EPIC® Series R

CIRCULAR CONNECTORS

This range of connectors has been designed for application in mechanical engineering as well as in measurement and control engineering and in medical electronics.

No of Contacts	Termination Type	Numeration	Working Current	Page of Brochure
8 + ⏚	Solder cup	Clockwise/ Anti-clockwise	7.5 amps	7/8
	Solder pin			available on request
12	Solder cup	Clockwise/ Anti-clockwise	7.5 amps	7/8
	Solder pin			9
	Crimp		5.0 amps	available on request
16	Solder cup	Clockwise/ Anti-clockwise	7.5 amps	7
	Solder pin			9
	Crimp		5.0 amps	available on request
21	Solder cup	Clockwise	7.5 amps	13
	Solder pin			available on request
26	Solder cup	Clockwise	7.5 amps	13
	Solder pin			available on request

Temperature:
-40°C to +125°C

Cable entry:
Sealing and strain relief by means of PG cable gland

Interlocking:
Screw lock by means of coupling nut

Protection:
IP65 – IP67 according to DIN 40050 depending on the cable gland (when mated)

Materials:
Insulation body:
Thermoplastic resin, fibreglass reinforced, flame retardant to UL94 V-O

Contacts:
Copper alloy, nickel plated gold or silver finish

Sealing:
Neoprene, light and oil resistant

Housing/Plating:
Copper Alloy/nickel plated

NEW E.M.C. INNOVATIONS:

The European Commission Directive on E.M.C. comes completely into force on 1st January 1996. Contact Connectors' Series LS and Series R circular connectors will both have a version available with 360 degree protection early next year. In the meantime our extensive range of Cable Glands includes various types that have been specially designed for use with braided cable. Please call our technical helpline on **0181-453 0199** for further information.

The R-Series Part Numbers Explained

Example part number & breakdown

20 . 10 10 AA + 40 . 15 0 0 16

BODY

SERIES

10 – R2.5
20 – R3.0

BODY STYLE / SHAPE

10 - Base (drilled holes front mount)
20 - Base (tapped holes rear mount)
30 - Base (drilled holes rear mount)

40 – Hood (type D)
50 – Coupler hood (type F)
60 – Base (locknut on rear – type G)

CABLE ENTRY IF ANY

AA – Base

AB – PG7 (with gland)
AC – PG9 (with gland)
AD – PG11 (with gland)
AE – PG13.5 (with gland)

CA – PG7 (without gland)
CB – PG9 (without gland)
CC – PG11 (without gland)
CD – PG13.5 (without gland)

INSERT

TERMINATION / TYPE

10 – Solder Cup, Male
11 – Solder Pin, Male
14 – Crimp, Male

15 – Solder Cup, Female
16 – Solder Pin, Female
19 – Crimp Female

PIN LENGTH

0 – Standard
4 – 1.00mm
1 – 1.2mm

PLATING

0 – Silver
1 – 0.2um Gold
2 – 0.8um Gold

CONFIGURATION

A1 – 8+1 (Male clockwise)
A0 – 8+1 (Female anticlockwise)
B1 – 8+1 (Male anticlockwise)
B0 – 8+1 (Female clockwise)

09 / 1D / 1C – Refer to cats

12 – 12 (Male clockwise)
12 – 12 (Female anticlockwise)
0B – 12 (Male anticlockwise)
0A – 12 (Female clockwise)

16 – 16 (male clockwise)
16 – 16 (Female anticlockwise)
1B – 16 (Male anticlockwise)
1A – 16 (Female clockwise)

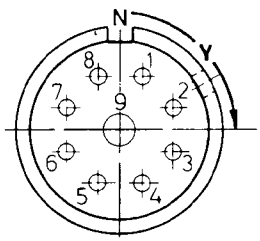
17 / 1E / 1F – Refer to cats

EPIC® Series R

SIZE 2.5
CONNECTORS WITH SOLDER CUP TERMINATION
CONTACT INSERTS (**CLOCKWISE** NUMERATION)

No. of contacts: 8/1
Contact size: pin Ø 1 mm
pin Ø 2 mm
Termination: Solder Cups

View of mating side
of **male** insert



Working current 7,5 A
Rated voltage (VDE 0110)
Insulation Group A 380 V ac
Insulation Group B 60 V ac
Insulation Group C — V ac
Test voltage
(according to VDE 0110)
Contact/Contact 1.5 kV ac
Contact/Ground 2.5 kV ac
Insulating resistance
≧ M Ohm 10^8

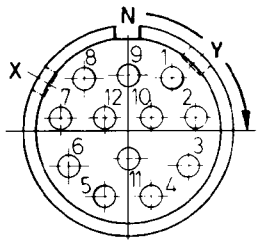
Plug Connector
Contact Termination: Solder Cups
40.1000 A1
Contact Plating:
3–4 µm hard silver
40.1001 A1
Contact Plating:
0.2 µm hard gold
40.1002 A1
Contact Plating:
0.8 µm hard gold

Receptacle
Contact Termination: Solder Cups
40.1500 A0
Contact Plating:
3–4 µm hard silver
40.1501 A0
Contact Plating
0.2 µm hard gold
40.1502 A0
Contact Plating:
0.8 µm hard gold

No. of contacts: 12
Contact size: pin Ø 1 mm

Termination: Solder Cups

View of mating side
of **male** insert



Working current 7,5 A
Rated voltage (VDE 0110)
Insulation Group A 380 V ac
Insulation Group B 60 V ac
Insulation Group C — V ac
Test voltage
(according to VDE 0110)
Contact/Contact 1.5 kV ac
Contact/Ground 1.5 kV ac
Insulating resistance
≧ M Ohm 10^8

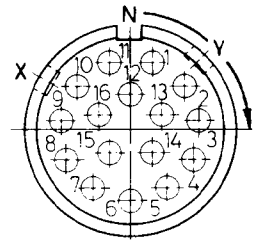
Plug Connector
Contact Termination: Solder Cups
40.1000 12
Contact Plating:
3–4 µm hard silver
40.1001 12
Contact Plating:
0.2 µm hard gold
40.1002 12
Contact Plating:
0.8 µm hard gold

Receptacle
Contact Termination: Solder Cups
40.1500 12
Contact Plating:
3–4 µm hard silver
40.1501 12
Contact Plating
0.2 µm hard gold
40.1502 12
Contact Plating:
0.8 µm hard gold

No. of contacts: 16
Contact size: pin Ø 1 mm

Termination: Solder Cups

View of mating side
of **male** insert



Working current 7,5 A
Rated voltage (VDE 0110)
Insulation Group A 250 V ac
Insulation Group B 60 V ac
Insulation Group C — V ac
Test voltage
(according to VDE 0110)
Contact/Contact 1.15 kV ac
Contact/Ground 1.15 kV ac
Insulating resistance
≧ M Ohm 10^8

Plug Connector
Contact Termination: Solder Cups
40.1000 16
Contact Plating:
3–4 µm hard silver
40.1001 16
Contact Plating:
0.2 µm hard gold
40.1002 16
Contact Plating:
0.8 µm hard gold

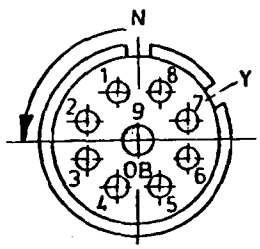
Receptacle
Contact Termination: Solder Cups
40.1500 16
Contact Plating:
3–4 µm hard silver
40.1501 16
Contact Plating
0.2 µm hard gold
40.1502 16
Contact Plating:
0.8 µm hard gold

EPIC® Series R

SIZE 2.5
CONNECTORS WITH SOLDER CUP TERMINATION
CONTACT INSERTS (**ANTI CLOCKWISE** NUMERATION)

No. of contacts: 8/1
Contact size: pin Ø 1 mm
pin Ø 2 mm
Termination: Solder Cups

View of mating side
of **male** insert



Working current 7,5 A	
Rated voltage (VDE 0110)	
Insulation Group A	380 V ac
Insulation Group B	60 V ac
Insulation Group C	— V ac
Test voltage	
(according to VDE 0110)	
Contact/Contact	1.5 kV ac
Contact/Ground	2.5 kV ac
Insulating resistance	
≧ M Ohm	10^8

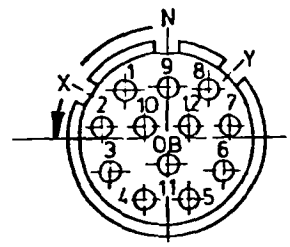
Plug Connector
Contact Termination: Solder Cups
40.1000 B1
Contact Plating:
3–4 µm hard silver
40.1001 B1
Contact Plating:
0.2 µm hard gold
40.1002 B1
Contact Plating:
0.8 µm hard gold

Receptacle
Contact Termination: Solder Cups
40.1500 B0
Contact Plating:
3–4 µm hard silver
40.1501 B0
Contact Plating
0.2 µm hard gold
40.1502 B0
Contact Plating:
0.8 µm hard gold

No. of contacts: 12
Contact size: pin Ø 1 mm

Termination: Solder Cups

View of mating side
of **male** insert



Working current 7,5 A	
Rated voltage (VDE 0110)	
Insulation Group A	380 V ac
Insulation Group B	60 V ac
Insulation Group C	— V ac
Test voltage	
(according to VDE 0110)	
Contact/Contact	1.5 kV ac
Contact/Ground	1.5 kV ac
Insulating resistance	
≧ M Ohm	10^8

Plug Connector
Contact Termination: Solder Cups
40.1000 0B
Contact Plating:
3–4 µm hard silver
40.1001 0B
Contact Plating:
0.2 µm hard gold
40.1002 0B
Contact Plating:
0.8 µm hard gold

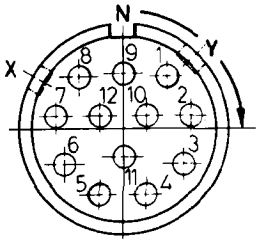
Receptacle
Contact Termination: Solder Cups
40.1500 0A
Contact Plating:
3–4 µm hard silver
40.1501 0A
Contact Plating
0.2 µm hard gold
40.1502 0A
Contact Plating:
0.8 µm hard gold

SIZE 2.5
CONNECTORS WITH SOLDER PIN TERMINATION
CONTACT INSERTS (**CLOCKWISE** NUMERATION)

No. of contacts: 12
Contact size: pin Ø 1 mm

Termination: Solder pins Ø 0.6 x 3.5

View of mating side
of **male** insert



Working current 7,5 A	
Rated voltage (VDE 0110)	
Insulation Group A	380 V ac
Insulation Group B	60 V ac
Insulation Group C	— V ac
Test voltage	
(according to VDE 0110)	
Contact/Contact	1.5 kV ac
Contact/Ground	1.5 kV ac
Insulating resistance	
≧ M Ohm	10^8

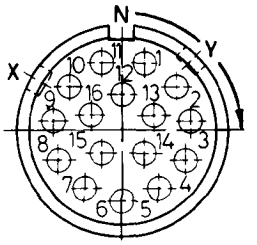
Plug Connector
Contact Termination: Solder pins
40.1100 12
Contact Plating:
3–4 µm hard silver
40.1101 12
Contact Plating:
0.2 µm hard gold
40.1102 12
Contact Plating:
0.8 µm hard gold

Receptacle
Contact Termination: Solder pins
40.1600 12
Contact Plating:
3–4 µm hard silver
40.1601 12
Contact Plating
0.2 µm hard gold
40.1602 12
Contact Plating:
0.8 µm hard gold

No. of contacts: 16
Contact size: pin Ø 1 mm

Termination: Solder pins Ø 0.6 x 3.5

View of mating side
of **male** insert



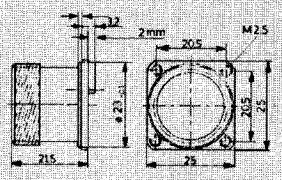
Working current 7,5 A	
Rated voltage (VDE 0110)	
Insulation Group A	250 V ac
Insulation Group B	60 V ac
Insulation Group C	— V ac
Test voltage	
(according to VDE 0110)	
Contact/Contact	1.15 kV ac
Contact/Ground	1.15 kV ac
Insulating resistance	
≧ M Ohm	10^8

Plug Connector
Contact Termination: Solder pins
40.1100 16
Contact Plating:
3–4 µm hard silver
40.1101 16
Contact Plating:
0.2 µm hard gold
40.1102 16
Contact Plating:
0.8 µm hard gold

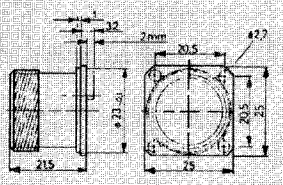
Receptacle
Contact Termination: Solder pins
40.1600 16
Contact Plating:
3–4 µm hard silver
40.1601 16
Contact Plating
0.2 µm hard gold
40.1602 16
Contact Plating:
0.8 µm hard gold

EPIC® Series R

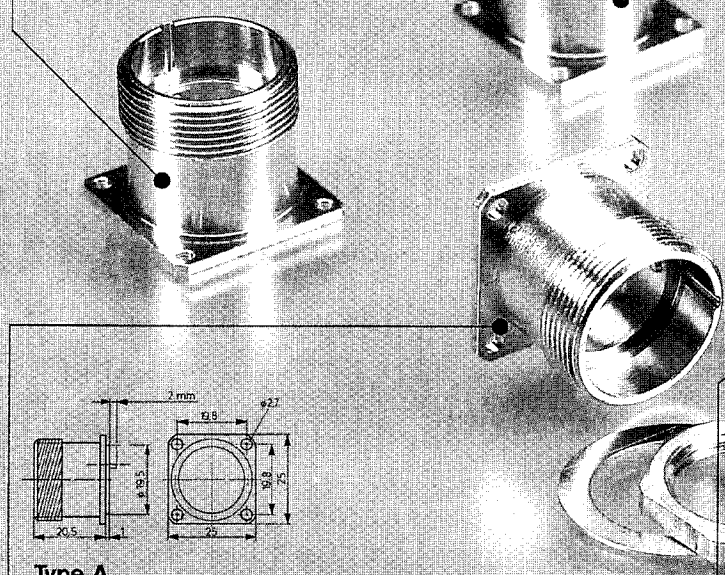
SIZE 2.5
CONNECTOR – FOR FRONT AND BACK PANEL ASSEMBLY

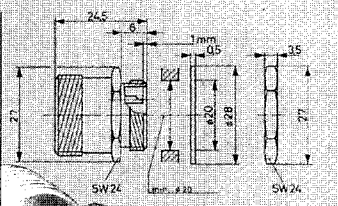


Type B 1
for panel mounting application
back wall assembly, 4×M2.5 thread
(wall thickness 4 mm max.)
20.1020 AA
insert in coding position N
20.1021 AA
in coding position Y
20.1022 AA
in coding position X



Type B 2
for panel mounting application
back wall assembly, 4×through-hole
(wall thickness 4 mm max.)
20.1030 AA
insert in coding position N
20.1031 AA
in coding position Y
20.1032 AA
in coding position X





hread
M 20 × 1.5

for sealing ring and flat
gasket see "Accessories"



Type A
for panel mounting application
front assembly, 4 × through-hole
20.1010 AA
insert in coding position N
20.1011 AA
in coding position Y
20.1012 AA
in coding position X

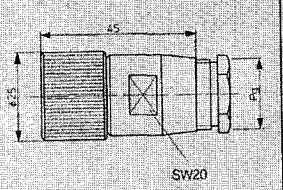
Type G 1
for panel mounting application
front single-hole assembly,
(wall thickness 2 mm max.)
in application with
the sealing ring
20.1060 AA
insert in coding position N
20.1061 AA
in coding position Y
20.1062 AA
in coding position X

Important Ordering Information:
Join part number of housing and contact insert with »+« sign; they are are delivered ready assembled
(e.g. 20.1040 AC + 40.150012).

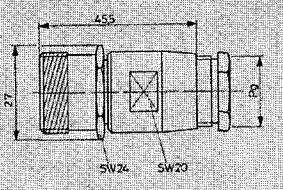
EPIC® Series R

SIZE 2.5
CABLE CONNECTOR

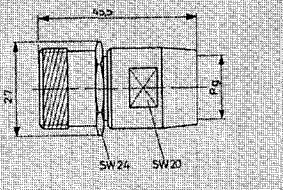
Type D
(Cable connector
with coupling nut)
with cable gland



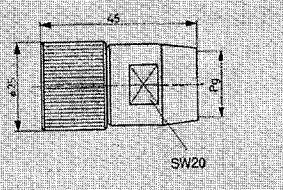
Type F
(Cable connector
with coupling screw thread)
with cable gland



Type F
(Cable connector
with coupling screw thread
and Pg-screw thread)
without cable gland



Type D
(Cable connector
with coupling nut
and Pg-screw thread)
without cable gland





Important Ordering Information:
Join part number of hood and contact insert with »+« sign; they are are delivered ready assembled
(e.g. 20.1040 AC + 40.150012).

Part No.	Pg Size	Con-nector in coding *position*	Units / Pack		Part No.	Pg Size	Con-nector in coding *position*	Units / Pack	
20.1040 AB	7	N	10	Type D with cable gland	20.1050 AB	7	N	10	Type F with cable gland
20.1041 AB	7	Y	10		20.1051 AB	7	Y	10	
20.1042 AB	7	X	10		20.1052 AB	7	X	10	
20.1040 AC	9	N	10		20.1050 AC	9	N	10	
20.1041 AC	9	Y	10		20.1051 AC	9	Y	10	
20.1042 AC	9	X	10		20.1052 AC	9	X	10	
20.1040 AD	11	N	10		20.1050 AD	11	N	10	
20.1041 AD	11	Y	10		20.1051 AD	11	Y	10	
20.1042 AD	11	X	10		20.1052 AD	11	X	10	
20.1040 AE	13.5	N	10		20.1050 AE	13.5	N	10	
20.1041 AE	13.5	Y	10		20.1051 AE	13.5	Y	10	
20.1042 AE	13.5	X	10		20.1052 AE	13.5	X	10	
20.1040 CA	7	N	10	Type D without cable gland	20.1050 CA	7	N	10	Type F without cable gland
20.1041 CA	7	Y	10		20.1051 CA	7	Y	10	
20.1042 CA	*7*	X	*10*		*20.1052 CA*	*7*	X	*10*	
20.1040 CB	9	N	10		20.1050 CB	9	N	10	
20.1041 CB	9	Y	10		20.1051 CB	9	Y	10	
20.1042 CB	9	X	10		20.1052 CB	9	X	10	
20.1040 CC	11	N	10		20.1050 CC	11	N	10	
20.1041 CC	11	Y	10		20.1051 CC	11	Y	10	
20.1042 CC	11	X	10		20.1052 CC	11	X	10	
20.1040 CD	13.5	N	10		20.1050 CD	13.5	N	10	
20.1041 CD	13.5	Y	10		20.1051 CD	13.5	Y	10	
20.1042 CD	13.5	X	10		20.1052 CD	13.5	X	10	

EPIC® Series R

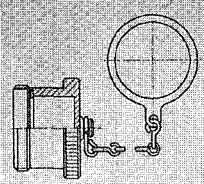
SIZE 2.5
ACCESSORIES

Part No.	Size	Type
50.101150	2,5	A
50.102150	2,5	B 1
50.103150	2,5	B 2
50.104151	2,5	D
50.105150	2,5	F
50.106150	2,5	G 1



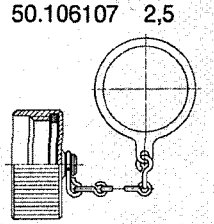
Metal screw cap

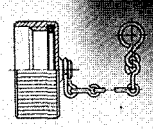
Part No.	Size	Type	Pg
50.104106	2,5	D	7
50.104105	2,5	D	9
50.104104	2,5	D	11
50.104103	2,5	D	13,5



Metal screw cap

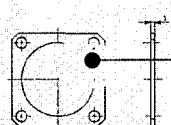
Part No.	Size	Type	Pg
50.105106	2,5	F	7
50.105105	2,5	F	9
50.105104	2,5	F	11
50.105103	2,5	F	13,5
50.106107	2,5	G 1	–





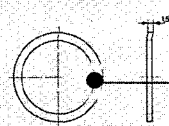
Metal screw cap

Part No.	Size	Type
50.101102	2,5	A
50.102102	2,5	B 1
50.103102	2,5	B 2



Flat gasket

Part No.	Size	Type
50.101200	2,5	A
50.102201	2,5	B 1
50.103201	2,5	B 2



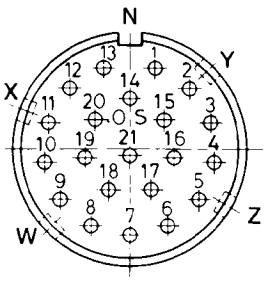
Sealing ring

Part No.	Size	Type
50.106202	2,5	G 1

Part No.	Package	Part No.	Package
50.101102	10	50.104105	10
50.101150	10	50.104106	10
50.101200	10	50.104151	10
50.102102	10	50.105103	10
50.102150	10	50.105104	10
50.102201	10	50.105105	10
50.103102	10	50.105106	10
50.103150	10	50.105150	10
50.103201	10	50.106107	10
50.104103	10	50.106150	10
50.104104	10	50.106202	10

SIZE 3.0
CONTACT INSERTS

No. of contacts: 21
Contact size: pin Ø 1 mm



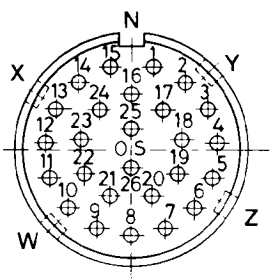
View of the connector side
Male contact insert

Working current	7,5 A
Rated voltage (VDE 0110)	
Insulation Group A	380 V ac
Insulation Group B	60 V ac
Insulation Group C	— V ac
Test voltage (VDE 0110)	
Contact/Contact	1.5 kV ac
Contact/Earth	2.0 kV ac
Insulating resistance	10^8 M Ohm

Plug Connector
Connection: Solder cup
40.200021
Contact Plating:
3–4 µm hard silver
40.200121
Contact Plating:
0.2 µm hard gold
40.200221
Contact Plating:
0.8 µm hard gold

Receptacle
Connection: Solder cup
40.250021
Contact Plating:
3–4 µm hard silver
40.250121
Contact Plating
0.2 µm hard gold
40.250221
Contact Plating:
0.8 µm hard gold

No. of contacts: 26
Contact size: pin Ø 1 mm

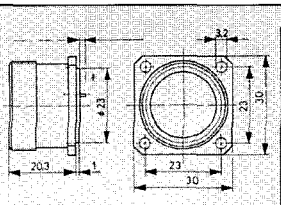


Working current	7,5 A
Rated voltage (VDE 0110)	
Insulation Group A	380 V ac
Insulation Group B	60 V ac
Insulation Group C	— V ac
Test voltage (VDE 0110)	
Contact/Contact	1.5 kV ac
Contact/Earth	2.0 kV ac
Insulating resistance	10^8 M Ohm

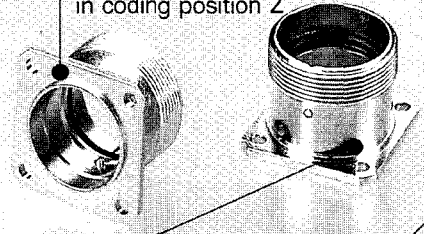
Plug Connector
Connection: Solder cup
40.200026
Contact Plating:
3–4 µm hard silver
40.200126
Contact Plating:
0.2 µm hard gold
40.200226
Contact Plating:
0.8 µm hard gold

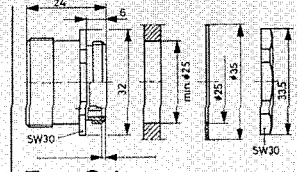
Receptacle
Connection: Solder cup
40.250026
Contact Plating:
3–4 µm hard silver
40.250126
Contact Plating
0.2 µm hard gold
40.250226
Contact Plating:
0.8 µm hard gold

SIZE 3.0
ROUND CONNECTOR – FOR FRONT AND BACK PANEL ASSEMBLY

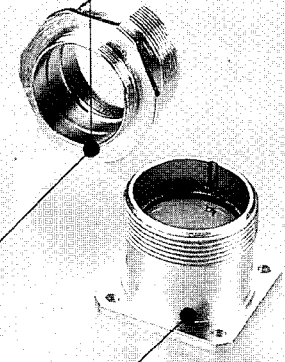


Type A
for panel mounting application
front assembly, 4 × through-hole
20.2010AA
for contact insert
in coding position N
20.2011AA
in coding position Y
20.2012AA
in coding position X
20.2013AA
in coding position W
20.2014AA
in coding position Z

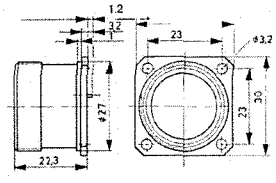




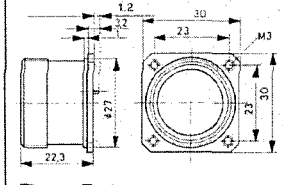
Type G 1
for panel mounting application
front single-hole assembly
(wall thickness 2 mm max.)
in application with
the sealing ring
20.2060AA
for contact insert
in coding position N
20.2061AA
in coding position Y
20.2062AA
in coding position X
20.2063AA
in coding position W
20.2064AA
in coding position Z



Thread M25 × 1.5



Type B 2
for panel mounting application
back wall assembly, 4 × through-hole
(wall thickness 4 mm max.)
20.2030AA
for contact insert
in coding positon N
20.2031AA
in coding position Y
20.2032AA
in coding position X
20.2033AA
in coding position W
20.2034AA
in coding position Z



Type B 1
for panel mounting application
back wall assembly, 4 × M3 thread
(wall thickness 4 mm max.)
20.2020AA
for contact insert
in coding position N
20.2021AA
in coding position Y
20.2022AA
in coding position X
20.2023AA
in coding position W
20.2024AA
in coding position Z

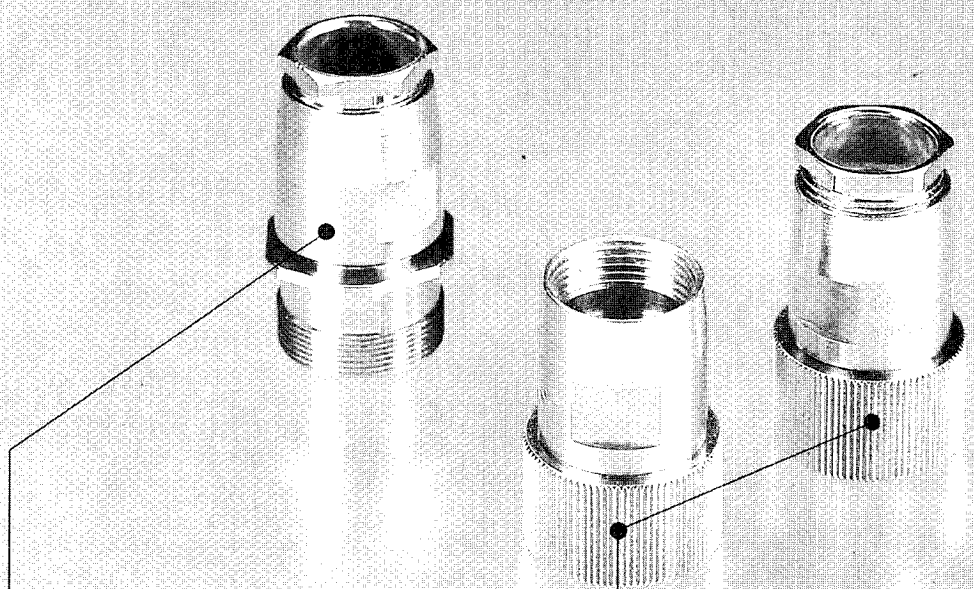
Important Ordering Information:
Join part number of housing and contact insert with »+« sign; they are are delivered ready assembled
(e.g. 20.2010 AA + 40.150012)

EPIC® Series R

SIZE 3.0
CABLE CONNECTOR

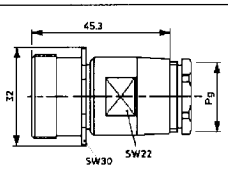
Important Ordering Information:

Join part number of hood and contact insert with a »+« sign, they are delivered ready assembled
(e.g. 20.2050AF+40.200021).

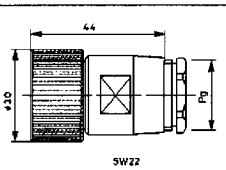


Type F
(cable connector with coupling thread)
with or **without Cable gland**

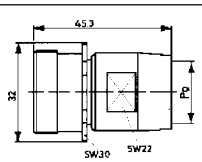
Type D
(cable connector with coupling nut)
with or **without Cable gland**



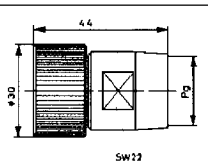
with cable gland



with cable gland



without cable gland



without cable gland

Part no.	Pg	Contact insert in coding position	Package	
20.2050 AF	16	N	10	Type D with cable gland
20.2051 AF	16	Y	10	
20.2052 AF	16	X	10	
20.2053 AF	16	W	10	
20.2054 AF	16	Z	10	
20.2050 CE	16	N	10	Type D without cable gland
20.2051 CE	16	Y	10	
20.2052 CE	16	X	10	
20.2053 CE	16	W	10	
20.2054 CE	16	Z	10	

Part no.	Pg	Contact insert in coding position	Package	
20.2040 AF	16	N	10	Type F with cable gland
20.2041 AF	16	Y	10	
20.2042 AF	16	X	10	
20.2043 AF	16	W	10	
20.2044 AF	16	Z	10	
20.2040 CE	16	N	10	Type F without cable gland
20.2041 CE	16	Y	10	
20.2042 CE	16	X	10	
20.2043 CE	16	W	10	
20.2044 CE	16	Z	10	