

# DEUTSCH DMC-M SERIES

SINGLE MODULE EN4165 CONNECTORS

Quick Change Modular Connector Solutions  
For Aircraft IFE & Cabin Systems

## The concept

Modular Design Options... The DMC-M modular rectangular connector was **designed and developed by DEUTSCH in the 1980s**. It has since set the modular connector standard in the Aerospace & Military industries, and is now standardized by European Specification **EN4165**.

### MODULARITY

The DMC-M connector is designed to address a wide range of requirements with its extended range of contact designs:

- Contacts size 24 to size 8
- Coaxial, Quadrax
- High speed Ethernet or optical contacts.

Each mated half of The DMC-M connector connector can contain both male and female configuration modules which allow you to mix input and output with signal and power supply.

- **Easy Modification:** Simply remove modules from the shells and replace them with a new layout.
- The DMC-M connector is perfect for new designs, custom and retrofit applications.

### EASY TO INSTALL

The DMC-M connector provides a large number of insert layout options.

- **Multiple Keying Possibilities** between plugs and receptacles.
- **Increase Mating Security...** Series II, DMC-M scoop proof Series III inserts and shells.
- **Real EMI protection** as per EN4165 standard.
- **Quick Install coupling.**

### RELIABILITY

- **Compliant with EN4165** specifications.
- Single Module DMC-M cabin interconnections meet demanding avionics specifications EN4165, in terms of **sealing, vibration, fire, smoke and toxicity compliance and mechanical endurance.**

### WEIGHT OPTIMIZATION

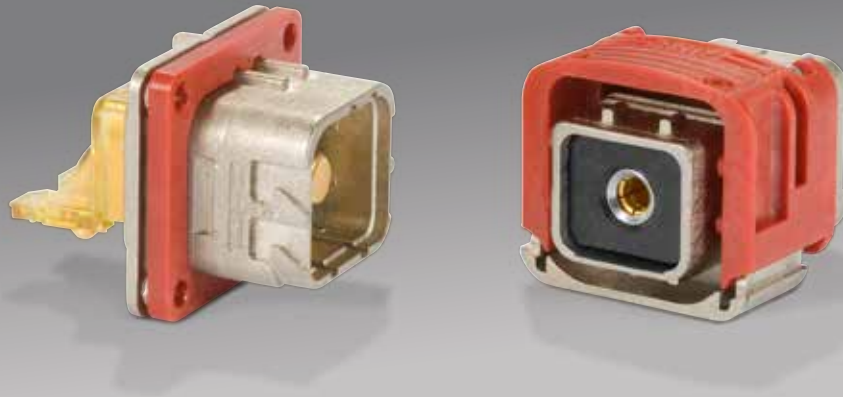
Single Module DMC-M connector has been designed in **composite material** with a metallized plating for weight and mass saving.

### TE Components . . . TE Technology . . . TE Know-how . . .

AMP | Agastat | CII | Hartman | Kilovac | Microdot | Nanonics | Raychem | Rochester | DEUTSCH

Get your product to market faster with a smarter, better solution.





## ARINC 809 - BACC65 - EN4165

The New Standard Connector for Aircraft Equipment and Cabin Systems. (4<sup>th</sup> GCN)

### WEIGHT SAVING... COMPOSITE... MODULAR...

Light weight composite, modularity, color and mechanical coded, push pull coupling are the key features of this connector. In addition the EN4165 range is **aluminium cable contact compliant**.

### STANDARD

ARINC 809, BACC65, EN4165 qualified

### MARKETS & APPLICATION

Cabin and avionic systems

### TECHNICAL CHARACTERISTICS

Housing	: Composite
Plating	: Nickel
Inserts	: Thermoplastic and FSR
Vibrations	: 20 g
Durability	: up to 500 mating cycles
Salt spray	: up to 500 hours
Contacts	: Copper alloy with gold on nickel plating
Interfacial sealing	: 1.1 x 10 <sup>-2</sup> bar

### ELECTRICAL CHARACTERISTICS

Temperature range	: -55°C to +175°C
Insulation resistance	: ≥ 5000 MΩ
Maximum current	: Size 22 : 5 A Size 20 : 7.5 A Size 16 : 13 A Size 12 : 23 A Size 8 : 46 A

### EMI SHIELDING PERFORMANCE

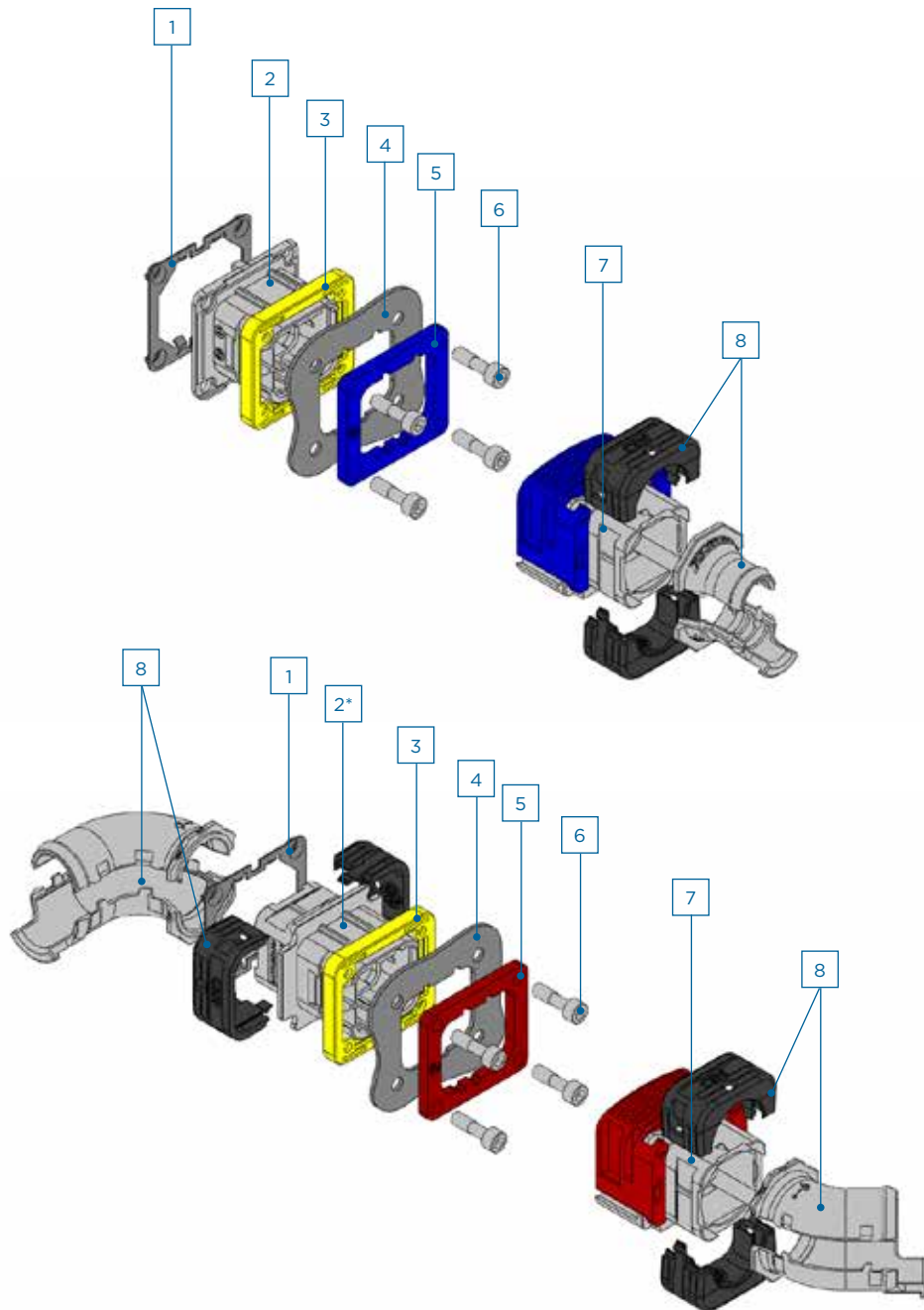
Frequency (MHz)	100	200	300	400	800	1000
Attenuation (dB)	50	45	45	40	35	30

### WEIGHT

Extender Receptacle	Short Receptacle	Plug	Backshell
7 gr	6 gr	9 gr	4 - 7 gr
0.015 lbs	0.013 lbs	0.020 lbs	0.009 - 0.015 lbs

### RECOMMENDED MOUNTING FOR RECEPTACLE SCREW TORQUE

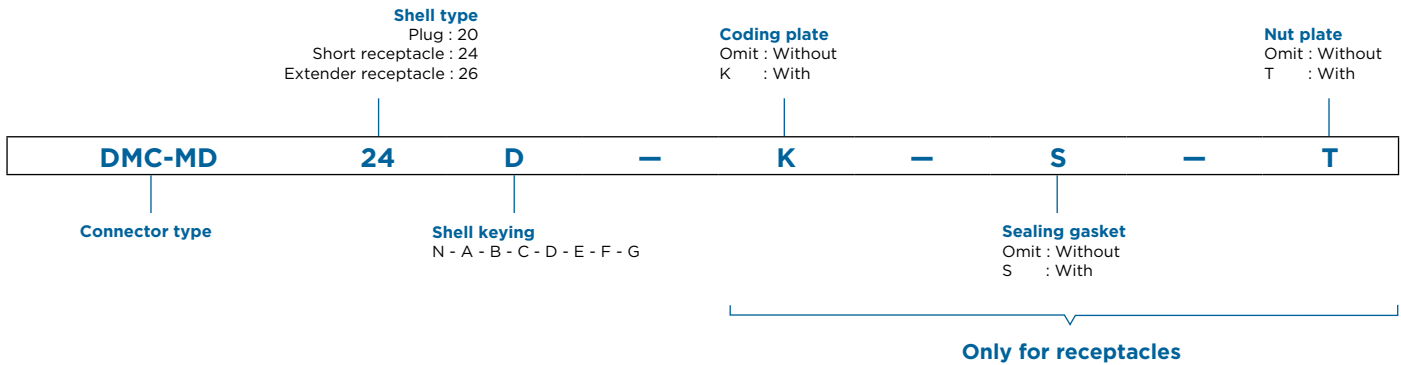
0.5 0.1 N.m or 4.4 0.9 in-lbf  
When using DEUTSCH integrated nut plate Réf. 787-0016-00 (see page 8).



- |                              |                                 |
|------------------------------|---------------------------------|
| 1 - Nut plate (option)       | 5 - Color coding plate (option) |
| 2 - Short receptacle         | 6 - Screws (ordered separately) |
| 2* - Extender receptacle     | 7 - Plug                        |
| 3 - Sealing gasket (option)  | 8 - Backshell                   |
| 4 - Panel (up to 2 mm thick) |                                 |

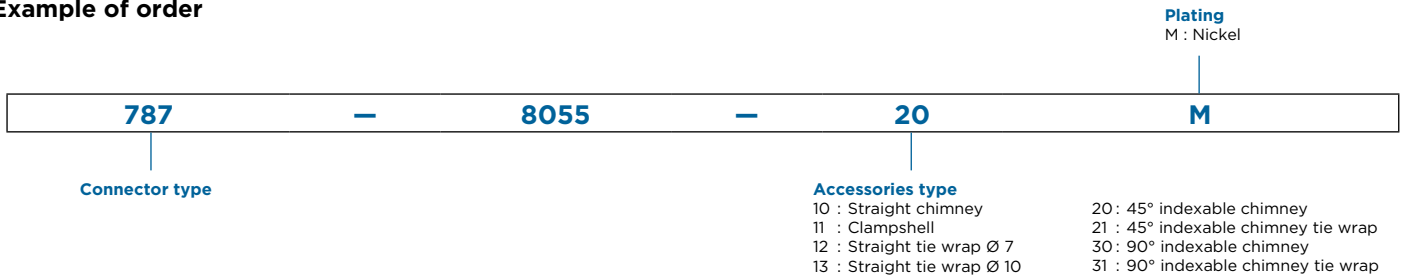
## DEUTSCH DESIGNATION SYSTEM FOR SHELLS

### Example of order



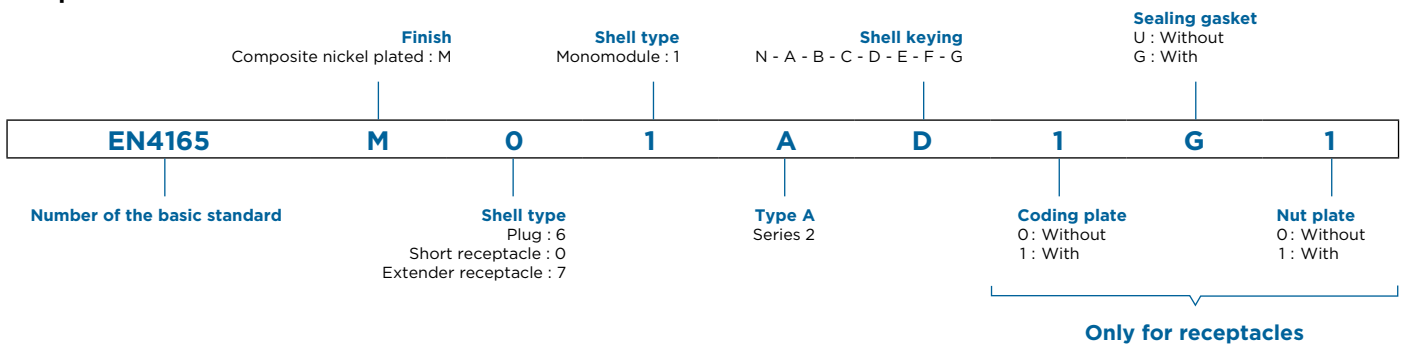
## DEUTSCH DESIGNATION SYSTEM FOR ACCESSORIES

### Example of order



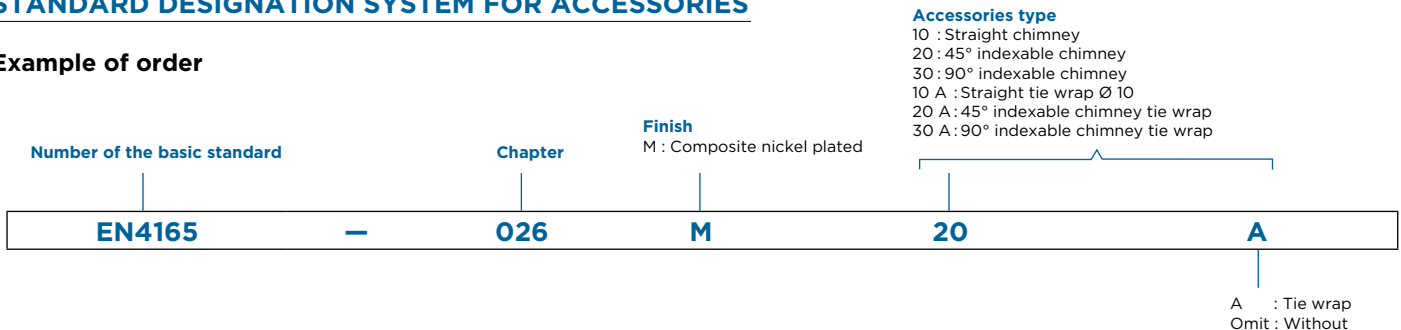
## STANDARD DESIGNATION SYSTEM FOR SHELLS

### Example of order



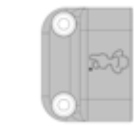
## STANDARD DESIGNATION SYSTEM FOR ACCESSORIES

### Example of order



**BACKSHELLS**

STRAIGHT CLAMPSHELL  
787-8055-11M  
Screws delivered



STRAIGHT CHIMNEY  
787-8055-10M  
EN4165-026M10



STRAIGHT CHIMNEY  
TIE WRAP Ø 7  
787-8055-12M



STRAIGHT CHIMNEY  
TIE WRAP Ø 10  
787-8055-13M  
EN4165-026M10A



45° INDEXABLE CHIMNEY  
787-8055-20M  
EN4165-026M20



45° INDEXABLE CHIMNEY  
TIE WRAP  
787-8055-21M  
EN4165-026M20A



90° INDEXABLE CHIMNEY  
787-8055-30M  
EN4165-026M30



90° INDEXABLE CHIMNEY  
TIE WRAP  
787-8055-31M  
EN4165-026M30A

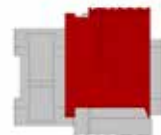


**PLUG**

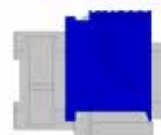
DMC-MD 20 N  
BACC65BUMN  
EN4165M61AN



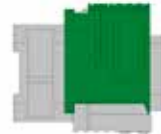
DMC-MD 20 A  
BACC65BUMA  
EN4165M61AA



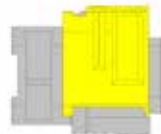
DMC-MD 20 B  
BACC65BUMB  
EN4165M61AB



DMC-MD 20 C  
BACC65BUMC  
EN4165M61AC



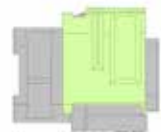
DMC-MD 20 D  
BACC65BUMD  
EN4165M61AD



DMC-MD 20 E  
EN4165M61AE



DMC-MD 20 F  
EN4165M61AF



DMC-MD 20 G  
EN4165M61AG

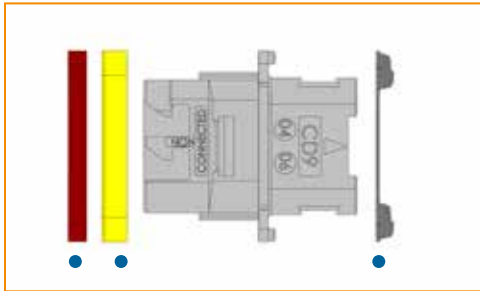


DEUTSCH Part numbers (DMC-M / 787)  
BOEING Part numbers (BACC)  
STANDARD Part numbers (EN4165)

**RECEPTACLES**

EXTENDER RECEPTACLE

DMC-MD 26 \*X  
 BACC65CAM\*X  
 EN4165M71A\*X



• : To be ordered separately  
 (no BACC65 references)

\*X



SHORT RECEPTACLE

DMC-MD 24 \*X  
 BACC65BVM\*X  
 EN4165M01A\*X



• : To be ordered separately  
 (no BACC65 references)

**NO ACCESSORY CAN BE FIXED  
 ON THIS RECEPTACLE**

**BACKSHELLS**

STRAIGHT CLAMPSHELL  
 787-8055-11M  
 Screws delivered



STRAIGHT CHIMNEY  
 787-8055-10M  
 EN4165-026M10



STRAIGHT CHIMNEY  
 TIE WRAP Ø 7  
 787-8055-12M



STRAIGHT CHIMNEY  
 TIE WRAP Ø 10  
 787-8055-13M  
 EN4165-026M10A



45° INDEXABLE CHIMNEY  
 787-8055-20M  
 EN4165M20



45° INDEXABLE CHIMNEY  
 TIE WRAP  
 787-8055-21M  
 EN4165-026M20A



90° INDEXABLE CHIMNEY  
 787-8055-30M  
 EN4165M30



90° INDEXABLE CHIMNEY  
 TIE WRAP  
 787-8055-31M  
 EN4165-026M30A



DEUTSCH Part numbers (DMC-M / 787)  
 BOEING Part numbers (BACC)  
 STANDARD Part numbers (EN4165)



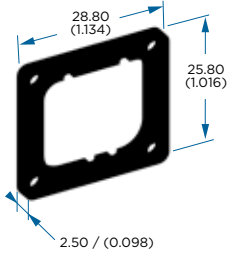
## HIGH SPEED CHIMNEY

HIGH SPEED CHIMNEY  
FOR PART NUMBERING,  
PLEASE CONSULT US

Note : These backshells have been developed by DEUTSCH especially for high speed wire management. Backshells have been developed by DEUTSCH for high speed insert layouts 99-02, 99-03, 99-04.

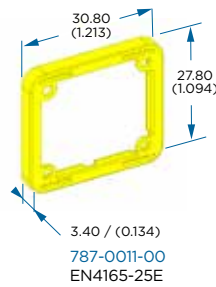
## OPTIONAL PARTS FOR RECEPTACLE

- Keying plate

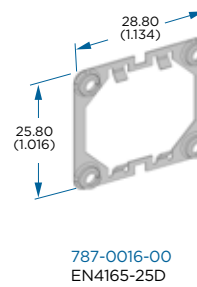


N : 787-0015-00 EN4165-25CN  
A : 787-0015-01 EN4165-25CA  
B : 787-0015-02 EN4165-25CB  
C : 787-0015-03 EN4165-25CC  
D : 787-0015-04 EN4165-25CD  
E : 787-0015-05 EN4165-25CE  
F : 787-0015-06 EN4165-25CF  
G : 787-0015-07 EN4165-25CG

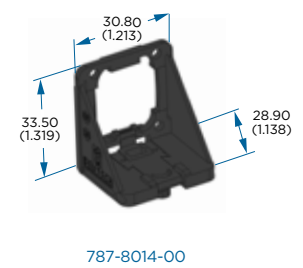
- Sealing gasket



- Nut plate



- Panel mounting bracket



## PROTECTIVE CAPS

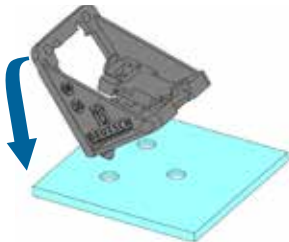


PROTECTION LEVEL	PLUG CAP 104-0236-00	RECEPTACLE CAP 104-0235-00	RECEPTACLE AND EXTENDER CAP WITH LANYARD 787-8011-00 WITHOUT LANYARD 787-8009-00	PLUG FLIGHT CAP 787-8010-00	RECEPTACLE AND EXTENDER FLIGHT CAP WITH LANYARD 787-8017-00 EN4165M3C WITHOUT LANYARD 787-8016-00
Shipping	X	X	-	-	-
Dust	X	X	X	X	X
EMI	-	-	X	X	X
Low pressure sealing	-	-	-	X	X

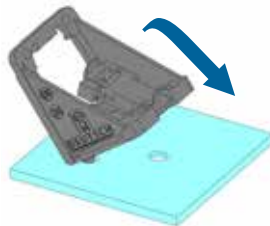
LANYARD  
787-8013-00

## MOUNTING BRACKETS

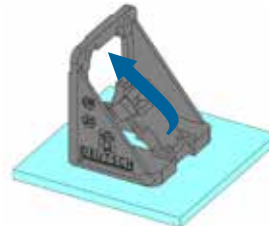
- Locate mating parts



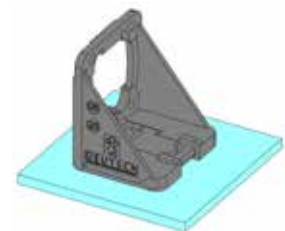
- Install rear dowels



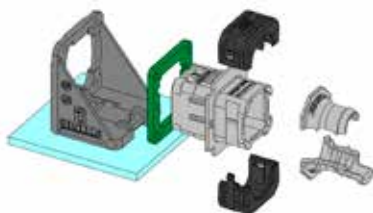
- Fix and snap in position



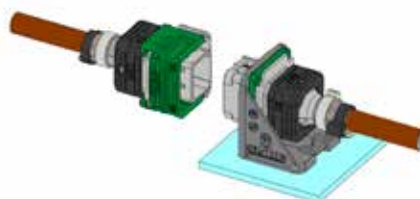
- Installed



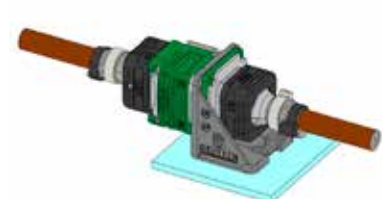
- Align receptacle with bracket



- Install and fix in position





















- Assembled





**PIN CONTACTS AS 39029/58 AND EN3155**

Modules	Details	PART NUMBER CROSS
	20 contacts size 22	DMC-M 20-22 AN BAC10BC2022PNB EN4165A20-221NA
	20 contacts size 22	DMC-MA 20-22 AN EN4165A20A221NA
	12 contacts size 20	DMC-M 12-20 AN BAC10BC1220PNB EN4165A12-201NA
	8 contacts size 16	DMC-M 08-16 AN BAC10BC0816PNB EN4165A08-161NA
	4 contacts size 12	DMC-M 04-12 AN EN4165A04-121NA
	1 contacts size 8	DMC-M 01-08 AN EN4165A01-081NA
	6 contacts size 16 + 2 contacts size 22 + 8 contacts size 24	DMC-M 16-02 AN 2226454-1
	6 contacts size 16 + 5 contacts size 22	DMC-M 99-01 AN BAC10BC1622PNB EN4165A99-011NA
	6 contacts size 16 + 5 contacts size 22	DMC-MA 99-01 AN EN4165A99A011NA
	8 contacts size 22 + 3 contacts size 20	DMC-M 99-02 AN
	8 contacts size 20 + 8 contacts size 24	DMC-M 99-03 AN
	6 contacts size 20 + 2 contacts size 22 + 8 contacts size 24	DMC-M 99-04 AN
	8 contacts size 22 + 2 contacts size 12	DMC-M 99-06 AN BAC10BC1001PNB
	8 contacts size 20 + 2 contacts size 16	DMC-M 99-10 AN EN4165A99-101NA
	6 optical contacts	DMC-M MC5 AN
	2 optical contacts + 5 contacts size 16 + 2 contacts size 22	DMC-M T47 AN
	12 or 24 optical contacts for round or ribbon cable	Hermaphrodite DMC-M MC6
	Blanking module	DMC-M 00-00 PN EN4165-1N

**SOCKET CONTACTS AS 39029/57 AND EN3155**

Modules	Details	PART NUMBER CROSS
	20 contacts size 22	DMC-M 20-22 BN BAC10BC2022SNB EN4165 20-22 A1NB
	20 contacts size 22	DMC-MA 20-22 BN EN4165A20A221NB
	12 contacts size 20	DMC-M 12-20 BN BAC10BC1220SNB EN4165A12-201NB
	8 contacts size 16	DMC-M 08-16 BN BAC10BC0816SNB EN4165A08-161NB
	4 contacts size 12	DMC-M 04-12 BN EN4165A04-121NB
	1 contacts size 8	DMC-M 01-08 BN EN4165A01-081NB
	6 contacts size 16 + 2 contacts size 22 + 8 contacts size 24	DMC-M 16-02 BN 2226455-1
	6 contacts size 16 + 5 contacts size 22	DMC-M 99-01 BN BAC10BC1622SNB EN4165A99-011NB
	6 contacts size 16 + 5 contacts size 22	DMC-MA 99-01 BN EN4165A99A011NB
	8 contacts size 22 + 3 contacts size 20	DMC-M 99-02 BN
	8 contacts size 20 + 8 contacts size 24	DMC-M 99-03 BN
	6 contacts size 20 + 2 contacts size 22 + 8 contacts size 24	DMC-M 99-04 BN
	8 contacts size 22 + 2 contacts size 12	DMC-M 99-06 BN BAC10BC1001SNB
	8 contacts size 20 + 2 contacts size 16	DMC-M 99-10 BN EN4165A99-101NB
	6 optical contacts	DMC-M MC5 BN
	2 optical contacts + 5 contacts size 16 + 2 contacts size 22	DMC-M T47 BN
	20 contacts size 22 5 shunts 4 ways	DMC-M 22-05 BN EN4165A20Y221NB
	20 contacts size 22 3 shunts 4 ways 4 shunts 2 ways	DMC-M 22-07 BN EN4165A2AY221NB
	20 contacts size 22 10 shunts 2 ways	DMC-M 22-10 BN EN4165A2BY221NB

Note : DMC-M connector's modules are compatible with Aluminium Cable contacts and with EN3155-70 / 71 size 22.

Distribution shunt modules use dedicated contacts based on standard M39029.

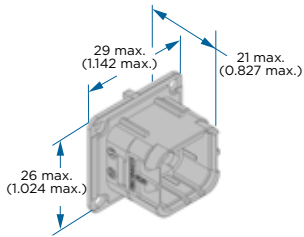
DMC-M connector 99-02, 99-03, 99-04, 16-02 are specific modules for high speed Ethernet application.

Aluminium cable technology
Distribution shunt modules
High Speed modules

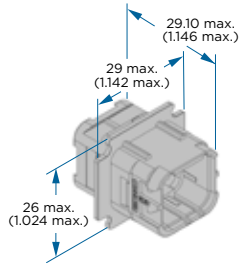
DEUTSCH Part numbers (DMC-M / 787)  
BOEING Part numbers (BAC10BC)  
STANDARD Part numbers (EN4165)

## RECEPTACLES & PLUG

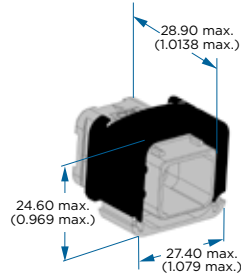
- Receptacle



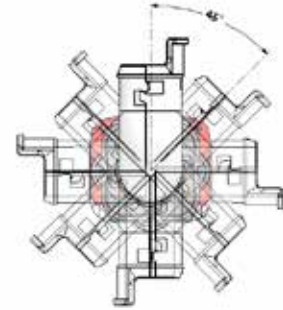
- Extender receptacle



- Plug



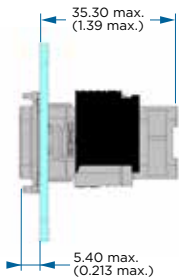
## BACKSHELL / CHIMNEY INDEXATION



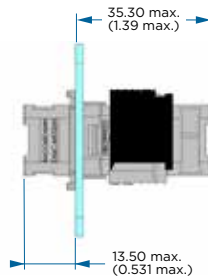
All backshells can be indexed in eight positions on the rear of plug and extender receptacle shell. This gives maximum flexibility during design and cable installation and reduces the number of variants and components.

## MOUNTING PANEL DETAILS

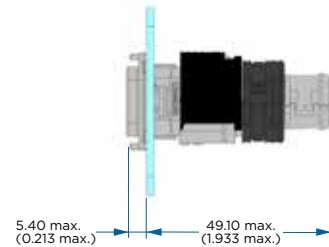
- Box mounting receptacle



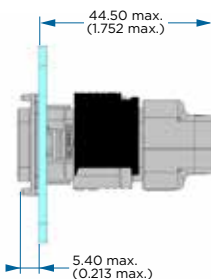
- Extender receptacle



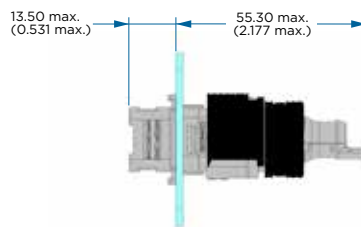
- Straight chimney



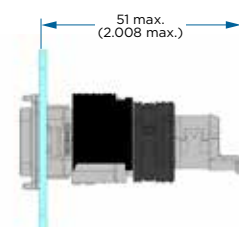
- Straight clampshell



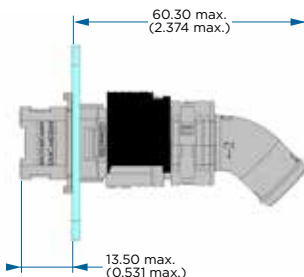
- Straight chimney tie wrap



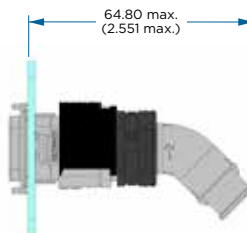
- Universal unshielded accessory



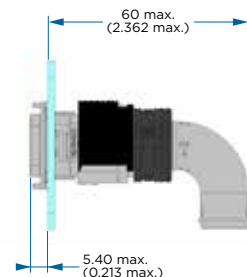
- 45° indexable chimney



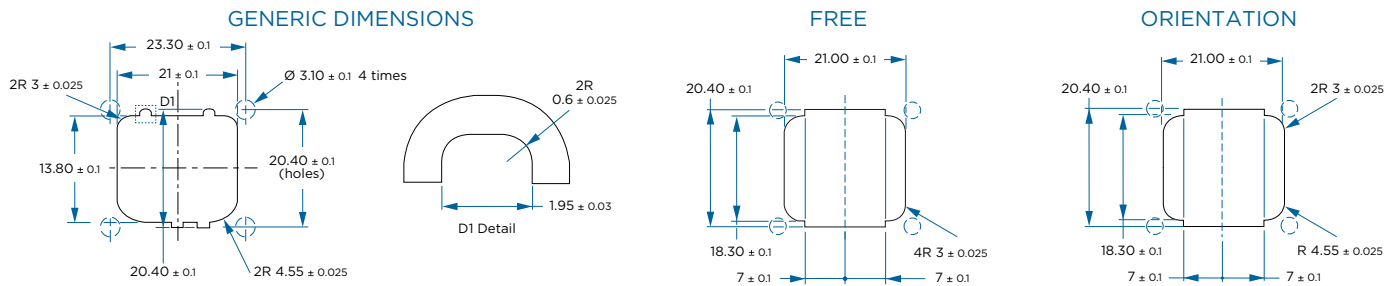
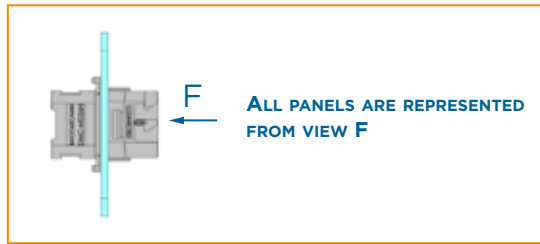
- 45° indexable chimney tie wrap



- 90° indexable chimney

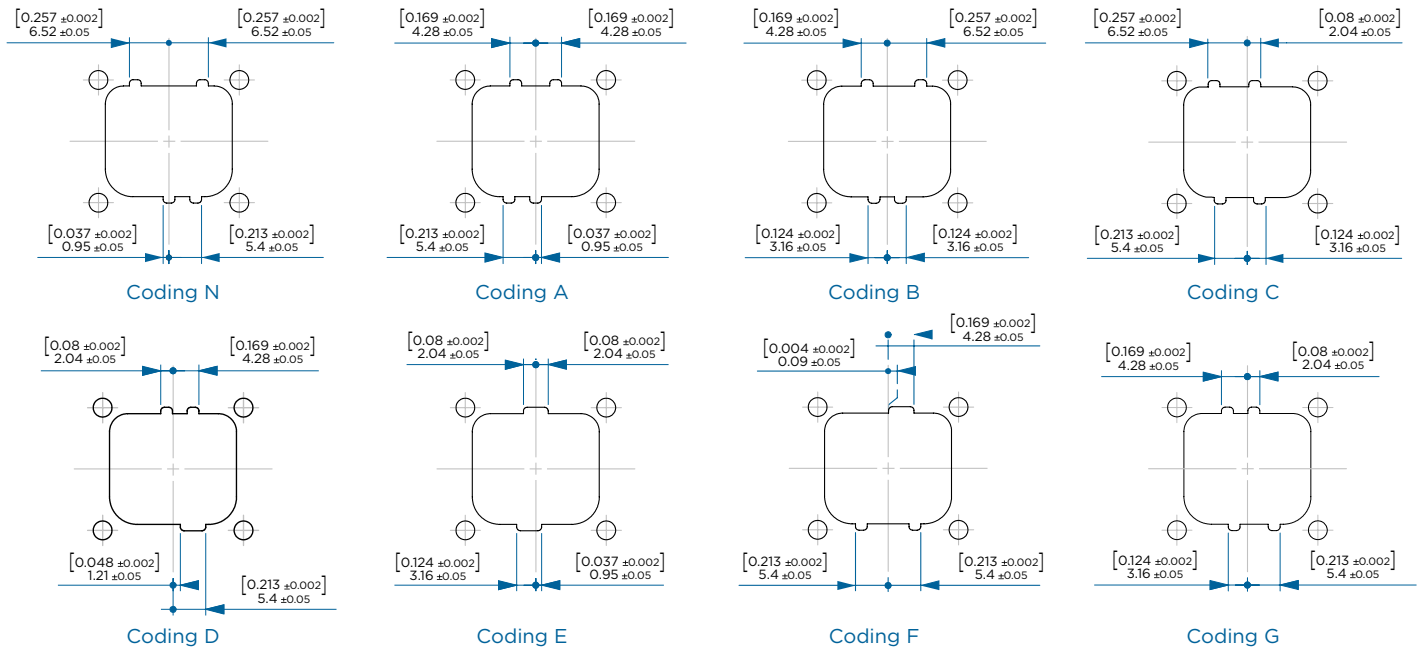


# Panel mounting cutout details

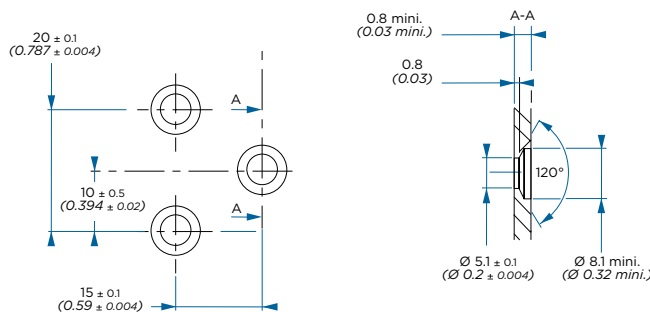


Note : Dimensions are in millimeters. Each hole  $\varnothing$  3.1 mm must receive a screw (screw type 4-40)  
 Recommended thickness panel : 0.8 mm mini - 2 mm max.

## PANEL CODING KEYING



## PANEL MOUNTING BRACKET CUTOUT DETAILS



Overall dimensions and characteristics are given for indication guidance only. TE Connectivity reserves the right to modify them for production improvement reasons.

## For More Information

### TE Technical Support Center

North America	+1 800 522 6752
Asia/Pacific	+86 0 400 820 6015
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Benelux	+31 73 6246 999
Czech Republic	+420 800 701 462
France	+33 1 34 20 86 86
Germany	+49 6251 133 1999
Hungary	+36 809 874 04
Italy	+39 011 401 2632
Nordic	+46 8 5072 5000
Poland	+48 800 702 309
Russia	+7495 790 790 2
Spain/Portugal	+34 93 2910366
Switzerland	+41 52 633 66 26
United Kingdom	+44 800 267 666

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Consult TE for the latest dimensions and design specifications.