

# GIMOTA AG

## Datasheet

### Overmolded M12

Standard und bayonet version



## GIMOTA AG

GIMOTA situated near Zurich Switzerland was founded in 1961 by Otto Schoch. The company has been specialized in supplying connectors for the use in railway applications. These are for example CIRCULAR CONNECTORS for power and data signal transmission or DATA CONNECTORS.

Continuing in-house developments concentrated on the same field of activities, particularly with regard to connectors for high-current and data transmission circuits for example the GIMOTA TRAC-Series, and EMI shielded connectors.

GIMOTA connectors are used worldwide in various railway vehicles for lots of different applications. For example with conventional and electronic control systems, with measuring devices of all kinds and within jumper cable applications.

GIMOTA supplies its products to most of the world's leading railway manufacturers and railway operators worldwide.

GIMOTA is known for its high flexibility. The company develops and manufactures connectors for specialized applications according to customer specifications and needs.

Even small batches are welcome to be realized.



GIMOTA takes all possible efforts to provide appropriate logistics solution, such as «just-in-time» deliveries based on an order contracts and forecasts, or maintaining minimum inventory levels specified with the customer.

GIMOTA is today one of the leading providers of industrial traction connectors, and is continuously expanding its market share due to solutions with close focus on customers demand.

## Overmolded - M12-connectors standard or with bayonet coupling

The industrial M12 connectors are more and more considered on devices for the railway industry. Gimota AG consistently adjusted the common industrial M12 connector solution according to EN 61076-2-101 to the needs and demand of railway applications and tested according EN 50155. This means:

- The chosen plastic materials correspond to the highest flame resistance standards of the rail industry
- The used components are tested and resistant against the strong vibrations occurring in rail transportation
- 360 ° shielding in electromagnetic environment so that all signals are transmitted reliably
- All products are tested towards temperature shock impact

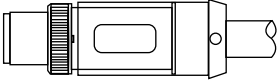
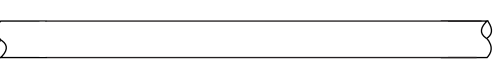
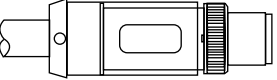
Gimota offers beside the M12 connectors for fieldassembly also overmolded versions. The customer can specify his overmolded assembly according to his needs. He specifies the type of cable, the cable length and whether he needs at both ends of the cable an overmolded connector or only at one end.

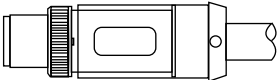
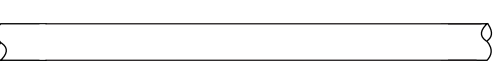
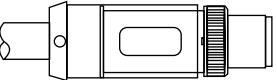
All M12 connectors offered by GIMOTA AG for field assembly as well as the overmolded ones have crimp contacts and a 360° screen connection. The design is very slim and light weight. With IP 65 all M12 connectors provide the requested ingress protection to fully fulfill the railway technology needs.



Ordering information

Define your cable as follows:  
Determine connection type and type of head no. 1, select the desired cable type and cable length and if necessary choose head no. 2 acc..

Head No. 1			Cable type and length		Head No. 2	
						
Connection type	M12 type	Cable type			M12 type	Connection type
Screwed	D-coded male	Huber& Suhner 584038 (6.6mm) 1 x 4 AWG22, copper braid, silver plated			D-coded male	Screwed
		Huber& Suhner 568935 (7.3mm) 1 x 4 AWG22, copper braid, silver plated			D-coded female	Screwed
		Huber& Suhner 142178 (7.2mm) 1 x 4 AWG22, copper braid, tin plated			D-coded male	Bayonet
					no connection	
Screwed	D-coded female	Huber& Suhner 584038 (6.6mm) 1 x 4 AWG22, copper braid, silver plated			D-coded male	Screwed
		Huber& Suhner 568935 (7.3mm) 1 x 4 AWG22, copper braid, silver plated			D-coded female	Screwed
		Huber& Suhner 142178 (7.2mm) 1 x 4 AWG22, copper braid, tin plated			D-coded male	Bayonet
					no connection	
Bayonet	D-coded male	Huber& Suhner 584038 (6.6mm) 1 x 4 AWG22, copper braid, silver plated			D-coded male	Screwed
		Huber& Suhner 568935 (7.3mm) 1 x 4 AWG22, copper braid, silver plated			D-coded female	Screwed
		Huber& Suhner 142178 (7.2mm) 1 x 4 AWG22, copper braid, tin plated			D-coded male	Bayonet
					no connection	

Head No. 1			Cable type and length		Head No. 2	
						
Connection type	M12 type	Cable type			M12 type	Connection type
Screwed	X-coded male	Leoni Studer 309046 Cat 7 (6.6mm) 4 x 3 AWG26, copper braid, tin plated			X-coded male	Screwed
					no connection	

For pricing, delivery times and minimum order quantities please contact your Gimota partner.

## Electrical properties

All electric data are valid on sea level with an environment temperature of 20 °C. The mentioned temperature values are considered as limit temperatures.

		D-coded	X-coded
Service voltage	[V] DC	250	48
Operation current	[A]	4	0.5
Surge voltage	[kV]	2.5	1.5
Resistance	[mΩ]	< 10	< 5
Pollution degree <sup>1</sup>		3	3
Potential drop across contacts	[kV]	1.4	0.5
Potential drop between contacts and housing	[kV]	1.4	0.5
Data transfer speed	[Mbits/s]	10/100	(1000/Cat6a)

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

	Strain relieve <sup>1</sup> / Contact support <sup>1</sup> / Contact carrier <sup>1</sup>
Material	PA 6.6
Service temperature	-40°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; R22/R23: HL1/HL2/HL3
Fire characteristic DIN 5510	S4/SR2/ST2

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

## Mechanical properties

		D-coded	X-coded
Number of contacts		4	8
Strand/wire adaptation		Crimp version	
Wire section	mm <sup>2</sup>	1 x 4 (AWG 22)	4 x 2 (AWG 26)
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> Bedingungen: IEC 60512, Prüfung 9a

<sup>2</sup> Bedingungen: IEC 60512, Prüfung 13b

## Mechanical properties - Housing

	D- / X-coded
Material body	PA 6.6
Material knurl	Zinc diecasting, nickel plated,
Cable strain relief	overmolded
EMI screening	360°
Cable length	According to customer
Ingress protection (IEC EN 60529) closed	IP65