



**Product Description**

In design and conception the eco|mate<sup>m</sup> program meets the high requirements for applications in industrial technology. Easy operation, reduced dimensions and a more robust design to withstand harsh conditions 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 principally used for measuring and controlling applications such as the control technology for motive engineering, but may also be used for medical. The series is comprised of a large selection of housings and shapes, as well as 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
- Vibration safe connection through stable and non-sensitive screw locking
- 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, even under harsh working conditions
- Pre-loaded ground contact
- Fastening for the protective caps on the housing of the receptacles
- The eco|mate<sup>m</sup> program is compatible and interchangeable with the C16-1 series

**Additional standards:**

- The 6+PE model corresponds to DIN 9684-1 interface to the signal transmission on agricultural machines and tractors
- Housing material is in accordance with DIN 5510, Part 2 the required behavior in the fire

Testhouse		Characteristics	Approval Number
VDE		3+PE, 400 V, 16 A 6+PE, 250 V, 10 A	1781 1780
SEV		3+PE, 400 V, 16 A 6+PE, 250 V, 6 A	00.0394
UL		3+PE, 250 V, 12 A 6+PE, 250 V, 8 A	E 63093
CSA		3+PE, 250 V, 12 A 6+PE, 250 V, 8 A (Solder version) 6+PE, 250 V, 15 A (Crimp version)	48932
German LLyod		3+PE, 250 V, 16 A 6+PE, 50 V, 8 A	14108 / 84

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

General Characteristics	Standard	Characteristics		
Number of contacts		3 + PE	6 + PE	
				
<b>Electrical Characteristics</b>		screw type	solder type	crimp type
Rated insulation voltage	DIN EN 60664-1 <sup>1)</sup>	400 V	250 V	250 V
Rated impulse withstand voltage	DIN EN 60664-1 <sup>1)</sup>	6000 V	4000 V	
Pollution degree	DIN EN 60664-1 <sup>1)</sup>	3	3	
Installation (overvoltage) category	DIN EN 60664-1 <sup>1)</sup>	III	III	
Material group	DIN EN 60664-1 <sup>1)</sup>	II	II	
Current carrying capacity	DIN EN 60512-5-2, Test 5b	16 A / + 55 °C	10 A / + 55 °C	13 A / + 55 °C
Insulation resistance	DIN EN 60512-3-1, Test 3a	≥ 10 <sup>8</sup> Ω	≥ 10 <sup>8</sup> Ω	
Contact resistance	DIN EN 60512-2-1, Test 2a	≤ 5 m Ω	≤ 5 m Ω	
<b>Climatic Characteristics</b>				
Climatic category	DIN EN 60068-1	40 / 100 / 56	40 / 125 / 56	
Operating temperature		-40°C ... +100°C	-40°C ... +125°C	
<b>Mechanical Characteristics</b>				
IP-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 60512-9-1, Test 9a	≥ 500 mating cycles		
<b>Materials</b>				
Housing material		PA 6.6 / PA 6		
Dielectric material		PA 6.6 / PA 6		
Gasket material		Neoprene		
Contact plating		silver plated / gold plated		
<b>Other Characteristics</b>				
Termination technique		screw	solder	crimp
Wire gauge / AWG		max. 2,5 mm <sup>2</sup> AWG 14	0,75 mm <sup>2</sup> AWG 20	0,14 - 1,5 mm <sup>2</sup> AWG 26-16
Flammability	UL 94	VO		
Locking system		round thread		
UL	UL 1977	Conditions of acceptability		

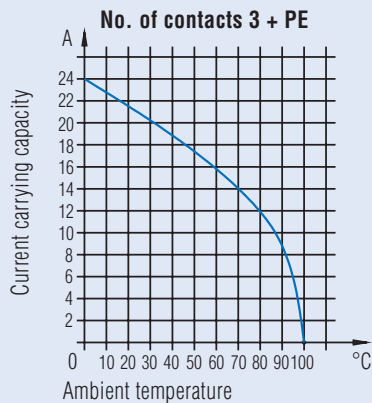
<sup>1)</sup> DIN EN 60664-1 ≙ VDE 0110-1 ≙ IEC 60664-1



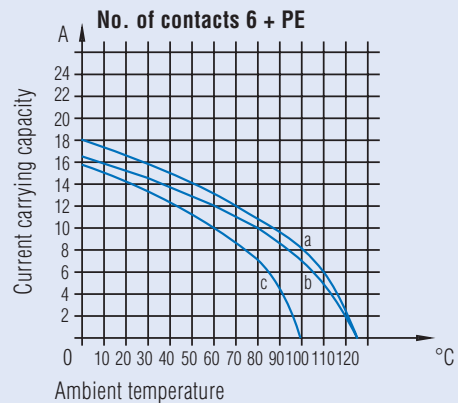
The stated technical values refer to the use as connector.

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



all contacts under load  
wire gauge 2,5 mm<sup>2</sup>, 14 AWG



all contacts under load  
a) wire gauge 1,5 mm<sup>2</sup>, 16 AWG, stamped crimp contacts  
b) wire gauge 0,75 mm<sup>2</sup>, 20 AWG, stamped solder contacts  
c) wire gauge 0,75 mm<sup>2</sup>, turned solder contacts

Order Information

**Contact plating**

The standard plating is silver. Gold plated contacts are available upon request. Min order quantity = 100 pcs. per type.

**Color coding**

Upon request the coupling ring of the plugs and the housings of the receptacles can be delivered in the colors red, green, blue, yellow and grey. Min order quantity = 250 pcs. per type.

**Mechanical coding**

Achieved with special coding pins which are inserted into contact cavities. Min. order quantity = 250 pcs. per type.

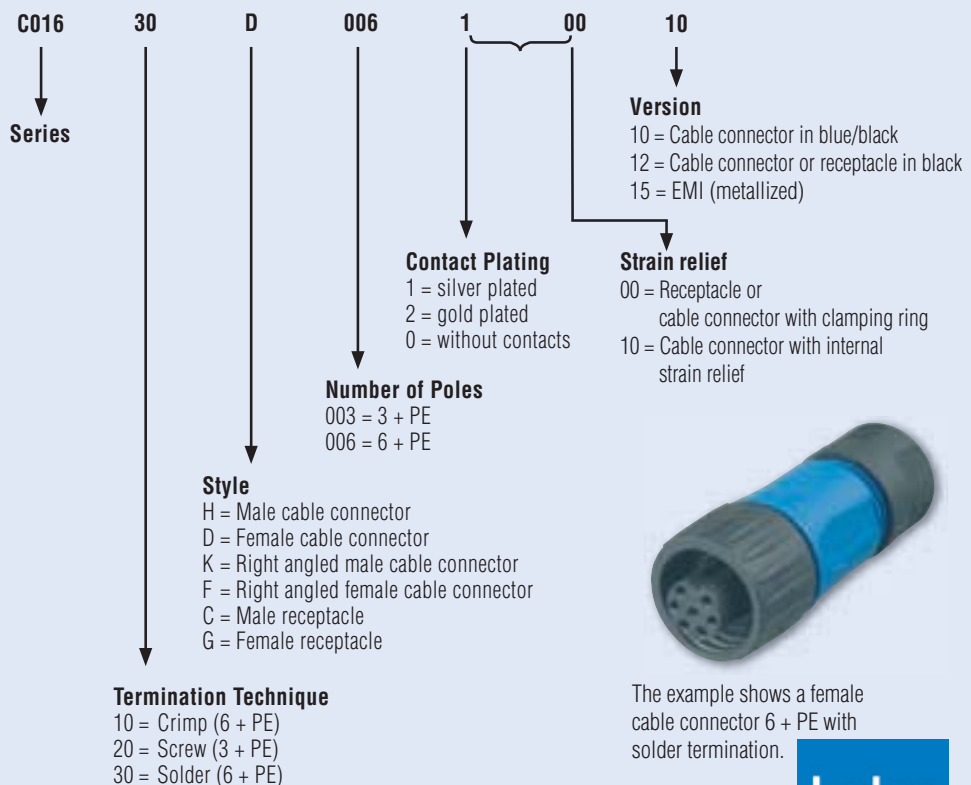
**Crimp version**

Order number do not include crimp contacts. Please order separately (see page 10).

**Crimp tooling**

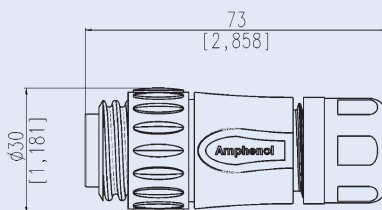
Ask for our catalogue "Tools"

Product Number Configuration



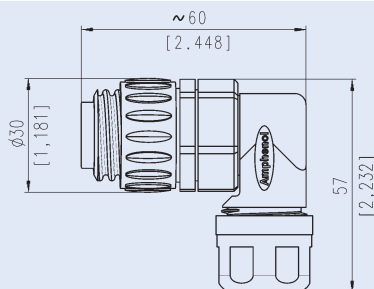
The example shows a female cable connector 6 + PE with solder termination.

Male cable connector straight, with internal strain relief clamp and/or clamping ring, cable diameter 6 - 12,5 mm



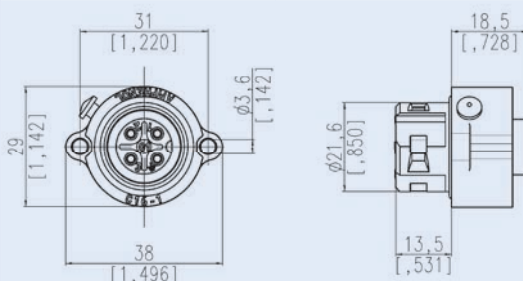
No. of contacts	Termination technique	Back shell color	Part number Strain relief with clamping ring Contact plating		Part number Internal strain relief + clamping ring Contact plating	
			Silver plated	Gold plated	Silver plated	Gold plated
3 + PE	screw	blue	C016 20H003 100 10	C016 20H003 200 10	C016 20H003 110 10	C016 20H003 210 10
3 + PE	screw	black	C016 20H003 100 12	C016 20H003 200 12	C016 20H003 110 12	C016 20H003 210 12
6 + PE	solder	blue	C016 30H006 100 10	C016 30H006 200 10	C016 30H006 110 10	C016 30H006 210 10
6 + PE	solder	black	C016 30H006 100 12	C016 30H006 200 12	C016 30H006 110 12	C016 30H006 210 12
6 + PE	crimp <sup>1)</sup>	blue	C016 10H006 000 10	C016 10H006 000 10	C016 10H006 010 10	C016 10H006 010 10
6 + PE	crimp <sup>1)</sup>	black	C016 10H006 000 12	C016 10H006 000 12	C016 10H006 010 12	C016 10H006 010 12

Male cable connector right angled, strain relief with clamping ring cable diameter 6 - 12,5 mm



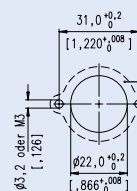
No. of contacts	Termination technique	Back shell color	Part number Strain relief with clamping ring Contact plating	
			Silver plated	Gold plated
3 + PE	screw	blue	C016 20K003 100 10	C016 20K003 200 10
3 + PE	screw	black	C016 20K003 100 12	C016 20K003 200 12
6 + PE	solder	blue	C016 30K006 100 10	C016 30K006 200 10
6 + PE	solder	black	C016 30K006 100 12	C016 30K006 200 12
6 + PE	crimp <sup>1)</sup>	blue	C016 10K006 000 10	C016 10K006 000 10
6 + PE	crimp <sup>1)</sup>	black	C016 10K006 000 12	C016 10K006 000 12

Female receptacle, screw termination (3+PE), solder termination or crimp version (6+PE)



No. of contacts	Termination technique	Back shell color	Part number Contact plating	
			Silver plated	Gold plated
3 + PE	screw	black	C016 20G003 100 12	C016 20G003 200 12
6 + PE	solder	black	C016 30G006 100 12	C016 30G006 200 12
6 + PE	crimp <sup>1)</sup>	black	C016 10G006 000 12	C016 10G006 000 12

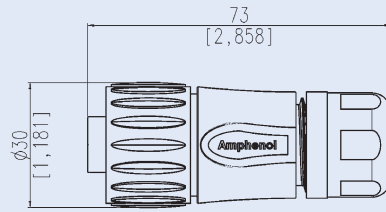
Mounting cut-out<sup>2)</sup>



For sealing reason this surface needs to be level and free of burrs.

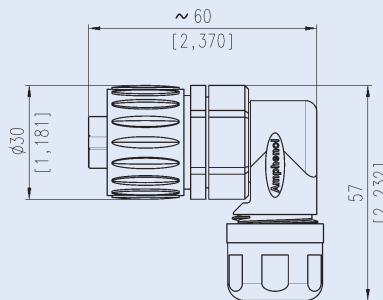
<sup>1)</sup> Crimp contacts see page 10 / Crimp tooling see catalogue "Tools". <sup>2)</sup> Mounting hole Ø 22 without chamfer, suitable sealing for screws is necessary.

Female cable connector straight, with internal strain relief clamp and/or clamping ring, cable diameter 6 - 12,5 mm



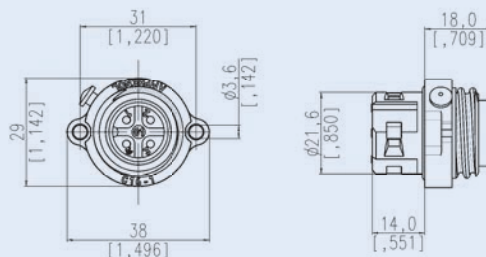
No. of contacts	Termination technique	Back shell color	Part number Strain relief with clamping ring Contact plating		Part number Internal strain relief + clamping ring Contact plating	
			Silver plated	Gold plated	Silver plated	Gold plated
			3 + PE	screw	blue	C016 20D003 100 10
3 + PE	screw	black	C016 20D003 100 12	C016 20D003 200 12	C016 20D003 110 12	C016 20D003 210 12
6 + PE	solder	blue	C016 30D006 100 10	C016 30D006 200 10	C016 30D006 110 10	C016 30D006 210 10
6 + PE	solder	black	C016 30D006 100 12	C016 30D006 200 12	C016 30D006 110 12	C016 30D006 210 12
6 + PE	crimp <sup>1)</sup>	blue	C016 10D006 000 10	C016 10D006 000 10	C016 10D006 010 10	C016 10D006 010 10
6 + PE	crimp <sup>1)</sup>	black	C016 10D006 000 12	C016 10D006 000 12	C016 10D006 010 12	C016 10D006 010 12

Female cable connector right angled, strain relief with clamping ring cable diameter 6 - 12,5 mm



No. of contacts	Termination technique	Back shell color	Part number Strain relief with clamping ring Contact plating	
			Silver plated	Gold plated
			3 + PE	screw
3 + PE	screw	black	C016 20F003 100 12	C016 20F003 200 12
6 + PE	solder	blue	C016 30F006 100 10	C016 30F006 200 10
6 + PE	solder	black	C016 30F006 100 12	C016 30F006 200 12
6 + PE	crimp <sup>1)</sup>	blue	C016 10F006 000 10	C016 10F006 000 10
6 + PE	crimp <sup>1)</sup>	black	C016 10F006 000 12	C016 10F006 000 12

Male receptacle, screw termination (3+PE), solder termination or crimp version (6+PE)



No. of contacts	Termination technique	Back shell color	Part number Contact plating		Mounting cut-out <sup>2)</sup>
			Silver plated	Gold plated	
			3 + PE	screw	
6 + PE	solder	black	C016 30C006 100 12	C016 30C006 200 12	
6 + PE	crimp <sup>1)</sup>	black	C016 10C006 000 12	C016 10C006 000 12	

<sup>1)</sup> Crimp contacts see page 10 / Crimp tooling see catalogue "Tools". <sup>2)</sup> Mounting hole Ø 22 without chamfer, suitable sealing for screws is necessary.