preLink® System

General information

Mating Face	RJ45 acc. to IEC 60603-7, M12 D-coded acc. to IEC 61076-2-101 or M12 X-coded acc. to IEC 61076-2-109		
Number of contacts	8		
Transmission performance	RJ45/ M12 X-coded		M12 D-coded
	acc. to ISO 11801 category 6 / class E_A up to 500 MHz		acc. to ISO 11801 category 5 / class D up to 100 MHz
Transmission rate	10/100 Mbit/s 1/2,5/5/10 Gbit/s		10/100Mbits
Shielding	Fully shielded, 360° shielding contact		
Termination technology	preLink® IDC termination acc. to IEC 60352-4		
Power over Ethernet (PoE)	usable for PoE (IEEE 802.3af)	PoE+ (IEEE 802.3at)	4PPoE IEEE802.3bt
Cable diameter	see table preLink® types		
Conductor cross section (solid and stranded)	wire gauge		wire diameter
20 82 000 0001 *	AWG 24 - 22 (contact block yellow)		1,3 - 1,6mm
20 82 000 0003 *	AWG 27 - 26 (contact block white)		0,8 - 1,1mm
20 82 000 0005 / ...0005XL *	AWG 24 - 22 (contact block black / PROFINET)		1,3 - 1,6mm
Current	1,18A at 20°C (see derating diagram)		
Rated voltage	50 V AC / 60 V DC		
Contact resistance (100 mA max. (DC or 1000 Hz))	≤ 20mΩ shield: 100 mΩ max.		
Insulating resistance between contacts	≥ 500MΩ min . (500 V DC)		
Voltage Proof	1.000 V DC pin to pin 1.500 V DC pin to shielding	(for 1 min. current leakage max. 2 mA)	
Mechanical operation with electrical load (IEC 60512 - test 9c)	unmating under electrical load with: 1,2 A / 50 V	50 cycles for each polarity	
Electric strength contact - contact	RJ45/ M12 D-coded 1,0kV	M12 X-coded 0,5kV	
Electric strength contact - shielding	RJ45/ M12 D-coded 1,5kV	M12 X-coded 0,5kV	
Degree of protection	see table preLink® types		
Temperature range	-40°C ... +85°C		
Mating cycles	RJ45 termination	M12 termination	preLink termination
	min. 750	min. 100	min. 10
UL certification	Yes		
RoHS - compliant	Yes		

* For high flexible wires (for example AWG 22/19) or special wire isolation materials an evaluation test for the IDC connection is recommended.

Material

Housing material	see table preLink® types

Contact plating

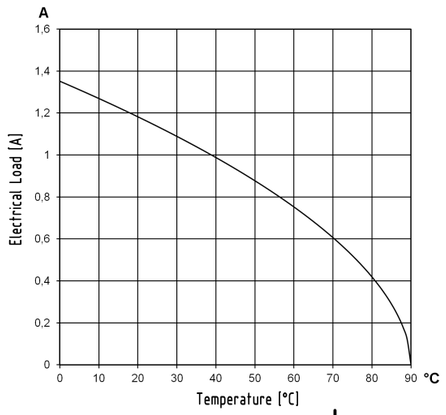
Plating contact zone	1,27µm (50µinch) Au over Ni

Derating diagram acc. to IEC 60512-5 (current carrying capacity)

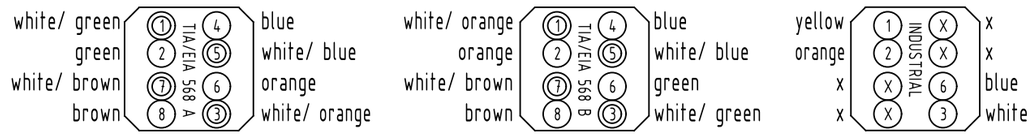
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals.

The current capacity curve is valid for continuous, non interrupted current loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-5



Wire map



preLink® types

p/n	type	cable diameter	material	degree protection
20 82 500 0001	preLink® RJ45 Keystone jack w/o preLink block	5 ... 9 mm	zinc die-cast	IP20
20 82 500 0002	preLink® RJ45 Keystone jack angled w/o preLink block	5 ... 9 mm	zinc die-cast	IP20
20 82 501 0001	preLink® RJ45 Keystone jack AWG 24-22	5 ... 9 mm	zinc die-cast	IP20
20 82 001 0001	preLink® RJ45 HIFF jack AWG 24-22	5 ... 9 mm	zinc die-cast	IP20
20 82 001 0002	preLink® RJ45 HIFF jack AWG 27-26	5 ... 9 mm	zinc die-cast	IP20
20 82 000 0002	preLink® RJ45 HIFF jack w/o preLink block	5 ... 9 mm	zinc die-cast	IP20
20 82 101 0001	preLink® extender	5 ... 9 mm	zinc die-cast	IP20
20 82 101 0010	preLink® RJ45 plug w/o preLink block	5 ... 9 mm	zinc die-cast	IP20
20 82 002 0001	Han® 3 A preLink® RJ45 plug insert	5 ... 9 mm	plastic	IP 65/67
20 82 204 0001	Han® PushPull RJ45 plug plastic	6.3 ... 8.8 mm	plastic	IP 65/67
20 82 104 0001	Han® PushPull RJ45 plug metal	5 ... 9.5 mm	zinc die-cast	IP 65/67
20 82 104 0045	Han® PushPull RJ45 plug metal 45°	5 ... 9.5 mm	zinc die-cast	IP 65/67
20 82 005 0001	preLink® M12 connector D-coding, 4 poles	5 ... 9.5 mm	zinc die-cast	IP 65/67
20 82 005 1214	preLink® connector insert, male, M12 D-coding, 4 poles			
20 82 005 0002	preLink® M12 connector X-coding, 8 poles	5 ... 9.5 mm	zinc die-cast	IP 65/67
20 82 006 1218	preLink® connector insert, male, M12 X-coding, 8 poles			
20 82 000 1210	preLink® M12 housing, empty	5 ... 9.5 mm	zinc die-cast	IP 65/67
20 82 005 2001	preLink® M12 cable jack D-coding, 4 poles	5 ... 9.5 mm	zinc die-cast	IP 65/67
20 82 006 2001	preLink® M12 cable jack X-coding, 8 poles	5 ... 9.5 mm	zinc die-cast	IP 65/67
20 82 007 1100	preLink® PCB jack, THR, 8 poles	5 ... 9.5 mm	plastic/metal shielding	IP20

All Dimensions in mm
Original Size DIN A3

Scale 1:1 | Free size tol. | Ref. | Sub.

Department EL PD

HARTING Electronics GmbH
D-32339 Espelkamp

Created by	Inspected by	Standardisation	Date	State
PREOTU	PRIESTER	HOFFMANN	2020-07-07	Final Release

Title: preLink System

Doc-Key / ECM-Nr.: 100571828/UGD/001/G 500000175744

Type: DS | Number: 20820000000 | Rev.: G | Page: 1/2

A3

preLink® System

Environment specification			
Storage temperature range	-40°C to +85°C (95% RH max.)		
Operating temperature range	-40°C to +85°C (95% RH max.)		
Rapid change of temperature (IEC 60512-11-4)	5 cycles between -40°C and 85°C with 30 minutes dwell at temp. extremes and 1 minute transition between temperatures		
Dry heat (IEC 60512-11-9)	Temperature 85°C, duration 500 h		
Damp heat cyclic (IEC 60512-11-12)	5 cycles at test temperature +55°C; Variant 2		
Cyclic damp heat (IEC 60068-2-38)	25°C to 65°C; cold sub-cycle - 10°C	humidity 93 % RH	21 cycles, 1 cycle/24 h
Cold (IEC 60512-11-10)	-40°C duration 2 h		
Flow mixed gas test (IEC 60512-11-7)	Duration 4 d, Method 4 (mated and unmated)		
Vibration Sine (IEC 60512-6-4)	10 – 500 Hz; 0.35 mm; 50 m/s2	10 cycles / 2 h / 3 axis	No contact disturbances ≥ 1 µs
Mechanical shock (IEC 60512-test 6c)	Half sine shock 300 m/s2, duration 11 ms	3 shocks / both directions / 3 axis – totally 18 shocks	No contact disturbances ≥ 1 µs
Mechanical shock (DIN EN 61373 Class 1 cat b) Additional test to fulfill DIN EN 50155 for railway equipment	Categroy 1 / Class B Half sine shock 5 g, duration 30 ms 5 shocks / both directions / 3 axis – totally 30 shocks No contact disturbances ≥ 1 µs		
Random vibration (DIN EN 61373 Class 1 cat b) Additional test to fulfill DIN EN 50155 for railway equipment	Categroy 1 / Class B 5 – 150 Hz / aeff = 5,72 m/s2 / ASD-Level: 0.964 (m/s2)2/Hz Duration 5 h No contact disturbances ≥ 1 µs		

Coating	A= mm²	V= mm³	m= g	Mat.	
All Dimensions in mm Original Size DIN A3	Scale 1:1	Free size tol.		Ref. Sub.	
	Created by PREOTU	Inspected by PRIESTER	Standardisation HOFFMANN	Date 2020-07-07	State Final Release
Department EL PD	Title preLink System				Doc-Key / ECM-Nr. 100571828/UGD/001/G 500000175744
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A3