

# Rack and Panel Connectors Subminiature Rectangular


**SMP20**

**SMS20**

## ELECTRICAL SPECIFICATIONS

**Current Rating:** 7.5 A

**Breakdown Voltage:**

At sea level: 2000 V<sub>RMS</sub>

At 70 000 feet [21 336 meters]: 500 V<sub>RMS</sub>

## PHYSICAL SPECIFICATIONS

**Number of Contacts:** 5, 7, 11, 14, 20, 26, 34, 42, 50, 75

**Contact Spacing:** 0.120" [3.05 mm]

**Contact Gauge:** #20 AWG

**Minimum Creepage Path Between Contacts:**  
0.080" [2.03 mm]

**Minimum Air Space Between Contacts:** 0.050" [1.27 mm]

## FEATURES

- Lightweight
- Polarized by guides or screwlocks
- Screwlocks lock connectors together to withstand vibration and accidental disconnect
- Overall height kept to a minimum
- Floating contacts aid in alignment and in withstanding vibration
- Contacts, precision machined and individually gauged, provide high reliability
- Insertion and withdrawal forces kept low without increasing contact resistance
- Contact plating provides protection against corrosion, assures low contact resistance and ease of soldering

## APPLICATIONS

For use wherever space is at a premium and a high quality connector is required in avionics, automation, communications, controls, instrumentation, missiles, computers and guidance systems.

## MATERIAL SPECIFICATIONS

**Contact Pin:** Brass, gold plated

**Contact Socket:** Phosphor bronze, gold plated  
(Beryllium copper available on request)

**Guides:** Stainless steel, passivated

**Screwlocks:** Stainless steel, passivated

**Standard Body:** Glass-filled diallyl phthalate per MIL-M-14, Model GDI-30F, green

## DIMENSIONS in inches [millimeters]

SMS With Fixed Standard Guides	SMDS - DETAIL B Dip Solder Contact Option	SMP With Fixed Standard Guides	SMDP - DETAIL C Dip Solder Contact Option
<p>0.190 [4.83] Typ.</p> <p>0.470 [11.94]</p> <p>0.220 [5.59]</p> <p>2-56 UNC-2A Threads Typ.</p> <p>0.156 [3.96] Typ.</p> <p>See Detail B</p>	<p>0.187 [4.75] Typ.</p> <p>0.030 [0.762] Typ.</p>	<p>0.530 [13.46]</p> <p>0.120 [3.05]</p> <p>0.220 [5.59]</p> <p>0.141 [3.58] Typ.</p> <p>0.046 [1.17] Dia. Solder Cup #20 AWG Typ.</p> <p>0.040 [1.02] Dia. Typ.</p> <p>See Detail C</p>	<p>0.141 [3.58] Typ.</p> <p>0.187 [4.75] Typ.</p> <p>0.030 [0.762] Typ.</p> <p>0.040 ± 0.001 [1.02 ± 0.025] Dia. Typ.</p>
<p>0.520 [13.21]</p> <p>0.220 [5.59]</p> <p>0.110 [2.79]</p> <p>2-56 UNC-2A Thread is standard</p>	<p>0.920 [23.37]</p> <p>0.220 [5.59]</p> <p>0.120 [3.05]</p>	<p>0.910 [23.11]</p> <p>0.220 [5.59]</p> <p>0.110 [2.79]</p> <p>0.046 [1.17] Wide x 0.062 [1.57] Deep Typ.</p> <p>2-56 UNC-2A Thread is standard</p>	<p>0.530 [13.46]</p> <p>0.220 [5.59]</p> <p>0.120 [3.05]</p>



**DIMENSIONS** in inches [millimeters]

**NOTE:** The views below show the wiring side of a pin model connector (female is opposite). Socket hardware is assembled at "A" contact end of a pin model connector.



5 CONTACTS



7 CONTACTS



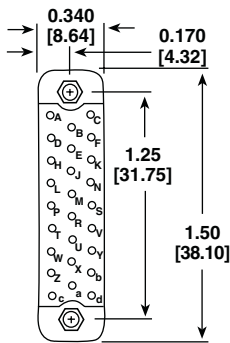
11 CONTACTS



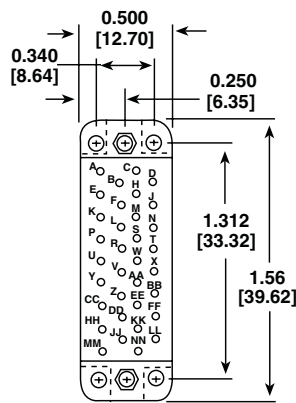
14 CONTACTS



20 CONTACTS



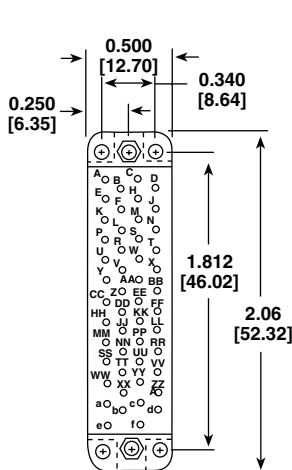
26 CONTACTS



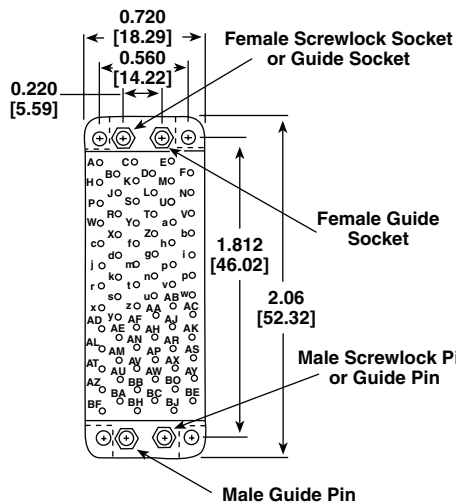
34 CONTACTS



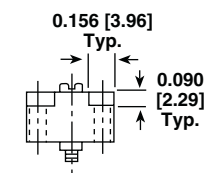
42 CONTACTS



50 CONTACTS



75 CONTACTS


 TYPICAL END VIEW  
34 THRU 50 CONTACTS

 TYPICAL END VIEW  
75 CONTACTS

PANEL CUTOUT in inches [millimeters]								
		NUMBER OF CONTACTS	A	B	C	D	FIGURE	
<p>FIGURE I</p>	<p>FIGURE II</p>	<p>FIGURE III</p>	5	0.230 [5.84]	0.531 [13.49]	0.410 [10.41]	-	I
			7	0.230 [5.84]	0.625 [15.88]	0.500 [12.70]	-	
			11	0.340 [8.64]	0.625 [15.88]	0.530 [13.46]	-	
			14	0.340 [8.64]	0.750 [19.05]	0.620 [15.75]	-	
			20	0.340 [8.64]	1.0 [25.40]	0.910 [23.11]	-	
			26	0.340 [8.64]	1.25 [31.75]	1.16 [29.46]	-	
			34	0.500 [12.70]	1.312 [33.32]	1.16 [29.46]	0.343 [8.71]	
42	0.500 [12.70]	1.562 [39.68]	1.41 [35.81]	0.343 [8.71]				
50	0.500 [12.70]	1.812 [46.02]	1.66 [42.16]	0.343 [8.71]				
75	0.720 [18.29]	1.812 [46.02]	1.66 [42.16]	0.562 [14.28]	III			

### ORDERING INFORMATION

<b>C</b> CONTACTS	<b>SM</b> MODEL	<b>B</b> CONTACT TYPE	<b>S</b> CONTACT STYLE	<b>20</b> CONTACT SIZE	<b>G</b> PLATING	<b>- 26</b> NUMBER OF CONTACTS	<b>R</b> (OPTIONAL)	<b>027<sup>(1)</sup></b> HARDWARE OPTIONS
	Subminiature		P = Pin S = Socket	#20 AWG		5, 7, 11, 14, 20, 26, 34, 42, 50, 75		
(OPTIONAL) Closed entry socket contacts only. Omit for standard contacts.		(OPTIONAL) B = Beryllium copper, socket contacts (Solder cup) D = Dip solder contacts			Optional plating available: G = Gold (0.00003 thick) over nickel G5 = Gold (0.00005 thick) over nickel Omit designator for gold (0.00001 thick) over nickel		(OPTIONAL) R = Reversed guides or screwlocks Omit for standard	(Omit if no hardware desired) 027 = Slotted cres guides 0.090" [2.29 mm] diameter SK = Turnable screwlocks with 2-56 threads SK3 = Turnable screwlocks with 3-48 threads SL = Fixed screwlocks with 2-56 threads SL3 = Fixed screwlocks with 3-48 threads SK030 = Turnable screwlocks with short slotted knobs SK035 = Turnable screwlocks with socket head knobs SK3030 = Turnable screwlocks with short slotted knobs with 3-48 threads SK3035 = Turnable screwlocks with socket head knobs with 3-48 threads

**EXAMPLES:**  
 SMBS20-26SK035 = Female, 26 beryllium copper socket contacts with socket head knobs on turnable screwlocks for #20 AWG wiring.  
 SMP20-14SL3 = Male, 14 contact pins, fixed screwlocks with 3-48 threads for #20 AWG wiring.

**Note**

<sup>(1)</sup> To order complete connector with hardware supplied unassembled, add suffix "UA" on end of hardware designation.



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