

**GIMOTA AG**

**Datasheet**

**GTB12 series**

Bayonet version



## GTB12 Series - M12 connectors with bayonet-coupling

The industrially approved M12 connecting solutions are more and more considered on devices for the railway industry.

An often mentioned handicap is the contact application to the wires and strands. Usually soldering or Insulation-displacement connections (IDC) for field assembling is provided and used. According to long term experiences crimped contact applications offer best possible performances regarding endurance under vibrations.

An appropriate fastening of threaded M12 connectors is assessed as rather difficult especially at narrow arrangements of the receptacles. Compared with threaded mating sleeves, bayonet locks are decisively easier and saver at mating. Bayonet locks also provide increased vibration strength against loosening as they offer a clearly defined and form-fit engagement of the bayonet system. Gimota AG consistently adjusted the common industrial M12 connector solution according to EN 61076-2-101 to the needs and demand of railway applications.

### Electrical properties

		<b>D coded</b>
Service voltage	[V] DC	250
Operation current	[A]	4
Surge voltage	[kV]	2.5
Pollution degree <sup>1</sup>		3
Potential drop across contacts	[kV]	1.4
Potential drop between contacts and housing	[kV]	1.4
Data transfer speed	[Mbits/s]	10/100

Requirements acc.: IEC 60512, Test 4a at standard climate and mated plugs

<sup>1</sup> Only if mated and tightened with counter-plug/-receptacle

### Thermal properties

		<b>Strain relieve <sup>1</sup> / Contact support <sup>1</sup> / Contact carrier <sup>1</sup></b>
Material	Latamid 6H-V0	
Service temperature	-60°C to 85°C	
Fire resistance class UL94	V0	
Fire characteristic NF F 16-101/102	I2/F2	
Fire characteristic DIN EN 45545-2	NLP; R23: HL1/HL2/HL3	
Fire characteristic DIN 5510	S4/SR2/ST2	

<sup>1</sup>) non-halogen, flame retarded

### Mechanical properties

		<b>D coded</b>
Number of contacts		4
Strand/wire adaptation		Crimp version
Wire section	mm <sup>2</sup>	4 x 0,34 (AWG 22) - 4 x 0.5 (AWG 20)
Connecting life cycle of contacts (gold) <sup>1</sup>	mating cycles	> 200
Mating force <sup>2</sup>	[N]	max. 10
Separating force <sup>2</sup>	[N]	max. 15
Insulating resistance	[Ω]	≥ 10 <sup>8</sup>
Contact material		0,5 μm Au over Cu-alloy

<sup>1</sup> Requirements acc. IEC 60512, Test 9a

<sup>2</sup> Requirements acc. IEC 60512, Test 13b

### Mechanical properties - Housing

		<b>D coded</b>
Housing		brass, nickel plated
Cable strain relief	shielded	Cable gland
EMI screening at 360°		Shield spring
Cable diameter	shielded [mm]	5.0 - 9.0
Ingress protection (IEC EN 60529) closed		up to IP67

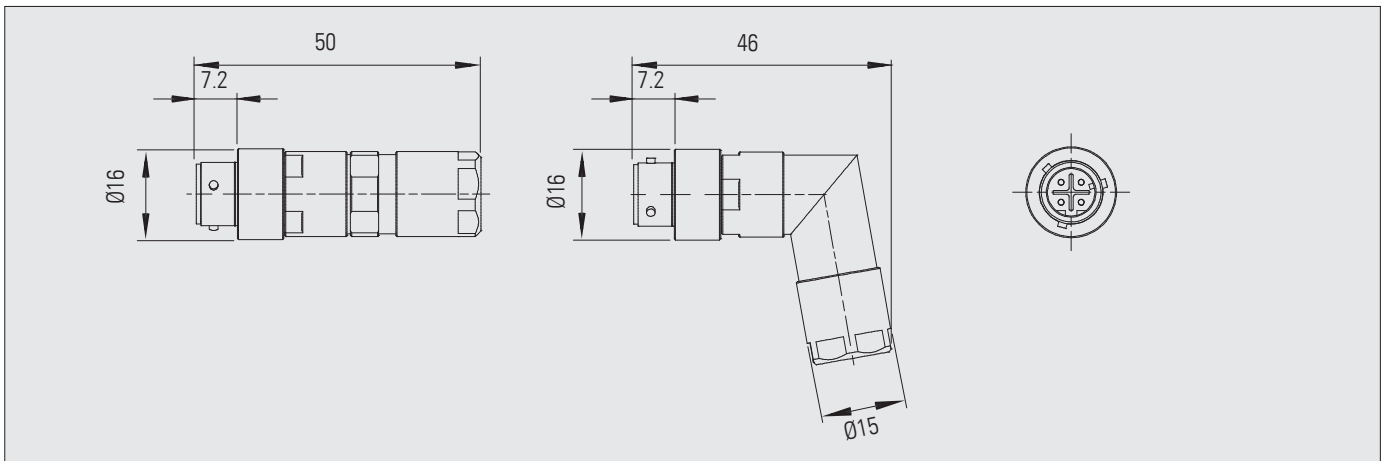
## GTB12 Series - M12 connectors with bayonet-coupling

### GTB12B connectors D coded, for field assembling

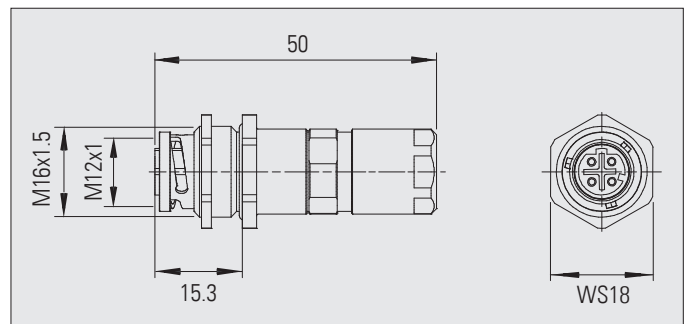
With the matching crimping tool the GTB12 connectors can be easily assembled in the field. The connectors are characterized by their compact design and allow a robust, vibration-proof and tight connections.



B12 D coded, bayonet , Cable plug



B12 D coded, Bulkhead receptacle



The GTB12 D Bulkhead receptacle has an M12-thread and a bayonet-ramp. He can be used for GTM12-connectors as well as for GTB12-connectors.

### Bayonet shell

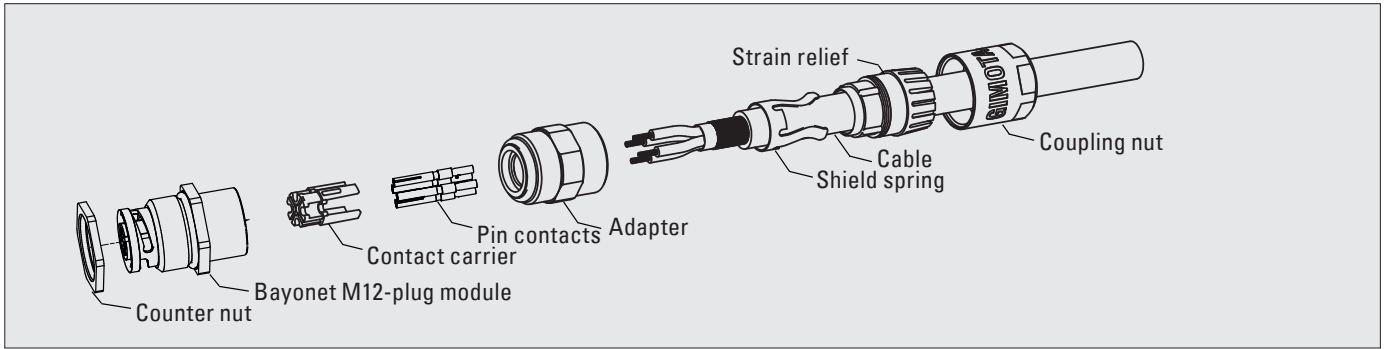
With the bayonet shell GTB12-FS-HO-S14 standard PCB M12 socket housing can be used and installed. Thereby it is important to comply with the panel thickness given by GIMOTA. From an order quantity of approximately 1000 pieces individual bayonet shells can be developed. For more information please contact GIMOTA.



**Important notice – the GTB-Series has been developed according the M12 norm, but is not part of the normative – for more information please contact Gimota AG**

# GTB12 Series - M12 connectors with bayonet-coupling

Assembly bayonet cable plug / cable receptacle / bulkhead receptacle



Item number	Connector type	Coding	no. poles	Contact type	Cable Ø mm	Wire section
GTB12-D-4-MP	Cable plug B12, bayonet	D	4	Pin	5.0 - 9.0	0.34 (AWG22) *
GTB12-D-4-MP-100	Cable plug B12, bayonet, 100°	D	4	Pin	5.0 - 9.0	0.34 (AWG22) *
GTB12-D-4-FS-BR	Bulkhead receptacle B12, bayonet	D	4	Socket	5.0 - 9.0	0.34 (AWG22) *

\* other wire sections on request

## Accessories

### Contacts- crimpable, machined pin and socket contacts

GTM12 series connectors are supplied with adequate contacts. Additional loose contacts are available as following:

Material: Cu-alloy  
Surface: 0,5 µm gold



Item number	Contact type	for connector coding	Wire section [mm²]	PU [pcs]
GTM12PC22AU.20	Pin	D	0.34 (AWG22)	20
GTM12PC22AU.100	Pin	D	0.34 (AWG22)	100
GTM12PC20AU.20	Pin	D	0.50 (AWG20)	20
GTM12PC20AU.100	Pin	D	0.50 (AWG20)	100
GTM12SC22AU.20	Socket	D	0.34 (AWG22)	20
GTM12SC22AU.100	Socket	D	0.34 (AWG22)	100
GTM12SC20AU.20	Socket	D	0.50 (AWG20)	20
GTM12SC20AU.100	Socket	D	0.50 (AWG20)	100

## Covers



pict. a

Item number	Connector type	pict.
GTB12-FS-CAP	Protection cap for receptacles	a
GTB12-MP-CAP	Protection cap for plugs	

## Available Switches with GTB12B technology

At the moment HIRSCHMANN provides Switches with GTB-technology. The bayonet receptacle shell has an M12-thread and a bayonet-ramp, this means that conventional M12-connectors can be connected too.



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