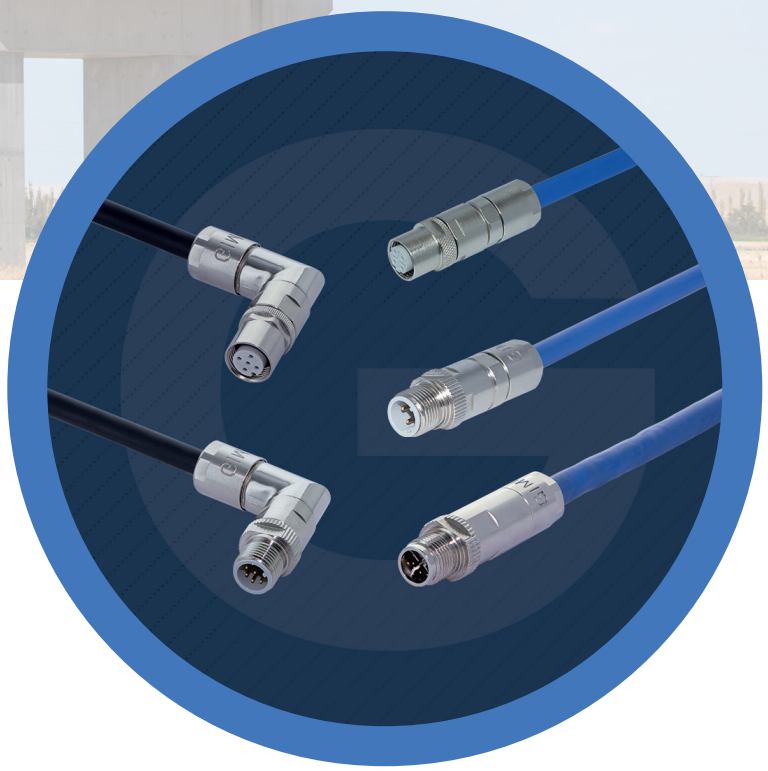
M12 connectors

Modern network connectors for trams, buses and trains



GIMOTA AG

GIMOTA AG develops and produces connection solutions for railway applications under the toughest conditions. GIMOTA AG is located near Zurich in Switzerland and was founded by Otto Schoch in 1960. The company specialises in connectors for demanding railway applications. “The demanding applications of our customers are our daily challenge and motivation”.

Many years of experience in a medium-sized company with high flexibility for customers make GIMOTA a unique partner on the international markets. Driven by a passion for pragmatic and reliable solutions, GIMOTA meets the requirements and expectations of its customers every day.

GIMOTA connectors are used worldwide in rail vehicles for virtually all essential connections. Typically for high current feeds, conventional and electronic control systems, all kinds of sensors, analogue and digital data and signal transmission and much more. This includes solutions that are implemented under almost all conceivable installation conditions and in diverse subsystems on traction units worldwide. For example, GIMOTA connectors are also used in stationary systems for versatile requirements.

GIMOTA supplies most of the leading international railway manufacturers and operators.

Know-How

Our capital is our long-standing, competent and experienced staff, as well as over 60 years of experience in the design of connectors for railways.

Innovation

Innovation is at the heart of our work. We encourage our employees to think creatively. This is how we arrive at convincing solutions for our customers.

Flexibility

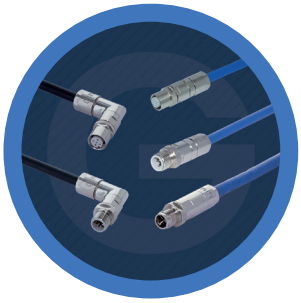
Logistics solutions such as “just in time” deliveries, based on framework agreements and acceptance forecasts, or the management of minimum storage quantities are a matter of course for us.

Customer focus

Special designs according to customer requirements, as well as one-offs and small series are part of our customer-oriented standard.

Quality is our basis for the trust of our customers. We are ISO 9001 and 14001 certified.

Introduction



Passenger information, entertainment system, cameras, network

360° shield connection, crimp contacts, protection class IP67, design Ø ≤ 16 mm, field-assembly

Information technology is developing at high-speed and with it the demands of travellers. High-performance internet access up to the gigabit range, real-time travel information, or entertainment systems, to name just a few applications. In order to meet this requirement, modern means of transport need a corresponding network infrastructure. In general, it can be said that the technology in rail vehicles is becoming more and more extensive and complex. The industrially proven M12 connectors have long been established in railway and bus operations for stable networks and their applications.

But the industrial M12 connectors do not meet all the requirements of the railway. The contact connection is susceptible to vibrations. Experience shows that crimped contact connections offer the best results in terms of fatigue strength and vibration. Weight and compactness of the components also play an important role in the application decision. Furthermore, tightness is a key issue, as moisture and condensation cannot be ruled out even indoors.

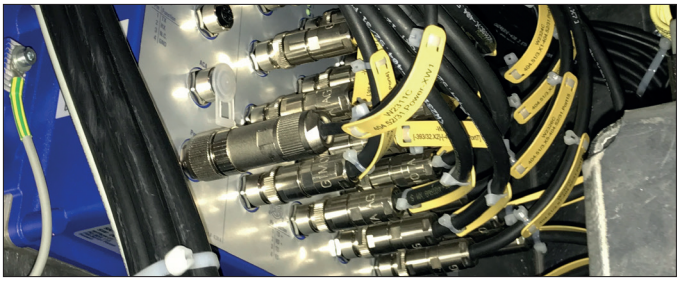
This is exactly where Gimota's GTM12 and GTB12 connectors come in; based on the industrially proven M12 connector technology and the standards DIN EN 61076-2-101, DIN EN 61076-2-109 and DIN EN 61076-2-011, they are the consistent adaptation to the needs of the railway. Tested according to EN50155, they can be field-assembled, have turned crimp contacts and a reliable shield connection with shield springs. The design is extremely slim (Ø ≤ 16 mm) and has a low weight. With IP 67 according to DIN EN 60529 and according to DIN EN 45545-2 R22,R23 / HL1,HL2,HL3, the products offer the required IP and fire protection classes to meet the influences expected in railway technology.

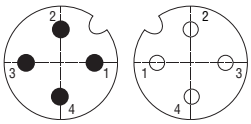
ADVANTAGES

- Suitable for railway applications
- Resistant housing (metal)
- Small form factor (slim design)
- EN45545-2 R22,R23 / HL1,HL2,HL3
- Field-attachable, for on-site assembly
- Turned crimp contacts
- Contacts are supplied with the product
- IP67 according to DIN EN 60529

PROPERTIES

- Screw or bayonet lock
- Transmission characteristics up to 10 Gbits/s CAT 6_A
- Gold-plated crimp contacts
- Operating temperature -55°C to +85°C
- EMC shielding
- Cable range from 5.0 - 8.5 mm
- Complies with EN 61076-2-101 / EN 61076-2-109
- Complies with EN 61076-2-011





Number of contacts	**4**
Strand/wire adaptation	**Crimp**
EMI	**Yes**

IP67 DIN EN 60529 · EMC Shielding · RoHS · REACH · Easy Assembly

Technical characteristics

Rated current (A)	4
Rated voltage (VDC)	250
Rated surge voltage (KV)	2.5
Pollution degree	3
Insulation resistance (Ω)	≥ 10^8
Potential drop between contacts and housing (KV)	1.4
Potential drop across contacts (KV)	1.4
Number of mating cycles	> 200
Locking mode	Screwed locking
Wire section (mm²)	0.25 - 0.75
Wire section (AWG)	22 - 18
Cable diameter (mm)	5.0 - 8.5
Protection class EN 60529 (mounted)	IP67

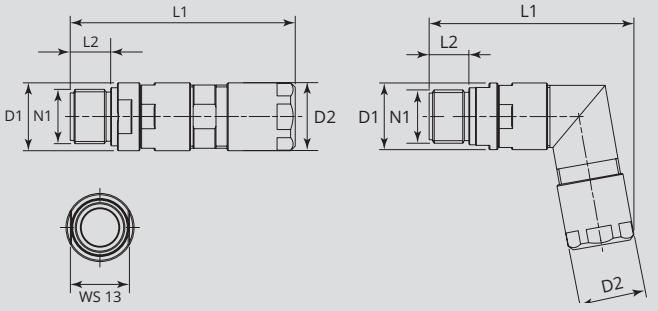
Technical characteristics

Operation temperature	-55°C - +85°C
Shell material	Brass
Surface treatment	electroless nickel
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead
Contact Material	0.4µ AU over copper alloy
Material contact insert	Latamid 6H-V0
Fire protection class DIN EN 45545-2	R23: HL1/HL2/HL3
Fire protection class NFF16-101/102	I2/F2

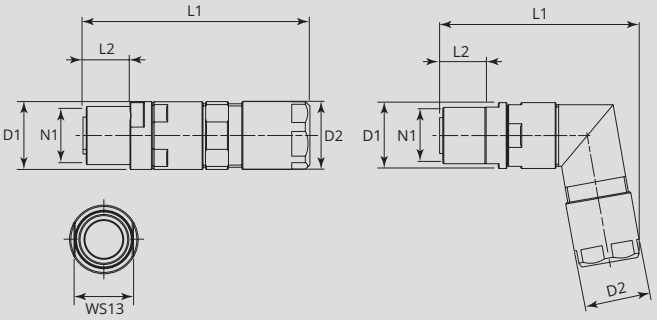
International standards

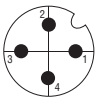
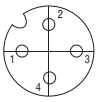
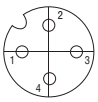
according EN 61076-2-101

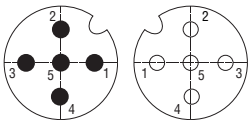
Cable plug



Cable receptacle



Item number	Design	Contact type	D1 (Ø)	D2 (Ø)	N1	L1 (mm)	L2 (mm)	Layout
GTM12-A-4-MP	Cable plug	Pin contact	15.0	15.0	M12x1	50.0	8.9	 
GTM12-A-4-MP-100	Cable plug	Pin contact	15.0	15.0	M12x1	46.0	8.9	 
GTM12-A-4-FS	Cable receptacle	Socket contact	15.0	15.0	M12x1	50.0	10.3	 
GTM12-A-4-FS-100	Cable receptacle	Socket contact	15.0	15.0	M12x1	46.0	10.3	 



Number of contacts	**5**
Strand/wire adaptation	**Crimp**
EMI	**Yes**

IP67 DIN EN 60529 · EMC Shielding · RoHS · REACH · Easy Assembly

Technical characteristics

Rated current (A)	4
Rated voltage (VDC)	60
Rated surge voltage (KV)	1.5
Pollution degree	3
Insulation resistance (Ω)	≥ 10^8
Potential drop between contacts and housing (KV)	1.0
Potential drop across contacts (KV)	1.0
Number of mating cycles	> 200
Locking mode	Screwed locking
Wire section (mm²)	0.25 - 0.75
Wire section (AWG)	22 - 18
Cable diameter (mm)	5.0 - 8.5
Protection class EN 60529 (mounted)	IP67

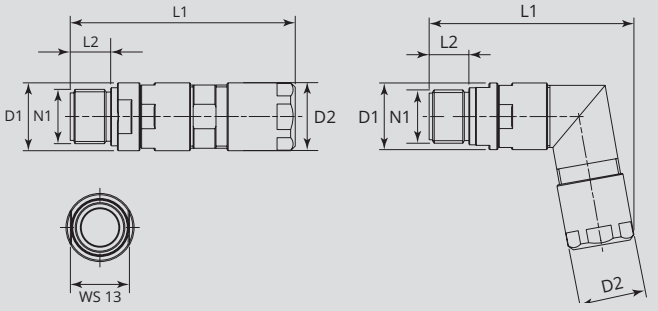
Technical characteristics

Operation temperature	-55°C - +85°C
Shell material	Brass
Surface treatment	electroless nickel
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead
Contact Material	0.4µ AU over copper alloy
Material contact insert	Latamid 6H-V0
Fire protection class DIN EN 45545-2	R23: HL1/HL2/HL3
Fire protection class NFF16-101/102	I2/F2

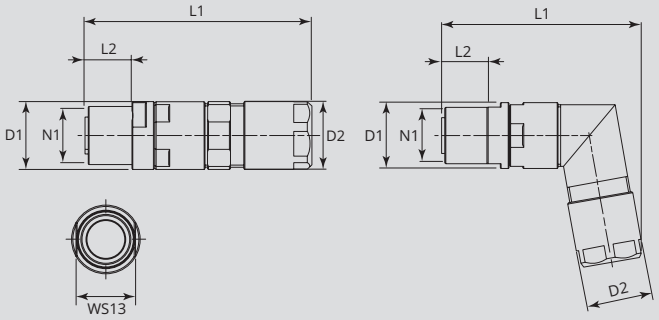
International standards

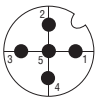
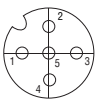
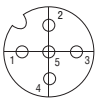
according EN 61076-2-101

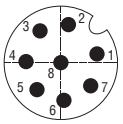
Cable plug



Cable receptacle



Item number	Design	Contact type	D1 (Ø)	D2 (Ø)	N1	L1 (mm)	L2 (mm)	Layout
GTM12-A-5-MP	Cable plug	Pin contact	15.0	15.0	M12x1	50.0	8.9	 
GTM12-A-5-MP-100	Cable plug	Pin contact	15.0	15.0	M12x1	46.0	8.9	 
GTM12-A-5-FS	Cable receptacle	Socket contact	15.0	15.0	M12x1	50.0	10.3	 
GTM12-A-5-FS-100	Cable receptacle	Socket contact	15.0	15.0	M12x1	46.0	10.3	 



Number of contacts	**8**
Strand/wire adaptation	**Crimp**
EMI	**Yes**

IP67 DIN EN 60529 · EMC Shielding · RoHS · REACH · Easy Assembly

Technical characteristics

Rated current (A)	2
Rated voltage (VDC)	30
Rated surge voltage (KV)	0.8
Pollution degree	3
Insulation resistance (Ω)	≥ 10^8
Potential drop between contacts and housing (KV)	0.65
Potential drop across contacts (KV)	0.65
Number of mating cycles	> 200
Locking mode	Screwed locking
Wire section (mm²)	0.20 - 0.34
Wire section (AWG)	24 - 22
Cable diameter (mm)	5.0 - 8.5
Transmission properties	1000 Mbits/s - CAT5e

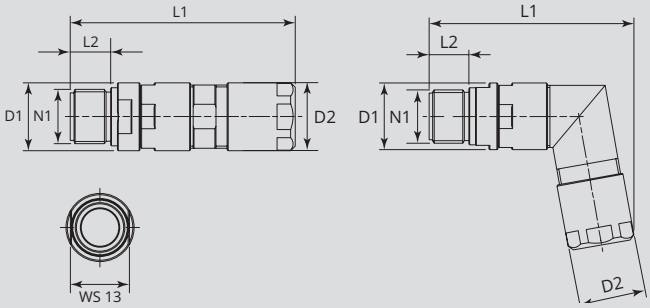
Technical characteristics

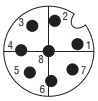
Protection class EN 60529 (mounted)	IP67
Operation temperature	-55°C - +85°C
Shell material	Brass
Surface treatment	electroless nickel
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead
Contact Material	0.4µ AU over copper alloy
Material contact insert	Latamid 6H-V0
Fire protection class DIN EN 45545-2	R23: HL1/HL2/HL3
Fire protection class NFF16-101/102	I2/F2

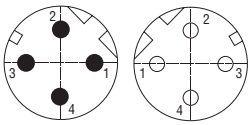
International standards

according EN 61076-2-101

Cable plug



Item number	Design	Contact type	D1 (Ø)	D2 (Ø)	N1	L1 (mm)	L2 (mm)	Layout
GTM12-A-8-MP	Cable plug	Pin contact	15.0	15.0	M12x1	50.0	8.9	 
GTM12-A-8-MP-100	Cable plug	Pin contact	15.0	15.0	M12x1	46.0	8.9	 



Number of contacts	**4**
Strand/wire adaptation	**Crimp**
EMI	**Yes**

IP67 DIN EN 60529 · EMC Shielding · RoHS · REACH · Easy Assembly

Technical characteristics

Rated current (A)	4
Rated voltage (VDC)	250
Rated surge voltage (KV)	2.5
Pollution degree	3
Insulation resistance (Ω)	≥ 10^8
Potential drop between contacts and housing (KV)	1.4
Potential drop across contacts (KV)	1.4
Number of mating cycles	> 200
Locking mode	Screwed locking
Wire section (mm²)	0.34 - 0.5
Wire section (AWG)	22 - 20
Cable diameter (mm)	5.0 - 8.5
Transmission properties	10/100 Mbits/s - CAT5e

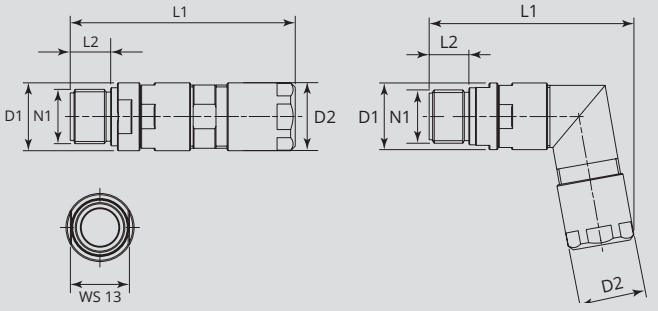
Technical characteristics

Protection class EN 60529 (mounted)	IP67
Operation temperature	-55°C - +85°C
Shell material	Brass
Surface treatment	electroless nickel
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead
Contact Material	0.4µ AU over copper alloy
Material contact insert	Latamid 6H-V0
Fire protection class DIN EN 45545-2	R23: HL1/HL2/HL3
Fire protection class NFF16-101/102	I2/F2

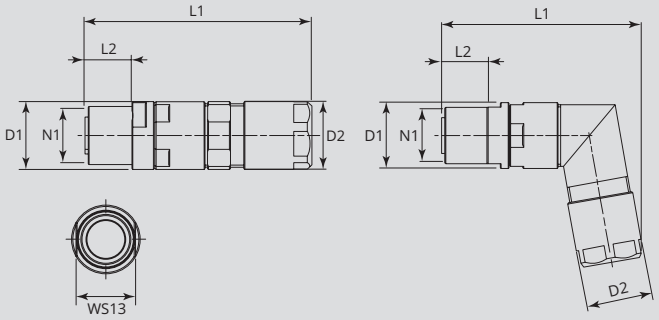
International standards

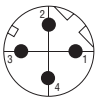
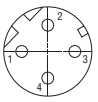
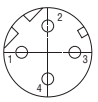
according EN 61076-2-101

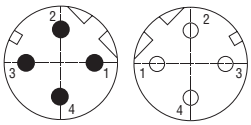
Cable plug



Cable receptacle



Item number	Design	Contact type	D1 (Ø)	D2 (Ø)	N1	L1 (mm)	L2 (mm)	Layout
GTM12-D-4-MP	Cable plug	Pin contact	15.0	15.0	M12x1	50.0	8.9	 
GTM12-D-4-MP-100	Cable plug	Pin contact	15.0	15.0	M12x1	46.0	8.9	 
GTM12-D-4-FS	Cable receptacle	Socket contact	15.0	15.0	M12x1	50.0	10.3	 
GTM12-D-4-FS-100	Cable receptacle	Socket contact	15.0	15.0	M12x1	46.0	10.3	 



Number of contacts	**4**
Strand/wire adaptation	**Crimp**
EMI	**Yes**

IP67 DIN EN 60529 · EMC Shielding · RoHS · REACH · Easy Assembly

Technical characteristics

Rated current (A)	4
Rated voltage (VDC)	250
Rated surge voltage (KV)	2.5
Pollution degree	3
Insulation resistance (Ω)	≥ 10^8
Potential drop between contacts and housing (KV)	1.4
Potential drop across contacts (KV)	1.4
Number of mating cycles	> 200
Locking mode	Screwed locking
Wire section (mm²)	0.34 - 0.5
Wire section (AWG)	22 - 20
Cable diameter (mm)	5.0 - 8.5
Transmission properties	10/100 Mbits/s - CAT5e

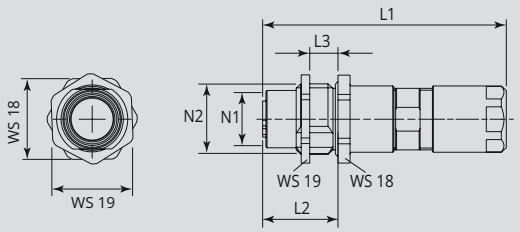
Technical characteristics

Protection class EN 60529 (mounted)	IP67
Operation temperature	-55°C - +85°C
Shell material	Brass
Surface treatment	electroless nickel
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead
Contact Material	0.4µ AU over copper alloy
Material contact insert	Latamid 6H-V0
Fire protection class DIN EN 45545-2	R23: HL1/HL2/HL3
Fire protection class NFF16-101/102	I2/F2

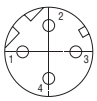
International standards

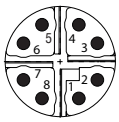
according EN 61076-2-101

Cable receptacle / Bulkhead receptacle



L3 corresponds to the maximum sheet thickness for mounting

Item number	Design	Contact type	N1	N2	L1 (mm)	L2 (mm)	L3 (mm)	Layout
GTM12-D-4-FS-BR	Bulkhead receptacle	Socket contact	M12x1	M16x1.5	50.0	15.3	5.5	 



Number of contacts	**8**
Strand/wire adaptation	**Crimp**
EMI	**Yes**

IP67 DIN EN 60529 | EMC Shielding | RoHS | REACH | Easy Assembly

Technical characteristics

Rated current (A)	0.5
Rated voltage (VDC)	48
Rated surge voltage (KV)	1.5
Pollution degree	3
Insulation resistance (Ω)	≥ 10^8
Potential drop between contacts and housing (KV)	0.5
Potential drop across contacts (KV)	0.5
Number of mating cycles	> 200
Locking mode	Screwed locking
Wire section (mm²)	0.14 - 0.2
Wire section (AWG)	26 - 24
Cable diameter (mm)	6.0 - 8.5
Transmission properties	10'000 Mbits/s - $CAT6_A$

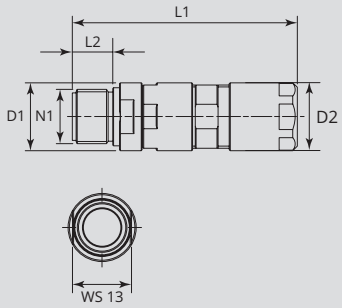
Technical characteristics

Protection class EN 60529 (mounted)	IP67
Operation temperature	-55°C - +85°C
Shell material	Brass / Zinc alloy
Surface treatment	electroless nickel
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead
Contact Material	0.4µ AU over copper alloy
Material contact insert	Latamid 6H-V0
Fire protection class DIN EN 45545-2	R23: HL1/HL2/HL3
Fire protection class NFF16-101/102	I2/F2

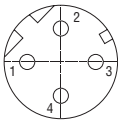
International standards

according EN 61076-2-109

Cable plug



Item number	Design	Contact type	D1 (Ø)	D2 (Ø)	N1	L1 (mm)	L2 (mm)	Layout
GTM12-X-8-MP	Cable plug	Pin contact	15.0	15.0	M12x1	55.0	8.9	 



Number of contacts	**4**
Strand/wire adaptation	**Soldering (THT)**
EMI	**Yes**

IP67 DIN EN 60529 · EMC Shielding · RoHS · REACH

Technical characteristics

Rated current (A)	4
Rated voltage (VDC)	250
Rated surge voltage (KV)	2.5
Pollution degree	3
Insulation resistance (Ω)	≥ 10^8
Potential drop between contacts and housing (KV)	1.4
Potential drop across contacts (KV)	1.4
Number of mating cycles	> 200
Locking mode	Screwed locking
Transmission properties	10/100 Mbits/s - CAT5e
Protection class EN 60529 (mounted)	IP67
Operation temperature	-40°C - +90°C

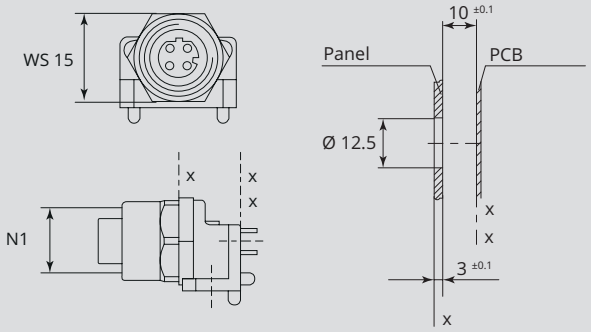
Technical characteristics

Shell material	Brass
Surface treatment	electroless nickel
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead
Contact Material	0.4µ AU over copper alloy
Material contact insert	Latamid 6H-V0
Fire protection class DIN EN 45545-2	R23: HL1/HL2/HL3

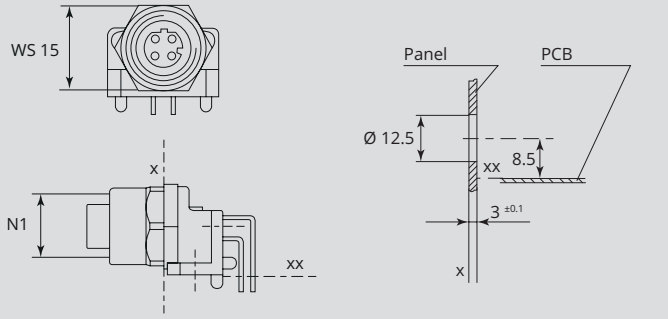
International standards

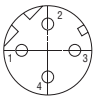
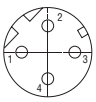
according EN 61076-2-101, for combined front panel and circuit board installation

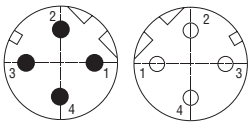
PCB - straight



PCB - 90°



Item number	Contact type	N1	Layout
GTM12-D-4-FS-PCB	Socket	M12x1	 
GTM12-D-4-FS-90-PCB	Socket	M12x1	 



Number of contacts	**4**
Strand/wire adaptation	**Crimp**
EMI	**Yes**

IP67 DIN EN 60529 · EMC Shielding · RoHS · REACH · Easy Assembly

Technical characteristics

Rated current (A)	4
Rated voltage (VDC)	250
Rated surge voltage (KV)	2.5
Pollution degree	3
Insulation resistance (Ω)	≥ 10^8
Potential drop between contacts and housing (KV)	1.4
Potential drop across contacts (KV)	1.4
Number of mating cycles	> 200
Locking mode	Bayonet quick-release lock
Wire section (mm²)	0.34 - 0.5
Wire section (AWG)	22 - 20
Cable diameter (mm)	5.0 - 8.5
Protection class EN 60529 (mounted)	IP67

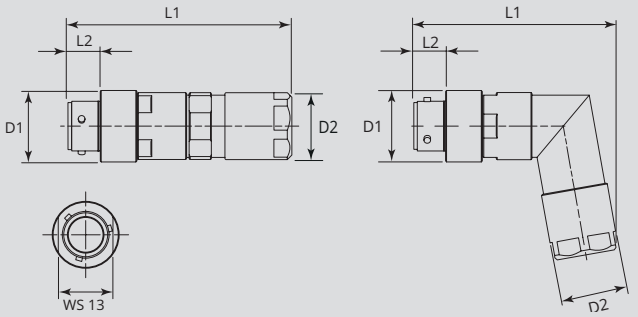
Technical characteristics

Operation temperature	-55°C - +85°C
Shell material	Brass
Surface treatment	electroless nickel
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead
Contact Material	0.4µ AU over copper alloy
Material contact insert	Latamid 6H-V0
Fire protection class DIN EN 45545-2	R23: HL1/HL2/HL3
Fire protection class NFF16-101/102	I2/F2

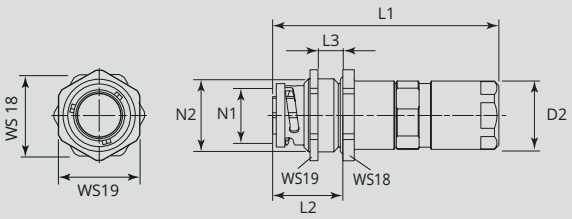
International standards

according EN 61076-2-011

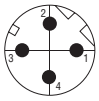
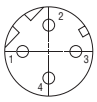
Cable plug

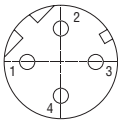


Cable receptacle / Bulkhead receptacle



L3 corresponds to the maximum sheet thickness for mounting

Item number	Design	Contact type	D1 (Ø)	D2 (Ø)	L1 (mm)	L2 (mm)	L3 (mm)	N1	N2	Layout	
GTB12-D-4-MP	Cable plug	Pin contact	16.0	15.0	50.0	7.2					
GTB12-D-4-MP-100	Cable plug	Pin contact	16.0	15.0	46.0	7.2					
GTB12-D-4-FS-BR	Bulkhead receptacle	Socket contact		15.0	50.0	15.3	5.5	M12x1	M16x1.5		



Number of contacts	**4**
Strand/wire adaptation	**Soldering (THT)**
EMI	**Yes**

IP67 DIN EN 60529 · EMC Shielding · RoHS · REACH

Technical characteristics

Rated current (A)	4
Rated voltage (VDC)	250
Rated surge voltage (KV)	2.5
Pollution degree	3
Insulation resistance (Ω)	≥ 10^8
Potential drop between contacts and housing (KV)	1.4
Potential drop across contacts (KV)	1.4
Number of mating cycles	> 200
Locking mode	Bayonet quick-release lock
Protection class EN 60529 (mounted)	IP67
Operation temperature	-40°C - +90°C

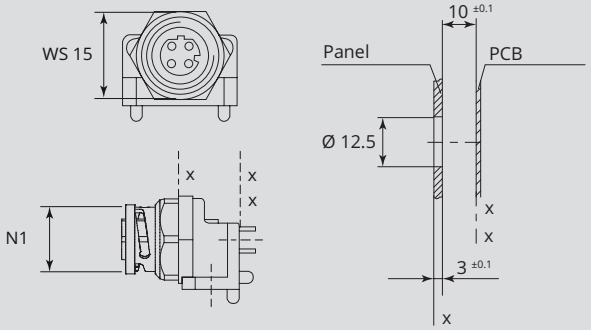
Technical characteristics

Shell material	Brass
Surface treatment	electroless nickel
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead
Contact Material	0.4µ AU over copper alloy
Material contact insert	Latamid 6H-V0
Fire protection class DIN EN 45545-2	R23: HL1/HL2/HL3

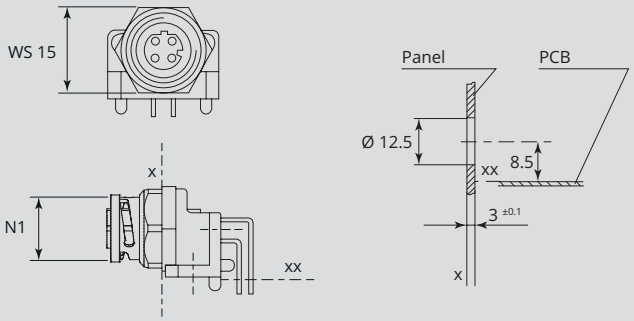
International standards

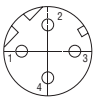
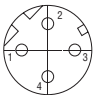
according EN 61076-2-101, for combined front panel and circuit board installation

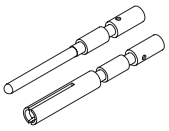
PCB - straight



PCB - 90°



Item number	Contact type	N1	Layout
GTB12-D-4-FS-PCB	Socket	M12x1	 
GTB12-D-4-FS-90-PCB	Socket	M12x1	 



For M12	**A4/A5**
Strand/wire adaptation	**Crimp**
Type of manufacture	**turned**

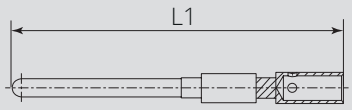
Technical characteristics

Rated current (A)	4
Wire section (mm²)	0.34 - 0.75
Wire section (AWG)	22 - 18
Number of mating cycles	200
Operating temperature	-55°C - +85°C

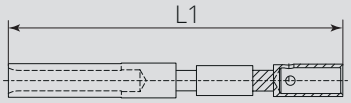
Technical characteristics

Contact Material	CU alloy
Coating	gold
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead

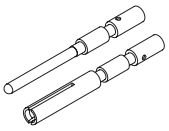
Pin



Socket



Item number	Contact type	Coding	L1 (mm)	Description
GTM12PC18AU.20	Pin	A	18.2	Pin contact - 20 pcs.
GTM12PC18AU.100	Pin	A	18.2	Pin contact - 100 pcs.
GTM12SC18AU.20	Socket	A	17.8	Socket contact - 20 pcs.
GTM12SC18AU.100	Socket	A	17.8	Socket contact - 100 pcs.



For M12	**A8**
Strand/wire adaptation	**Crimp**
Type of manufacture	**turned**

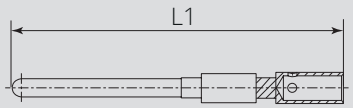
Technical characteristics

Rated current (A)	4
Wire section (mm²)	0.2
Wire section (AWG)	24
Number of mating cycles	200
Operating temperature	-55°C - +85°C

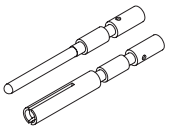
Technical characteristics

Contact Material	CU alloy
Coating	gold
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead

Pin



Item number	Contact type	Coding	L1 (mm)	Description
GTM12PC24AU.20	Pin	A	17.0	Pin contact - 20 pcs.
GTM12PC24AU.100	Pin	A	17.0	Pin contact - 100 pcs.



For M12	**D4**
Strand/wire adaptation	**Crimp**
Type of manufacture	**turned**

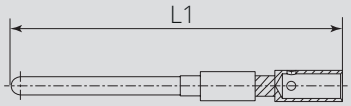
Technical characteristics

Rated current (A)	4
Wire section (mm²)	0.34 - 0.5
Wire section (AWG)	22 - 20
Number of mating cycles	200
Operating temperature	-55°C - +85°C

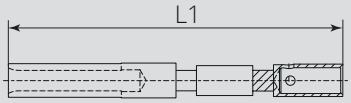
Technical characteristics

Contact Material	CU alloy
Coating	gold
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead

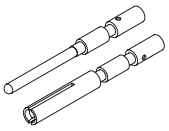
Pin



Socket



Item number	Contact type	Coding	L1 (mm)	Description
GTM12PC20AU.20	Pin	D	17.0	Pin contact - 20 pcs.
GTM12PC20AU.100	Pin	D	17.0	Pin contact - 100 pcs.
GTM12SC20AU.20	Socket	D	17.8	Socket contact - 20 pcs.
GTM12SC20AU.100	Socket	D	17.8	Socket contact - 100 pcs.



For M12	**X8**
Strand/wire adaptation	**Crimp**
Type of manufacture	**turned**

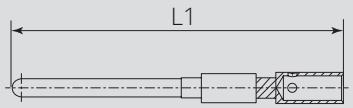
Technical characteristics

Rated current (A)	0.5
Wire section (mm²)	0.14 - 0.2
Wire section (AWG)	26 - 24
Number of mating cycles	200
Operating temperature	-55°C - +85°C

Technical characteristics

Contact Material	CU alloy
Coating	gold
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)
REACH	SVHC substances, yes - Lead

Pin



Item number	Contact type	Coding	L1 (mm)	Description
GTM12PC23AU.20	Pin	X	21.8	Pin contact - 20 pcs.
GTM12PC23AU.100	Pin	X	21.8	Pin contact - 100 pcs.

Technical characteristics

Shell material	Brass nickel plated
Operation temperature	-55°C - +105°C
EMI	Yes
REACH	SVHC substances, yes - Lead
RoHS	compliant with exception 6c (copper alloy ≤ 4% lead)

Item number	Product description	
GTM12-MP-CAP	Protection cap for M12 plug	
GTM12-FS-CAP	Protection cap for M12 receptacle	

Technical characteristics

Shell material	Stainless steel
Operation temperature	-55°C - +105°C
EMI	Yes

Item number	Product description	
CIC35-12-16	Mounting clip for standard C-rails	
CICE35-12-16K	Mounting clip for standard C-rails (insulated)	

Technical characteristics

Dimensions (mm)	98 x 45 x 21
Usable for	Stranded wires/wires
Wire section (mm²)	0.05 - 0.5
Wire section (AWG)	30 - 20

Item number	Product description	
GIW-ACK	Wire stripper for strands and wires (AWG20-30) up to a length of 25mm.	

Technical characteristics

Dimensions (mm)	175 x 60x 22
Usable for	GTM/GTB contacts
Wire section (mm²)	0.032 - 0.5
Wire section (AWG)	32 - 20

Item number	Product description	
GIW-AFM8	Universally applicable 4-point tool of DMC, short version. Using the positioner GIW-AFM8-SK2-2, the contacts of the GTM12 series can be pressed easily and correctly.	
GIW-AFM8-SK2-2	Universal positioning adaptor for mechanical hand press tool GIW-AFM8	

Technical characteristics

Dimensions (mm)	Length = 215
Usable for	GTM12 connectors
Torque (Nm)	1

Item number	Product description	
GIW-DM12	Tightening tool to ensures the required max. tightening torque (1Nm) for mating the GTM12 connectors.	

The present General Sales Conditions are binding and exclusively applicable, if no deviating or additional conditions have been mutually agreed between the buyer and Gimota Inc.. Any deviations need to be stipulated accordingly in writing.

General
The published pictures, dimensions and weights within catalogues and drawings are for information only without obligation regarding the supplied goods. Literal errors excepted.

Offers
Our offers are valid for a period of 3 months unless other terms have been stipulated. Extraordinary price changes for raw materials are excepted.

Prices / Packaging / Conditions of Payment / Surcharges
If nothing else is stipulated our prices are quoted in Swiss francs CHF for delivery ex works (INCOTERMS 2010, EXW Geroldswil) exclusive packaging and value-added tax (VAT) .
Total order values below CHF 100 will incur an order processing charge of CHF 20.-
Packing is charged according actual cost.
The general payment terms are 30 days net as of invoice date.
We reserve the right to charge interest of 5% on late payments.

Transfer of Gain and Risk, Shipment and Insurance
Gain and risk is transferred to the buyer with dispatch of the consignment ex works. Shipment is carried out with invoice and at the consignee's risk. Transport insurance is taken out by us only upon written request of the consignee. The cost of the insurance is borne by the consignee.

Delivery periods / Delivery date
Delivery periods given in our offers begin with the receipt of the order. The delivery time is deemed as achieved if on its expiry, the consignment is prepared and ready for dispatch from the factory. We make every effort to adhere to delivery dates given in our order confirmations. However, they are non-binding, and overruns cannot be taken as reason for damages claims or for cancellations of concerning orders. Lack of raw materials, defects on tools, transport/logistic problems and comparable influences could decisively raise cost and reduce the feasibility of the products. If this makes it impossible for us to comply with our delivery commitment we are released from our delivery obligations without any compensation claims.
Recognisable delays will be communicated immediately.

Documents / Samples
Our catalogues, drawings, sketches, etc. are our intellectual property, and shall not be modified or used for purposes other than intended without our written acceptance.
Samples are provided at a charge.

Testing and Acceptance of the Consignment
The buyer is requested to inspect/test the consignment on receipt and report any defects that are found in writing within 10 days to Gimota Inc. If no failures or irregularities are reported the consignment is deemed to be approved by the receiver.
If more extensive tests and reports (such as factory- or inspection certificates) are requested by the buyer, it must be agreed on in writing and mentioned within the concerning orders. The costs must be borne by the buyer.
Products assessed as defective are not supposed to be returned without our agreement. Otherwise developing delivery cost will be charged accordingly.

Parts which are found to be unusable due to material defects or production failures will be either replaced or repaired, as we consider appropriate.

Property Rights
The delivered goods remain our property until the full purchase price has been paid. The buyer assures participation for adequate arrangements in order to protect our property accordingly.

Cancellation / Returning goods
The cancellation of contracts requires our written agreement.
Cost for pre-processed or finished parts will be charged in any case.
Raw materials specially purchased for a customer will also be charged.
Complaints regarding a consignment do not entitle the purchaser to cancel the remainder of an order. Produced and delivered goods can not be returned to the supplier.
We are authorized to withdraw from delivery obligations if the financial situation of the buyer markedly deteriorate or appears different than originally presented to us.

Warranty
During the warranty period Gimota Inc. is obligated to replace or repair, all parts that are defective or unusable as a result of material defects or of design/production failures, as we consider necessary, as soon as possible. Warranty claims require a written request from the buyer. The warranty period is 12 months after receipt of the consignment as far as no other legal regulations are effective.
Excluded from the warranty are damages due to incorrect storage, natural wear, faulty processing and disregard of regulations, etc.
Modifications or repair of products without our written acceptance as well as not following our operating instruction exculpate us from product warranty.
Our liability is limited on the replacement of defective goods or on reimbursement of the invoiced value.

Exclusion of other Liabilities
Possible claims by the purchaser are fully covered within these „General Sales Conditions". All not expressly mentioned claims for damages, reduction, cancellation of or withdrawal from the contract are excluded.

Jurisdiction
The place of jurisdiction for any direct or indirect differences/disputes is Zurich, Switzerland only. The legal relationship is subjected to substantive Swiss law.
The General Sales Conditions valid at the purchase date are mandatory and considerable.
The current and up-to date sales conditions are explicitly published on www.gimota.com

Final Provisions
The General Sales Conditions have been update as per January 1st 2013. They replace all previous versions and are integrated part of all our offers and order confirmations.
With this edition all previous versions are void. In case of discrepancies between the German text and any other-language version of these General Terms of Business, the German original text shall prevail.

Geroldswil, December 2012

Guarantee / warranty
GIMOTA AG undertakes, on receipt of written notification from the customer within the warranty period and at its discretion, to replace or repair all parts that are defective or unusable as a result of design, material or production faults as rapidly as possible. The warranty period is 12 months from receipt of delivery unless other legal provisions apply.

The warranty does not cover damage resulting from improper storage, normal wear and tear, faulty processing and failure to comply with regulations.

Any modifications or repairs performed without our written consent and failure to comply with our operating instructions will release us from the guarantee obligation. Our liability is limited to the replacement of the faulty objects or the reimbursement of the value of the invoice.

No new warranty periods apply as a result of the replacement of parts, assemblies or entire devices. Warranty is limited exclusively to the repair or exchange of the damaged objects that were delivered.

Exclusion of further liability
These "General terms & conditions of sale" govern the customer's rights to assert a claim in their entirety. All claims for compensation, reduction, rescission of or withdrawal from the contract are excluded.

Data privacy
Your acceptance of these terms & conditions also constitutes your acceptance of the data privacy policy of GIMOTA AG.

Jurisdiction
Zurich is the sole place of jurisdiction for all disputes arising directly or indirectly in connection with this contractual relationship. The contractual relationship is subject to Swiss law. The general terms & conditions valid at the time of the conclusion of the contract will apply. You can view these on the Internet at www.gimota.ch.

Final provisions
The general terms & conditions of sale were modified with effect from March 1st 2022 and replace all previous versions. They are an integral part of all offers and/or order confirmation documents. This version replaces all previous terms & conditions. If there are any difference between a foreign-language version and the German text, the German text will be definitive.

Information and advice given in the following is applicable in connection with the use of our products and data contained in our data sheets and catalogues. Failure to comply with the advices can put individuals and equipment to severe risk.

1. Materials
Electrical plug-type connectors contain no substances that could be dangerous in normal operation. The connectors consist of conducting and non-conducting materials.

M12 connectors:
The insulators are generally made of a fiber glass-reinforced plastic. The housings are made of nickel plated brass.

2. Hazards
When plug-type connectors are correctly wired and are used and handled with due regard to the given parameters, there will be generally no risk.

Incorrect wiring or assembly of connectors can lead to electric shock, burns or fire. The same applies to careless handling of metal tools or conductive fluids, as well as to the use of defective parts, e.g. damaged during transport or storage.

Live circuits may not be made or broken by means of plug-in connectors. This can lead to ionization and arcing, causing electric shock, burns or fire. Such manipu¬lations can also cause electronic circuits to be destroyed.

Only contacts in correctly assembled plug-in connectors may be energized.

Abnormal rises in resistance in a plug-in connector can cause it to become overheated. An increase in resistance can be caused by cracked, broken or deformed contacts or by broken wires in the conductor strand, as well as by badly made crimps due to the wrong or defective crimping tool being used, by poor solder joints or by screw connections not being properly tightened. Oxide films and the presence of contamination on the contacts or crimps can also lead to rises in resistance and therefore to local overheating. Overheating can further be caused by the formation of a creeping paths or short circuits in the plug due to:

- water entering through badly assembled connectors or due to the capillary effect along the conductor wires;
- contamination of the insulator or residues left over from processing (e.g. bits of wire) in the connector.

Exceeding the continuous currents given in our documentation is not permitted, as this can cause overheating of the connector.

Overheating of a plug-type connector causes the insula¬tor to be destroyed. This can result in spurious signals; also, there is the danger of electric shock or of fire, with toxic gases formed in combination with other materials. Since overheating is not necessarily visually apparent, there is a risk of burns being caused if overheated parts are touched.

3. Handling
Components of electrical plug-type connectors must be carefully handled during transport, storage and use to avoid damage.

Plug-type connectors can be damaged in transit to the customer. Such damage can be a source of danger. These products should therefore be checked before installation or use, and damaged ones removed.

4. Disposal and scrapping of waste
Dangerous or even toxic gases can be formed when certain materials are burned. Such materials must therefore be disposed of in the proper manner.

5. Application
Plug-type connectors with accessible contacts should not be used on the supply side of the electric circuit.

Touching the exposed contacts of an unconnected electrical connector can result in an electric shock. Voltages above 30 V AC or 42.5 V DC are generally dangerous. It must be ensured that such voltages cannot under any circumstances reach the accessible metal parts of the connector housing. Before energizing with voltage, plug-type connectors and the wiring should be checked. It must be ensured that metal parts and insulators are not damaged, and that no soldering jumper, loose wire strands, conductive fluids or other conducting materials can form an electrical bond. The circuit should be che¬cked for insulation resistance and electrical continuity. It is essential that the correct working tools are used, in accordance with our catalogues and data sheets.

- Only qualified personnel should be allowed to wire, assemble or modify electrical connectors.
- The pertinent national regulations should be referred to in order to determine the permitted operating voltage.

6. Important general note

6.1 Product design
GIMOTA AG is committed to a policy of continuous improvement and further development of it's products. Because of this, our products may differ from the descriptions, technical data and figures in this catalogue and in the data sheets.

Unless otherwise stated, all dimensions in this catalogue are approximate values in mm.

6.2 Insulation clearances, ambient conditions
The permitted operating voltages depend on the specific application and on the applicable national safety regulations. For this reason, the clearances and creeping distances are given as reference values. Attention should therefore be given to reductions in the clearances and creeping distances due to the circuit board and/or wiring.

All voltage data are valid at sea level and a temperature of 20°C. The given temperatures are temperature limits

6.3 Fabrication instructions
Our detailed assembling instructions should be referred to when processing work is carried out.

6.4 Final Provisions
These Product Safety have been released 2011. This version is a translation. Mandatory is the current German version.

This catalogue replaces all previous ones. Product details are given without guarantee, errors and technical changes excepted.
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GIMOTA

Gimota AG
Chrummacherstr. 3
8954 Geroldswil
Switzerland

www.gimota.ch
info@gimota.ch

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