

Amphenol

Amphenol-Tuchel Electronics GmbH

eco|mate^m

Circular Connectors



easier and quicker to assemble

|mate by Amphenol



Product Description

In design and conception the eco|mate^m program meets the high requirements for applications in industrial technology. Easy operation, reduced dimensions and a more robust design are only a few of the features of the series.

The connector's main area of application is in the fields of plant construction and machine building. The connector is used for measuring and controlling applications as well as for power supply technology. The series is comprised of a large selection of housings and shapes and offers models with screw, solder and crimp termination.

Features:

- Circular Connectors with 3+PE and 6+PE contacts
- Housing components made from premium molding material
- Cable housing straight or angled
- Protection class IP 65/67 in mated condition in accordance with DIN EN 60526
- Clamping ring or internal strain relief

Advantages:

- Quick and easy assembly
- Screwed cable gland with clamping ring
- Strain relief and mounted gasket all in one component
- Cable housing, straight or angled, for the cable diameter 6 - 12,5 mm
- Robust thread for the screwed cable gland
- Ergonomically designed product range for safe handling
- Pre-loaded ground contact
- Fastening for the protective caps on the housing of the receptacles
- The eco|mate^m program is compatible with the C16-1 series

Additional standards:

- The 6+PE model corresponds to DIN 9684-1 interface to the signal transmission on inside cabin applications for agricultural machines and tractors

Testhouse

VDE



SEV


UL ¹⁾


CSA



Characteristics

3+PE, 400 V, 16 A
6+PE, 250 V, 10 A (solder version)
6+PE, 250 V, 13 A (crimp version)

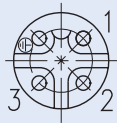
3+PE, 400 V, 16 A
6+PE, 250 V, 10 A (solder version)
6+PE, 250 V, 13 A (crimp version)

3+PE, 400V, 16A
6+PE, 250V, 13A

3+PE, 250 V, 12 A
6+PE, 250 V, 8 A

In general approvals refer to versions of the connector series. Test report upon request.

¹⁾ Please refer to „Conditions of Acceptability“

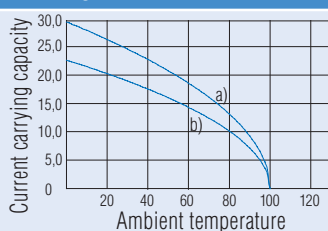
General Characteristics	Standard	Characteristics		
Number of contacts		3 + PE	6 + PE	
View on male mating side				
Electrical Characteristics		screw type	solder type	crimp type
Rated voltage	DIN EN 60664-1 ¹⁾	400 V	250 V	250 V
Rated impulse withstand voltage	DIN EN 60664-1 ¹⁾	6000 V	4000 V	
Pollution degree	DIN EN 60664-1 ¹⁾	3	3	
Installation (overvoltage) category	DIN EN 60664-1 ¹⁾	III	III	
Material group	DIN EN 60664-1 ¹⁾	II	II	
Current carrying capacity	DIN EN 60512-5-2, Test 5b	16 A / + 55 °C	12 A / + 55 °C	13 A / + 55 °C
Insulation resistance	DIN EN 60512-3-1, Test 3a	≥ 10 ⁸ Ω	≥ 10 ⁸ Ω	
Contact resistance	DIN EN 60512, Test 2a	≤ 5 m Ω	≤ 5 m Ω	
Climatic Characteristics				
Climatic category	DIN EN 60068-1	40 / 100 / 56	40 / 125 / 56	
Operating temperature		-40°C ... +100°C	-40°C ... +125°C	
Mechanical Characteristics				
Degree of protection	DIN EN 60529	IP 65 / IP 67		
Insertion and withdrawal force	DIN EN 60512-13-2, Test 13b	≤ 15 N	≤ 30 N	
Mechanical operation	DIN EN 60512, Test 9a	≥ 500 mating cycles		
Materials				
Housing material		PA 6.6 / PA 6		
Dielectric material		PA 6.6 / PA 6		
Gasket material		Neopren		
Material lace for protective cap		TPE		
Contact plating		silver plated / gold plated		
Other Characteristics				
Termination technique		screw	solder	crimp
Wire gauge / AWG		0,75 - 2,5 mm ² AWG 18-14	max. 0,75 mm ² AWG 18	0,14 - 1,5 mm ² AWG 26 - 16
Flammability	UL 94	V0		
Locking system		round thread		

¹⁾ DIN EN 60664-1 ≙ VDE 0110-1 ≙ IEC 60664-1



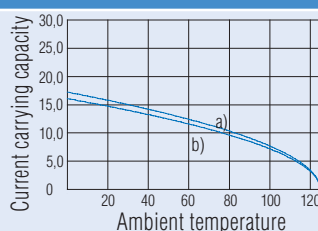
The stated technical values refer to the use as connector without breaking capacity (COC). If these components are used as plug and socket device a reduced current carrying capacity has to be considered. The characteristics have to be requested from the manufacturer.

Derating Curves



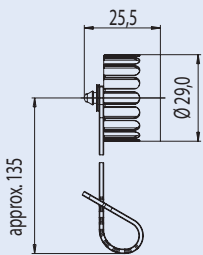
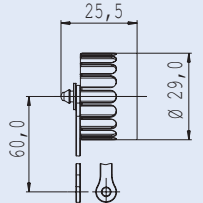
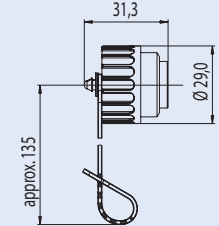
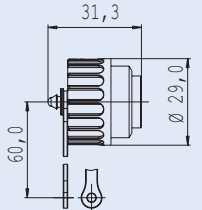
No. of contacts 3 + PE

all contacts under load
a) wire gauge 2,5 mm²
b) wire gauge 1,5 mm²



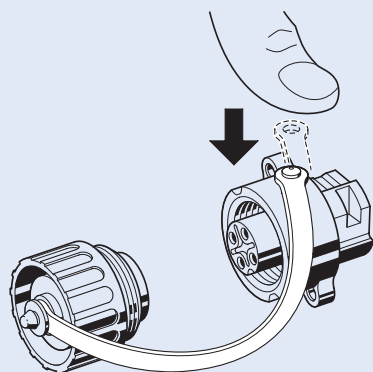
No. of contacts 6 + PE

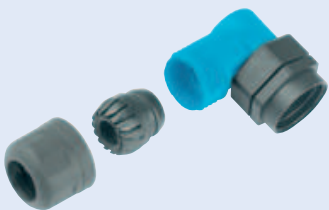
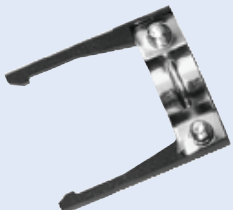
all contacts under load
a) wire gauge 1,5 mm²,
stamped crimp contacts
b) wire gauge 0,75 mm²,
stamped solder contacts

Description	Figure	Part number	Figure	Part number
Protective cover for male cable connector and male receptacle		for male cable connector C016 00U000 010 12		for male receptacle C016 00U000 000 12
Protective cover for female cable connector and female receptacle		for female cable connector C016 00V000 010 12		for female receptacle C016 00V000 000 12

Protective caps for 600V version upon request

Mounting of the protective covers on the back shell, male or female receptacles



Description	Figure	Part number
Back shell, right angled with clamping ring Packaging unit 10 pcs.		Back shell color: blue: C016 G09 042 G10 X ¹⁾ black: C016 G09 041 G10 X ¹⁾
Cable clamp for all straight cable connectors, Packaging units 10 pcs.		Cable clamp diameter Ø 6 - 10 mm N 16 110 2000 X ¹⁾

¹⁾ X is synonymous for packaging unit 10 pcs.

Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page
C016 00U000 000 12	11	C016 20F003 100 12	7	C016 30H006 100 10	6	TN 01 016 0011 (1)	10
C016 00U000 010 12	11	C016 20F003 200 10	7	C016 30H006 100 12	6	TN 01 016 0011 (2)	10
C016 00V000 000 12	11	C016 20F003 200 12	7	C016 30H006 110 10	6	TN 02 016 0002 (1)	10
C016 00V000 010 12	11	C016 20G003 100 12	6	C016 30H006 110 12	6	TN 02 016 0002 (2)	10
C016 10C006 000 12	7	C016 20G003 200 12	6	C016 30H006 200 10	6	TN 02 016 0003 (1)	10
C016 10D003 806 12	9	C016 20H003 100 10	6	C016 30H006 200 12	6	TN 02 016 0003 (2)	10
C016 10D006 000 10	7	C016 20H003 100 12	6	C016 30H006 210 10	6	VN 01 016 0002 (1)	10
C016 10D006 000 12	7	C016 20H003 110 10	6	C016 30H006 210 12	6	VN 01 016 0002 (2)	10
C016 10D006 010 10	7	C016 20H003 110 12	6	C016 30K006 100 10	6	VN 01 016 0003 (1)	10
C016 10D006 010 12	7	C016 20H003 200 10	6	C016 30K006 100 12	6	VN 01 016 0003 (2)	10
C016 10D006 806 12	9	C016 20H003 200 12	6	C016 30K006 200 10	6	VN 01 016 0004 (1)	10
C016 10F006 000 10	7	C016 20H003 210 10	6	C016 30K006 200 12	6	VN 01 016 0004 (2)	10
C016 10F006 000 12	7	C016 20H003 210 12	6	C016 G09 041 G10 X	11	VN 01 016 0011 (1)	10
C016 10G006 000 12	6	C016 20K003 100 10	6	C016 G09 042 G10 X	11	VN 01 016 0011 (2)	10
C016 10H006 000 10	6	C016 20K003 100 12	6	HHN 01 016 0002 (1)	10	VN 02 016 0002 (1)	10
C016 10H006 000 12	6	C016 20K003 200 10	6	HN 01 016 0002 (2)	10	VN 02 016 0002 (2)	10
C016 10H006 010 10	6	C016 20K003 200 12	6	HN 01 016 0003 (1)	10	VN 02 016 0003 (1)	10
C016 10H006 010 12	6	C016 30C006 100 12	7	HN 01 016 0003 (2)	10	VN 02 016 0003 (2)	10
C016 10K006 000 10	6	C016 30C006 200 12	7	HN 01 016 0004 (1)	10	ZN 01 016 0002 (1)	10
C016 10K006 000 12	6	C016 30D006 100 10	7	HN 01 016 0004 (2)	10	ZN 01 016 0002 (2)	10
C016 10P003 806 12	9	C016 30D006 100 12	7	HN 01 016 0011 (1)	10	ZN 01 016 0003 (1)	10
C016 10P006 806 12	9	C016 30D006 110 10	7	HN 01 016 0011 (2)	10	ZN 01 016 0003 (2)	10
C016 20C003 100 12	7	C016 30D006 110 12	7	HN 02 016 0002 (1)	10	ZN 01 016 0004 (1)	10
C016 20C003 200 12	7	C016 30D006 200 10	7	HN 02 016 0002 (2)	10	ZN 01 016 0004 (2)	10
C016 20D003 100 10	7	C016 30D006 200 12	7	HN 02 016 0003 (1)	10	ZN 01 016 0011 (1)	10
C016 20D003 100 12	7	C016 30D006 210 10	7	HN 02 016 0003 (2)	10	ZN 01 016 0011 (2)	10
C016 20D003 110 10	7	C016 30D006 210 12	7	N 16 110 2000 X	11	ZN 02 016 0002 (1)	10
C016 20D003 110 12	7	C016 30F006 100 10	7	TN 01 016 0002 (1)	10	ZN 02 016 0002 (2)	10
C016 20D003 200 10	7	C016 30F006 100 12	7	TN 01 016 0002 (2)	10	ZN 02 016 0003 (1)	10
C016 20D003 200 12	7	C016 30F006 200 10	7	TN 01 016 0003 (1)	10	ZN 02 016 0003 (2)	10
C016 20D003 210 10	7	C016 30F006 200 12	7	TN 01 016 0003 (2)	10		
C016 20D003 210 12	7	C016 30G006 100 12	6	TN 01 016 0004 (1)	10		
C016 20F003 100 10	7	C016 30G006 200 12	6	TN 01 016 0004 (2)	10		