

INCH-POUND

MIL-DTL-32139/10A
w/AMENDMENT 1
21 March 2022
SUPERSEDING
MIL-DTL-32139/10A
11 February 2020

DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, RECTANGULAR, NANOMINIATURE
DUAL ROW, RECEPTACLE, REAR PANEL MOUNT, POLARIZED SHELL, PIGTAIL,
SOCKET CONTACTS, CRIMP TYPE, INSULATED WIRE, GASKET SEAL

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-32139.

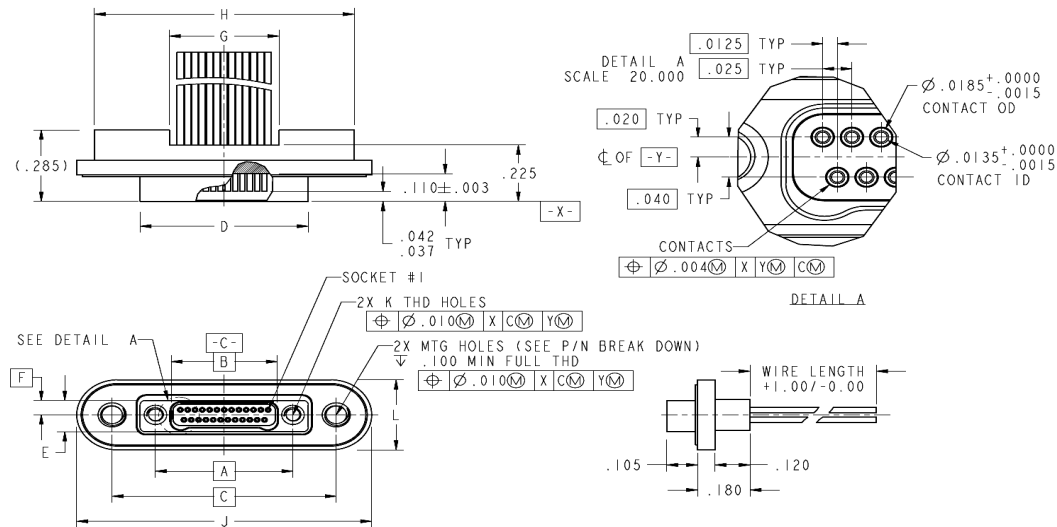
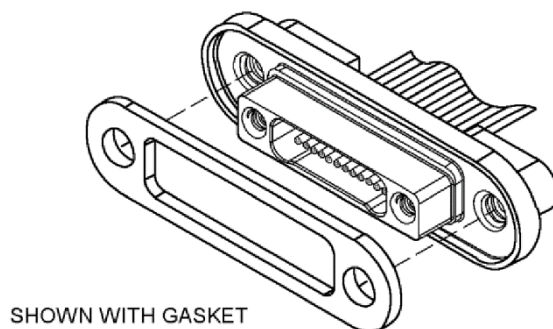


FIGURE 1. Receptacle, Rear Panel Mount dimensions and configurations.



AMSC N/A
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FSC 5935



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Size	A BSC	B BSC	C BSC	D	E	F BSC	G	H	J	K	L
9	.270 (6.86)	.163 (4.14)	.566 (14.38)	.375 (9.53)	.125 (3.18)	.0575 (1.46)	.175 (4.45)	.688 (17.48)	.808 (20.52)	#0-80 UNF-2B	.280 (7.11)
15	.345 (8.76)	.238 (6.05)	.641 (16.28)	.450 (11.43)	.125 (3.18)	.0575 (1.46)	.250 (6.35)	.763 (19.38)	.883 (22.43)	#0-80 UNF-2B	.280 (7.11)
21	.420 (10.67)	.313 (7.95)	.716 (18.19)	.525 (13.34)	.125 (3.18)	.0575 (1.46)	.325 (8.26)	.838 (21.29)	.958 (24.33)	#0-80 UNF-2B	.280 (7.11)
25	.470 (11.94)	.363 (9.22)	.766 (19.46)	.575 (14.61)	.125 (3.18)	.0575 (1.46)	.375 (9.53)	.888 (22.56)	1.008 (25.60)	#0-80 UNF-2B	.280 (7.11)
31	.545 (13.84)	.438 (11.13)	.841 (21.36)	.650 (16.51)	.125 (3.18)	.0575 (1.46)	.450 (11.43)	.963 (24.46)	1.083 (27.51)	#0-80 UNF-2B	.280 (7.11)
37	.620 (15.75)	.513 (13.03)	.916 (23.27)	.725 (18.42)	.125 (3.18)	.0575 (1.46)	.525 (13.34)	1.038 (26.37)	1.158 (29.41)	#0-80 UNF-2B	.280 (7.11)
51	.795 (20.19)	.688 (17.48)	1.091 (27.71)	.900 (22.86)	.125 (3.18)	.0575 (1.46)	.700 (17.78)	1.213 (30.81)	1.333 (33.86)	#0-80 UNF-2B	.280 (7.11)
65	.970 (24.64)	.863 (21.92)	1.266 (32.16)	1.075 (27.31)	.125 (3.18)	.0575 (1.46)	.875 (22.23)	1.388 (35.26)	1.508 (38.30)	#0-80 UNF-2B	.280 (7.11)
69	1.020 (25.91)	.913 (23.19)	1.316 (33.43)	1.125 (28.58)	.125 (3.18)	.0575 (1.46)	.925 (23.50)	1.438 (36.53)	1.558 (39.57)	#0-80 UNF-2B	.280 (7.11)
85	1.246 (31.65)	1.113 (28.27)	1.568 (39.83)	1.377 (34.98)	.150 (3.81)	.0700 (1.78)	1.125 (28.58)	1.690 (42.93)	1.810 (45.97)	#2-56 UNC-2B	.305 (7.75)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified tolerances are ± 0.005 inch (0.13 mm) angular tolerance $\pm 2^\circ$.
4. Shell shall be flush to insulator within ± 0.004 inch (0.10 mm).
5. 30 AWG wire is the largest wire size that can be used in the connector assembly

FIGURE 1. Receptacle, Rear Panel Mount dimensions and configurations - Continued.

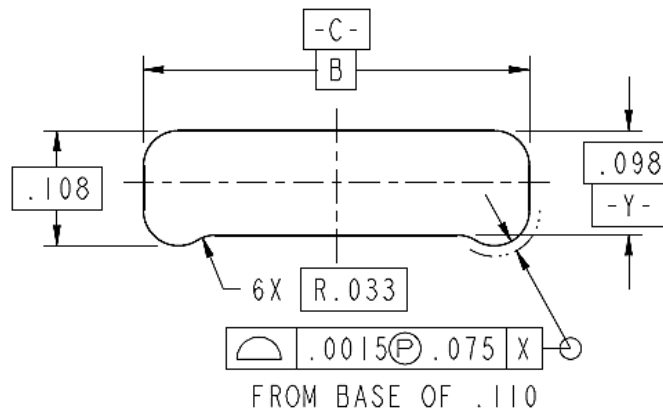
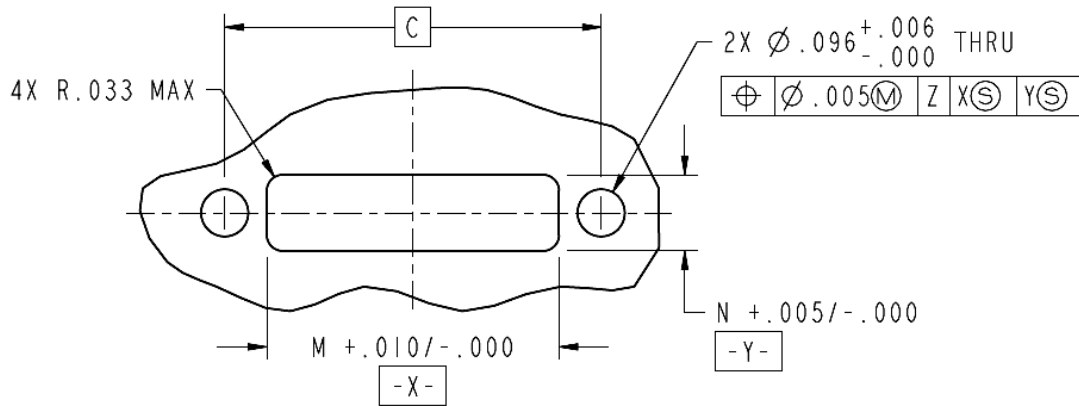


FIGURE 2. Nano Connector Interface.

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Size	C BSC	M	N
9	.566 (14.38)	.395 (10.03)	.155 (3.94)
15	.641 (16.28)	.470 (11.94)	.155 (3.94)
21	.716 (18.19)	.545 (13.84)	.155 (3.94)
25	.766 (19.46)	.595 (15.11)	.155 (3.94)
31	.841 (21.36)	.670 (17.02)	.155 (3.94)
37	.916 (23.27)	.745 (18.92)	.155 (3.94)
51	1.091 (27.71)	.920 (23.37)	.155 (3.94)
65	1.266 (32.16)	1.095 (27.81)	.155 (3.94)
69	1.316 (33.43)	1.145 (29.08)	.155 (3.94)
85	1.568 (39.83)	1.397 (35.48)	.180 (4.57)

NOTES:

1. Panel cutout is sized to allow connector mounting with either lobes up or down orientation.
2. Recommended panel thickness .100 MAX.

FIGURE 3. Panel Cutout Dimensions.

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REQUIREMENTS:

Dimensions and configuration see figures 1, 2, and 3.

This specification sheet describes the socket side of a rectangular connector. This connector uses reverse gender contacts, i.e., the live pin recessed in the insulator with the static socket protruding from a shrouded interface.

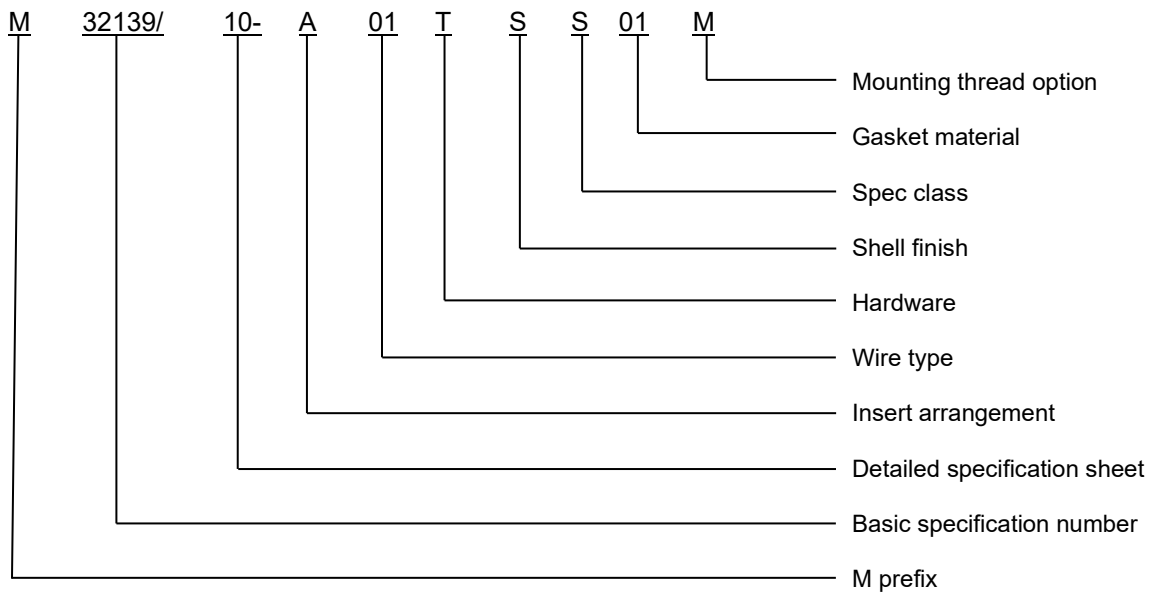
Contact connection: The pin contact, which is recessed in the insulator, is normally connected to the live side of the circuit.

To protect the electrical enclosure equipment, the panel mount connector shall seal from the outside environmental conditions such as dust and splashed water.

Interface dimensions according to MIL-DTL-32139/4.

Mating plug: Shall be in accordance with MIL-DTL-32139/3.

Part of Identifying Number (PIN):



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Insert arrangement

A = 9
B = 15
C = 21
D = 25
E = 31
F = 37
G = 51
H = 65
J = 69
K = 85

Wire type ^{1/}

01 = NEMA HP3-ETXBBB9
02 = NEMA HP3-ETXBBB9
03 = NEMA HP3-ETXBBB9
04 = NEMA HP3-ETXBBB()
05 = NEMA HP3-ETXBBB()
06 = NEMA HP3-ETXBBB()
07 = M22759/33-30-9
08 = M22759/33-30-9
09 = M22759/33-30-9
10 = M22759/33-30-()
11 = M22759/33-30-()
12 = M22759/33-30-()
13 = 04047-30A-9
14 = 04047-30A-9
15 = 04047-30A-9
16 = 04047-30A-()
17 = 04047-30A-()
18 = 04047-30A-()
19 = M22759/47-30-9
20 = M22759/47-30-9
21 = M22759/47-30-9
22 = M22759/47-30-()
23 = M22759/47-30-()
24 = M22759/47-30-()
25 = M22759/51-30-9
26 = M22759/51-30-9
27 = M22759/51-30-9
28 = M22759/51-30-()
29 = M22759/51-30-()
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31 = M22759/52-30-9
32 = M22759/52-30-9
33 = M22759/52-30-9
34 = M22759/52-30-()
35 = M22759/52-30-()
36 = M22759/52-30-()

6 inches (152 mm) long
18 inches (457 mm) long
36 inches (914 mm) long
6 inches (152 mm) long ^{2/}
18 inches (457 mm) long ^{2/}
36 inches (914 mm) long ^{2/}
6 inches (152 mm) long ^{3/ 4/}
18 inches (457 mm) long ^{3/ 4/}
36 inches (914 mm) long ^{3/ 4/}
6 inches (152 mm) long ^{2/ 3/ 4/}
18 inches (457 mm) long ^{2/ 3/ 4/}
36 inches (914 mm) long ^{2/ 3/ 4/}
6 inches (152 mm) long
18 inches (457 mm) long
36 inches (914 mm) long
6 inches (152 mm) long ^{2/}
18 inches (457 mm) long ^{2/}
36 inches (914 mm) long ^{2/}
6 inches (152 mm) long
18 inches (457 mm) long
36 inches (914 mm) long
6 inches (152 mm) long ^{2/}
18 inches (457 mm) long ^{2/}
36 inches (914 mm) long ^{2/}
6 inches (152 mm) long
18 inches (457 mm) long
36 inches (914 mm) long
6 inches (152 mm) long ^{2/}
18 inches (457 mm) long ^{2/}
36 inches (914 mm) long ^{2/}

Hardware

T = Female Thread

Shell and finish

S = Passivated stainless steel shell
T = Titanium

Space class

Blank for non-space applications.

S = Space class

Mounting Thread Option

Omit For #2-56 UNC-2B

M = M2X0.4 6H

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Gasket Material

Omit for no gasket

01 = Fluorosilicone IAW MIL-DTL-25988, Type II, Class I, Grade 70

02 = Passivated Silver Plated Aluminum Filled Fluorsilicone IAW MIL-DTL-83528, Type "D" (CHO-Seal 1298 or Equivalent)

03 = Nickel Plated Aluminum Filled Fluorosilicone, (CHO-Seal 6503 or Equivalent)

- 1/ Pig tail wire lead tolerance is +1.00 inch/-0.0 inch (25.4/-0.0 mm).
- 2/ Color coding in accordance with MIL-STD-681, system 1, except using ten solid colors only in repeating sequence.
- 3/ Corrosion has been experienced on M32139 connectors that are pre-wired with M22759/33-30-9 or M22759/33-30-() wires and stored in a sealed environment. CAUTION SHOULD BE EXERCISED WHEN USING THIS WIRE.
- 4/ Wire M22759/33 use insert wire strip tool SAE AS5768/1, T7 or B7 for 30 gauge wire.

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Referenced documents. In addition to MIL-DTL-32139, this document references the following:

MIL-DTL-32139/3
MIL-DTL-32139/4
MIL-DTL-25988
MIL-DTL-83528
MIL-STD-681
SAE AS5768/1

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-2022-065)

Review activities:

Army - MI

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.