QMA - Cost- Effective Quick- Lock Mechanism

QMA - Kostengünstiger Quick- Lock- Einrastmechanismus

Our QMA Connectors are QLF Products; www.qlf.info

QMA connectors defined with features and dimensions by the series SMA, the maximum fequency is 18 GHz. The modified quick- lock mechanism enables fast, easy and reliable connections in tightest spaces and without assembly tools.

QMA standard types are constructed with a quick- lock mechanism from brass material. Additionally economy versions of all important QMA connectors are available with a plastic housing, in 4 different colored codings.

Unsere QMA- Steckverbinder entsprechen dem QLF- Standard; www.qlf.info

Die Serie QMA basiert in ihren Eigenschaften und Abmessungen auf der Serie SMA, bei maximalem Frequenzbereich bis 18 GHz. Modifiziert durch den Quick- Lock- Einrastmechanismus sind Steckverbindungen auf engstem Raum und ohne Werkzeug schnell, zuverlässig und einfach möglich.

Bei QMA- Standard- Typen wird als Material für den Quick- Lock- Einrastmechanismus Messing verwendet. Zusätzlich sind Economy- Varianten mit einem Kunststoffgehäuse in vier verschiedenen Farbkodierungen für die wichtigsten QMA- Typen erhältlich.

Product Features

- Interface according to QLF- Standard
- Quality tested according to IEC 60169
- Frequency range max. up to 18 GHz, optimized up to 6 GHz
- VSWR (straight connector): ≤ 1.05 @ 3 GHz; ≤ 1.12 @ 6 GHz
- Low Intermodulation: ≤ - 120 dBc @ 1.8 GHz (2x 20W)
- Minimum pitch: 12.4 mm
- Flexibility: 360° turnable
- Cost effective, easy and 10 times quicker mounting than SMA (< 2 seconds)
- Without assembly tools - no damaging.

Produkteigenschaften

- *Interface gemäß QLF- Standard*
- *Qualitätsprüfung gemäß IEC 60169*
- *Frequenzbereich max. bis zu 18 GHz, empfohlen bis 6 GHz*
- *VSWR (gerader Steckverbinder): ≤1,05 @ 3 GHz; ≤1,12 @ 6 GHz*
- *Low Intermodulation: ≤- 120 dBc @ 1,8 GHz (2x 20W)*
- *Minimaler Montageabstand: 12,4 mm*
- *Flexibilität: 360° Rotation*
- *Kostengünstige, einfache und 10- fach schnellere Montage im Vergleich zu SMA (< 2 Sekunden)*
- *Ohne Werkzeug - keine Verformungen.*

Product Range

- Cable connectors (straight and right angle) for flexible and semi- rigid cables
- PCB connectors (straight and right angle), solder and SMD version
- Panel connectors
- Terminations
- Adaptors
- Tools.

Further connectors are available on request.

Produktspektrum

- *Kabelsteckverbinder (gerade und gewinkelt) für flexible und Semi- Rigid- Kabel*
- *Leiterplatten- Steckverbinder (gerade und gewinkelt), Löt- und SMD- Bauformen*
- *Gehäuse- Steckverbinder*
- *Abschlusswiderstände*
- *Adapter*
- *Werkzeuge.*

Weitere Steckverbinder auf Anfrage erhältlich.

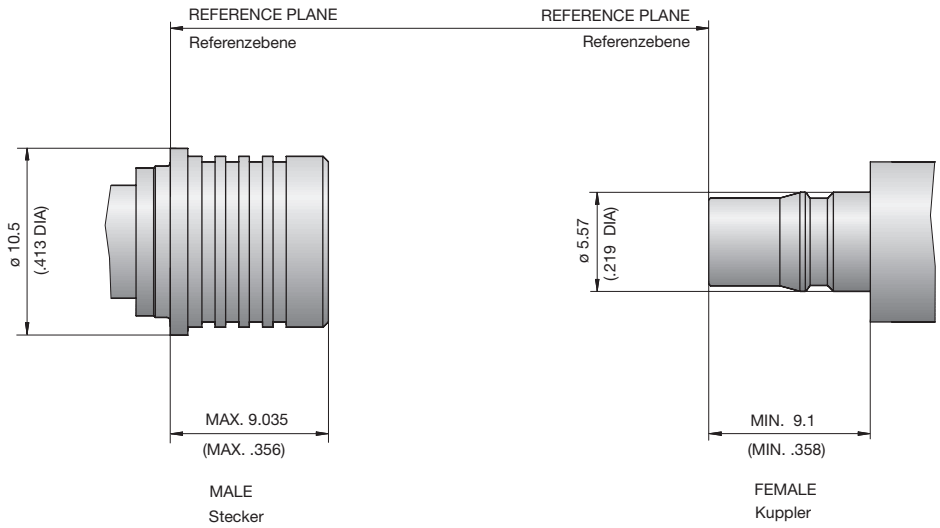
Application Examples

Primarily in mobile base stations.

Anwendungsbeispiele

Vor allem in Mobilfunk- Basisstationen.

Interface Dimensions ***Anschlussmaße***



Technical Data *Technische Daten*

Applicable standards		Anwendbare Standards
Interface according to	QLF® (Quick Lock Formula) Rosenberger is an authorized QLF® manufacturer	Interface gemäß
Quality tested according to	IEC 60169	Qualitätsprüfung gemäß

Electrical data		Elektrische Daten
Impedance	50 Ω	Wellenwiderstand
Frequency range	0 to 18 GHz	Frequenzbereich
VSWR (typ.)	≤ 1.05 @ DC to 3 GHz ≤ 1.12 @ 3 to 6 GHz	VSWR (typ.)
Return loss	≥ 32 dB @ DC to 3 GHz ≥ 25 dB @ 3 GHz to 6 GHz	Rückflussdämpfung
Insertion loss	≤ 0.05 x √ f (GHz) dB	Dämpfung
Test Voltage	1000 V RMS 50Hz, sea level	Prüfspannung
Working voltage	≤ 480 V RMS, 50Hz, sea level	Betriebsspannung
Insulation resistance	≥ 5x10³ MΩ	Isolationswiderstand
Outer contact resistance	2.5 mΩ max.	Übergangswiderstand Außenleiter
Inner contact resistance	3.0 mΩ max.	Übergangswiderstand Innenleiter
RF- leakage	≥ 95 dB up to 2 GHz ≥ 80 dB up to 4 GHz ≥ 70 dB up to 6 GHz	Schirmdämpfung
Intermodulation	≤ - 120 dBc @ 1.8 GHz 2x20 W	Intermodulation

Mechanical data		Mechanische Daten
Mating cycles	min. 100	Steckzyklen
Engagement force	25 N (typ.)	Steckkraft
Disengagement force	20 N (typ.)	Ziehkraft
Interface retention force	60 N min.	Interface Haltekraft

Environmental data		Umweltdaten
Temperature range	- 40°C to +85°C	Temperaturbereich
Thermal shock	IEC 60169- 1 16.4 (- 40°C / +85°C)	Temperaturwechsel
Corrosion resistance	IEC 60169- 1 16.7 (48 hrs)	Korrosionsbeständigkeit
Damp Heat	IEC 60169- 1 16.3 (96 hrs) steady state	Feuchte Wärme
Vibration	IEC 60068- 2- 64 random 5- 20 Hz: 1.29 $(m/s^2)^2/Hz$ 20- 500 Hz: - 3dB / octave	Vibration

Materials		Materialien
Body	CuZn / white bronze plating	Gehäuse
Center contact	CuZn / Au plating	Innenleiter
Outer contact	CuZn / white bronze plating	Außenleiter
Solder parts	CuZn / Au plating	Löt- Aussenleiter
Other parts	CuZn / white bronze plating	Sonstige Teile
Unlocking sleeve standard	CuZn/electroless Ni plating	Entriegelungshülse Standard
Unlocking sleeve economy	POM	Entriegelungshülse Economy
Crimping ferrule	Soft copper	Crimphülse
Dielectric	PTFE	Dielektrikum

Rosenberger connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

Rosenberger Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und - ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger- Ansprechpartner.

Cable Connectors Semi- Rigid Cable

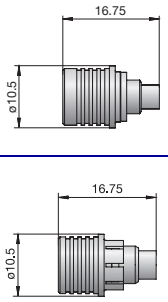
Kabelsteckverbinder Semi- Rigid- Kabel

Straight Plug, plug- in/solder

Stecker, gerade, steck/löt

Semi- Rigid

Ordering Number	Version	Remarks	Cable Group	Assembly Instruction	Packing Unit
28 S 107- 271 N3V		V = 0.15 µm Au solder area	71	28 A	100
28 S 107- 272 N3V		V = 0.15 µm Au solder area	72	28 A	100
28 S 147- 271 N3V- *	Economy	V = 0.15 µm Au solder area	71	28 A1	100
28 S 147- 272 N3V- *	Economy	V = 0.15 µm Au solder area	72	28 A1	100

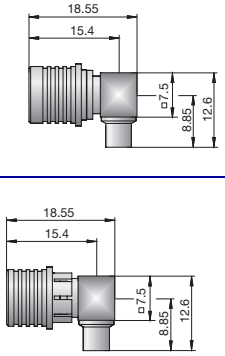


Right Angle Plug, solder

Winkelstecker, löt

Semi- Rigid

Ordering Number	Version	Remarks	Cable Group	Assembly Instruction	Packing Unit
28 S 206- 271 N3V		V = 0.15 µm Au solder area	71	28 C	100
28 S 206- 272 N3V		V = 0.15 µm Au solder area	72	28 C	100
28 S 246- 271 N3V- *	Economy	V = 0.15 µm Au solder area	71	28 C	100
28 S 246- 272 N3V- *	Economy	V = 0.15 µm Au solder area	72	28 C	100

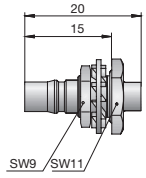


Panel Jack, plug- in/solder, hexagonal flange

Gehäusekuppler, steck/löt, 6- kant- Flansch

Semi- Rigid

Ordering Number	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	Packing Unit
28 K 607- 271L3	71	28 A	B 57	100
28 K 607- 272L3	72	28 A	B 57	100



Cable Connectors - Flexible Cables

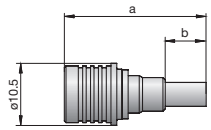
Kabelsteckverbinder Flexible Kabel

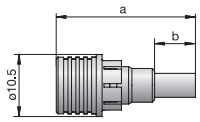
Straight Plug, full crimp

Stecker gerade, vollcrimp

Flexible Cables

Ordering Number	Version	Remarks	Cable Group	Assembly Instruction	Packing Unit	Crimp Inserts
28 S 107- 102N3		a = 24.5; b = 7.0	02	28 E	100	11 W 150- 402
28 S 107- 103N3		a = 24.5; b = 7.0	03	28 E	100	11 W 150- 402
28 S 147- 102N3- *	Economy	a = 24.5; b = 7.0	02	28 E	100	11 W 150- 402
28 S 147- 103N3- *	Economy	a = 24.5; b = 7.0	03	28 E	100	11 W 150- 402



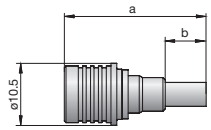


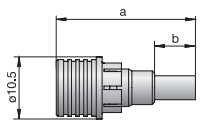
Straight Plug, solder- crimp

Stecker gerade, löt- crimp

Flexible Cables

Ordering Number	Version	Remarks	Cable Group	Assembly Instruction	Packing Unit	Crimp Inserts
28 S 107- 302N3		a = 24.5; b = 7.0	02	28 D	100	11 W 150- 102
28 S 107- 303N3		a = 24.5; b = 7.0	03	28 D	100	11 W 150- 102
28 S 107- 306N3		a = 29.0; b = 13.5	06	28 D1	100	11 W 150- 108
28 S 107- 307N3		a = 29.0; b = 13.5	07	28 D1	100	11 W 150- 108
28 S 107- 3Y8N3		a = 29.6; b = 12.0	Y8	28 D1	100	11 W 150- 109
28 S 147- 302N3- *	Economy	a = 24.5; b = 7.0	02	28 D	100	11 W 150- 102
28 S 147- 303N3- *	Economy	a = 24.5; b = 7.0	03	28 D	100	11 W 150- 102
28 S 147- 306N3- *	Economy	a = 29.0; b = 13.5	06	28 D1	100	11 W 150- 108
28 S 147- 307N3- *	Economy	a = 29.0; b = 13.5	07	28 D1	100	11 W 150- 108
28 S 147- 3Y8N3- *	Economy	a = 29.6; b = 12.0	Y8	28 D1	100	11 W 150- 109



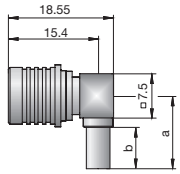


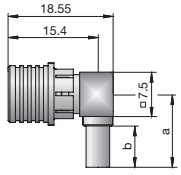
Right Angle Plug, solder- crimp

Winkelstecker, löt- crimp

Flexible Cables

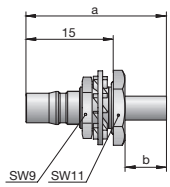
Ordering Number	Version	Remarks	Cable Group	Assembly Instruction	Packing Unit	Crimp Inserts
28 S 207- 302N3		a = 12.5; b = 7.0	02	28 B	100	11 W 150- 102
28 S 207- 303N3		a = 12.5; b = 7.0	03	28 B	100	11 W 150- 102
28 S 207- 306N3		a = 19.0; b = 13.5	06	28 B1	100	11 W 150- 108
28 S 207- 307N3		a = 19.0; b = 13.5	07	28 B1	100	11 W 150- 108
28 S 207- 3Y8N3		a = 17.5; b = 12.0	Y8	28 B1	100	11 W 150- 109
28 S 247- 302N3- *	Economy	a = 12.5; b = 7.0	02	28 B	100	11 W 150- 102
28 S 247- 303N3- *	Economy	a = 12.5; b = 7.0	03	28 B	100	11 W 150- 102
28 S 247- 306N3- *	Economy	a = 19.0; b = 13.5	06	28 B1	100	11 W 150- 108
28 S 247- 307N3- *	Economy	a = 19.0; b = 13.5	07	28 B1	100	11 W 150- 108
28 S 247- 3Y8N3- *	Economy	a = 17.5; b = 12.0	Y8	28 B1	100	11 W 150- 109





Panel Jack, solder- crimp, hexagonal flange *Gehäusekuppler, löt- crimp, 6- kant- Flansch* **Flexible Cables**

Ordering Number	Remarks	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	Packing Unit	Crimp Inserts
28 K 607- 302N3	a = 24.0; b = 7.0	02	28 D	B 57	100	11 W 150- 102
28 K 607- 303N3	a = 24.0; b = 7.0	03	28 D	B 57	100	11 W 150- 102
28 K 607- 306N3	a = 30.5; b = 13.5	06	28 D1	B 57	100	11 W 150- 108
28 K 607- 307N3	a = 30.5; b = 13.5	07	28 D1	B 57	100	11 W 150- 108
28 K 607- 3Y8N3	a = 29.0; b = 12.0	Y8	28 D1	B 57	100	11 W 150- 109

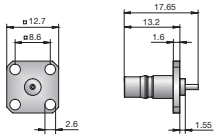


Panel Connectors - Coaxial End

Gehäuse- Steckverbinder - Koaxiales Ende

Panel Jack, 4- hole flange *Flanschkuppler, 4- Loch- Flansch* **Coaxial End**

Ordering Number	Panel Piercing / PCB Layout	Packing Unit
28 K 401- 500N3	B 55a	100



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PCB Connectors - SMD

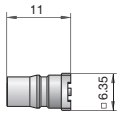
Leiterplatten- Steckverbinder - SMD

Straight Jack, PCB

Leiterplatten- Kuppler gerade

SMD

Ordering Number	Panel Piercing / PCB Layout	Packing Unit
28 K 101- 40ML4	B 163	100 blister

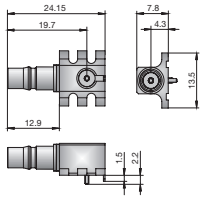


Right Angle Jack, PCB

Leiterplatten- Winkelkuppler

SMD

Ordering Number	Remarks	Panel Piercing / PCB Layout	Packing Unit
28 K 201- 40M L3		B 144	50 blister



PCB Connectors - Solder Pin

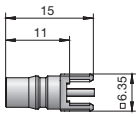
Leiterplatten- Steckverbinder - Löt- Pin

Straight Jack, PCB

Leiterplatten- Kuppler gerade

Solder Pin

Ordering Number	Panel Piercing / PCB Layout	Packing Unit
28 K 101- 400 L3	B 30b	100 blister

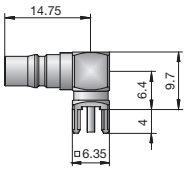


Right Angle Jack, PCB

Leiterplatten- Winkelkuppler

Solder Pin

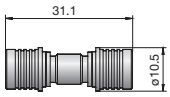
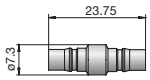
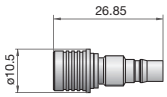
Ordering Number	Remarks	Panel Piercing / PCB Layout	Packing Unit
28 K 201- 400 NV3	V=0.15 µm Au solder area	B 30b	100 blister



Adaptors (In- Serie)

Adapter (In- Serie)

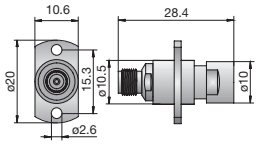
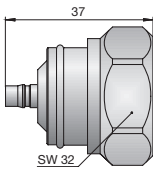
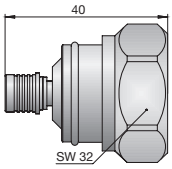
QMA *QMA*

Ordering Number	Version	Remarks	Packing Unit	
28 S 101- S00 N3	straight	QMA male - male	1	
28 K 101- K00 N3	straight	QMA female - female	1	
28 S 101- K00 N3	straight	QMA male - female	1	

Adaptors (Between Series)

Adapter (serienübergreifend)

QMA *QMA*

Ordering Number	Version	Remarks	Packing Unit	
03 K 728- S22 S3	straight	RPC- 3.50 female - QMA male; 2- hole flange	1	
28 K 160- S00 N3	straight	QMA female - 7- 16 male	1	
28 S 160- S00 N3	straight	QMA male - 7- 16 male	1	

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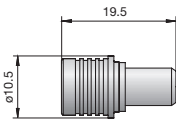
Terminations *Abschlusswiderstände*

Termination Plug *Abschlusswiderstand Stecker*

Ordering Number	Remarks	Packing Unit
28 S 1ER- 001 N3	1 Watt; Frequency DC - 12.4 GHz VSWR < 1.08 @ DC to 1 GHz VSWR < 1.2 @ 1 to 2.5 GHz VSWR < 1.3 @ 2.5 to 12.4 GHz	1



Termination Jack *Abschlusswiderstand Kuppler*

Ordering Number	Remarks	Packing Unit
28 K 1ER- 001 N3	1 Watt; Frequency DC - 12.4 GHz VSWR < 1.08 @ DC to 1 GHz VSWR < 1.2 @ 1 to 2.5 GHz VSWR < 1.3 @ 2.5 to 12.4 GHz	1