

# Quick Lock Formula®

**QLF – Your guarantee  
for intermateability**

RADIALL

AMPHENOL RF

ROSENBERGER

HUBER+SUHNER



# Four leading companies, one

The Quick Lock Formula® alliance has been formed by a group of manufacturers who have agreed upon a common standard for the QLF® Interconnect System. This system, which comprises QMA and QN coaxial connectors, is an established interface concept that is widely accepted for interconnection among global infrastructure telecommunication OEM's.

As a quality commitment to its customers, the QLF alliance is performing a compliance test on an annual basis. Connectors of all QLF members are being cross-checked in order to verify the mechanical intermateability and other crucial performance parameters.

For more information please visit

[www.qlf.info](http://www.qlf.info)





# the standard: QLF

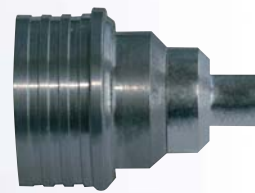
## QMA

QMA – eliminates disadvantages of SMA connectors.  
QMA is the fast, secure and cost saving SMA alternative, featuring a convenient snap-lock mechanism.



## QN

QN is the innovative solution to replace N connectors in outdoor and indoor environments. QN has the same benefits over threaded connectors like QMA and



- can be terminated also to larger cables
- handles higher power requirements
- features a water sealed interface
- achieves excellent intermodulation performance

Features	Benefits
<ul style="list-style-type: none"><li>• Snap-on interface</li></ul>	10 times faster than with threaded connector Increased reliability, no torque or tooling required
<ul style="list-style-type: none"><li>• 360° rotatable interface</li></ul>	Easy routing of cable assembly without mechanical stress or electrical performance degradation
<ul style="list-style-type: none"><li>• Higher packaging density</li></ul>	Size equivalent to SMA or N, but space saving as there is no need for wrench clearance
<ul style="list-style-type: none"><li>• Excellent electrical performance</li></ul>	Consistent VSWR performance enables to replace standard threaded interface Return loss optimised DC – 6 GHz

## QN General specifications

Electrical	Requirements
Impedance	50 Ohms
Frequency	DC to 11 GHz
Dielectric withstanding voltage	2500 V RMS 50 Hz, sea level
Working voltage	≤1000 V RMS 50 Hz, sea level
Insulation resistance	5 x 10 <sup>3</sup> MΩ min.
Power handling	300 W @ 2.5 GHz typical
Contact resistance	
- centre contact	1.5 mΩ max. (initial)
- outer contact	1.5 mΩ max. (initial)
Passive intermodulation	-155 dBc @ 1.8 GHz (2 x 43 dBm carrier)
Screening effectiveness	
100 MHz to 3 GHz	-90 dB min.

Mechanical	Requirements
Mating characteristics	
- Engagement force	30 N typical
- Disengagement force	30 N typical
Interface Retention force	450 N min.
Durability	100 mating cycles min.
Connector spacing	20 mm min. center to center

Environmental	Requirements
Temperature range	-40° C to +125° C
Climatic category	IEC 60169 1 16.2 40/125/21
Rapid temperature change	IEC 60169-1 16.4 (-40° C/+125° C)
Corrosion	Saltspray test acc. to MIL-STD-202 F, Method 101 D, Condition B
Moisture resistance	MIL-STD-202 F, Method 106 F
Vibration	IEC-1169-1 Paragraph 9.3.3 (10-500 Hz; 5g)
Dust and moisture protection	IEC 60529
IP rating interface	IP68

## Economical aspects of QLF

The true cost of an interconnection is an addition of:

- > Component cost
- > Installation cost: mounting, routing, tools, scratched panels
- > Final inspection and Testing costs
- > Maintenance cost

The total cost of ownership can be substantially reduced with QLF connectors

### QMA General specifications

Electrical	Requirements
Impedance	50 Ohms
Frequency	DC to 18 GHz
Dielectric withstanding voltage	1000 V RMS 50 Hz, sea level
Working voltage	≤ 480 V RMS 50 Hz, sea level
Insulation resistance	5 x10 <sup>9</sup> MΩ min. (initial)
Power handling	150 W @ 2.5 GHz typical
Contact resistance	
- centre contact	3.0 mΩ max. (initial)
- outer contact	2.5 mΩ max. (initial)
Passive intermodulation	@ 1.8 GHz 2 x 20 W -120 dBc static
Screening effectiveness	
- DC to 3 GHz	-80 dB min.
- 3 to 6 GHz	-70 dB min.

Mechanical	Requirements
Mating characteristics	
- Engagement force	25 N typical
- Disengagement force	20 N typical
Interface retention force	60 N min.
Durability	100 mating cycles min.
Connector spacing	12.4 mm min. center to center

Environmental	Requirements
Temperature range	- 40° C to +85° C
Thermal shock	IEC 60169-1 16.4 (-40° C/+85° C)
Corrosion	IEC 60169-1 16.7 (48 hrs)
Damp heat	IEC 60169-1 16.3 (96 hrs) steady state
Vibration	IEC-68-2-64 random 5-20 Hz: 1.29 (m/s <sup>2</sup> ) <sup>2</sup> /Hz 20-500 Hz: -3dB/octave



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