

SURE-SEAL[®] IP67 M20 SERIES CATALOG

Table of Contents

Technical Information 4

How to Order

M20 Molded Cable..... 5

M20 Panel Mount 5

M20 Series Molded Cable

M20 Male Molded Cable, Straight 6

M20 Female Molded Cable, Straight..... 7

M20 Series Panel Mount

M20 Male Panel Mount, Solder, Rear Fastened..... 8

M20 Female Panel Mount, Solder, Rear Fastened 9

M20 Plastic Terminator

M20 Plastic Male Terminator 10

M20 Plastic Female Terminator 10

M20 Part Numbers 11

Technical Information

Wire Gauge Conversion Chart

Conversion between American Wire Gauge (AWG), Circular Mil Area (CMA), and approximate metric millimeter squared (mm²) wire sizes.

Diameter			Area	
AWG	in.	mm	CMA	mm ² *
4/0 (0000)	0.46	11.68	212000	120
3/0 (000)	0.41	10.41	168000	95
2/0 (00)	0.365	9.27	133000	70
1/0 (0)	0.325	8.26	106000	50
1	0.289	7.34	83700	-
2	0.258	6.55	66400	35
3	0.229	5.82	52600	-
4	0.204	5.18	41700	25
5	0.182	4.62	33100	-
6	0.162	4.11	26300	16
7	0.144	3.66	20800	-
8	0.128	3.25	16500	10
9	0.114	2.90	13100	-
10	0.102	2.59	10400	6
11	0.091	2.31	8230	-
12	0.081	2.06	6530	4
13	0.072	1.83	5180	-

Diameter			Area	
AWG	in.	mm	CMA	mm ² *
14	0.062	1.57	4110	2.5
15	0.057	1.45	3260	-
16	0.051	1.30	2580	1.5
17	0.045	1.14	2050	1
18	0.040	1.02	1620	0.75
19	0.036	0.91	1290	-
20	0.032	0.81	1020	0.5
21	0.0285	0.72	810	-
22	0.0253	0.643	642	0.34
23	0.0226	0.574	509	-
24	0.0201	0.511	404	0.25
25	0.0179	0.45	320	-
26	0.0159	0.404	254	0.14
27	0.0142	0.361	202	-
28	0.0126	0.320	160	0.08
29	0.0113	0.29	127	-
30	0.01	0.254	101	0.05

*Nearest metric wire size
Use to Convert American Wire Gauge to Diameter and Circular Mil Area.

How to Order

M20 Series With Molded Cable

1		2		4	5		6
IPM20	-	H8	-	M	WL	-	1.5
SERIES		CODING & # CONTACTS		GENDER	ANGLE		ASSEMBLY LENGTH

SERIES

IPM20 = M20

CODING & # CONTACTS

H8 = 3 Power + 5 Signal

GENDER

M = Male
F = Female

ANGLE

WL = Straight

ASSEMBLY LENGTH*

1.5 = 1.5 meters
2.0 = 2 meters
3.0 = 3 meters
5.0 = 5 meters
10 = 10 meters

* Additional lengths are available upon request

M20 Series Panel Mount

1		2	3	4		5
IPM20	-	H8	M	-RF	-	SC
SERIES		CODING & # CONTACTS	GENDER	FASTENING		TYPE

SERIES

IPM20 = M20

CODING & # CONTACTS

H8 = 3 Power + 5 Signal

GENDER

M = Male
F = Female

FASTENING

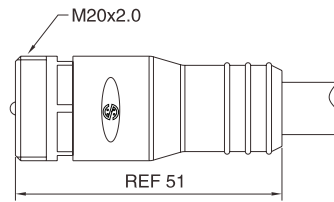
-RF = Rear Fastened

TYPE

SC = Solder Cup

M20 Male Molded Cable, Straight

Connector series: M20
Gender: Male
Locking type: Fix screw
Mounting type: Straight
Part No.: IPM20-H8-MWL-XXX
X refers to cable length



General Information

Ambient temperature: -10°C ~ +80°C

Connector insert: PBT

Connector contacts: Brass with gold plated

Insulation resistance: $\geq 100M\Omega$

Contact resistance: $\leq 5m\Omega$

Shielding: Unavailable

IP rating: IP67 in locked condition

Electrical Data & Mechanical Data

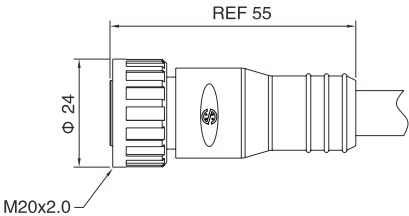
Contacts		Contact termination	Rated current	Voltage		Wire gauge / size		Cable jacket
				A/C	D/C	AWG	mm ²	
3+5 pins		Solder version	4A (signal 5 pins)	300V	300V	26-22AWG	0.14-0.3	PVC
			13A (power 3 pins)			18-14 AWG	0.5-2.5	

Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm²
- Please refer to Page 5 for the products' part number encoding rule.

M20 Female Molded Cable, Straight

Connector series: M20
 Gender: Female
 Locking type: Fix screw
 Mounting type: Straight
 Part No.: IPM20-H8-FWL-XXX
 X refers to cable length



General Information

Ambient temperature:	-10°C ~ +80°C	Seal/O-ring:	Silicone
Connector insert:	PBT	Insulation resistance:	≥ 100MΩ
Connector contacts:	Brass with gold plated	Contact resistance:	≤ 5mΩ
Coupling nut/screw:	ASA	Shielding:	Unavailable
		IP rating:	IP67 in locked condition

Electrical Data & Mechanical Data

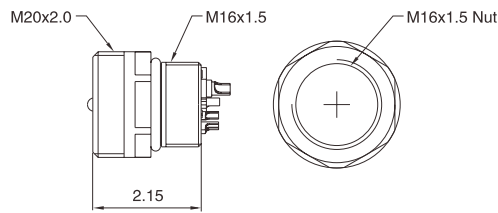
Contacts		Contact termination	Rated current	Voltage		Wire gauge / size		Cable jacket
				A/C	D/C	AWG	mm²	
3+5 pins		Solder version	4A (signal 5 pins)	300V	300V	26-22AWG	0.14-0.3	PVC
			13A (power 3 pins)			18-14 AWG	0.5-2.5	

Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm²
- Please refer to Page 5 for the products' part number encoding rule.

M20 Male Panel Mount, Solder, Rear Fastened

Connector series: M20
Gender: Male
Locking type: Fix screw
Mounting type: Rear fastened
Part No.: IPM20-H8M-RF-SC



General Information

Ambient temperature: -25°C ~ +90°C

Connector insert: PBT

Connector contacts: Brass with gold plated

Coupling nut/screw: PA66

Seal/O-ring: Silicone

Insulation resistance: $\geq 100M\Omega$

Contact resistance: $\leq 5m\Omega$

Shielding: Unavailable

IP rating: IP67 in locked condition

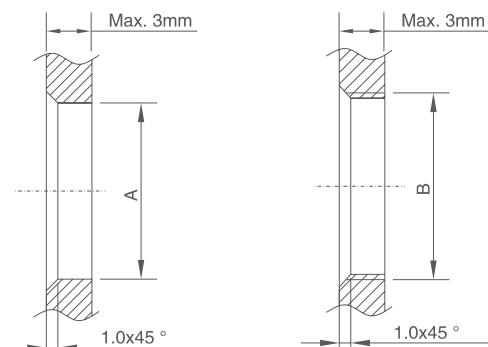
Electrical Data & Mechanical Data

Contacts		Contact termination	Rated current	Voltage		Wire gauge / size	
				A/C	D/C	AWG	mm ²
3+5 pins		Solder version	4A (signal 5 pins)	300V	300V	26-22AWG	0.14-0.3
			13A (power 3 pins)			18-14 AWG	0.5-2.5

Panel Cut-out Dimensions

With bare hole

With thread to screw in



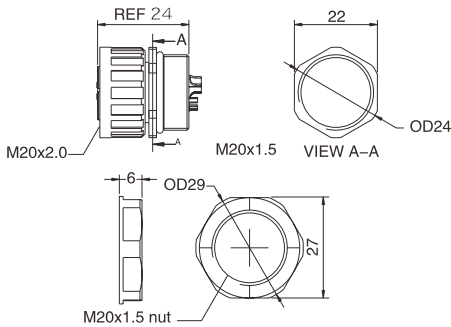
	A	B
M20	20 $\begin{smallmatrix} +0.1 \\ -0 \end{smallmatrix}$	M20x1.5

Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm²
- Please refer to Page 5 for the products' part number encoding rule.

M20 Female Panel Mount, Solder, Rear Fastened

Connector series: M20
 Gender: Female
 Locking type: Fix screw
 Mounting type: Rear fastened
 Part No.: IPM20-H8F-RF-SC



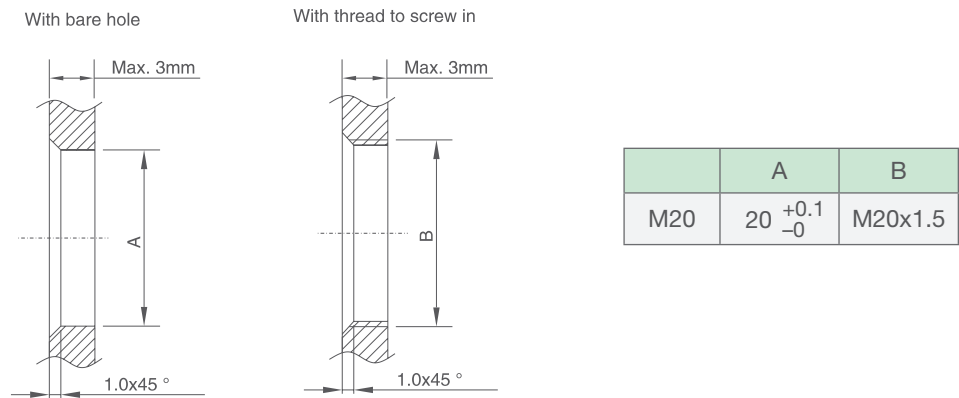
General Information

Ambient temperature:	-25°C ~ +90°C	Seal/O-ring:	Silicone
Connector insert:	PBT	Insulation resistance:	≥ 100MΩ
Connector contacts:	Brass with gold plated	Contact resistance:	≤ 5mΩ
Coupling nut/screw:	ASA	Shielding:	Unavailable
		IP rating:	IP67 in locked condition

Electrical Data & Mechanical Data

Contacts		Contact termination	Rated current	Voltage		Wire gauge / size	
				A/C	D/C	AWG	mm²
3+5 pins		Solder version	4A (signal 5 pins)	300V	300V	26-22AWG	0.14-0.3
			13A (power 3 pins)			18-14 AWG	0.5-2.5

Panel Cut-out Dimensions

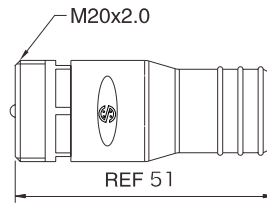


Notes

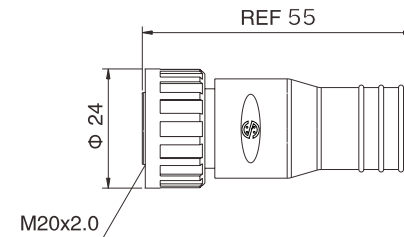
- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm²
- Please refer to Page 5 for the products' part number encoding rule.

M20 Plastic Male & Female Terminator

Connector series: M20
Gender: Male
Locking type: Fix screw
Mounting type: Straight
Part No.: IPM20-H8M-TM



Connector series: M20
Gender: Female
Locking type: Fix screw
Mounting type: Straight
Part No.: IPM20-H8F-TM



General Information

Ambient temperature:	-10°C ~ +80°C
Connector insert:	PBT
Connector contacts:	Brass with gold plated
Coupling nut/screw:	ASA
Wiring:	Pins 2 & 3 are connected via a 120 Ohm Resistor

Seal/O-ring:	Silicone
Insulation resistance:	≥ 100MΩ
Contact resistance:	≤ 5mΩ
Shielding:	Unavailable
IP rating:	IP67 in locked condition

Electrical Data & Mechanical Data

	Contacts		Contact termination	Rated current	Voltage	
	Male	Female			A/C	D/C
3+5 pins			Solder version	4A (signal 5 pins) 13A (power 3 pins)	300V	300V

Part Numbers

All M20 Series P/Ns	Catalog Page
IPM20-H8-MWL-1.0	6
IPM20-H8-MWL-3.0	6
IPM20-H8-MWL-5.0	6
IPM20-H8-FWL-1.0	7
IPM20-H8-FWL-3.0	7
IPM20-H8-FWL-5.0	7
IPM20-H8M-RF-SC	8
IPM20-H8F-RF-SC	9
IPM20-H8M-TM	10
IPM20-H8F-TM	10



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