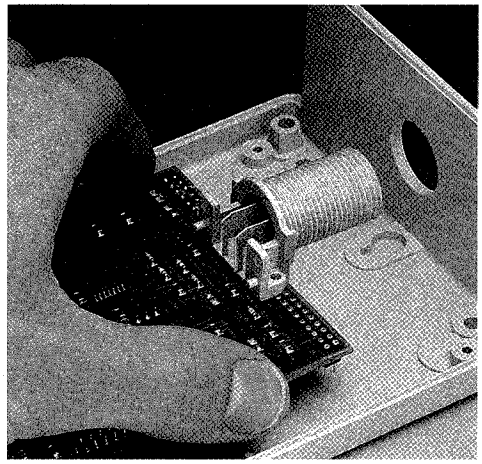
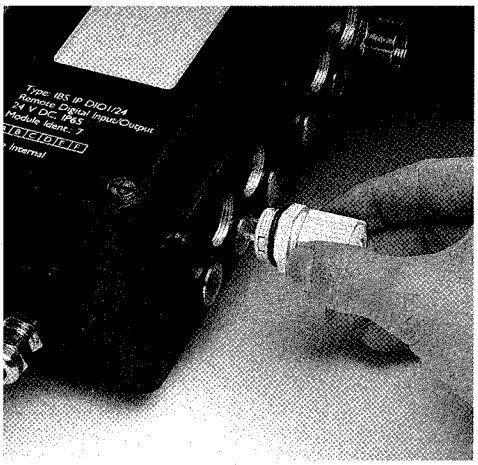
With QUICKON you can connect a device without opening the housing, since gland and connecting terminal block are integrated in QUICKON. Damage to the sensitive contents of the housing is thus prevented.

QUICKON assembly of the panel feed through with dip-solder connection.



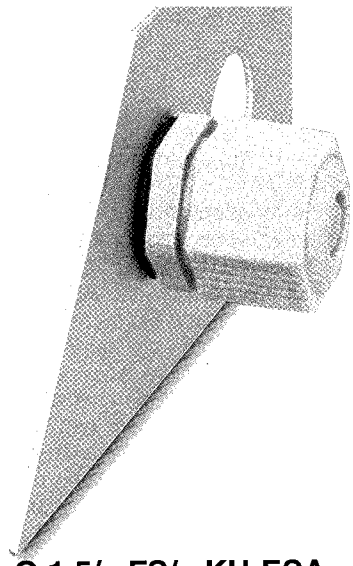
Insert from the inside through a housing recess and screw together with a nut on the outside.

QUICKON assembly of the panel feed through with tab and manual solder connection.



Screw into a thread or insert through a housing recess from the outside and screw together with a nut on the inside.

Notes:
- special QUICKON variants for the INTERBUS loop connection are available on request.
- a union nut which can only be unscrewed with a tool is in preparation.



Q 1,5/...FS/...KU-ESA

Panel feed through with tab connection

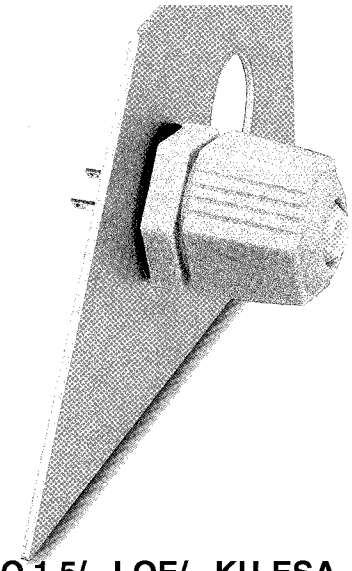
Note:
QUICKON may only be operated when under no load condition.

Description	Solder pin	No. of pos.	Type	Order No.	Pcs. Pkt.
Panel feed through, for external wall mounting, with tab connection		2-pos. 3-pos. 4-pos.	**Q 1,5/2FS/11-11KU-ESA** **Q 1,5/3FS/13-13KU-ESA** **Q 1,5/4FS/16-16KU-ESA**	**16 70 29 3** **16 70 26 4** **16 70 33 2**	25
Panel feed through, for external wall mounting, with manual solder connection		2-pos. 3-pos. 4-pos.			
Panel feed through, for internal wall mounting, with dip-solder connection length of the solder pin: 3.8 mm hole Ø 2-pos. = 19.0 mm -0.3 hole Ø 3-pos. = 20.8 mm -0.3	angled straight angled straight	2-pos. 2-pos. 3-pos. 3-pos.			
Conductor connector, to connect round conductors		3-position			
Allen wrench, for fastening and loosening of QUICKON	wrench size 22 wrench size 24 wrench size 27		**QSS 22** **QSS 24** **QSS 27**	**16 70 20 6** **16 70 21 9** **16 70 64 6**	1
Nut, to lock the contact carrier from the inside of the device	PG 11 PG 13,5 PG 16		**Q-MU PG 11** **Q-MU PG 13,5** **Q-MU PG 16**	**16 70 47 1** **16 70 48 4** **16 70 63 3**	100
Closing cap, for closing unoccupied connections			**QPROT**	**16 70 22 2**	50
Plastic hood, as shock protection for 4.8 mm receptacles; first slide over the conductor			**PT/FS 4,8**	**16 70 49 7**	500

Technical data		
General characteristics		
Type of internal connection	[mm]	tab connection 4.8 x 0.8
Number of positions		2 / 3 / 4
Cable gland size 2-pos. / 3-pos. / 4-pos.		PG 11 / PG 13,5 / PG 16
Conductor data		
Cross section range of the cores	[mm²]	0.75 - 1.5
Smallest conductor diameter	[mm]	0.2
Core insulation material		PVC / PE
External conductor cross section PG 11 / PG 13,5 / PG 16	[mm]	5.6 - 8.0 / 5.6 - 8.5 / –
Environmental conditions		
Sealing (IEC 529 / EN 60 529 / DIN VDE 0470-1)		IP 67
Inflammability class acc. to UL 94		V0
Electrical characteristics		
Nominal current	[A]	15 [1] / 12 [1]
Rated voltage	[V AC]	250 [2]
Surge voltage category / contamination class		III / 3
Mechanical characteristics		
Frequency of the connection of a conductor of same cross section		10
Material data		
Contact material		CU alloy
Contact surface		pre-nickel plated and tin-plated
Insulation material		PA

[1] for tab connection with 2.5 mm² / 1.5 mm²
[2] with insulating sleeve

Dimensional drawing see page 178



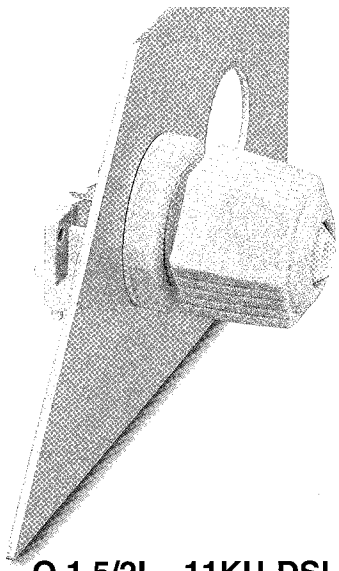
Q 1,5/...LOE/...KU-ESA

Panel feed through with manual solder connection

Type	Order No.	Pcs. / Pkt.
Q 1,5/2LOE/11-11KU-ESA	16 70 30 3	25
Q 1,5/3LOE/13-13KU-ESA	16 70 25 1	
Q 1,5/4LOE/16-16KU-ESA	16 70 34 5	
QSS 22	16 70 20 6	1
QSS 24	16 70 21 9	
QSS 27	16 70 64 6	
Q-MU PG 11	16 70 47 1	100
Q-MU PG 13,5	16 70 48 4	
Q-MU PG 16	16 70 63 3	
QPROT	16 70 22 2	50

manual solder connection
2 / 3 / 4
PG 11 / PG 13,5 / PG 16
0.75 - 1.5
0.2
PVC / PE
5.6 - 8.0 / 5.6 - 8.5 / –
IP 67
V0
17.5
250
III / 3
10
CU alloy
pre-nickel plated and tin-plated
PA

Dimensional drawing see page 178



Q 1,5/2L...11KU-DSI

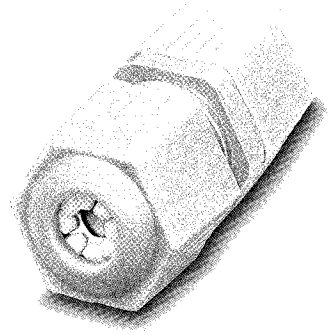
Panel feed through with dip-solder connection

Type	Order No.	Pcs. / Pkt.
Q 1,5/2L90/11KU-DSI [3]	16 70 28 0	25
Q 1,5/2L180/11KU-DSI [3]	16 70 27 7	
Q 1,5/3L90/13KU-DSI [3]	16 70 41 3	
Q 1,5/3L180/13KU-DSI [3]	16 70 40 0	
QSS 22	16 70 20 6	1
QSS 24	16 70 21 9	
QPROT	16 70 22 2	50

dip-solder connection
2 / 3
PG 11 / PG 13,5
0.75 - 1.5
0.2
PVC / PE
5.6 - 8.0 / 5.6 - 8.5 / –
IP 67
V0
17.5
250
III / 3
10
CU alloy
pre-nickel plated and tin-plated
PA

Dimensional drawing and drilling diagrams see page 178

[3] Fixing screw:
self-tapping screw, ISO 1481-ST 2.9 x 6.5 C



Q 1,5/3IDC/13-13KU-KU

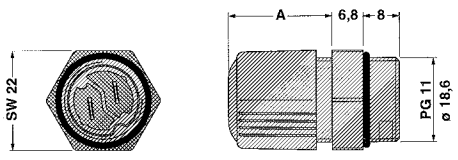
Conductor connector

Type	Order No.	Pcs. / Pkt.
Q 1,5/3IDC/13-13KU-KU	16 70 24 8	25
QSS 24	16 70 21 9	1
QPROT	16 70 22 2	50

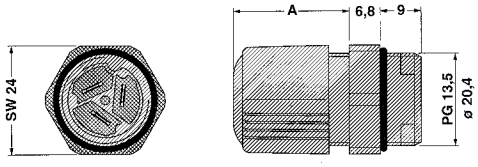
–
3
– / PG 13,5
0.75 - 1.5
0.2
PVC / PE
- / 5.6 - 8.5 / –
IP 67
V0
17.5
250
III / 3
10
CU alloy
pre-nickel plated and tin-plated
PA

Dimensional drawing see page 178

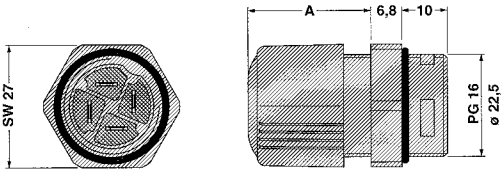
Dimensional Drawings and Drilling Diagrams, QUICKON



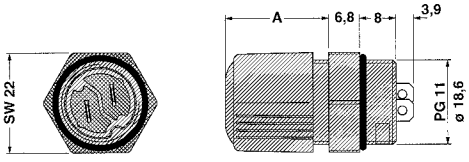
Dimensional drawing: Q 1,5/2FS/11-11KU-ESA



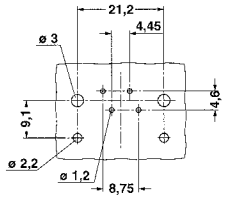
Dimensional drawing: Q 1,5/3FS/13-13KU-ESA



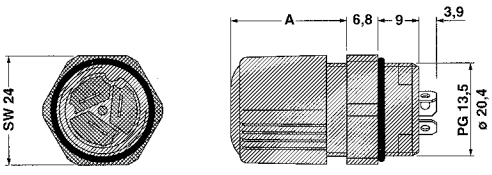
Dimensional drawing: Q 1,5/4FS/16-16KU-ESA



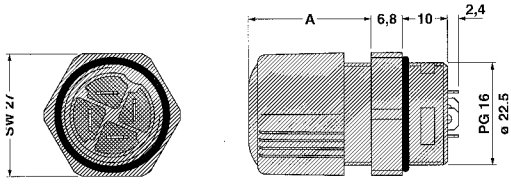
Dimensional drawing: Q 1,5/2LOE/11-11KU-ESA



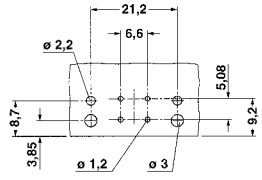
Drilling diagram: 2-pos. straight for Q 1,5/2L180...



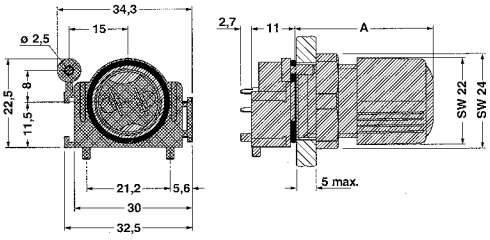
Dimensional drawing: Q 1,5/3LOE/13-13KU-ESA



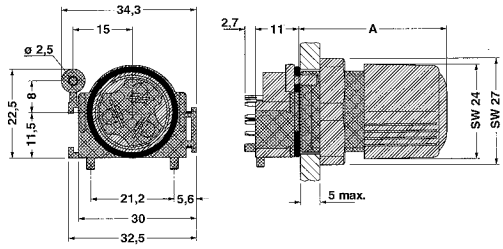
Dimensional drawing: Q 1,5/4LOE/16-16KU-ESA



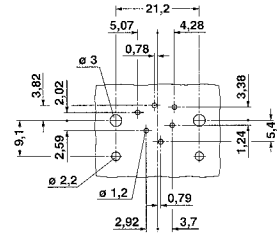
Drilling diagram: 2-pos. angled for Q 1,5/2L90...



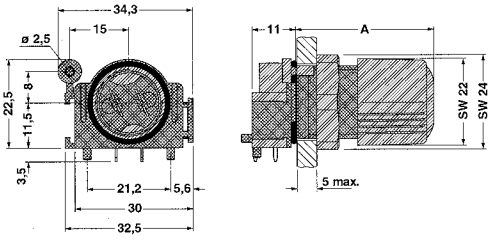
Dimensional drawing: Q 1,5/2L180/11KU-DSI



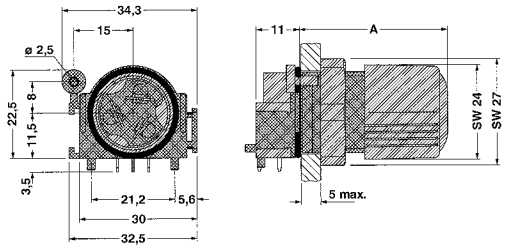
Dimensional drawing: Q 1,5/3L180/13KU-DSI



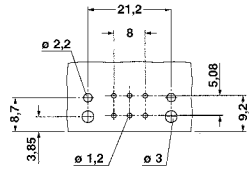
Drilling diagram: 3-pos. straight for Q 1,5/3L180...



Dimensional drawing: Q 1,5/2L90/11KU-DSI

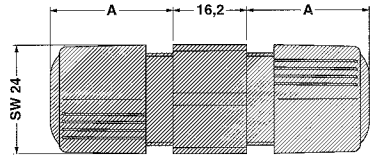


Dimensional drawing: Q 1,5/3L90/13KU-DSI



Drilling diagram: 3-pos. angled for Q 1,5/3L90...

Type	A [mm]
Q 1,5/...FAS/...-ESA	max. 25.5 (depending on the conductor used)
Q 1,5/...LOE/...-ESA	max. 25.5 (depending on the conductor used)
Q 1,5/2L...-DSI	max. 33.5 (depending on the conductor used)
Q 1,5/3IDC/13-13KU-KU	max. 24 (depending on the conductor used)

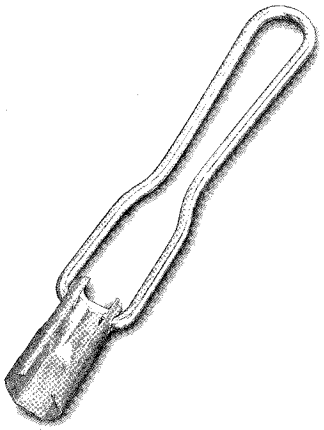


Dimensional drawing: Q 1,5/3IDC/13-13KU-KU

Tools for the Quick Connection System, QUICKON

The QSS Allen wrenches serve to loosen or tighten the QUICKON union nut or the QUICKON lock nut.

With the QUICK-WIREFOX 16 stripping pliers, the sheath of the QUICKON conductor can be removed quickly and easily. They automatically adjust to the outer cross section of the particular conductor.



QSS ...

Allen wrench for QUICKON

Description		Type	Order No.	Pcs. / Pkt.
Allen wrench	wrench size 22	**QSS 22**	**16 70 20 6**	1
	wrench size 24	**QSS 24**	**16 70 21 9**	
	wrench size 27	**QSS 27**	**16 70 64 6**	

QUICK-WIREFOX 16

Stripping pliers

Type	Order No.	Pcs. / Pkt.
QUICK-WIREFOX 16	**12 05 10 5**	1

Stripping pliers,
for conductors of 6-16 mm²

Note:
Articles printed in bold are available at short notice.