



CHANT SINCERE CO., LTD.



Automotive

、HMTD-N





HMTD-N

HMTD-N Characteristic

HMTD-N is a full shielded differential solution designed for high speed automotive Ethernet. This new interface is capable of transmitting high speed data up to 15GHz (20Gbps) in a robust automotive grade connection. The high performance modular design of the system enables more flexibility in the quest of providing next generation devices.

Application

- Autonomous driving
- Camera system 4K
- High-resolution display 4K
- Lidar
- Radar
- Rear seat entertainment

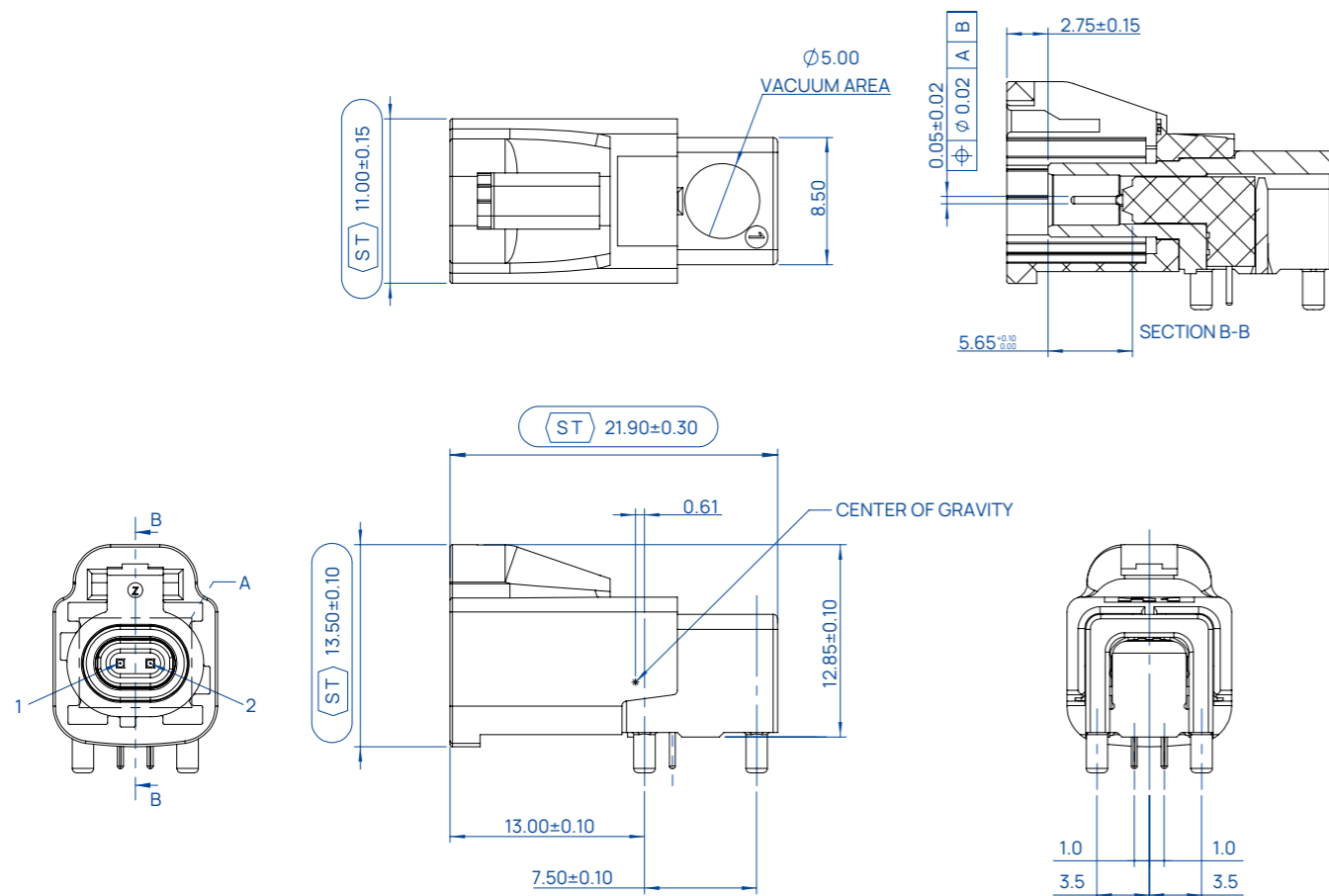
Protocols

- 100 BASE-T1
- 1000 BASE-T1
- Multi-Gigabit (up to 20Gbps)
- PCIe 4.0
- USB 3.1 Gen 2
- HDBase-T
- APIX 3
- FPD Link 4

Product Feature

- Automotive grade ethernet solution complied with LV214 / USCAR
- Modular package
- High performance up to 15GHz / 20Gbps
- Waterproof versions
- Power over Ethernet (POE) feature
- STP / UTP / SPP cable possible
- Small and robust package

HMTD-N Right Angle Type



Specification

Part No.	5440101001X
Contacts	2-8
Material	
Housing	Thermoplastic
Contact	Copper Alloy
Shell	Zinc Alloy
Contact Plating	
Under Plating	80 ~ 160u" Nickel
Contact Area	6u" Gold
Solder Tails Area	Tin Plating
Electrical	
Impedance	100 Ohm
Operating Frequency	Up to 15 GHz
Return Loss (typical)	$\geq 25\text{dB}$ up to 1.5GHz , $\geq 20\text{dB}$ up to 4GHz , $\geq \text{TBD}$ up to 9 GHz
Insertion Loss	TBD
Insulation Resistance	1000 M Ω Min. @100 VDC
RF Leakage	> 55 dB
Center Contact Resistance	$\leq 15 \text{ m}\Omega$
Outer Contact Resistance	$\leq 25 \text{ m}\Omega$
Contact Current Max. (DC)	$\leq 1.5 \text{ ADC}$
Withstanding Voltage	Min. 250 V rms
Operating Voltage	$\leq 60 \text{ VDC}$
Machanical Characteristics	
Mating Cycles	≥ 25 Cycles
Engagement Force(typical)	$\leq 20 \text{ N}$
Separating Force(typical)	Min. 5 N Max. 25 N
Coding Retention Force	$\geq 110 \text{ N}$
Environmental	
Operating Temp. Range	IEC 682-2, -40 up to +105 Degree
Temperature Change	DIN EN 60068-2-14
Vibration	DIN EN 60068-2-64
Shock	DIN EN 60068-2-27
Humidity (Cyclic)	DIN EN 60068-2-30


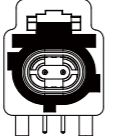

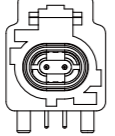
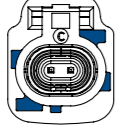
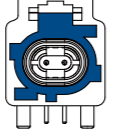
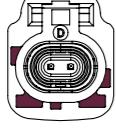
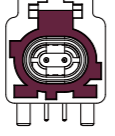
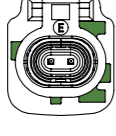
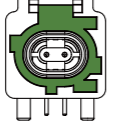
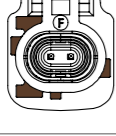
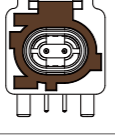
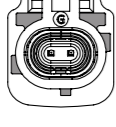
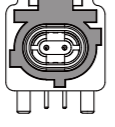
HMTD-N Plug Series

Product List	Description	Part no.
	HMTD-N, Straight Type, 1x1 Coding: A,B,C,D,E,F,G,H,J,K,L,M,O,Z	5440201001AX
	HMTD-N, Right Angle Type, 1x1 Coding: A,B,C,D,E,F,G,H,J,K,L,M,O,Z	5440101001X
	HMTD-N, Right Angle Type, 1x2 Coding: A,B,C,D,E,F,G,H,J,K,L,M,Z	5440102001X
	HMTD-N, Right Angle Type, 2x2 Coding: A,B,C,D,E,F,G,H,J,K,L,M,Z	5440103001X
	HMTD-N, Right Angle Type, 2x3 Coding: A,B,C,D,E,F,G,H,J,K,L,M,O,Z	5440104001X
	HMTD-N, Right Angle Type, 1x1 +MQS 6Pin Coding: A,B,C,D,E,F,G,H,J,K,L,M,O,Z	5440301001X
	HMTD-N, Right Angle Type, 2x3 Coding: A,B,C,D,E,F,G,H,J,K,L,M,O,Z	5440104001X

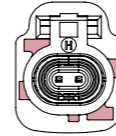
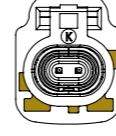
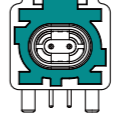
X : Coding option refer to page 55 - 60



HMTD-N Plug Coding

Coding	Vertical 1x1	Right Angle 1x1	Color	RAL
A			Black	sim.9005
B			White	sim.9010
C			Blue	sim.5012
D			Bordeaux Violet	sim.4004
E			Green	sim.6017
F			Brown	sim.8011
G			Grey	sim.7036

HMTD-N Plug Coding

Coding	Vertical 1x1	Right Angle 1x1	Color	RAL
H			Light Pink	sim.3015
J			Beige	sim.1001
K			Curry	sim.1027
L			Yellow Green	sim.6018
M			Pastel Orange	sim.2003
O			Light Green	sim.6027
Z			Water Blue	sim.5021

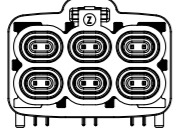
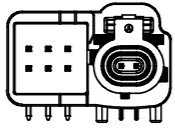
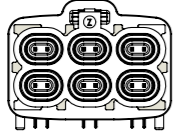
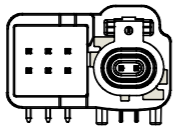
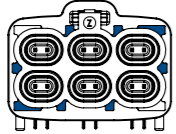
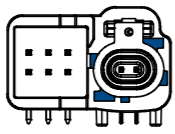
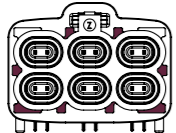
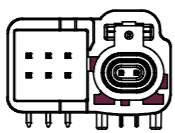
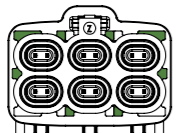
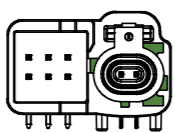
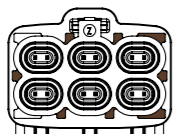
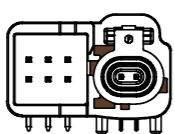
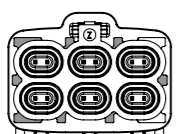
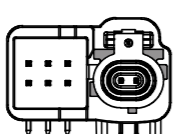
HMTD-N Plug Coding

Coding	Right Angle 1x2	Right Angle 2x2	Color	RAL
A			Black	sim.9005
B			White	sim.9010
C			Blue	sim.5012
D			Bordeaux Violet	sim.4004
E			Green	sim.6017
F			Brown	sim.8011
G			Grey	sim.7036

HMTD-N Plug Coding

Coding	Right Angle 1x2	Right Angle 2x2	Color	RAL
H			Light Pink	sim.3015
J			Beige	sim.1001
K			Curry	sim.1027
L			Yellow Green	sim.6018
M			Pastel Orange	sim.2003
O			Light Green	sim.6027
Z			Water Blue	sim.5021

HMTD-N Plug Coding

Coding	Right Angle 2x3	Right Angle 1x1 +MQS 6Pin	Color	RAL
A			Black	sim.9005
B			White	sim.9010
C			Blue	sim.5012
D			Bordeaux Violet	sim.4004
E			Green	sim.6017
F			Brown	sim.8011
G			Grey	sim.7036

HMTD-N Plug Coding

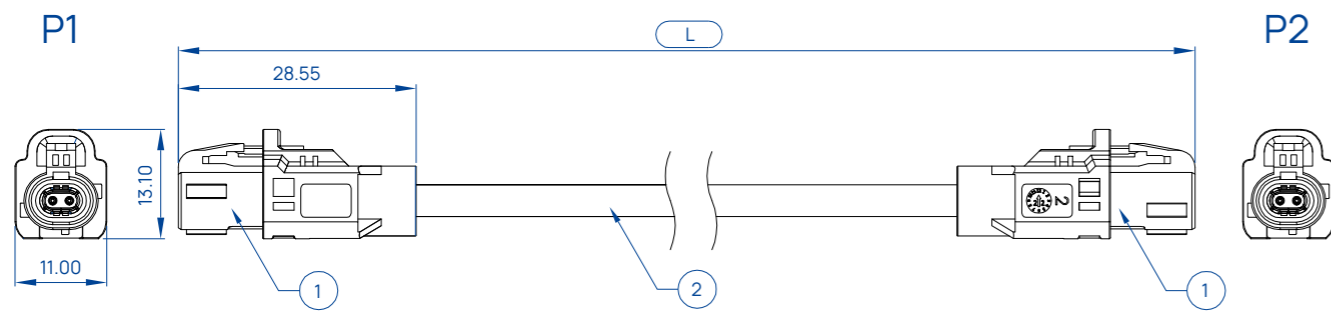
Coding	Right Angle 2x3	Right Angle 1x1 +MQS 6Pin	Color	RAL
H			Light Pink	sim.3015
J			Beige	sim.1001
K			Curry	sim.1027
L			Yellow Green	sim.6018
M			Pastel Orange	sim.2003
O			Light Green	sim.6027
Z			Water Blue	sim.5021

HMTD-N Jack Cable



Specification

Product No.	1440101XXXX
Contacts	1
Material	
Insulator	PBT
Contact	Cu-Ni-Si Alloy
Outer Contacts	Phosphor Bronze
Contact Plating	
Contact Area	30u" Selective Gold
Electrical	
Impedance	100 Ω
Frequency	DC to 4 GHz (10 G BASE-T1)
Insulation Resistance	≥ 100 MΩ
Resistance	≤ 5 Ω
Machanical	
Mating Cycles	≥ 25 Cycles
Engagement Force	≤ 75 N
Disengagement Force	≥ 5 N
Retention Force Latch	≥ 110 N
Coding Efficiency	≥ 80 N
Temperature Range	-40°C to +105°C



HMTD-N Cable


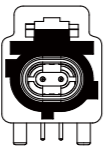
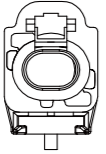
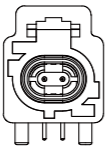
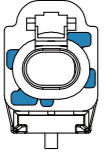
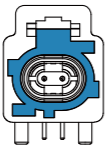
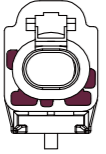
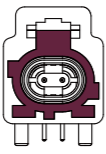
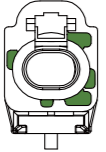
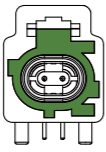
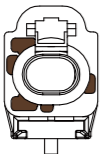
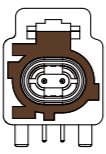
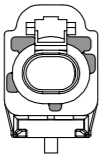
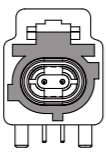
Product List	Description	Part no.
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	HMTD-N 1X1 Plug to Jack Cable Coding: A,B,C,D,E,F,G,H,J,K,L,M,O,Z	1445101XXXX
	HMTD-N 1X1 Plug to Plug Cable Coding: A,B,C,D,E,F,G,H,J,K,L,M,O,Z	1442601XXXX
	HMTD-N 1X2 Jack Cable Coding: A,B,C,D,E,F,G,H,J,K,L,M,O,Z	1440201XXXX
	HMTD-N 2X2 Jack Cable Coding: A,B,C,D,E,F,G,H,J,K,L,M,O,Z	1440301XXXX
	HMTD-N 2X3 Jack Cable Coding: A,B,C,D,E,F,G,H,J,K,L,M,O,Z	1440401XXXX

X : Coding option refer to page 73 - 80

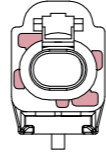
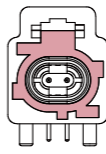
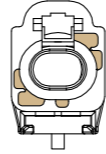
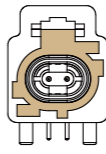
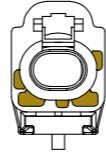
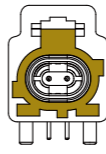

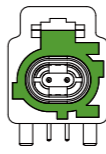
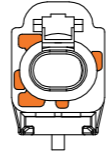
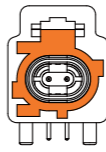
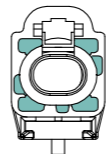
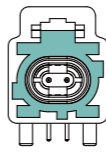
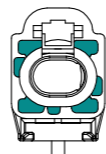
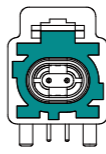
HMTD-N Cable

Product List	Description	Part no.
	HMTD-N Jack to Jack 1x1 + MGS 6Pin Plug Coding: A,B,C,D,E,F,G,H,J,K,L,M,O,Z	1447601XXXX
	HMTD-N Jack to Jack 2x2 Cable, IP Rating Coding: A,B,C,D,E,F,G,H,J,K,L,M,N,P,R,Z	1442001XXXX

HMTD-N Cable Coding

Coding	Plug to Plug 1x1	Jack to Jack 1x1	Color	RAL
A			Black	sim.9005
B			White	sim.9010
C			Blue	sim.5012
D			Bordeaux Violet	sim.4004
E			Green	sim.6017
F			Brown	sim.8011
G			Grey	sim.7036

HMTD-N Cable Coding

Coding	Plug to Plug 1x1	Jack to Jack 1x1	Color	RAL
H			Light Pink	sim.3015
J			Beige	sim.1001
K			Curry	sim.1027
L			Yellow Green	sim.6018
M			Pastel Orange	sim.2003
O			Light Green	sim.6027
Z			Water Blue	sim.5021

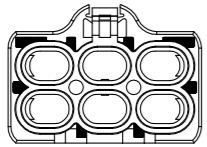
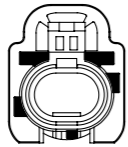
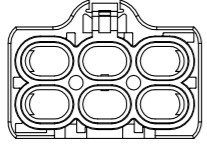
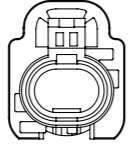
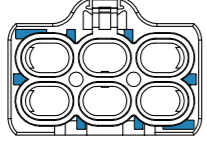
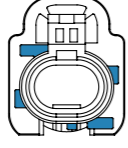
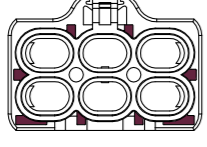
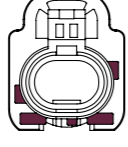
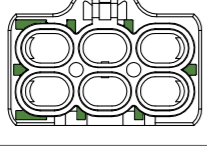
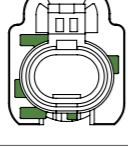
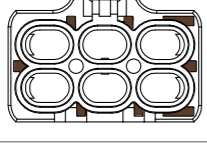
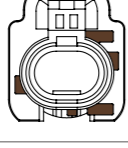
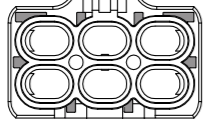
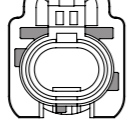
HMTD-N Cable Coding

Coding	Jack to Jack 1x2	Jack to Jack 2x2	Color	RAL
A			Black	sim.9005
B			White	sim.9010
C			Blue	sim.5012
D			Bordeaux Violet	sim.4004
E			Green	sim.6017
F			Brown	sim.8011
G			Grey	sim.7036

HMTD-N Cable Coding

Coding	Plug to Plug 1x1	Jack to Jack 1x1	Color	RAL
H			Light Pink	sim.3015
J			Beige	sim.1001
K			Curry	sim.1027
L			Yellow Green	sim.6018
M			Pastel Orange	sim.2003
O			Light Green	sim.6027
Z			Water Blue	sim.5021

HMTD-N Cable Coding

Coding	Jack to Jack 2x3	Jack to Jack 1x1 + MQS 6Pin Plug	Color	RAL
A			Black	sim.9005
B			White	sim.9010
C			Blue	sim.5012
D			Bordeaux Violet	sim.4004
E			Green	sim.6017
F			Brown	sim.8011
G			Grey	sim.7036

HMTD-N Cable Coding

Coding	Jack to Jack 2x3	Jack to Jack 1x1 + MQS 6Pin Plug	Color	RAL
H			Light Pink	sim.3015
J			Beige	sim.1001
K			Curry	sim.1027
L			Yellow Green	sim.6018
M			Pastel Orange	sim.2003
O			Light Green	sim.6027
Z			Water Blue	sim.5021

HMTD-N Cable Coding

Coding	Jack to Jack 2x2 Cable, IP Rating	Color	RAL
A		Black	sim.9005
B		White	sim.9010
C		Blue	sim.5012
D		Bordeaux Violet	sim.4004
E		Green	sim.6017
F		Brown	sim.8011
G		Grey	sim.7036
H		Light Pink	sim.3015

HMTD-N Cable Coding

Coding	Jack to Jack 2x2 Cable, IP Rating	Color	RAL
J		Beige	sim.1001
K		Curry	sim.1027
L		Yellow Green	sim.6018
M		Pastel Orange	sim.2003
N		Pastel Green	sim.6019
P		Carmine Red	sim.3002
R		Signal Blue	sim.5005
Z		Water Blue	sim.5021



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