GIMOTA AG

Datasheet

GTB12 series
Bayonet version

GIMOTA

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

		D coded
Service voltage	[V] DC	250
Operation current	[A]	4
Surge voltage	[kV]	2.5
Pollution degree [1]		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
[1] Only if mated and tightened with counter-plug/-receptacle

Thermal properties

	Strain relieve [1] / Contact support [1] / Contact carrier [1]
Material	Latamid 6H-V0
Service temperature	-25°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

[1]) non-halogen, flame retarded

Mechanical properties

		D coded
Number of contacts		4
Strand/wire adaptation		Crimp version
Wire section	mm²	4 x 0,34 (AWG 22) - 4 x 0.5 (AWG 20)
Connecting life cycle of contacts (gold) [1]	mating cycles	> 200
Mating force [2]	[N]	max. 10
Separating force [2]	[N]	max. 15
Insulating resistance	[Ω]	≥ 10^8
Contact material		0,5 µm Au over Cu-alloy

[1] Requirements acc. IEC 60512, Test 9a
[2] Requirements acc. IEC 60512, Test 13b

Mechanical properties - Housing

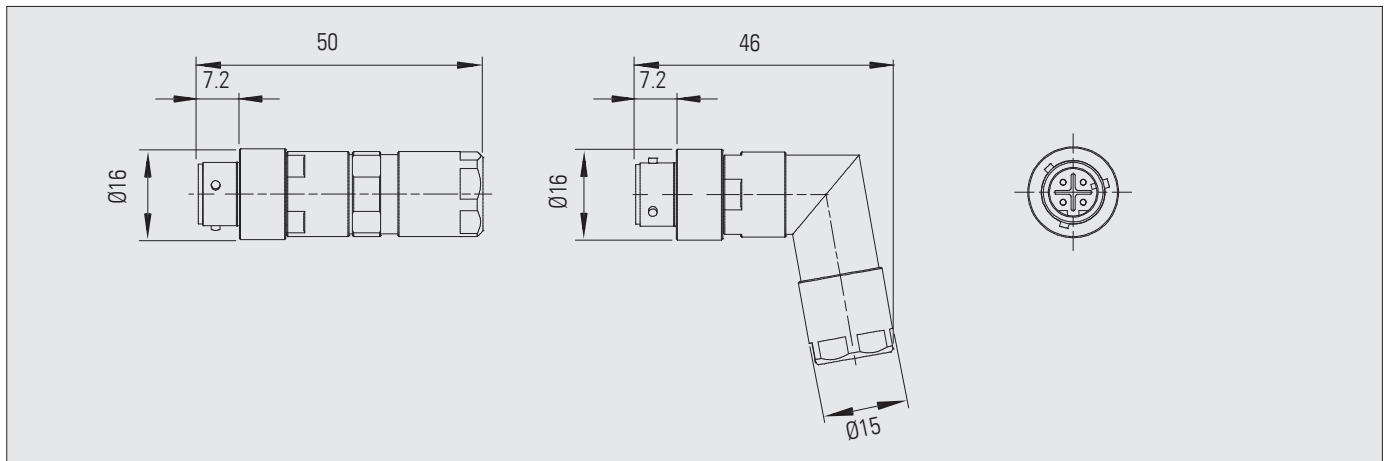|			D coded
Housing			brass, nickel plated
Cable strain relief	shielded		Cable gland
EMI screening at 360°			Shield spring
Cable diameter	shielded	[mm]	5.0 - 9.0
Ingress protection (IEC EN 60529) closed			up to IP67

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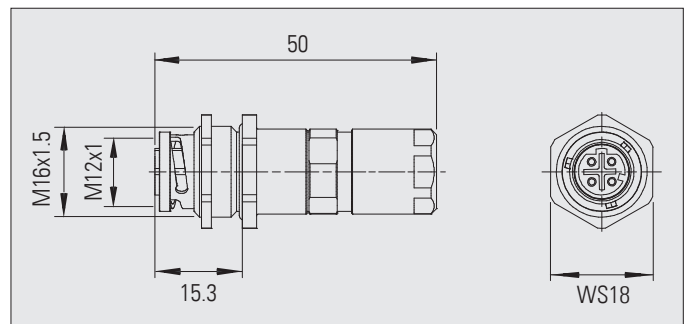## GTB12B connectors D coded, for field assembling

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-S4 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
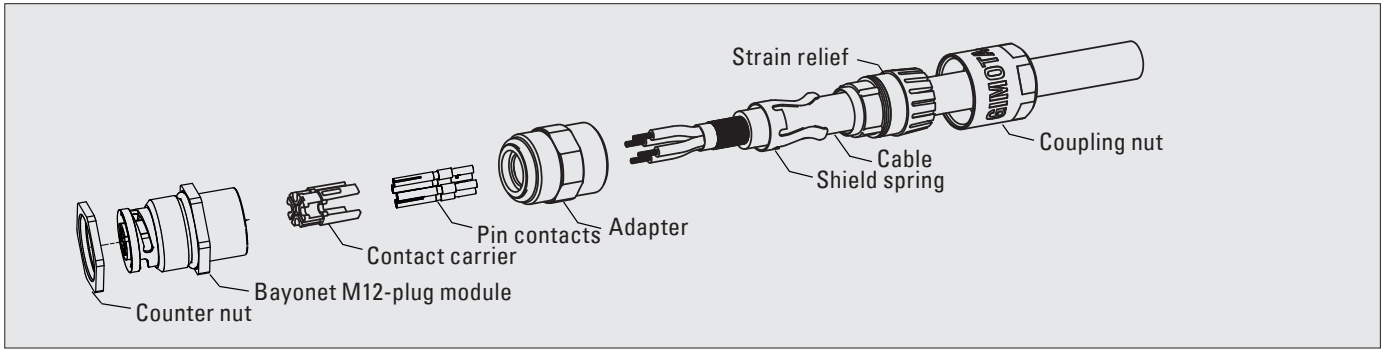
Item number	Connector type	Coding	no. poles	Contact type	Cable Ø mm	Wire section
GTB12-D-4-MP	Cable plug B12, bayonet	D	4	Pin	5.0 - 9.0	0.34 (AWG22) *
GTB12-D-4-MP-100	Cable plug B12, bayonet, 100°	D	4	Pin	5.0 - 9.0	0.34 (AWG22) *
GTB12-D-4-FS-BR	Bulkhead receptacle B12, bayonet	D	4	Socket	5.0 - 9.0	0.34 (AWG22) *

* other wire sections on request

Acessories

Contacts- crimpable, machined pin and socket contacts

GTM12 series connectors are supplied with adequate contacts. Additional lose 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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