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A	preLink® System			Wire map white/ green green white/ brown brown ① ② ⑦ ⑧ TIA/EIA 568 A ④ ⑤ ⑥ ③ blue white/ blue orange white/ orange ① ② ⑦ ⑧ TIA/EIA 568 B ④ ⑤ ⑥ ③ white/ orange orange white/ brown brown ① ② ⑦ ⑧ TIA/EIA 568 B ④ ⑤ ⑥ ③ blue white/ blue green white/ green ① ② ⑦ ⑧ INDUSTRIAL ④ ⑤ ⑥ ③ yellow orange x x ① ② ⑦ ⑧ INDUSTRIAL ④ ⑤ ⑥ ③ x x blue white																																																																																																																						
B				preLink® types																																																																																																																						
C	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_s 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 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 802.3af) 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. 500 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.			<table><tr><th>p/n</th><th>type</th><th>cable diameter</th><th>material</th><th>degree protection</th></tr><tr><td>20 82 500 0001</td><td>preLink® RJ45 Keystone jack w/o preLink block</td><td>5 ... 9 mm</td><td>zinc die-cast</td><td>IP20</td></tr><tr><td>20 82 500 0002</td><td>preLink® RJ45 Keystone jack angled w/o preLink block</td><td>5 ... 9 mm</td><td>zinc die-cast</td><td>IP20</td></tr><tr><td>20 82 501 0001</td><td>preLink® RJ45 Keystone jack AWG 24-22</td><td>5 ... 9 mm</td><td>zinc die-cast</td><td>IP20</td></tr><tr><td>20 82 001 0001</td><td>preLink® RJ45 HIFF jack AWG 24-22</td><td>5 ... 9 mm</td><td>zinc die-cast</td><td>IP20</td></tr><tr><td>20 82 001 0002</td><td>preLink® RJ45 HIFF jack AWG 27-26</td><td>5 ... 9 mm</td><td>zinc die-cast</td><td>IP20</td></tr><tr><td>20 82 000 0002</td><td>preLink® RJ45 HIFF jack w/o preLink block</td><td>5 ... 9 mm</td><td>zinc die-cast</td><td>IP20</td></tr><tr><td>20 82 101 0001</td><td>preLink® extender</td><td>5 ... 9 mm</td><td>zinc die-cast</td><td>IP20</td></tr><tr><td>20 82 101 0010</td><td>preLink® RJ45 plug w/o preLink block</td><td>5 ... 9 mm</td><td>zinc die-cast</td><td>IP20</td></tr><tr><td>20 82 002 0001</td><td>Han® 3 A preLink® RJ45 plug insert</td><td>5 ... 9 mm</td><td>plastic</td><td>IP 65/67</td></tr><tr><td>20 82 204 0001</td><td>Han® PushPull RJ45 plug plastic</td><td>6.3 ... 8.8 mm</td><td>plastic</td><td>IP 65/67</td></tr><tr><td>20 82 104 0001</td><td>Han® PushPull RJ45 plug metal</td><td>5 ... 9.5 mm</td><td>zinc die-cast</td><td>IP 65/67</td></tr><tr><td>20 82 104 0045</td><td>Han® PushPull RJ45 plug metal 45°</td><td>5 ... 9.5 mm</td><td>zinc die-cast</td><td>IP 65/67</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td>20 82 005 0001</td><td>preLink® M12 connector D-coding, 4 poles</td><td>5 ... 9.5 mm</td><td>zinc die-cast</td><td>IP 65/67</td></tr><tr><td>20 82 005 1214</td><td>preLink® connector insert, male, M12 D-coding, 4 poles</td><td></td><td></td><td></td></tr><tr><td>20 82 005 0002</td><td>preLink® M12 connector X-coding, 8 poles</td><td>5 ... 9.5 mm</td><td>zinc die-cast</td><td>IP 65/67</td></tr><tr><td>20 82 006 1218</td><td>preLink® connector insert, male, M12 X-coding, 8 poles</td><td></td><td></td><td></td></tr><tr><td>20 82 000 1210</td><td>preLink® M12 housing, empty</td><td>5 ... 9.5 mm</td><td>zinc die-cast</td><td>IP 65/67</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td>20 82 005 2001</td><td>preLink® M12 cable jack D-coding, 4 poles</td><td>5 ... 9.5 mm</td><td>zinc die-cast</td><td>IP 65/67</td></tr><tr><td>20 82 006 2001</td><td>preLink® M12 cable jack X-coding, 8 poles</td><td>5 ... 9.5 mm</td><td>zinc die-cast</td><td>IP 65/67</td></tr><tr><td>20 82 007 1100</td><td>preLink® PCB jack, THR, 8 poles</td><td>5 ... 9.5 mm</td><td>plastic/metal shielding</td><td>IP20</td></tr></table>				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 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E	Contact plating Plating contact zone 1,27µm (50µinch) Au over Ni																																																																																																																									
F	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 Electrical Load [A] 1.6 1.4 1.2 1 0.8 0.6 0.4 0.2 0 0 10 20 30 40 50 60 70 80 90 °C Temperature [°C]			All rights reserved Department EL PD HARTING D-32339 Espelkamp All Dimensions in mm Original Size DIN A3 Scale 1:1 Free size tol. Ref. Sub. Created by PREOTU Inspected by PRIESTER Standardisation ROEBEN Date 2021-09-07 State Final Release Title preLink System Doc-Key / ECM-Nr. 100571828/UGD/001/H 500000198735 Type DS Number 208200000000 Rev. H Page 1/2																																																																																																																						
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white/ orange

orange

white/ brown

brown

①

②

⑦

⑧

TIA/EIA 568 B

④

⑤

⑥

③

blue

white/ blue

orange

white/ green

①

②

⑦

⑧

INDUSTRIAL

④

⑤

⑥

③

x

x

x

x

blue

white

1	2	3	4	5	6	7	8																																																													
A	 preLink® System 							A																																																												
B	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)																																																																			
	C	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) Half sine shock 5 g, duration 30 ms																																																																				
Additional test to fulfill DIN EN 50155 for railway equipment		5 shocks / both directions / 3 axis - totally 30 shocks No contact disturbances ≥ 1 µs																																																																		
Random vibration (DIN EN 61373 Class 1 cat 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																																																																		
D								D																																																												
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