

Instrumentation  
connectors  
for low voltages

**BS**

models

**BS / BN / BNG**

**BS series connectors** are designed for use in instrumentation systems working with low voltages (up to 50 V).

BN, BS series and BNG airtight series circular multipole connectors are designed for use in **control, automation and telecommunication systems, stationary and mobile devices, signalling-related applications and remote control, and also in heavy industry**; they are valued for their durability and high level of climatic resistance.

The connector design allows live circuits to be connected and disconnected, but not with current load.

The insulation housing of the **BNG airtight series** is permanently sealed in the flange section using a rubber ring.



*Used in flight instruments*



TENEO connectors can be found **in flight instruments** of light transport aircraft.





**BS / BN connectors are designed for low-voltage devices operating at up to 36 V =~ (5 A). The special contact design offers very low contact resistance values and high reliability of the connector. An additional union nut guarantees a reliable connection.**

#### MAIN TECHNICAL DATA

Rated voltage: 36 V =~ at up to 400 Hz

Rated current: 5 A (max. 10 A,  $t_{max.}$  - 10 min).

Operational temperature: -60°C to +60°C

Contact resistance of a contact pair: max. 4 mΩ

Insulation resistance between adjacent contacts: min. 1 000 MΩ - under normal climatic conditions and 20 MΩ at a relative humidity of 98%, temperature of +20°C and pressure of 100 kPa

#### OPERATIONAL CONDITIONS

Continuous centrifugal acceleration: 10 g

Stability during vibrations: frequency 10-500 Hz with an acceleration of up to 10 g

Repeated impacts: impacts 80/min. with an acceleration of up to 12 g

Disconnection strength: 5 N-18 N for one contact pair

Number of disconnections of receptacle and plug: 500 times without electrical load

Hermetic configuration: BNG

Climatic category: U2

Dielectric strength: 500 V, 50 Hz for 1 minute under normal climatic conditions, at higher temperature of +40°C and relative humidity of 98% - 300 V, 50 Hz for 1 minute.

#### EXAMPLE OF A CONNECTOR ORDER

**Straight Cable Mount Female Plug BS18KPN2G6U2**

+

**Panel Mount Male Receptacle BN18B2S1U2**

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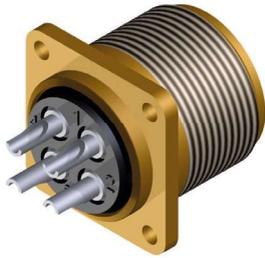
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Panel mount receptacle



Straight cable mount plug

## BASIC DATA

Connector diameter	18 mm
Number of contacts	2-4

## CONFIGURATION

Material (housing)	Aluminium (anodised)
Configuration	Panel mount receptacle Straight cable mount plug
Mating	Screw joint
Connection to wire	Soldering

## ELECTRICAL PROPERTIES

Operating voltage $U_n$ / at frequency		max. 36 V $\approx$ / max. 400 Hz	
Contact diameter	Contact rated current $I_n$	Contact marking	Diameter of connectable wire
$\varnothing$ 4 mm	5 A	$\oplus$	1.33 mm <sup>2</sup>
Contact resistance of a contact pair			
$\varnothing$ 4 mm [Ag]		$\leq$ 4 m $\Omega$	
Housing contact resistance		$\leq$ 4 m $\Omega$	
Insulation resistance under normal climatic conditions		$\geq$ 1 G $\Omega$	
Insulation resistance [40°C, rel. humidity 98%, 100 kPa, 50 Hz]		$\geq$ 20 M $\Omega$	

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MECHANICAL PROPERTIES	
Number of connections / disconnections	500
<b>Impact strength</b>	
Repeated impacts [80 impacts/min]	max. 12 g
Stability during sinusoidal vibrations / at frequency	up to 10 g / 10–500 Hz
Continuous centrifugal acceleration	up to 10 g

OPERATING ENVIRONMENT	
Temperature	-60°C to +60°C
Relative humidity [20°C]	max. 98%
<b>BNG series airtightness</b>	
Differential pressure	65 kPa

Technical drawings (3D models) are available upon request

[info@teneo.cz](mailto:info@teneo.cz)

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Code **BS 18 K P N 4 G 6 U2**

**Model**

BN / BS = base model  
BNG = airtight configuration

**Rated housing size**

**Connector housing type**

BN18B = panel mount receptacle  
BS18KPN = straight cable mount unshielded plug

**Housing configuration**

N = unshielded

**U2 = climatic resistance**

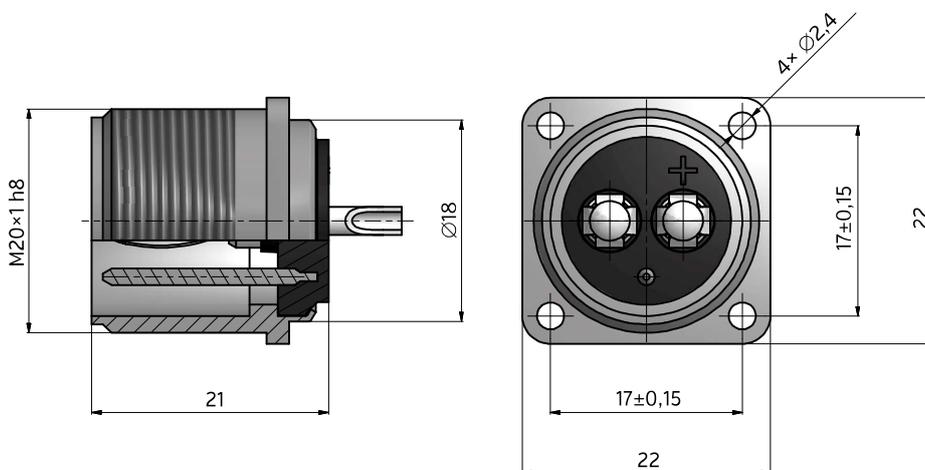
**Number identifier of diagram with contact arrangement and contact sizes**

**Connector contact type**

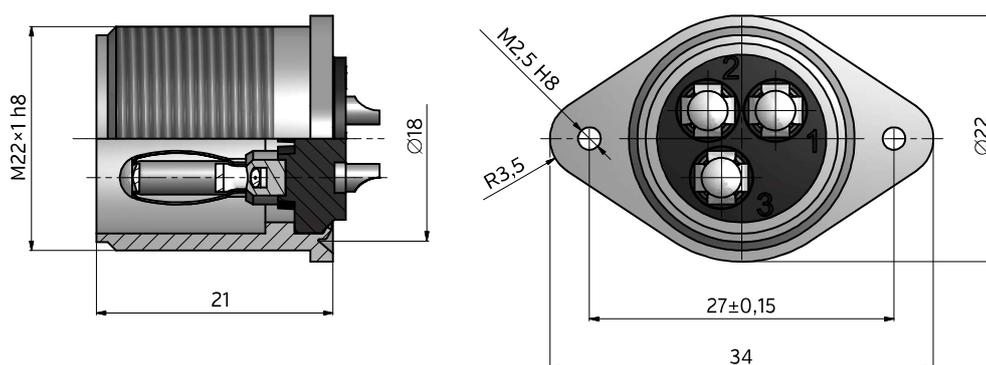
S = pin  
G = socket

**Total number of contacts in the connector**

# PANEL MOUNT MALE RECEPTACLE BN\_B\_S\_



Size	Code	Diagram	Contact				Connector		
			id.	n	∅ [mm]	I <sub>n</sub> [A]	I <sub>n</sub> [A]	U <sub>n</sub> [V]	
<b>18</b>	BN18B2S1U2		⊕	2	4	5	10	36	
	BN18B3S1U2		⊕	3	4	5	15	36	
	BN18B4S1U2		⊕	4	4	5	20	36	



Size	Code	Diagram	Contact				Connector		
			id.	n	∅ [mm]	I <sub>n</sub> [A]	I <sub>n</sub> [A]	U <sub>n</sub> [V]	
<b>18</b>	BN18B3S3U2		⊕	3	4	5	15	36	

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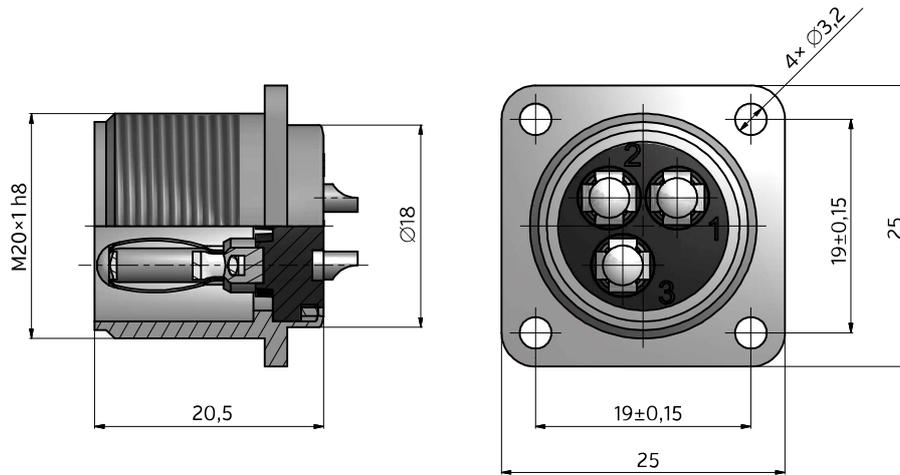
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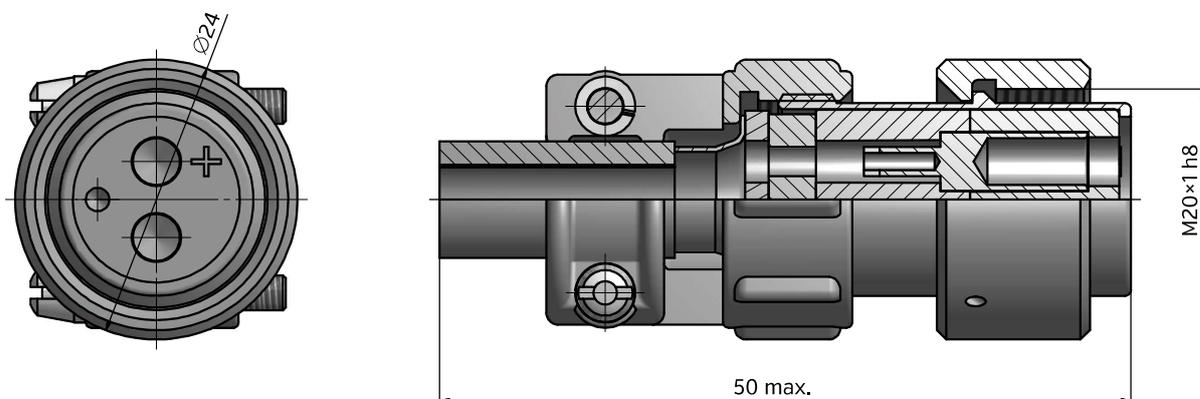


Size	Code	Diagram	Contact				Connector	
			id.	n	∅ [mm]	I <sub>n</sub> [A]	I <sub>n</sub> [A]	U <sub>n</sub> [V]
<b>18</b>	BNG18B3S1U2			3	4	5	15	36
	BN18B3S5U2			3	4	5	15	36
	BN18B4S5U2			4	4	5	20	36

**Available mating combinations**

Code	Counterpart
<b>BN 18 B 2 S 1 U2</b>	<b>BS 18 KPN 2 G 6 U2</b> <b>BS 18 KPN 2 G 7 U2</b>
<b>BN 18 B 3 S 1 U2</b>	<b>BS 18 KPN 3 G 6 U2</b> <b>BS 18 KPN 3 G 7 U2</b>
<b>BN 18 B 3 S 3 U2</b>	<b>BS 18 KPN 3 G 6 U2</b> <b>BS 18 KPN 3 G 7 U2</b>
<b>BNG 18 B 3 S 1 U2</b>	<b>BS 18 KPN 3 G 6 U2</b> <b>BS 18 KPN 3 G 7 U2</b>
<b>BN 18 B 4 S 1 U2</b>	<b>BS 18 KPN 4 G 6 U2</b> <b>BS 18 KPN 4 G 7 U2</b>
<b>BN 18 B 3 S 5 U2</b>	<b>BS 18 KPN 3 G 6 U2</b> <b>BS 18 KPN 3 G 7 U2</b>
<b>BN 18 B 4 S 5 U2</b>	<b>BS 18 KPN 4 G 6 U2</b> <b>BS 18 KPN 4 G 7 U2</b>

# STRAIGHT CABLE MOUNT UNSHIELDED FEMALE PLUG BS\_KPN\_G\_



Size	Code	Diagram	Contact				Connector		
			id.	n	∅ [mm]	I <sub>n</sub> [A]	I <sub>n</sub> [A]	U <sub>n</sub> [V]	
<b>18</b>	BS18KPN2G6U2		⊕	2	4	5	10	36	
	BS18KPN3G6U2		⊕	3	4	5	15	36	
	BS18KPN4G6U2		⊕	4	4	5	20	36	

Size	Code	Diagram	Contact				Connector		
			id.	n	∅ [mm]	I <sub>n</sub> [A]	I <sub>n</sub> [A]	U <sub>n</sub> [V]	
<b>18</b>	BS18KPN2G7U2		⊕	2	4	5	10	36	
	BS18KPN3G7U2		⊕	3	4	5	15	36	
	BS18KPN4G7U2		⊕	4	4	5	20	36	

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**Available mating combinations**

Code	Counterpart
<b>BS 18 KPN 2 G 6 U2</b>	<b>BN 18 B 2 S 1 U2</b>
<b>BS 18 KPN 3 G 6 U2</b>	<b>BN 18 B 3 S 1 U2</b> <b>BN 18 B 3 S 3 U2</b> <b>BN 18 B 3 S 5 U2</b>
<b>BS 18 KPN 4 G 6 U2</b>	<b>BN 18 B 4 S 1 U2</b> <b>BN 18 B 4 S 5 U2</b>
<b>BS 18 KPN 2 G 7 U2</b>	<b>BN 18 B 2 S 1 U2</b>
<b>BS 18 KPN 3 G 7 U2</b>	<b>BN 18 B 3 S 1 U2</b> <b>BN 18 B 3 S 3 U2</b> <b>BN 18 B 3 S 5 U2</b>
<b>BS 18 KPN 4 G 7 U2</b>	<b>BN 18 B 4 S 1 U2</b> <b>BN 18 B 4 S 5 U2</b>



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