

# Series MCX 50 Ω – micro miniature connectors

## Description

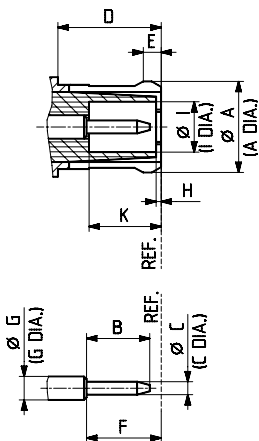
HUBER+SUHNER MCX micro miniature snap-on connectors offer you an excellent blend of size, weight, durability and performance for applications such as mobile and fixed telecommunications, in GPS applications and in test+measurement systems for testing instruments and apparatus. They are designed for frequencies up to 6 GHz and are tested according to the international standard CECC 22220. And they meet all the high requirements that micro coaxial connectors are expected to satisfy today.

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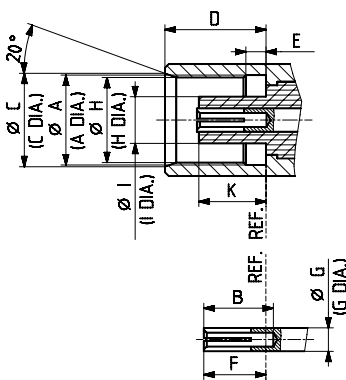
## Interface dimensions (mm/inches)

### Plug (male)



	Plug		Jack	
	min.	max.	min.	max.
A	3.72/0.146 <sup>1)</sup>	3.80/0.150*	3.60/0.142	3.70/0.146
B	2.49/0.098	2.59/0.102	2.80/0.110	-
C	0.48/0.019	0.53/0.021	3.75/0.148	3.85/0.152
D	4.15/0.163	-	4.00/0.157	4.12/0.162
E	0.70/0.028	0.75/0.030	0.75/0.030	0.85/0.033
F	2.80/0.110	3.20/0.126	2.30/0.091	2.80/0.110
G	0.95/0.037 nom.		0.95/0.037 nom.	
H	-	0.30/0.012	3.42/0.135	3.48/0.137
I	2.00/0.079	2.07/0.081	1.80/0.071	1.98/0.078
K	2.80/0.110	3.20/0.126	2.60/0.102	2.80/0.110

### Jack (female)



### Interface dimensions conformable to the standards:

International	IEC 60169-36
Europe	CECC 22220

<sup>1)</sup> prior to slotting

# Series MCX 50 Ω – technical data

Electrical data	CECC 22000	Requirements
Impedance		50 Ω
Frequency range		DC to 6 GHz
Dielectric withstanding voltage (at sea level)	4.4.5	≥ 750 V rms, 50 Hz (depending on cable)
Working voltage (at sea level) • Unmated		≥ 170 V rms, 50 Hz (depending on cable)
Working voltage (at 21 000 m/70 000 ft) • Unmated		≥ 42 V rms, 50 Hz (depending on cable)
Insulation resistance	4.4.4	≥ 10 <sup>4</sup> MΩ
Contact resistance • Centre contact • Outer contact	4.4.2 4.4.3	≤ 5.0 mΩ ≤ 1.0 mΩ
RF leakage (measured at 1 GHz) • Connectors for flexible cables • Connectors for semi-rigid cables	4.4.8	≥ 60 dB ≥ 70 dB

Mechanical data	CECC 22000	Requirements
Engagement force	4.5.1	≤ 25 N/5.6 lbs
Disengagement force	4.5.1	8 to 20 N/1.8 to 4.5 lbs
Contact captivation	4.5.2	≥ 10 N/2.3 lbs
Cable retention force <sup>1)</sup>	4.5.5	see pages 32 - 37
Durability (matings)	4.7.1	≥ 500

Environmental data	CECC 22000	Requirements
Temperature range		-55 to +155 °C/-67 to +311 °F
Climatic category		IEC → 55/155/21
Thermal shock	4.6.7	MIL-STD-202, method 107, condition F
High temperature endurance test	4.7.2	MIL-STD-202, method 108A, condition D
Moisture resistance	4.6.6	MIL-STD-202, method 106
Corrosion	4.6.10	saltspray test acc. to MIL-STD-202, method 101, condition B
Vibration	4.6.3	MIL-STD-202, method 204, condition D

<sup>1)</sup> Value considers maximum load of the cables without irreversible variations of specifications.

## Series MCX 50 Ω – technical data

Material data		
Connector parts	Material	Plating
Bodies	brass	gold/SUCOPLATE®/SUCOPRO® gold plating
Pin contacts	brass	gold/SUCOPRO® gold plating
Socket contacts	copper-beryllium alloy	gold/SUCOPRO® gold plating
Outer contacts • Plug • Jack	copper-beryllium alloy brass	gold/SUCOPRO® gold plating SUCOPLATE®
Crimp ferrules	copper/brass	gold/SUCOPLATE®/SUCOPRO® gold plating
Insulators	PTFE or PFA	

Other material and platings on request.

Some connectors may have a specification that differs from the above mentioned data.

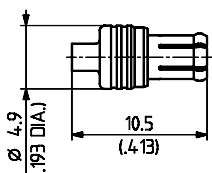
The products are designed and guaranteed to pass the above mentioned test procedures. Any additional or different requirement arising from specific applications or environmental conditions which is not covered by these test procedures is subject to request.

# Series MCX 50 Ω - cable connectors

## Straight cable plugs (male)

For semi-rigid cables, Sucoform and Multiflex cables

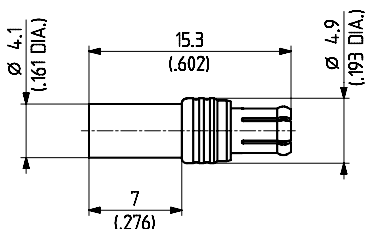
- Cable entry soldered
- Centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
11_MCX-50-1-14/111_NE	23032081	Y2, Y15 (EZ_47)	single	27413
11_MCX-50-2-19/111_NE 11_MCX-50-2-19/111_NH	23024699 23032147	Y3, Y11, Y16 (EZ_86)	single bulk 100 pcs.	27496
11_MCX-50-3-1/111_NH	84006763	Y12, Y17 (SUCOFORM_141)	bulk 100 pcs.	0000200108

For flexible cables

- HUBER+SUHNER full crimp
- Taper sleeves see page 526



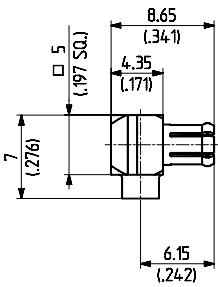
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
11_MCX-50-1-13/133_NH	22658307	U1 (EF_178)	bulk 100 pcs.	27316	1 A
11_MCX-50-1-13/111_NH	23002830	U1 (EF_178)	bulk 100 pcs.	27316	
11_MCX-50-2-15/111_NE 11_MCX-50-2-15/111_NH	84018641 23000440	U4 (EF_316_D)	single bulk 100 pcs.	27306	
11_MCX-50-2-15/133_NH	23000566	U4 (EF_316_D)	bulk 100 pcs.	27306	
11_MCX-50-2-16/111_NE 11_MCX-50-2-16/111_NH	84022831 22658275	U2 (EF_316)	single bulk 100 pcs.	27306	
11_MCX-50-2-16/133_NH	23000437	U2 (EF_316)	bulk 100 pcs.	27306	

# Series MCX 50 Ω – cable connectors

## Right angle cable plugs (male)

For semi-rigid cables, Sucoform and Multiflex cables

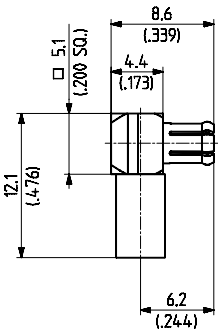
- Cable entry soldered
- Centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
16_MCX-50-1-11/111_NE 16_MCX-50-1-11/111_NH	23024700 23032063	Y2, Y15 (EZ_47)	single bulk 100 pcs.	27495
16_MCX-50-2-104/111_NH	23032067	Y3, Y11, Y16 (EZ_86)	bulk 100 pcs.	27308
16_MCX-50-3-8/111_NH	23012471	Y5, Y17 (EZ_141)	bulk 100 pcs.	27401

For flexible cables

- Cable entry crimp
- Centre contact soldered
- Taper sleeves see page 526



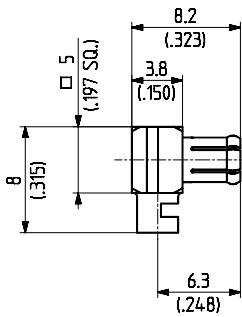
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
16_MCX-50-1-7/111_NH	23000443	U1 (EF_178)	bulk 100 pcs.	27319	A
16_MCX-50-1-7/133_NH	22658308	U1 (EF_178)	bulk 100 pcs.	27319	
16_MCX-50-2-11/133_NE 16_MCX-50-2-11/133_NH	22660003 22650803	U4 (EF_316_D)	single bulk 100 pcs.	27102	
16_MCX-50-2-11/111_NH-1	23015358	U4 (EF_316_D)	bulk 100 pcs.	27102	
16_MCX-50-2-14/133_NE 16_MCX-50-2-14/133_NH	22660002 22660001	U2 (EF_316)	single bulk 100 pcs.	27102	
16_MCX-50-2-14/111_NH	23000445	U2 (EF_316)	bulk 100 pcs.	27102	

# Series MCX 50 Ω – cable connectors

## Right angle cable plugs (male)

For flexible cables

- Low profile
- Cable entry soldered
- Centre contact soldered

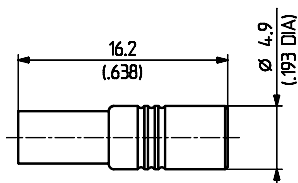


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
16_MCX-50-2-102/111_NH-1	23000454	U2 (EF_316)	bulk 100 pcs.	27307

## Straight cable jacks (female)

For flexible cables

- HUBER+SUHNER full crimp
- Taper sleeves see page 526



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
21_MCX-50-1-11/111_NE	84023972	U1 (EF_178)	single	27317	1 A
21_MCX-50-1-11/111_NH	23005297		bulk 100 pcs.		
21_MCX-50-2-12/111_NE	23032052	U4 (EF_316_D)	single	27309	
21_MCX-50-2-12/133_NH	22658278	U4 (EF_316_D)	bulk 100 pcs.	27309	
21_MCX-50-2-13/111_NH	23005298	U2 (EF_316)	bulk 100 pcs.	27309	
21_MCX-50-2-13/133_NH	22658279	U2 (EF_316)	bulk 100 pcs.	27309	

# Series MCX 50 Ω – cable connectors

## Straight bulkhead cable jacks (female)

For semi-rigid, Sucoform and Multiflex cables

- Cable entry soldered
- Centre contact soldered

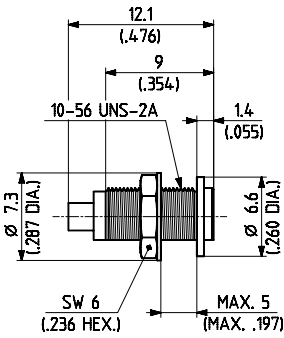


Fig. 1

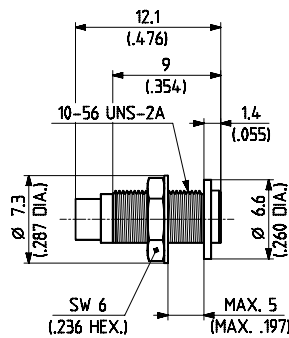


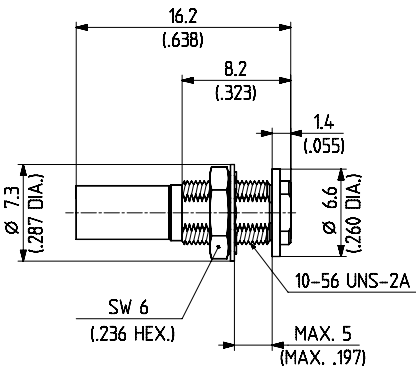
Fig. 2



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole	Fig.
24_MCX-50-1-3/111_NE	22641648	Y2, Y15 (EZ_47)	single	3100	ML 11	1
24_MCX-50-2-3/111_NE	22543580	Y3, Y11 (EZ_86)				2

For flexible cables

- HUBER+SUHNER full crimp
- Taper sleeves see page 526



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole	Crimp insert
24_MCX-50-1-13/111_NH	23005299	U1 (EF_178)	bulk 100 pcs.	27317	ML 11	1 A
24_MCX-50-1-13/133_NH	22658310	U1 (EF_178)		27317		
24_MCX-50-2-6/111_NH	23005300	U4 (EF_316_D)		27309		
24_MCX-50-2-7/111_NH	23000468	U2 (EF_316)		27309		

# Series MCX 50 Ω - receptacles with solder end

## Receptacles, jacks (female)

- Bulkhead mounted
- Front mounting

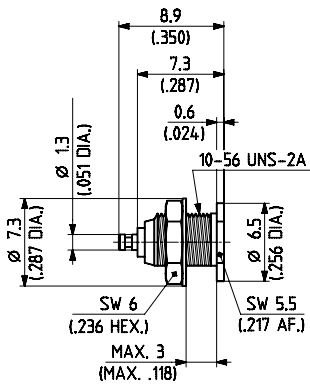


Fig. 1

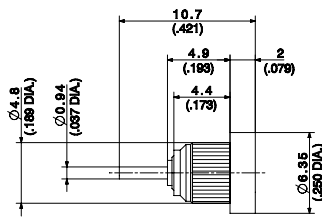


Fig. 2 (press-in)

HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Fig.
22_MCX-50-0-2/111_NE	22640171	single	ML 11	1
22_MCX-50-0-2/111_NH	22646960	bulk 100 pcs.	ML 11	
22_MCX-50-0-2/133_NE	22643633	single	ML 11	2
22_MCX-50-0-2/133_NH	22644433	bulk 100 pcs.	ML 11	
22_MCX-50-0-19/111_NH	22652984	bulk 100 pcs.	ML 103	2
22_MCX-50-0-19/133_NH	23019789	bulk 100 pcs.	ML 103	



# Series MCX 50 Ω – PCB connectors

## Straight PCB plugs (male)

- With stand-off
- 2.54 mm/0.100 in. grid

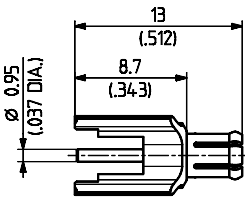


Fig. 1

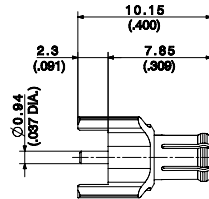
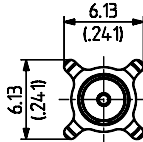
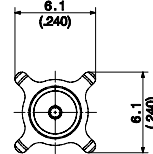


Fig. 2



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Fig.
81_MCX-50-0-6/111_NE	84023713	single	ML 15	1
81_MCX-50-0-6/111_NH	23005296	bulk 100 pcs.		
81_MCX-50-0-9/111_NH	23026871	bulk 100 pcs.		2

## Straight PCB jacks (female)

- 2.54 mm/0.100 in. grid

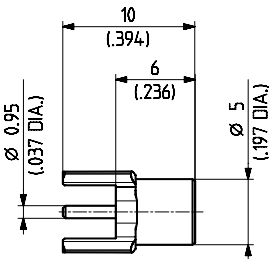


Fig. 1

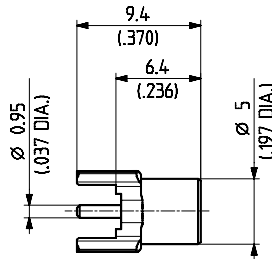
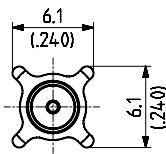
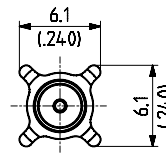


Fig. 2

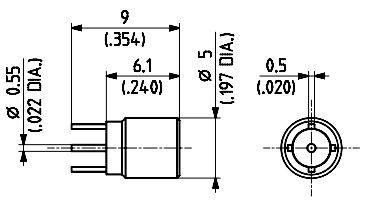


HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes	Fig.
82_MCX-50-0-17/111_NH-1	23006209	bulk 100 pcs.	ML 15	without stand-off	1
82_MCX-50-0-19/111_NE	84018352	single		with stand-off	
82_MCX-50-0-19/111_NH-1	22658305	bulk 100 pcs.			2
82_MCX-50-0-19/111_NM	23000573	tape and reel			

# Series MCX 50 Ω – PCB connectors

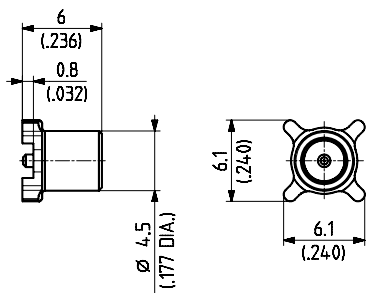
## Straight PCB jacks (female)

- 1.27 mm/0.050 in. grid
- Space saving version



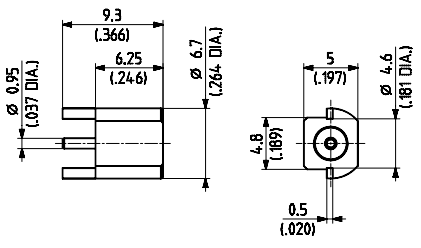
HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
82_MCX-50-0-10/111_NE	22641649	single	ML 44	without stand-off
82_MCX-50-0-10/111_NH	22651980	bulk 100 pcs.		

- Surface mount type SMT



HUBER+SUHNER type	Item no.	Packaging	Mounting hole
82_MCX-S50-0-29/111_NE	84018482	single	ML 120
82_MCX-S50-0-29/111_NH	23001527	bulk 100 pcs.	
82_MCX-S50-0-29/111_NM	22658306	tape and reel	

- Surface mount type SMT
- Edge mount

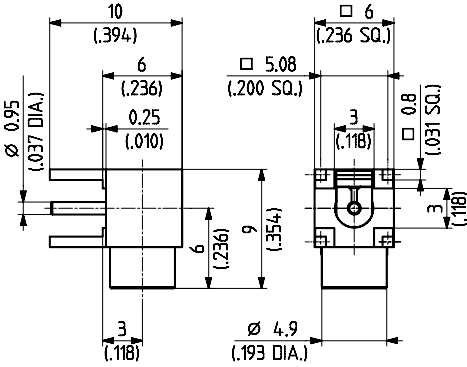


HUBER+SUHNER type	Item no.	Packaging	Mounting hole
82_MCX-S50-0-22/111_NE	22651467	single	ML 121
82_MCX-S50-0-22/111_NM	84011207	tape and reel	

# Series MCX 50 Ω – PCB connectors

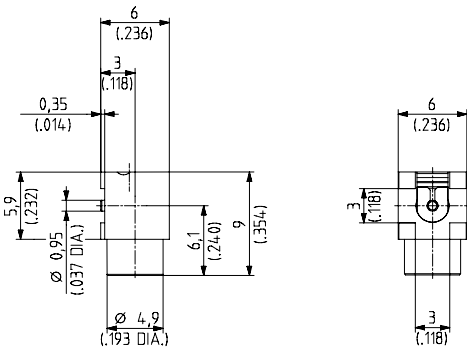
## Right angle PCB jacks (female)

- 2.54 mm/0.100 in. grid



HUBER+SUHNER type	Item no.	Packaging	Mounting hole
85_MCX-50-0-16/111_NE	84018523	single	ML 15
85_MCX-50-0-16/111_NH	23001545	bulk 100 pcs.	
85_MCX-50-0-16/111_NM	84030779	tape and reel	

- Surface mount type SMT



HUBER+SUHNER type	Item no.	Packaging	Mounting hole
85_MCX-S50-0-25/111_NH	23005091	bulk 100 pcs.	ML 123
85_MCX-S50-0-25/111_NM	84036471	tape and reel	